

Provider-Based

Patient Engagement: An Essential Strategy for Population Health

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The Challenge: Population Health Management and Influencing Patients' Engagement in their Own Care.

As the healthcare industry starts to reengineer care delivery to accommodate new reimbursement models, providers on the front lines of change recognize the need for population health management and for increasing patients' engagement in their own care. These two approaches are inextricably bound together, because it is impossible to manage the health of a population without getting patients more involved in self-management and the modification of their own risk factors. This paper discusses the fundamentals of patient engagement and shows how automation tools and web-based care management can facilitate this key process.

Patient Engagement is Essential for Improved Health Outcomes

Studies demonstrate that patient engagement is essential to improving health outcomes and that the lack of such engagement is a major contributor to preventable deaths. In fact, it is estimated that 40 percent of deaths in the U.S. are caused by modifiable behavioral issues, such as smoking and obesity. People with chronic diseases take only 50 percent of the prescribed doses of medications, on average. Fifty percent of patients do not follow referral advice and 75 percent do not keep follow-up appointments.¹

Many patients are unaware of their risk factors because they have not received recommended screening tests. For example, when a group of 4,000 people were screened for high cholesterol, a government study found, only 40 percent of those who had this condition were aware of it. Even among people who knew they had high cholesterol, only 14.5 percent were taking cholesterol-lowering drugs, and just 6.8 percent had reduced their levels below the goal of 200 mg/dl.²

In a recent study on the impact of eliminating copays on drugs prescribed to heart-attack survivors, the authors noted that rates of adherence to these medications—including statins, beta blockers, ACE inhibitors, and ARBs—ranged from 36 percent to 49 percent.³ In an accompanying editorial, Lee Goldman, M.D., and Arnold M. Epstein, M.D., commented, "Perhaps the most sobering findings were both the low baseline adherence and the small improvement in adherence in what should have been a highly motivated group of patients after myocardial infarction."⁴

Visits to physicians alone are insufficient to address the overall compliance problem. "Sporadic contact (such as every six months) with a health care provider is often inadequate to maintain and reinforce complicated lifestyle modifications and pharmacologic regimens," noted Thomas

1. Anand K. Parekh, "Winning Their Trust." *N Engl J Med* 2011; 364:e51 June 16, 2011.

2. Thomas Pearson, "The Prevention of Cardiovascular Disease: Have We Really Made Progress?" *Health Affairs* 26, no. 1 (2007): 49–60.

3. Niteesh K. Choudhry, M.D., Ph.D., Jerry Avorn, M.D., Robert J. Glynn, Sc.D., Ph.D., Elliott M. Antman, M.D., Sebastian Schneeweiss, M.D., Sc.D., Michele Toscano, M.S., Lonny Reisman, M.D., Joaquim Fernandes, M.S., Claire Spettell, Ph.D., Joy L. Lee, M.S., Raisa Levin, M.S., Troyen Brennan, M.D., J.D., M.P.H., and William H. Shrank, M.D., "Full Coverage for Preventive Medications After Myocardial Infarction." *N Engl J Med* 2011; Nov. 14, 2011 (10.1056/NEJMsa1107913).

4. Lee Goldman, M.D., and Arnold M. Epstein, M.D., "Improving Adherence—Money Isn't The Only Thing." *N Engl J Med* 2011; Nov. 14, 2011 (10.1056/NEJMe1111558).

To be effective, population health management should include a variety of interventions—some of them automated—to keep patients engaged and help them manage their own care between visits.

Pearson in a paper on the prevention of cardiovascular disease.⁵

One of the goals of population health management is to maintain continuous contact with patients and to address modifiable health behaviors that may lead to or exacerbate chronic diseases.⁶ To be effective, population health management should include a variety of interventions—some of them automated—to keep patients engaged and help them manage their own care between visits.

Physician-patient Relationship

It is equally important to recognize that the key to patient engagement is the physician-patient relationship. When a doctor advises a patient to quit smoking, for example, the chance of that person doing so increases by 30 percent.⁷ So all patient outreach and educational efforts must be performed in the name of the patient's physician in order to have a strong likelihood of success.

