Health System Improvement

Reforming the Way Health Care Is Delivered Can Reduce Health Care Disparities

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The Affordable Care Act has greatly expanded access to insurance, but having an insurance card does not guarantee access to high-quality care.[1] Expanding coverage is just the first step in improving access to care that is timely, high-quality, language-accessible, and culturally-competent.

New approaches in the way that health care is delivered have tremendous potential to improve the quality of care and to reduce disparities in access to care and in health outcomes. This is especially true for vulnerable groups, including racial and ethnic minorities, low-income consumers, and people who live in underserved areas.

The toll that health disparities take can be devastating. Vulnerable groups face greater barriers to care, and when they do receive care, it is often poor-quality. These groups are also more likely to have serious chronic conditions. And they are more likely to

experience complications of these conditions and to have worse health as a result. For example, while asthma is only 20 percent more prevalent among non-Hispanic blacks than it is among non-Hispanic whites, blacks die from complications related to asthma nearly three times as often as whites.[2]

As advocates continue their work to advance health equity and reduce health disparities, adapting and expanding promising delivery reforms across the country must be a priority.

What is "delivery reform"?

"Delivery reform" refers to efforts to reform our fragmented health care delivery system. These efforts generally focus on three goals, known as the "triple aim": 1) improving the experience of care, 2) improving population health, and 3) reducing health care spending.[3] Fundamentally, delivery reform reconsiders some key questions in health care, such as the following:

» Who delivers services? Can health care professionals take on new, expanded roles in care delivery?

» Which services are being provided? Can data on health care be used to ensure that care is based on the best available evidence?

» Where and how do patients receive care? Can technology help improve access?

What are "health disparities"?

"Health disparities" are variations in access to health care, in health care quality, and in health status.

As stakeholders begin to answer these questions and to incorporate those answers into new policies and practices, they will be one step closer to reforming health care delivery in this country.

Why does delivery reform matter in the fight against health disparities?

There are multiple factors that contribute to health disparities. Some of these are societal factors, such as poverty, lack of education, and residential segregation. (These factors are often called "social determinants of health.") But inequities in timely access to high-quality care also lead to health disparities. Unfortunately, racial and ethnic minorities, people with low incomes, and those who live in rural areas are more likely to face such inequities.

One way to improve the quality of care vulnerable groups receive is by reforming the way health care is delivered so that the right care is provided to the right people at the right time, the first time. Changing the way that care is delivered can lead to better health outcomes, reduce disparities, and lower health care spending. If we don't reform our health care delivery system, we hinder our ability to address growing health care costs and will be left with a financially unsustainable system.

But a well-functioning health care system is not just a cost-effective investment for our society—it is also priceless to individuals, their families, and their communities. We cannot underestimate the human impact of delivery reform. For example, diagnosing a patient's cancer when it is in an early stage, or referring a patient for the correct heart procedure, obviously has benefits beyond cost savings. So, while pursuing delivery reform is important because it can help address health care spending, it is also worth pursuing to achieve other goals that are just as critical but that can be harder to quantify.

How can delivery reform address health disparities?

There are many ways that delivery reform can help reduce disparities in access to care, quality of care, and health outcomes. This brief explains several promising models of health care delivery that seek to reduce disparities, and it includes real-world examples that show how these models work. Some of these examples use new tools to bridge the geographic, cultural, and linguistic divides that exist between patients and providers. Other examples are designed to increase coordination of care by establishing frameworks that bring providers together and hold them accountable for the quality of care delivered. The four models we examine are:

1. **Community Health Workers**

2. **Telemedicine**

3. **"Hot-Spotting" High Utilizers**

4. **Patient-Centered Medical Homes**

What are "social determinants of health"?

