

# CHAPTER I

## New Directions

Primary care is undergoing a radical transformation from physician-centered practices to team-based patient-centered care. Amid the upheaval, this is spawning real innovation as healthcare organizations across the nation challenge themselves to reduce waste and provide more effective care and—most important—to document and measure health outcomes with robust IT systems. States have some leeway in determining how they wish to handle newly insured Medicaid beneficiaries and even if they wish to participate at all in the state health insurance exchange program. If they do not, Medicaid enrollees will be eligible to join through an exchange created by the federal government. One thing is certain: This is a massive undertaking and the regulations are voluminous, the “shared savings” with Medicare and Medicaid—the incentive payments for meeting the targets—are complex beyond measure, and this bold experiment is going to provide a lot of work for analysts and financial consultants. But isn't it great that people with preexisting conditions will now be able to buy insurance and the many Americans who are uninsured will now be able to buy a basic level of coverage?

When the dust settles from all the chaos, there should be huge benefits in the areas of patient safety, proactive coordination of care for those with chronic conditions, and reduced hospitalization and visits to the ED due to the focus on prevention. In theory, if patients have access to primary care, most of their conditions can be dealt with in a low-cost setting and in a timely manner, before they ramp up to requiring more expensive procedures. This will save money and reduce the escalation of healthcare expenditures. A thoughtful exploration of healthcare reform delving into specific (and often amusing) examples of the ineffectiveness of our current system will be of interest to

anyone wondering about how we got to this point and how we can get better healthcare for half the cost.<sup>1</sup> The writing style makes it a page-turner as its author, Joe Flower, untangles the many forces that have resulted in our current system, but he ends with optimism.

### ACO QUALITY METRICS

Accountable care organizations (ACOs) will be assessed by 65 quality metrics spanning five equally weighted domains: patient and caregiver experience, care coordination, patient safety, preventive health, and care for frail elderly and at-risk populations.<sup>2</sup>

### A SAMPLING OF INNOVATION

Innovation occurs in small and large settings as can be seen in the examples below, starting with Oregon's five-year Medicaid experiment to test whether coordinated care can deliver better health at lower cost. Next, a project at the Mayo Innovation Center looks at outpatient obstetrical care and better ways to provide continuity between scheduled visits. Last, a two-physician family practice takes bold steps to redesign care with a new office that

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<sup>1</sup> Joe Flower. *Healthcare Beyond Reform: Doing It Right for Half the Cost* (New York: CRC Press, 2012).

<sup>2</sup> Rob Lazerow. “First Impressions: The Medicare ACO Program,” The Advisory Board Company, April 1, 2011. [www.advisory.com/research/Health-Care-Advisory-Board/Blogs/Toward-Accountable-Payment/2011/04/First-Impressions:The-Medicare-ACO-Program](http://www.advisory.com/research/Health-Care-Advisory-Board/Blogs/Toward-Accountable-Payment/2011/04/First-Impressions:The-Medicare-ACO-Program).

is iconoclastic in its concept and aesthetically stunning as well.

### Oregon's Medicaid Transformation

The cover story in *Modern Healthcare* shouts “Kitzhaber’s Gamble: Oregon makes risky bet on fixed-budget ACOs to curb Medicaid costs.”<sup>3</sup> A year into Oregon’s five-year plan, 16 Coordinated Care Organizations (CCOs) are caring for 90 percent of Medicaid beneficiaries using a patient-centered medical home model. CCOs receive per capita monthly payments for care delivered in this pilot program that is underwritten by \$1.9 billion in federal funding from the Centers for Medicare & Medicaid Services (CMS). The provider organizations must include dental and mental healthcare and focus on chronic conditions, including addiction problems and mental illness. A principal goal is to transition from costly fee-for-service to a program that emphasizes primary and preventive care. This requires social workers, nurses, medical assistants, and physicians to work together to systematically keep track of complex patients to anticipate their needs and reach out to them for adjustments to medications and to get them to the clinic for preventive care. These are the patients who end up in the ER repeatedly if not closely managed.

Governor Kitzhaber negotiated a waiver with the CMS to get funding to kick off this initiative and, in return, the deal requires progress on 33 quality and access measures. The program is not without controversy from those who wonder if a capitated payment will cause providers to stint on care, and hospitals express concern that success will result in a reduction in admissions. This is a bold plan in the national spotlight. Several other states are proposing to follow Oregon’s lead, and only time will tell whether it is possible to get a handle on soaring healthcare costs and, at the same time, improve the health and well-being of Americans.

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<sup>3</sup>Joe Rojas-Burke. “Inside Oregon’s Medicaid Lab,” *Modern Healthcare*, September 9, 2013.