Shared decision making between physicians and patients also increases the probability of improved outcomes,⁸ so that must be part of the engagement formula. Although patients

vary in their desire to be involved in decision making, one recent study showed that most patients do want to participate in major medical decisions.⁹

Shared decision making is a key part of the patient-centered medical home (PCMH), which has been embraced by more and more physician practices and healthcare organizations in recent years. In the PCMH, every patient has a personal physician who takes responsibility for their care and coordinates referrals across care settings. In addition, the patient is considered part of the care team, and the patient and his or her family can participate in quality improvement at the practice level.¹⁰

Both in the PCMH and the Chronic Care Model of disease management, patient engagement is critical. But as every physician knows, it is difficult to motivate many patients to participate in their own health care. What follows are some findings of the recent research on the psychology of patient activation and the interventions that have been shown to engage patients.

5. Pearson, op. cit.

6. David M. Lawrence, "How to Forge a High-Tech Marriage Between Primary Care and Population Health," *Health Affairs*, May 2010, 1004-1009.

7. Parekh, op. cit.

8. Annette M. O'Connor, John E. Wennberg, France Legare, Hilary A. Llewellyn-Thomas, Benjamin W. Moulton, Karen R. Sepucha, Andrea G. Sodano and Jaime S. King, "Toward The 'Tipping Point': Decision Aids And Informed Patient Choice," *Health Affairs*, 26, no.3 (2007):716-725..

9. Dorcas Mansell, MD, MPH; Roy M. Poses, MD; Lewis Kazis, ScD; Corey A. Duefield, MPH. Clinical Factors that Influence Patients' Desire for Participation in Decisions About Illness. *Arch Intern Med*. 2000;160:2991-2996..

10. American Academy of Family Physicians, American Academy of Pediatrics, American College of Physicians, American Osteopathic Association, "Joint Principles of the Patient-Centered Medical Home," accessed at <http://www.pcpcc.net/content/joint-principles-patient-centered-medical-home>.

Engaging Patients: Four Stages

Patient engagement is crucial to improving population health because patients with chronic diseases—which generate 75 percent of health costs—must manage their own conditions most of the time. Care management can help them do that, but they still face a tough challenge, as patient activation expert Judith Hibbard explained:

Patients with chronic diseases often must follow complex treatment regimens, monitor their conditions, make lifestyle changes, and make decisions about when they need to seek care and when they can handle a problem on their own. Effectively functioning in the role of self-manager, particularly when living with one or more chronic illnesses, requires a high level of knowledge, skill, and confidence.¹¹

When patients have the knowledge, skill and confidence to help manage their own health, Hibbard observed, they do better. “A growing body of evidence shows that patients who are engaged, active participants in their own care have better health outcomes and measurable cost savings,” she pointed out.¹²

Inadequate Preparation

But it is not easy to activate some patients, either because of behavioral health issues and/or because they don't believe they are up to the task. According to a report from the Center for Advancing Health, for example, only 30 percent of seniors feel they have the motivation and the skills to participate fully in their own care.¹³

Hibbard and her colleagues characterized patient activation as a developmental process that they broke down into four stages:¹⁴

- Believing the patient role in care is important
- Having the confidence and the knowledge necessary to take action
- Actually taking action to maintain and improve one's health
- Staying the course even under the stress of adverse life condition

11. Hibbard, JH, Moving Toward A More Patient-Centered Health Care Delivery System. Health Affairs, 2004 (doi: 10.1377/hlthaff.var.133).

12. Ibid.

13. Center for Advancing Health, “A New Definition of Patient Engagement: What is Patient Engagement and Why Is It Important?” (2010). Accessed at http://www.cfah.org/pdfs/CFAH_Engagement_Behavior_Framework_2010.pdf.

14. Judith H. Hibbard, Eldon R. Mahoney, Ronald Stock, and Martin Tusler. Do Increases in Patient Activation Result in Improved Self-Management Behaviors? Health Services Research 42:4 (August 2007): 1443-1463.

Both in the PCMH and the Chronic Care Model of disease management, patient engagement is critical.