"Social determinants of health" refer to the conditions in which people are born, grow up, live, and work that affect their health and quality of life. They include factors such as lack of access to basic resources, and social marginalization or stigma.[4]

For example, residential racial and ethnic segregation often concentrates low-income people of color in neighborhoods where schools are poor-quality, there is more environmental pollution, there are few opportunities to exercise safely, and poor nutrition options are more common than healthy foods.

1 Community Health Workers

The Model

Vulnerable populations are more likely to suffer from chronic diseases like diabetes and heart disease—conditions that can be managed effectively only with the ongoing involvement of patients and providers. These vulnerable consumers may lack access to providers. But even if they have a doctor, they may not receive care that is language-accessible, culturally-appropriate, and that is based on the best available research and medical evidence. Community health workers can help bridge these language, cultural, and socio-economic divides and ensure that vulnerable individuals obtain the care and support they need.

The term "community health workers" refers to individuals who may be called outreach workers, patient navigators, or *promotores de salud*. These workers are integral members of care delivery teams in underserved communities, serving as liaisons between their communities, health systems, and providers. Community health workers can:

» help individuals manage their health by enrolling them in primary care

» reinforce care plans to promote compliance[5,6]

» improve health literacy through education

» provide social support as counselors

» serve as advocates

The Case Study
Prevention and Access to Care and Treatment (PACT), Massachusetts

PACT is a project of Partners in Health, a prominent nonprofit organization that is known for its expertise in delivering health care in challenging settings ranging from Haiti to Rwanda. PACT's success is based on its use of "reverse innovation," which involves translating lessons learned from the developing world to inner cities in the United States. Operating in Boston, PACT primarily serves an HIV+ patient population that faces many barriers to care, including homelessness, institutional racism, mental illness, substance abuse, and social stigma.[7]

The community health workers at PACT accompany patients to provider appointments, counsel them on medication adherence, and provide assistance during social crises. This has helped patients improve their health status (measured by HIV viral load, the number of hospitalizations, and other factors) and has lowered their annual health spending.[8]

The PACT model can work for more complex conditions as well. For example, PACT staff conducted aggressive outreach to a subgroup of patients with particularly difficult strains of HIV, which led to a 90 percent decrease in AIDS-related hospitalizations and a significant improvement in patient's quality of life within six months.[9] PACT has also extended its model to cover other chronic conditions, like diabetes. And to better address the social determinants of

Community Health Workers: Members of health care teams working in underserved communities who provide health education and social support, help patients manage their care and stick to treatment plans, and serve as patient advocates.

health, PACT began a partnership with the Justice Resource Institute, an agency that connects vulnerable populations in the area to social services such as housing assistance, legal services, and counseling.[10]

Overall, after two years of PACT involvement, the initiative's participants have seen a 16 percent reduction in Medicaid expenditures, including a 35 percent decrease in length of stay and inpatient costs.[11,12]

In the Future

Programs that use community health workers should be expanded across the country, but these programs face several challenges.

Stakeholders who are interested in increasing the use of community health workers need to develop more sustainable financing mechanisms, standardize their training requirements, and develop guidelines for consistent metrics for evaluation.[13,14] However, it is important that efforts to regulate these workers recognize that many of them are volunteers and that much of their success is due precisely to the fact that they work with their own communities. For example, as stakeholders develop guidelines for evaluating the services provided by community health workers, stakeholders should ensure that these guidelines are flexible enough to address diverse patient populations and the needs of specific communities.

Community Health Worker Model

STRENGTHS

- Has the ability to integrate cultural and linguistic competency into the health care system, often using trusted messengers who are part of underserved communities

- Helps providers address the social determinants of health by connecting patients to resources in their communities (health insurance, food assistance, housing, etc.)