### Mayo OB Nest: Redesigning Continuity of Care

A project undertaken at the Mayo Innovation Center was the study of outpatient OB care.<sup>4</sup> They realized that the current schedule of appointments was based on a provider-centric sense of continuity that did not address what happens between visits, and this may even be more important to patients. Looking at ways to give mothers the opportunity to tap into their own knowledge base—to be able to validate their wisdom—led to experimentation with different options. Patients were given the ability to text a nurse, and to be able to Skype in for a patient visit. They were given portable Doppler devices to be able to listen to the baby’s heartbeat to help build the mother’s sense of confidence. This continual feedback loop is designed to reduce the bottleneck around the scheduled appointments and allow mothers to enjoy a sense of well-being, rather than stress.

### Village Family Medicine

Breaking the mold for primary care practices led the two physicians who formed this practice to examine the patient encounter to see how they could improve the patient experience. To begin with, they have a same-day appointment policy and most visits are 30 minutes from arrival to checkout. As they worked with their architects to program the space, they realized that 85 percent of patients did not need to sit on an exam table during the visit. Instead, they developed assessment rooms (Figure 1-1) that serve for everything except minor procedures or disrobing. The following functions occur in this room:

- Registration
- Check vitals (BP, height, weight, pulse, O<sub>2</sub>)
- Immunizations, injections
- Collect patient history, discuss reason for visit

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<sup>4</sup>Marnie Meylor. “Mayo OB Nest” (Lecture, Center for Health Design, Pebble in Practice, Chicago, IL), May 8, 2013.