In a 2004 study, Hibbard's team looked at whether changes in patient activation led to changes in health behavior in a cohort of people between 50 and 70 years old. The intervention group attended weekly workshops that covered topics related to self-management of care and coping with social isolation. Compared with the control group, the intervention group became more activated initially, but the difference faded after six months. However, individuals in both groups who became more activated had a positive change in a variety of self-management behaviors.¹⁵

Activation Models

How to activate patients to change poor health behavior—which can worsen chronic conditions or deteriorate health—has been the subject of considerable research. Here are a few of the approaches:

Transtheoretical model. In this approach, care managers or coaches increase awareness of the need for change. Then they motivate patients to make changes and help them make concrete action plans. Later, they assist patients with problem solving and social support, and reinforce maintenance of health behavior changes. The key is to help patients change their self-concept and have them see how social norms support improvements in their health behavior.¹⁶

Social cognitive theory. The underlying concept of this model is that the more you believe you can do something, the more likely you are to do it. Care managers try to help patients build confidence in their ability to improve health behavior and avoid unhealthy behavior even in stressful conditions. This approach addresses both the psychosocial dynamics influencing healthy behavior and methods for promoting behavior change.¹⁷

Health belief model. Proponents of this approach argue that many people will change their health behavior if they believe it will help them avoid a negative health outcome. Techniques include defining risk, consequences of risk, and benefits of change; identification of barriers and tips to overcome them; promotion of action through information and reminders; and confidence building through training, guidance and reinforcement.¹⁸

15. Ibid.

16. Prochaska, JO, et al. *Changing For Good*. New York: HarperCollins 1995, 2002.

17. Glanz, K, et al. *Health Behavior and Health Education*, 3rd Edition, Jossey-Bass Inc., Publishers, 2002..

18. Ibid.

Obstacles to Patient Engagement

There are many barriers to patient engagement that go beyond the willingness of patients to take responsibility for self-care or to follow doctors' orders. These include the social and economic environment in which patients must function; cultural factors; the lack of health literacy in a large portion of the population; knowledge deficits; and poor access to healthcare.

For example, a recent study shows there is a large disparity in patient activation between Hispanic immigrants and white people born in the U.S. Some of this disparity—not only between Hispanics and whites, but also between African-Americans and whites—has to do with social and economic differences, the study found. But in the case of Hispanics, cultural and language barriers also play an important role in the disparity.¹⁹

The lack of health literacy is a major obstacle across the U.S. population. More than 90 million adults have low health literacy, meaning they have difficulty understanding and using health information.²⁰ Educational materials often are not written at a level that these people can grasp and make use of—a situation that is exacerbated when their primary language is not English.

Finally, many people simply lack good access to healthcare. They may not have a regular primary care physician; and even if they do have one, it may be difficult to get an appointment or to take time off from work or find transportation to see the doctor. Some patients cannot afford the tests or

medications that their physician orders, especially if they lack insurance.

Population health management cannot overcome all of these obstacles to patient engagement. But the automation of care management and care coordination can significantly improve the odds that the majority of patients can be engaged in managing their own care. The rest of this paper will show how this can be done in several domains, including care management, patient education, and interventions that utilize a variety of new technologies.

The automation of care management and care coordination can significantly improve the odds that the majority of patients can be engaged in managing their own care

19. Peter J. Cunningham, Judith Hibbard, and Claire B. Gibbons, "Raising Low 'Patient Activation' Rates Among Hispanic Immigrants May Equal Expanded Coverage In Reducing Access Disparities." *Health Affairs*, 30, no.10 (2011):1888-1894.

20. Institute of Medicine, *Health Literacy: A Prescription to End Confusion* (Washington, DC: National Academy Press, 2004)

Care Management: Automation is Essential

Most physicians do not have enough time to keep track of all of their patients, let alone reach out to them between visits. Moreover, there are many lower-level clinical tasks that can be performed by non-physicians or can be automated. So in any organization focused on population health, a care team does the day-to-day work of caring for and engaging the patient.

In some healthcare organizations, care managers focus mainly on telephonic management of high-risk patients who may be admitted to the hospital or go the emergency department unless their urgent needs are met. This is an important task of the care team, but it is only one component of population health management. Of the patients who generate the highest costs in a given year, less than 30 percent were in that category a year earlier.²¹ So an organization that hopes to improve the quality and lower the cost of care must pay attention to its entire population.

Maintaining continuous contact with every patient in a practice, however, is a task that exceeds the capability of even the largest healthcare organizations if they use only manual processes. Care managers are expensive, and the number of patients they can supervise is limited. To expand their reach and the influence of physicians on their patients, some degree of automation is required.