- Improves access to health care, adherence to treatment plans,[15] and health outcomes, and it can reduce health care costs[16,17,18]

Community Health Worker Model

CHALLENGES

- The term "community health worker" lacks a standardized definition, which means that requirements for training and certification vary across different regions

- It is difficult to evaluate the success of this model, because many benefits (such as personal empowerment, greater confidence in engaging the formal health care system, and community building) are not easily quantifiable

- There is not enough funding available to replicate and expand these programs across the country

2 Telemedicine

The Model

Lack of face-to-face access to high-quality providers continues to be a barrier to health equity in communities across the country. In both urban and rural settings, vulnerable populations often struggle to obtain timely care simply because there are too few doctors, or because doctors are already overwhelmed by the number of patients they serve.

Telemedicine, which uses technology to diagnose, monitor, and treat patients, has emerged as a strategy to address provider shortages.[19] By connecting doctors with patients through tools like videoconferencing, doctors can remotely provide several types of care, from routine check-ups to emergency care. This reduces the need for patients to visit a brick and mortar doctor's office for all of their health care needs. Telemedicine can also connect physicians to each other and expand providers' expertise, as shown in the case study.

Preliminary evaluations indicate that telemedicine interventions that virtually link patients to providers leave patients as satisfied with their care as those who've received in-person consultations. Telemedicine programs also improve health outcomes in areas where there are provider shortages, such as rural areas.[20, 21]

The Case Study
Project ECHO, New Mexico

While more than one-third of New Mexicans live in rural areas of the state, only one-fifth of the state's doctors practice in these regions. Rural residents also face high rates of poverty and often lack health insurance. As a result, many patients with chronic illnesses do not receive necessary care. For example, less than 5 percent of the 28,000 New Mexicans with hepatitis C had received any treatment as of 2009.[22]

Project ECHO, which is short for "Extending Community Health Care Outcomes," was created to help address these barriers to care. The group's goal was to link safety net providers (like primary care doctors) with academic specialists to collaborate in the treatment of patients with complex chronic conditions.[23]

Project ECHO was built on four key pillars: technology, disease management, case-based learning, and a web-based database.[24] Specialists with more expertise in treating hepatitis C partner with local primary care physicians via video-conferencing tools to co-manage patients. In addition, administrators of the program facilitate regular forums where each ECHO site presents "cases" to the group for discussion, which strengthens treatment plans, facilitates learning, and builds greater expertise.

Telemedicine:
The use of technologies such as videoconferencing to diagnose, monitor, and treat patients. Telemedicine also virtually connects doctors with patients, and it connects physicians to each other to expand their expertise.

The result of these interventions is that new practitioners gain experience, while patients get the benefit of having an expert help direct their care. An analysis of Project ECHO found that the program was as successful at managing hepatitis C as treatment at academic medical centers, which often provide the most advanced care.[25]

The Project ECHO model has expanded rapidly and is now being used to treat 19 conditions, including chronic pain, mental illness, diabetes, and high-risk pregnancy. Efforts to document the model's efficacy are ongoing, and Project ECHO recently received a multi-million dollar grant from the Robert Wood Johnson Foundation for further evaluation.[26,27]

It is important to note that not all users of telemedicine follow the Project ECHO model. For instance, some providers use telemedicine solely to transfer data across great distances so patients can be accurately diagnosed and managed from afar.

Telemedicine Model

STRENGTHS

- Is an effective strategy for overcoming geographic barriers to care, particularly specialty care

- Makes it easier to consult with physicians, including specialists, which maximizes their reach

- Reduces patients' travel costs

- Improves continuity of care

In the Future

Going forward, the lack of clear reimbursement policies for telemedicine remains a major obstacle to more widespread use. For example, only seven states reimburse providers for the telemedicine practice known as "store and forward." Store and forward refers to when providers evaluate patient information that was stored earlier in a remote location that doesn't require live video or face-to-face contact, such as x-rays, MRIs, and lab results.