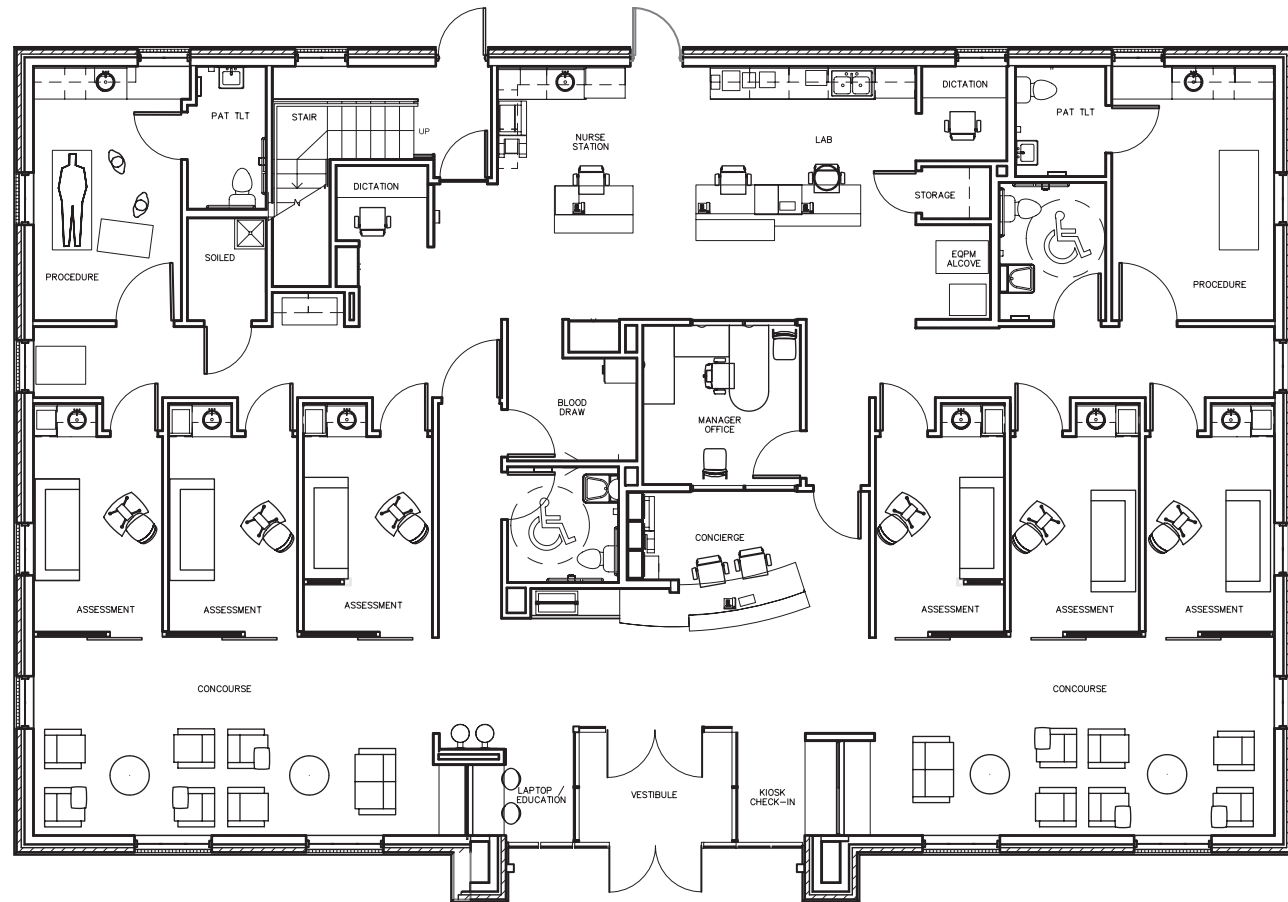


**Figure 1-1.** Assessment examination room at Village Family Medicine, Spartanburg, South Carolina. (Courtesy of McMillan Pazdan Smith Architecture; Photographer: Kris Decker/Firewater Photography)

- Diagnosis: perform tests such as EKG, spirometry, tympanometry in office, and order other tests; access point-of-care databases
- Patient education: provider advice, coaching, handouts printed from EHR
- Referrals, checkout, and payment; book future appointment

The background for this project is interesting in that this medical practice is part of a large system, Spartanburg

Regional Health System in Spartanburg, South Carolina, and they are also a member of Spartanburg Regional Physicians Group, a large multispecialty group. The lead physician was given considerable latitude in the design of this facility with the goal that it would become a prototype for the system. It opened in January 2011. The design was influenced by the Disney concept of on-stage/off-stage and the emphasis on creating a great experience. In the space plan (Figure 1-2), there are dual entries to the assessment rooms with staff entering from a rear corridor adjacent to the nurse station and lab (see Figure 3-65) and



**Figure 1-2.** Space plan, Village Family Medicine, 5,680 square feet. (Courtesy of McMillan Pazdan Smith Architecture)

patients entering through acoustically sealed sliding barn doors off of what is called the “concourse.” Patients are able to check themselves in upon arrival at a kiosk. Other influences in the design were based on the architects’ analysis of retail models with a strong customer-centric philosophy such as Apple and Nordstrom. In addition, students from Clemson University Architecture + Health posed as mystery shoppers, visiting three or four family practice locations in the health system to enable them to experience the care and to make suggestions for improvement.

Last, NXT Health, a nonprofit organization with leadership from Clemson University’s Architecture + Health master’s degree program graduates, participated in the project. Innovation through collaboration is the goal of NXT Health.

The interior design of the office is contemporary with finishes in various neutral colors that have enough contrast to avoid being bland (Figure 1-3). The pattern in the flooring is no-wax, vinyl plank. The distressed appearance was selected to reflect the history of the area, which was farming and horse land.



## BUILDING BLOCKS OF HIGH-PERFORMING PRIMARY CARE

Across the nation, primary care is being transformed from physician-centered practices to patient-centered teams. To better understand the dynamics of this change, Rachel Willard, MPH, and Tom Bodenheimer, MD, studied seven high-performing large primary care practices in California, Oregon, Washington, and Colorado, doing research that involved extensive site visits and interviews with the leadership and all levels of staff at these organizations.<sup>5</sup> “High-performing” was defined as having high levels of patient and staff satisfaction, a stable financial base, and clinical quality metrics that have improved over time.

Six building blocks were considered essential for success in the new model of healthcare delivery by the seven organizations studied. Readers are encouraged to read the entire white paper as it has many specific examples of innovation and an extensive reference list.

1. **Data-driven improvement.** Collect, clean, and summarize performance data for use by clinicians to drive effective action. “Data provide the bedrock of high-performing health practices...”
2. **Empanelment and panel size management.** Assign patients to a clinician and team in the process of empanelment, actively manage panel size, balancing capacity and demand to maintain continuity of care.
3. **Team-based care.** Includes front-desk personnel, clinicians, MAs, RNs, psychologists, social workers, and the like. Rely on clear vision and principles, working in shared space, using well-honed communication skills and defined workplans.
4. **Population management.** Patients with complicated medical and psychosocial needs receive a different level of care and management. Employ health coaching for patients with chronic diseases. Use panel

<sup>5</sup> Rachel Willard and Tom Bodenheimer. White paper: “The Building Blocks of High-Performing Primary Care: Lessons from the Field,” California HealthCare Foundation, April 2012. [www.chcf.org/publications/2012/04/building-blocks-primary-care](http://www.chcf.org/publications/2012/04/building-blocks-primary-care).