Of the patients who generate the highest costs in a given year, less than 30 percent were in that category a year earlier.

21. Ian Duncan, Healthcare Risk Adjustment and Predictive Modeling (Winstead, CT: ACTEX Publications, 2011)

This would enable early intervention with patients who lack the skills to self-manage before they inevitably move to a higher health-risk group.

Patient Outreach

Many patients have gaps in their preventive and chronic care. In some cases, this is because they haven't visited the practice in a long time. In other cases, they haven't been told they need these services during office visits, or they haven't complied with their physician's recommendations.

Some practices try to contact patients with care gaps between visits. But, even if a practice has a good system for identifying these patients, manual outreach is prohibitively costly in terms of staff time and phone and mailing costs. So this is usually a hit-or-miss process, and it is not scalable to larger groups.

New automation tools can facilitate this part of the patient engagement process and ensure outreach to all patients who need services. Using data extracted from a practice management system or an electronic health record, these solutions build patient registries and use clinical protocols to trigger messaging to patients who need to make an appointment with their physician. Frequently, this messaging results in patients getting back in touch with their physicians after a long absence.

A study at Prevea Health, a large multispecialty group in Green Bay, Wisc., showed that automated outreach to noncompliant patients with diabetes or hypertension increases the likelihood that those patients will make office

visits and get the care they need. The study concluded, "An automated identification and outreach program can be an effective means to supplement existing practice patterns to ensure that patients with chronic conditions in need of care receive the necessary treatment."²²

Risk Stratification

The majority of high-cost patients today had a much lower risk of generating high costs a year ago. So organizations that embrace population health management must adopt techniques to identify patients who are likely to become high risk and prioritize care management of those patients.

Some health insurers plan to give accountable care organizations predictive modeling software—similar to the programs their actuaries use—to accomplish that task.²³ But it is also possible to do risk stratification—while also increasing patient engagement—by asking patients to complete online health risk assessments, just as many employers and health plans do.²⁴ Though patients resist filling out long forms, practices can break up HRAs into smaller, bite-size chunks about specific areas of patients' health behavior, such as diet, exercise or smoking.

HRAs enable organizations to classify patients by their health conditions, health behaviors, and functional status. This helps providers spot patients who may become high risk and gives them data for analyzing their patient population. In addition, some HRAs measure stages of patient activation—something that Hibbard recommends. "This would enable early intervention with patients who lack the skills to self-manage before they inevitably move to a higher health-risk group," she noted in a Health Affairs paper.²⁵

Patient Education

The research on patient activation shows that patients feel more confident about managing their health condition when they have more knowledge about it. Today, many patients go online for this information. About 113 million adults, or 80 percent of Internet users, have sought answers to their health questions online, according to a study by the Pew Research Center.²⁶ Another survey shows that Americans are more likely to seek health information on the web than from doctors, pharmacists or nurses.²⁷ Still, 71 percent of patients consult physicians or other health professionals when they have a serious health problem.²⁸

Online patient education materials may be multi-media and interactive—a big

22. Ashok Rai, Paul Prichard, Richard Hodach, and Ted Courtemanche, "Using Physician-Led Automated Communications to Improve Patient Health," *Journal of Population Health Management* (10.1089/pop.2010.0033).

23. Peter Boland, Phil Polakoff, Ted Schwab, "Accountable Care Organizations Hold Promise, But Will They Achieve Cost and Quality Targets?" *Managed Care*, October 2010, accessed at <http://www.managedcaremag.com/archives/1010/1010.ACOs.html>.

24. Steven M. Schwartz, Brian Day, Kevin Wildenhaus, Anna Silberman, Chun Wang, and Jordan Silberman, "The Impact of an Online Disease Management Program on Medical Costs Among Health Plan Members." *Am J Health Promot* 2010;25[2]:126–133.

25. Hibbard, "Moving Toward a More Patient-Centered System," op. cit.

26. Susannah Fox, "The Social Life of Health Information," *Pew Internet and American Life Project*, May 12, 2011, accessed at <http://pewresearch.org/pubs/1989/health-care-online-social-network-users>.

27. Manhattan Research, "Cybercitizen Health v7.0" press release, Nov. 1, 2007.

28. Fox, "Peer-to-Peer Health Care," *Pew Internet and American Life Project*, Feb. 28, 2011, accessed at <http://pewresearch.org/pubs/1908/online-health-information-peer-to-peer-patients-caregivers-chronic-conditions>.