Broader legislation that requires payers to reimburse telemedicine providers at the same level as it does for in-person consultations could encourage more providers to adopt telemedicine. This would extend the reach of these providers into communities that would otherwise have very limited access.[28]

Telemedicine Model

CHALLENGES

- Does not address the causes of provider shortages and is only a partial solution to this larger problem

- State policymakers need to develop reimbursement systems that support this model without undermining other efforts to address provider shortages

- Without proper design and oversight, telemedicine could devolve into a two-tiered system in which vulnerable populations receive virtual care while others receive traditional health care

- Policymakers must address informed consent and privacy concerns, especially for videoconferencing

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3 "Hot-Spotting" High Utilizers

The Model

Across the United States, a small subset of high-need patients accounts for the majority of health care expenses. In fact, 50 percent of health care spending is generated by just 5 percent of patients. The main reason that care for these "high utilizers" is so expensive is that they tend to be patients with a history of multiple chronic conditions, and they often face barriers to timely, high-quality care, such as poverty, lack of transportation, and homelessness.[29]

"Hot-spotting" uses interventions that focus on this small percentage of patients and that are designed to more aggressively manage their health before their conditions deteriorate. Teams of providers and social workers develop treatment options that streamline access to care while also engaging patients—and sometimes their communities—more proactively in their care. As a result, treatments become more accessible and better-coordinated, patients grow more invested in their care, their health improves, their use of more expensive care (such as ERs, hospitalizations, and rehabilitative care) diminishes, and their health care costs go down as well.

When this model is used to help communities of color, which often experience higher rates of chronic diseases—and sometimes more than one chronic condition at a time—it also improves these communities' health and reduces health care disparities.[30]

The Case Study
Camden Coalition of Health Providers, New Jersey

Camden is a small city where 42.5 percent of families live in poverty, the median income is the lowest of all cities surveyed by the Census, and where 48 percent of the population is African American and 47 percent is Hispanic.[31] As for its health status, Camden's infant mortality rate has historically been comparable to that of countries like Samoa, and nearly 50 percent of residents visit the ER in a given year, which is twice the national average.[32,33,34,35]

The Camden Coalition of Health Providers is a cooperative of practitioners and health centers that was founded to improve the city's health. In many ways, Camden was an ideal city for a targeted intervention: The top 1 percent of high-utilizing patients in Camden accounted for 30 percent of all medical spending.[36] Many of these patients suffered from chronic diseases, mental illness, and substance abuse, and they often lacked a consistent source of primary care.[37] Dr. Jeffrey Brenner, a family medicine physician in Camden, noticed that these high utilizers were often located in geographic "hot-spots." For example, 615 patients lived in one apartment tower.

Dr. Brenner designed a novel, place-based care management model to address the needs of these patients.[38] In this model, a team of practitioners that included a nurse, a social worker, and a health coach, began engaging patients *in their homes*, connecting them to necessary health services.

Hot-Spotting High Utilizers:
When teams of providers and social workers use techniques designed to aggressively manage patients' health, focusing on the small subset of high-need patients who often have multiple chronic conditions.

Perhaps just as importantly, this model did not limit assistance to just health care issues: Members of the Camden team linked patients to crucial social services like housing assistance, food stamps, and disability payments. In addition, these interventions have often been conducted in partnership with faith-based groups (in this case, the Camden Churches Organized for People), which has helped residents take ownership of their health not only as individuals, but as a community.[39]

The initial results of these interventions are promising: The first cohort of patients reduced their emergency room visits by 40 percent a month after treatment by Camden Coalition providers compared to the month before treatment. Their hospital bills averaged $1.2 million per month before treatment and just over $500,000 after treatment—*a reduction of 56 percent*.[40, 41]

In the Future

Communities across the country—from New Jersey to Maine to California—have begun implementing similar interventions with the help of the Camden Cross-Site Learning Initiative. This initiative helps communities develop their own "hot-spotting" programs by connecting the communities to pioneers of this model.[42] As more communities use hot-spotting, robust evaluations of the model will also need to be conducted.