**Figure 1-3.** Waiting room, Village Family Medicine. (Courtesy of McMillan Pazdan Smith Architecture; Photographer: Kris Decker/Firewater Photography)

management to support the preventive care needs of all patients.

5. **Continuity of care.** Improves quality of care, the patient's experience, and lowers costs. Actively control panel size to ensure demand does not exceed supply.
6. **Prompt access to care.** Timely access cannot be achieved without managing panel size to balance capacity and demand. Strategy: Open the schedule only a few weeks at a time, space visits by taking care of more needs at each visit, and offer phone visits, Web-based patient portals, group visits, and visits with nonclinician team members.

### THE SMARTPHONE WILL SEE YOU NOW: THE mHEALTH REVOLUTION

If there is a prophet in the transformation of medicine as we know it today to what it will be in five or ten years, it is surely Eric Topol, MD, director of the Scripps Translational Science Institute in La Jolla, California. He is both a practicing cardiologist and a professor of genomics at the Scripps Research Institute. He is widely acknowledged as a visionary, a pioneer, and a charismatic change agent whose book *The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care* (Basic Books, 2012) forecasts that smart consumers—patients—will push healthcare providers to accelerate the adoption of technology. His book is intended to educate consumers about the possibilities because he finds the medical community frustratingly slow to change and unwilling to let the digital world “pierce the medical cocoon” in his words.

Dr. Topol's vision is of a world in which healthcare diagnosis and treatment will be personalized according to an individual's genome. In certain types of cancer treatment, this has already been put into action. Chemotherapy agents can be tested in the lab prior to administering them to know which will be more effective for a specific tumor in a specific person. Miniature ultrasound imaging devices are replacing the stethoscope. The goal is to capture as

much data as possible about an individual to enable precisely targeted therapies and to prevent major side effects of medications. This is very timely in view of the nation's increasing escalation of healthcare costs, growing number of preventable chronic illnesses, and the shortage of primary care physicians. Through the use of wearable sensors and smartphone apps, email communications, and e-visits through Skype and other video conferencing modalities, considerable time and cost can be saved by not having to schedule face-to-face visits when it is unnecessary. The problem is, in fee-for-service models, billing for this type of care is currently not possible. As patients move into patient-centered medical homes and capitated fee arrangements, providers will be only too delighted to handle routine matters for generally healthy patients in the most expeditious manner possible.

In Dr. Topol's vision, patients become informed consumers who are in the driver seat, armed by access to genomic information and real-time bio-data derived from nanosensors and enabled by wireless technology. According to J. Craig Venter (the scientist who sequenced the human genome), whose research institute is a stone's throw away from Dr. Topol's institute in La Jolla, “Our sequencing of the human genome eleven years ago was the beginning of the individualized medicine revolution, a revolution that cannot happen without digitized personal phenotype information.”<sup>6</sup>

### Medical Body Area Network Systems

Mobile sensors will record and transmit personal data wirelessly to physicians by way of Medical Body Area Network (MBAN) systems. The Federal Communications Commission (FCC) has proposed to allocate radiofrequency spectrum for secure transmission of personal data derived from multiple body sensors used for monitoring physiological data. It is expected to be a few years before

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<sup>6</sup>Eric Topol, *The Creative Destruction of Medicine: How the Digital Revolution Will Create Better Health Care* (New York: CRC Press 2012), Foreword.

the first MBAN products come to market. According to a Deloitte study published in 2012, the market for all wireless health-monitoring devices in the United States is estimated to hit \$22 billion by 2015.<sup>7</sup> Qualcomm, a San Diego-based maker of microprocessor chips, has developed Qualcomm Life, a 2net platform and hub to provide data management over a secure network. The hub functions like a router and is plugged into a wall. As it receives signals from wireless device sensors, it directs the information into the 2net platform for distribution. This hub can support the *Visi® Mobile System* (soterawireless.com) being introduced to hospitals for monitoring inpatients. This device, like a large wristwatch, performs comprehensive vital signs monitoring (ECG, heart/pulse rate, SpO<sub>2</sub>, blood pressure, respiration rate, and skin temperature) and can send data to desktop or tablet PCs for viewing. Imagine not having to wake a patient every four hours to monitor their vitals because continuous monitoring is possible and a nurse need only look at the color touch-screen display on the patient's wrist. (This device has been cleared by the FDA.)