80 percent of studies found significant influence of consumer health informatics applications on at least one clinical outcomes

improvement over the paper handouts that many practices still use. When patients view some of these programs, they can ask questions and receive answers online. One vendor of online education services even allows physicians to see whether patients have reviewed the materials they were asked to read or view. Such materials are available both for post-surgical care and the care of chronic conditions.²⁹

When combined with automated patient communications, these online educational materials can be a powerful tool to motivate patients. Physicians can put in a standing order for particular education pieces to be directed automatically to patients at various points in the care process. Such an approach relieves the burden on practice staff of ensuring that patients receive the proper information at the appropriate time.

Health coaching has also been shown to improve patient outcomes, and there is some evidence that online coaching has similar results.³⁰⁻³² The latest digital coaching tools, which start with health risk assessments, can help patients improve their health behaviors by, for example, losing weight, eating better, or exercising more.³³

To have the desired effect, these automated education and health coaching tools must be tailored to the target population. They

must not only be condition specific, but they must also be written in consumer-friendly language. They must be designed to address health literacy and language barriers, or they will fail.

Telemonitoring

The use of remote patient monitoring and alerting in chronic disease management dates back to the late 1990s.³⁴ Since then, the monitoring devices have become more sophisticated and less expensive, and the ability to transmit data has grown exponentially. The main obstacle to faster growth of telemonitoring is the healthcare reimbursement system, which still does not compensate physicians for non-visit care in most cases. That barrier, too, is expected to disappear as accountable care becomes the new paradigm.

Telemonitoring helps care teams extend their reach, and it engages patients in their own care. It has also been shown to improve outcomes when combined with active care management. According to a 2004 study of telemonitoring in diabetes care, for instance, "prompting follow-up procedures, computerized insulin therapy adjustment using home glucose records, remote feedback, and counseling have documented benefits in improving diabetes-related

outcomes."³⁵

In a 2007 report, the Agency for Healthcare Research and Quality (AHRQ) surveyed the literature on the impact of what it called "consumer health informatics [CHI] applications."³⁶ The majority of the studies evaluated interactive web-based applications or web-based tailored educational applications. Fifteen percent of the studies looked at computer-generated tailored feedback applications, and eight percent evaluated interactive computer programs and personal monitoring devices.

29. Emmi Solutions website, http://www.emmisolutions.com/patient_education_solutions.html.

30. Greenfield S, Kaplan SH, Ware JE Jr, Yano EM, Frank HJ. Patients' participation in medical care: effects on blood sugar control and quality of life in diabetes. *J Gen Intern Med.* 1988;3:448-457.

31. Renders CM, Valk GD, Griffi n SJ, Wagner EH, Eijk Van JT, Assendelft WJ. Interventions to improve the management of diabetes in primary care, outpatient, and community settings: a systematic review. *Diabetes Care.* 2001;24:1821-1833.

32. Thomas Reinke, "Want to Change Patients' Behavior? Look to The Internet," *Managed Care*, July 2009, accessed at http://www.managedcaremag.com/archives/0907/0907_engagement.html.

33. HealthMedia website, <http://www.healthmedia.com/>.

34. Ken Terry, "Monitor Patients Online?" *Medical Economics*, July 23, 2001, accessed at <http://www.modernmedicine.com/modernmedicine/article/articleDetail.jsp?id=118617>.

35. Balas EA, Krishna S, Kretschmer RA, Cheek TR, Lobach DF, Boren SA. Computerized knowledge management in diabetes care. *Med Care.* 2004;42:610-621.

36. Gibbons MC, Wilson RF, Samal L, Lehmann CU, Dickersin K, Lehmann HP, Aboumatar H, Finkelstein J, Shelton E, Sharma R, Bass EB. Impact of Consumer Health Informatics Applications. Evidence Report/Technology Assessment No. 188. (Prepared by Johns Hopkins University Evidence-based Practice Center under contract No. HHS 290-2007-10061-I). AHRQ Publication No. 09(10)-E019. Rockville, MD. Agency for Healthcare Research and Quality. October 2009.