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"Hot-Spotting" High Utilizers Model

STRENGTHS

- Focuses on patients who are most likely to need help, which can be used to assist vulnerable groups, such as communities of color

- Overcomes transportation barriers by bringing providers to patients' homes

- Incorporates an understanding of the social determinants of health into providers' treatment plans

- Relies on an innovative information technology system that allows providers across the community to easily share patient and population health data so the data can be analyzed for hot spots

- Includes community engagement that empowers individuals and communities to take more control of their health

- Has the potential to significantly control costs

"Hot-Spotting" High Utilizers Model

CHALLENGES

- May not be sustainable financially, since there is no clear funding model besides philanthropy

- Much of Camden's success depended on the city's ability to mine data in a way that may not always be possible in other communities

- Is most effective when conducted with a strong community engagement partner, which may not always be available

- There is a lack of robust evidence showing widespread, long-term effects of the model on spending, outcomes, and reducing disparities, so further evaluation is needed

4 Patient-Centered Medical Homes

The Model

Disparities in health outcomes and in patient satisfaction are often due to providers not coordinating care.[43] Failure to coordinate care can lead to preventable hospital readmissions, medication errors, and other complications.

Because vulnerable populations often have limited English proficiency, low literacy levels, and low health literacy, and because they are more likely to use providers who are overwhelmed and underfunded, they suffer disproportionately from poor care coordination.[44] When providers fail to coordinate care, patients may have to compensate by, for example, remembering to ask their doctors the right questions, prodding their providers to talk to each other, and trying to coordinate their own care among several providers.

An emerging solution that can bridge these often dangerous gaps in care coordination is the patient-centered medical home (PCMH). A PCMH is a team of physicians and other health professionals who take responsibility for the complete health of their patient population. Each patient has a direct relationship with a personal physician. That physician is responsible for overseeing and coordinating all of that patient's medical care, including preventive care, care for acute problems and chronic diseases, and end-of-life care.

PCMHs emphasize using electronic health records and other kinds of health information technology to integrate care across the health system, to measure providers' performance, and to improve the quality of care that is delivered.

The PCMH model also changes provider reimbursement by better compensating physicians and nurses for the time they spend outside of face-to-face visits with patients, such as the time it takes "behind the scenes" to manage a patient's treatment plan and coordinate the patient's care with other health care professionals to make sure treatment goals are met. It also allows providers to share in the savings gained from reducing avoidable hospitalizations.[45]

A recent analysis of 13 peer-reviewed studies of PCMHs found an overall 61 percent reduction in health care costs and in ER visits, a 13 percent reduction in readmissions, a 31 percent increase in access to care, and a 23 percent increase in patient satisfaction.[46] In the context of health equity, one analysis found that PCMHs improve quality measures for patients in all racial and ethnic groups, but they don't narrow the disparity gap for some key metrics, like whether a patient received the appropriate preventive screenings, or whether a provider obtained a patient's complete medical history.[47]

The Case Study
Iora Health, Massachusetts

Iora Health is an innovative provider group whose goal is to "reinvent primary care." Their strategy incorporates elements of the Camden model by focusing on high utilizers. Iora Health also incorporates several core elements of patient-centered medical homes (PCMHs). For example, the model changes how physicians are paid, how health care

Patient-Centered Medical Homes: Teams of physicians and other health care professionals who take responsibility for the complete health of their patient populations, including coordinating all their patients' medical care.

providers engage with patients, and how providers use technology. Iora providers receive a monthly lump sum for each enrollee in their patient network, in contrast to the current "fee-for-service" system in which physicians are paid based on each appointment, test ordered, or service delivered. Paying providers for each service can lead to waste due to duplication of services, and it can encourage providers to administer more care than is necessary. The model relies heavily on health coaches, who help patients manage their disease inside and outside their doctor's office. This model also uses a data platform that lets these coaches easily prioritize clinical needs and communicate with providers and patients.[48]