## The Explosion of mHealth

Anyone doubting the growth of mobile health (mHealth) would do well to attend the annual mHealth Summit held each December in Washington, D.C., which draws 4,000 attendees. *Mobile health*, by definition, is the use of mobile communication and devices for providing health-care services. These services can be broadly classified into two categories: solutions with direct touch points to patients (wellness and prevention, diagnostic and treatment monitoring) and those that strengthen healthcare systems (emergency response, provider support, health-care administration). According to a 2012 report by Price Waterhouse Coopers<sup>8</sup>:

- Over 90 percent of revenue from monitoring is expected to come from chronic disease management solutions. Other common uses will be for post-acute care monitoring and independent aging apps.
- Monitoring services and applications are expected to drive the market significantly and account for 65 percent of the market.
- From a patient pathway perspective, most mobile health devices can be classified into five categories: wellness, prevention, diagnosis, treatment, and monitoring.
- The United States has been at the forefront of mHealth deployment in the world. Forty percent of solutions work toward strengthening the healthcare system, 25 percent are devoted to monitoring and treatment, and 13 percent to wellness and fitness.
- Worldwide, mobile devices are very helpful in supporting healthcare workers in remote or undeveloped areas.
- The increase in 3G and 4G networks creates data highways. 3G networks support video calling and high-speed data transfer, useful in delivering telemedicine services; 4G networks offer superior image quality and reduced distortion for video calls.

The enthusiasm engendered by mHealth must be tempered, according to Francis Collins, MD, PhD, director of the National Institutes of Health (a great supporter of mHealth), by doing the research to demonstrate the benefit. There are currently fewer than 20 randomly controlled studies to demonstrate if it improves outcomes. Dr. Collins noted the difficulty in doing studies since clinical trials typically take four years for the entire process and technology changes so rapidly.<sup>9</sup>

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<sup>7</sup>Jaimy Lee, "A New Sensory System," *Modern Healthcare*, May 13, 2013, pp. 30–31.

<sup>8</sup>"Touching Lives Through Mobile Health: Assessment of the Global Market Opportunity," February 2012. [www.pwc.in/assets/pdfs/telecom/gsm-a-pwc\\_mhealth\\_report.pdf](http://www.pwc.in/assets/pdfs/telecom/gsm-a-pwc_mhealth_report.pdf).

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<sup>9</sup>Francis Collins, Keynote address, MHealth Summit, Washington, DC, December 5, 2012. [www.mhealthsummit.org/about-summit/opening-remarks-and-keynote-speakers](http://www.mhealthsummit.org/about-summit/opening-remarks-and-keynote-speakers) (accessed Oct. 20, 2013).

## Mobile Devices

A number of mobile devices, often working through a smartphone app, enable consumers to monitor biometric data. The *Glooko* mobile app and meter sync cable (Figure 1-4) work with most FDA-approved glucose meter devices to sync and log blood glucose levels. The pulse oximeter checks the level of oxygen saturation in the blood (Figure 1-5). A remarkable new device, currently in



**Figure 1-4.** Mobile glucose monitor, Glooko, copyright © 2013. (Property of Glooko, Inc., 2013)

clinical trials, is the *I-SugarX*, ([freedom-meditech.com](http://freedom-meditech.com)), which noninvasively measures glucose levels by detecting polarization of light reflected from the eye. The *Alive Cor*<sup>®</sup> ECG recorder is licensed to medical professionals and prescribed patients and works through a smartphone; it has a monitor that attaches to the phone, and data is stored on a protected site.

One of the most interesting devices is the Scanadu Scout<sup>™</sup>, a round scanner disk packed with sensors, not much larger than an Oreo cookie, that connects to a smartphone and performs numerous biometric readings: heart rate, skin/core body temperature, pulse oximetry, respiratory rate, blood pressure, ECG, HRV (heart rate variability), and PWTT (pulse wave transit time—the time it takes for a heart beat to reach another location in the body which is related to blood pressure). The product website promises users they will be able to “check your health as easily as your email,” to reduce unnecessary doctor visits, and to “bring the tools of the emergency room into the comfort your living room.” The device is currently in FDA trials and is expected to be available in 2015.

The distinction must be made, however, that a smartphone is not a medical device and has inherent limitations with respect to interpretation. The *HeartCheck*<sup>™</sup> pen ([cardiocommsolutions.com](http://cardiocommsolutions.com)) has been cleared by the FDA as