The mobile health applications that have the greatest potential in population health management are those linked to care management

The meta-analysis found that the CHI interventions improved self-management, knowledge of health conditions, adherence to treatments, and health behavior. Some of the studies evaluated clinical outcomes for cancer, diabetes, mental health, diet, exercise and physical activity, asthma, COPD, breast cancer, Alzheimer's disease, arthritis, asthma, back pain, aphasia, COPD, HIV/AIDS, headache, obesity, and pain. "Over 80 percent of studies found significant influence of CHI applications on at least one clinical outcome," the report concluded.

Mobile Health Applications

In recent years, the number of people using smartphones, iPads, and other web-connected mobile devices has exploded. In September 2011, 37 percent of U.S. consumers owned smartphones, and 50 percent are expected to be using these devices by September 2012.³⁷

The rise of mobile communications has been

accompanied by rapid growth in the number of health-related applications designed for mobile devices. While many of these are intended for professionals, the bulk of them are aimed at consumers. These applications range from symptom checkers and apps that measure vital signs to programs that help users find "quality"-evaluated doctors and hospitals.³⁸ The latest iPhones and iPads also have "video chat" features that physicians can use to examine patients remotely.³⁹

The mobile health apps that have the greatest potential in population health management are those linked to care management. In one recent study, for example, a mobile and web-based self-management patient coaching system was shown to help patients with diabetes reduce their HbA1c levels more than a control group that received usual care did.⁴⁰ Another study showed that mobile alerts to diabetic patients using glucometers with smartphones were as effective in lowering HbA1c as an Internet-based glucose monitoring system.⁴¹

37. Horace Dediu, Asymco market intelligence report, Nov. 6, 2011, accessed at http://www.asymco.com/2011/11/06/the-us-smartphone-landscape/?utm_source=feedburner&utm_medium=feed&utm_campaign=Feed%3A+Asymco+%2Basymco%29.

38. Terry, "Mobile Apps: Proposed FDA Rule Will Disrupt Industry," InformationWeek, July 21, 2011, accessed at <http://www.informationweek.com/news/healthcare/policy/231002336>.

39. Terry, "Apple FaceTime May Be HIPAA Secure," InformationWeek, Oct. 21, 2011, accessed at <http://www.informationweek.com/news/healthcare/mobile-wireless/231900634>.

40. Charlene C. Quinn, Michelle D. Shardell, Michael L. Terrin, Erik A. Barr, Shoshana H. Ballew, and Ann L. Gruber-Baldini, "Cluster-Randomized Trial of a Mobile Phone Personalized Behavioral Intervention for Blood Glucose Control." *Diabetes Care*, September 2011, 34;9:1934-1942.

41. Jae-Hyoung Cho, Hye-Chung Lee, Dong-Jun Lim, Hyuk-Sang Kwon and Kun-Ho Yoon, "Mobile communication using a mobile phone with a glucometer for glucose control in Type 2 patients with diabetes: as effective as an Internet-based glucose monitoring system." *J Telemed Telecare*, March 2009, 15;2:77-82.

Significant value will be realized only when PHRs incorporate systems, tools, and other resources that leverage the data in the record and enable consumers to play a more active role in their health and health care.

Personal Health Records

The value of personal health records (PHRs) has been debated and continues to be uncertain. But in large healthcare organizations like Kaiser Permanente and Group Health Cooperative, where PHRs are linked to EHRs, millions of patients are using PHRs to view parts of their medical record, see lab results, request prescription refills and appointments, and e-mail their physicians.⁴² Patients at the Palo Alto Medical Foundation who had PHRs indicated that these tools made them feel like part of the medical team and kept them in closer touch with their providers.⁴³

In a study of the use of health IT in patient-centered medical homes, David W. Bates and Asaf Bitton noted that PHRs can increase patient engagement and self-efficacy, but that they have low uptake by patients, especially those who are chronically ill. One reason, they said, is that current PHRs have serious limitations: for example, many do not include clinical data from EHRs and other sources.⁴⁴

To remedy these defects, they argued, physicians must overcome their reluctance to share EHR data with patients, and interfaces must be improved to make it easy for patients to upload clinical data. In addition, PHRs should have the capability to communicate online with care teams and track vital signs such as weight, blood pressure, and blood sugar. There should also be a mechanism for care managers to

provide feedback when a patient's indicators are worrisome, the authors said.