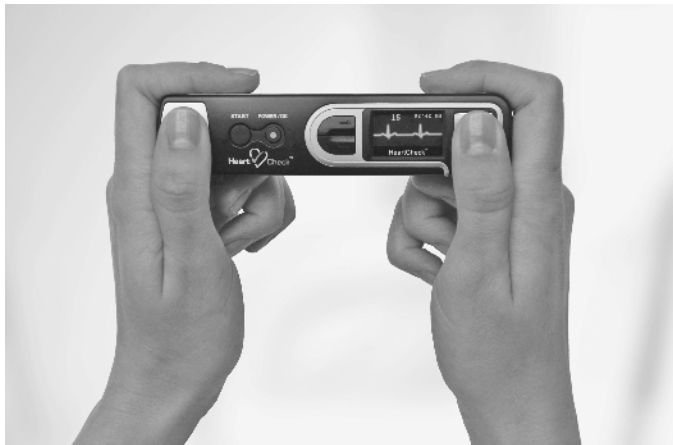


**Figure 1-5.** The Phone Oximeter<sup>™</sup> checks the level of oxygen saturation in the blood. (Courtesy of LGT Medical)



a Class II medical device and can be used to detect heart arrhythmias and record them at the moment they occur with the wave forms analyzed and interpreted by a cardiologist or ECG coordinating center virtually anywhere in the world that there is an Internet connection (Figure 1-6). The immediate access to interpretation makes this product unique. This device can be purchased without a prescription and comes with the *GEMS™* Global ECG Management Solution FDA-cleared software that integrates with the pen. CardioComm Solutions was awarded the 2012 Enabling Technology Award by Frost & Sullivan Global Research.

Other mobile devices are used by clinicians or perhaps home health nurses such as the Mobisante portable ultrasound that works on a smartphone and can be uploaded to a cloud server making it easy for caregivers to access from remote sites (Figure 1-7). The *NanoMaxx®* by SonoSite, Inc., is a powerful machine in a small package (Figure 1-8). It does high-quality diagnostic imaging, color power Doppler, and color-flow velocity to help physicians make clinical decisions at the point of care and to guide interventional procedures such as the insertion of a catheter to avoid infections. Another ultrasound device,



**Figure 1-6.** HeartCheck™ pen, a Class II mobile medical device used to detect heart arrhythmias and record them at the moment they occur. (Images provided by CardioComm Solutions, Inc.)

the GE *VScan*, enables clinicians to inspect organ function, check fetal viability, and monitor fetal position during labor (Figure 1-9). It can be used for abdominal, urological, cardiac, and pediatric scanning, and be carried in the pocket. The *PanOptic™* ophthalmoscope enables physicians to observe conditions such as hypertension, diabetic retinopathy, and papilledema (Figure 1-10a and b). With an accessory and software, when used with the iPhone 4/4S, images can be captured, sent, stored, retrieved, and printed. Other mobile diagnostic devices are depicted in Chapters 3 and 5.



**Figure 1-7.** Portable ultrasound device works on a smartphone. (Courtesy of Mobisante)



**Figure 1-8.** NanoMaxx® Mobile ultrasound device used in point-of-care decisionmaking. (Courtesy of FUJIFILM SonoSite, Inc.)

## BRINGING HEALTHCARE INTO THE HOME

Anyone who has had to take an elderly family member to a doctor’s appointment knows how unsettling it can be for the patient who might have ambulation problems and difficulties getting in and out of a car. If it is winter with snow on the ground, there are worries about falling. In addition, there are opportunities to be exposed to flu viruses and other infections. In addition, the escort—perhaps an adult daughter or son—has to take time off from work to assist. True, sometimes a face-to-face visit is essential but much of the time, these visits are for routine matters such as



**Figure 1-9.** VScan™ Mobile ultrasound device can be carried in the pocket and used in a variety of patient care settings including acute care. (Courtesy of GE Healthcare)

checking blood pressure, listening to lungs, looking at spots on the skin, or checking blood sugar. One of the biggest changes we will soon see is the use of home monitoring devices such as the *Intel Health Guide* to enable communication between patients and healthcare professionals, giving clinicians access to the most current, actionable data (Figure 1-11). These devices offer patient reminders, relevant educational content, and feedback tools such as video conferencing and alerts (Figure 1-12). Numerous vendors have entered this market with products that are easy to use. The patient applies the sensors or blood pressure cuff and sees a colored visual display indicating whether the results are good (may be indicated by a green light), less than ideal (may be indicated by a yellow light), or in the danger zone (a red light). Rather than waiting for a doctor’s appointment every few weeks, the patient can monitor vitals daily to more closely manage chronic conditions.

This will boost business for home health agencies to set up secure portals by which medically trained staff can monitor the “danger warnings” sent by a patient’s monitoring system and either alert the patient’s physician or family member who manages their care. Or they can send a nurse to visit the patient. If this type of service has not been contracted, the results of the monitoring can be sent





**Figure 1-10.** (a) iEXAMINER™ PanOptic. Mobile ophthalmoscope can be used with a smartphone to capture, send, and store images. (b) iEXAMINER™ PanOptic with smartphone attached. (Source: Welch Allyn, Inc.)

directly to the physician's office. Provider organizations will likely be setting up home monitoring systems for patients with chronic conditions as part of a patient-centered medical home approach to care management. Companies like White Glove Health in Austin, Texas, use board-certified family nurse practitioners to offer members mobile primary care and chronic care, providing technology-enabled services that include biometrics, wellness coaching, and telemedicine through Web-based portals. They will also go to the home or office to draw blood, and later, deliver and explain lab results. Insurance companies like Humana and Aetna in Texas pay the membership fee. White Glove describes itself as "the nation's revolutionary provider of

healthcare," referring to the convenience and access and the quality of the experience.

## TELEMEDICINE

Telemedicine is quite a benefit to those whose chronic conditions become unstable from time to time, requiring clinical assessment in the home, but it is also useful, as shown in Figure 1-13, to enable a parent to use an otoscope to help diagnose a child's ear problem without having to physically visit the doctor. In this image, VSee, a software product, has multiple video feeds enabling a



**Figure 1-11.** Cloud-based Telehealth Solution remote care management in the home. (*Intel-GE Care Innovations™*)

photo of the nurse, the patient, and the image of the inner ear to be visualized.

Within the clinical setting, telemedicine allows patients in rural or remote areas to be diagnosed in consultations with specialists, and it enables specialists to observe and teach in real time the proper way to do a procedure. A Web-based telemedicine workspace such as *Agnes Interactive™* ([amdtelemedicine.com](http://amdtelemedicine.com)) integrates live patient diagnostic data and real-time video conferencing. The *IMED II* ([amdtelemedicine.com](http://amdtelemedicine.com)) is a customizable telemedicine mobile system that can be found in hospitals and large clinics (Figure 1-14). Cisco *HealthPresence* is another telemedicine system intended for remote consultations. It enables video conferencing integrated with a high-resolution magnifying video camera, a telephonic



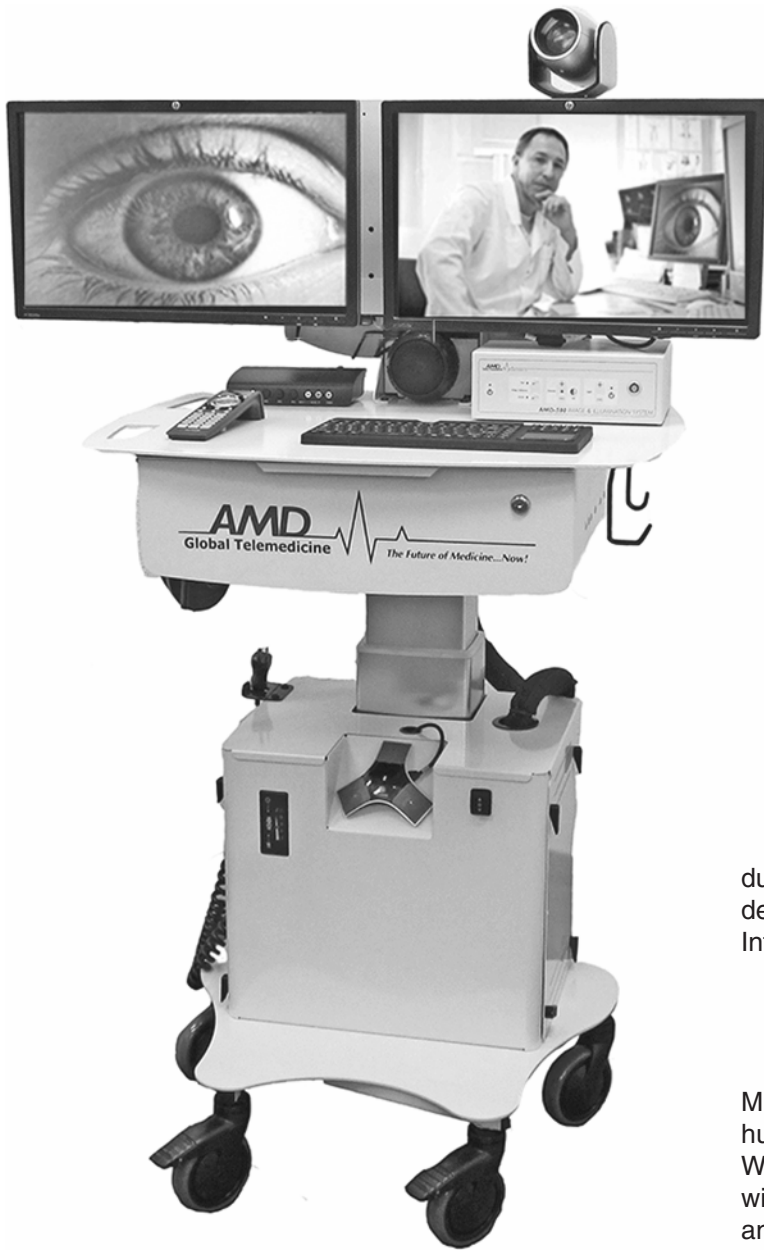
**Figure 1-12.** Cloud-based Telehealth Solution remote care management in the home. (*Intel-GE Care Innovations™*)