Another study maintained that the potential of PHRs will not be realized until they integrate a wide range of patient data that goes beyond the EHR in a particular practice or organization. In addition, the paper said, such integrated PHRs must include a range of tools to help consumers apply the data to self-management.

The data within an electronic PHR record alone are not sufficient to realize improvements that can be considered transformative. Significant value will be realized only when PHRs incorporate systems, tools, and other resources that leverage the data in the record and enable consumers to play a more active role in their health and health care.⁴⁵

Social Media

Social media such as Facebook, Twitter, and LinkedIn are having a huge impact on consumers. Some people spend more time on social media than they do on all other Internet sites combined. So from a logical viewpoint, it would seem that patient engagement strategies should include the use of social media.

But physicians and their patients use different social media, and doctors are not eager to communicate with patients via Facebook or Twitter.

A recent survey shows that 87 percent of

physicians use social media, compared to 65 percent of the general population. Sixty-seven percent of doctors employ social media for professional purposes, but their top destinations are professional sites and LinkedIn. The majority of doctors use Facebook in their personal lives, but only 15 percent use it in healthcare. And, while a third of physicians have received invitations to "friend" their patients, 75 percent of those doctors declined to do so.⁴⁶

The biggest reason for physicians to avoid using Facebook and Twitter for professional purposes is the fear of breaching professional confidentiality online. In addition, some doctors are afraid of learning things about patients that might put them in a bind, such as their recreational drug use. And many doctors prefer to keep their personal and professional lives separate.⁴⁷

Nevertheless, physicians and care teams can refer patients with specific conditions to online communities that provide education and mutual support to people with those conditions. That would certainly increase patient engagement. But before they do so, doctors would be well advised to check out these sites to make sure that they're providing reliable, objective information.

42. Anna-Lisa Silvestre, Valerie M. Sue, and Jill Y. Allen, "If You Build It, Will They Come? The Kaiser Permanente Model of Online Care." *Health Affairs*, 28, no. 2 (2009): 334-344 doi:10.1377/hlthaff.28.2.334.

43. Paul C. Tang and David Lansky, "The Missing Link: Bridging The Provider-Patient Information Gap." *Health Affairs*, 24, no.5 (2005):1290-1295 doi: 10.1377/hlthaff.24.5.1290.

44. David W. Bates and Asaf Bitton, "The Future of Health Information Technology in the Patient-Centered Medical Home." *Health Affairs*, 29, no.4 (2010):614-621 doi: 10.1377/hlthaff.2010.0007.

45. Don Detmer, Meryl Bloomrosen, Brian Raymond, and Paul Tang, "Integrated Personal Health Records: Transformative Tools for Consumer-Centric Care." *BMC Medical Informatics and Decision Making* 2008, 8:45 doi:10.1186/1472-6947-8-45.

Conclusion

Patient engagement is vital to quality improvement, better patient outcomes, and population health management. To improve patient engagement, organizations must reach out to every patient, using the techniques that have been shown to motivate patients to participate in their own healthcare.

Care teams provide the non-visit, continuous care that is essential to population health management. They are also responsible for promoting patient engagement between visits. But, care managers who use manual processes cannot intervene with every patient. That effort requires the use of health information and communication tools that automate the process so that care managers can devote themselves to the patients who need the most attention.

Besides automating care management, the latest technologies enable organizations to analyze population data and stratify patients by risk. Based on that information, they can design engagement strategies tailored to particular subgroups of patients.

Other new technologies, ranging from telemonitoring and mobile health to PHRs and social media, can be employed to increase patient engagement. But to be effective, they must be linked with provider-led care management, and they must invoke the power and influence of the doctor-patient relationship.

By combining all of these techniques, healthcare organizations can provide truly patient-centered care. When patients are fully engaged in their own health care, they will have better outcomes, and the growth in health costs will start to abate.

Patient engagement is vital to quality improvement, better patient outcomes, and population health management.

46. Pamela Lewis Dolan, "Nearly All Doctors Are Now on Social Media," American Medical News, Sept. 26, 2011, accessed at <http://www.ama-assn.org/amednews/2011/09/26/bil20926.htm>.

47. Terry, "Doctors, Patients Not Using The Same Social Spaces," InformationWeek, Sept. 30, 2011, accessed at <http://www.informationweek.com/news/healthcare/patient/231602459>.