**Figure 1-13.** VSee enables remote telemedicine consultation. (*Courtesy of VSee copyright © 2013*)

stethoscope, an ear-nose-throat scope, and tracking of oxygen concentration, blood pressure, respiratory rate, and heart rhythm.

The *TeleSteth™* electronic stethoscope (Figure 1-15) transmits heart and lung sounds remotely in real time



**Figure 1-14.** IMED II is a mobile Clinical Telemedicine System. (Photo courtesy of AMD Global Telemedicine, Inc., copyright © 2013)



**Figure 1-15.** AMD-3150 3M™ Littmann® electronic stethoscope. (Photo courtesy of AMD Global Telemedicine, Inc., copyright © 2013)

during an exam or stores them to be heard later. It is designed to be accessed from a user's PC through the Internet.

## BOOMERS AND TECHNOLOGY

Much has been written about Boomers and how this huge influx of people will impact the healthcare system. What is rarely discussed is the considerable age range within this group born between the years 1946 and 1964 and the profound differences in experience between the early boomers and the late boomers. In 2014, the youngest of the boomers will turn 50, whereas the post-war cohorts are now in their 60s, and this is the group

many refer to when discussing preferences and impact on our healthcare system. A recent article in the *New York Times* provided a thought-provoking discussion of the life events that shaped the mindset of the two distinct groups.<sup>10</sup> Older boomers were influenced by the Vietnam war, shared an idealistic view of America, had faith in the government, experienced loss of innocence when John Kennedy was shot, understood the danger in casual sex (the birth control pill did not come along until 1961 and Roe v. Wade in 1973), had little personal exposure to illegal drugs, and many in this cohort finished school and found jobs, enjoying an historic period of economic prosperity or at least stability. Younger boomers took for granted the sexual freedom that was so revolutionary for the older cohort. Illegal drugs were plentiful and their use was not considered stigmatizing. Societal issues included AIDS and a huge spike in divorce and in the number of babies born to single mothers. Philosophically, the younger group has a more jaded, less idealistic view of America. They lived through the Watergate debacle and the Nixon resignation and, economically, lived through three recessions and the disillusionment of high unemployment. Last, there were huge differences in the roles of women within that 18-year period, with older boomers less likely to get a college education or experience parity with male colleagues in jobs. The boomers in the middle of this time span one could say straddle the extremes of

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<sup>10</sup>"I May Be 50 but Don't Call Me a Boomer," Richard Pérez-Peña, *New York Times*, January 12, 2014, page 11.

the early and late boomers. They are described in the Microsoft/AARP study below as having a foot in both the future and the past.

Microsoft and AARP teamed up to study the boomer demographic, and it turns out that, indeed, owing to the cultural and technological time span, this group has one foot in the future and one in the past.<sup>11</sup> They still remember when families had one phone, a landline, but now they live with cell phones. They keep abreast of social networking to be able to communicate with their children and grandchildren, but they also manage their parents' care and are part of that world. Boomers are enthusiastic about using new technology and quick to share it with peers. They are, surprisingly, the fastest-growing age segment on social networking sites like Facebook. One thing that characterizes the group is thoughtfulness about adopting technology only if it adds value to their lives. For example, they are keen to wire parents' homes with smart sensors to be able to check in on their safety. When it fits their needs, they will embrace cutting-edge technology, but they want it to fit their lives. They buy into EHR, gene scans, digital fitness monitors, and they want mobile phones with built-in projectors to deal with the problem of tiny screens. From all accounts, Boomers will embrace mHealth and conveniences like virtual visits to consult with providers for routine care. And they are all about the quality of the experience.

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<sup>11</sup>"Boomers and Technology: An Extended Conversation," a report sponsored and prepared by AARP and Microsoft, October 2009. [www.assets.aarp.org/www.aarp.org/articles/computers/2009\\_boomers\\_and\\_technology\\_final\\_report.pdf](http://www.assets.aarp.org/www.aarp.org/articles/computers/2009_boomers_and_technology_final_report.pdf).