To sustain its operations, Iora relies on contracts with large employers instead of philanthropic grants. Iora has partnered with companies, unions, and collectives across the nation, from low-wage workers at hotels and restaurants in Las Vegas to employees at Dartmouth College in New Hampshire. A study of four pilot locations in Massachusetts, Nevada, New Hampshire, and New York found that the Iora model reduced ER visits by 48 percent and hospitalizations by 41 percent, and it cut health care costs by 15 percent.[49]

In the Future

PCMHs should be an integral component of future delivery system reforms. Many experts are calling for PCMH principles to be incorporated into accountable care organizations (ACOs).[50] ACOs, which were created by the Affordable Care Act, are integrated groups of clinicians who are required to coordinate care and improve health outcomes. ACOs are becoming increasingly widespread across the country as health systems rely on them to deliver higher-quality care and to control health care costs.

Patient-Centered Medical Homes Model

STRENGTHS

- Has the potential to reduce health disparities that are caused by lack of care coordination

- Uses financial incentives to encourage providers to coordinate care

- Relies on health coaches to deliver coordinated care in a new way (in addition to expanding access to traditional primary care providers)

- Is more financially sustainable because it can use contracts with employers and other larger groups

Patient-Centered Medical Homes Model

CHALLENGES

- There is a limited understanding of how PCMHs affect provider satisfaction, and thus whether these models can reliably recruit and retain high-quality providers

- While there is a set of principles to guide the development of PCMHs, there is not yet a standardized definition of them, which could delay the development of policies outlining how payers like Medicare should reimburse PCMHs

- While PCMHs should theoretically reduce disparities, evidence that they do so does not yet exist; better analysis of health outcomes will be needed to assess whether this model actually reduces disparities in health and health care

Patient-centered medical homes bring providers together to coordinate care for all their patients' needs.

Conclusion

The models of delivery reform we've discussed range from those that could easily be integrated into our current health system to those that would completely reinvent our conception of health care. Some interventions focus more on extending access to providers, while others aim to improve the quality of care that vulnerable populations receive. And while initial evaluations of these models have been promising so far, more evaluation is needed to fully understand how these models affect health disparities.

At this point, advocates can help expand access to higher-quality care through community health workers (CHWs) and telemedicine by focusing on making policy changes at the state level. For example,

state policymakers should take steps to change reimbursement policies to ensure that CHWs are covered under Medicaid and that physicians who use telemedicine to treat patients are reimbursed at the same rate as doctors who see patients in traditional office settings.

Eliminating health disparities will require a concerted to effort to not only expand health coverage, but to ensure that vulnerable populations have access to providers who can effectively and efficiently deliver high-quality care that is language-accessible and culturally-competent. We hope advocates and policymakers find it useful to understand these "tools" of delivery innovation, as these reform models will be crucial steps on the path toward health equity.

> Over the long term, eliminating health disparities will require a concerted effort to not only expand health coverage, but to ensure that vulnerable populations have access to timely, high-quality, language-accessible, culturally-appropriate care. All four models of delivery reform have the potential to improve care, lower health care costs, and reduce disparities.

Endnotes

1 Kevin Fiscella, "Health Care Reform and Equity: Promise, Pitfalls, and Prescriptions," *Annals of Family Medicine* 9, no. 1 (January 1, 2011): 78-84, available online at http://www.annfammed.org/content/9/1/78.short.

2 Office of Minority Health, *Asthma and African-Americans* (Washington: Office of Minority Health, August 2013), available online at http://minorityhealth.hhs.gov/templates/content.aspx?ID=6170.

3 Don Berwick, Thomas Nolan, and John Whittington, "The Triple Aim: Care, Health, and Cost," *Health Affairs* 27, no. 3 (May 2008): 759-769, available online at http://content.healthaffairs.org/content/27/3/759.abstract.

4 World Health Organization, *The Social Determinants of Health*, 2014, available online at http://www.who.int/social_determinants/en/.

5 E. Lee Rosenthal, J. Nell Browstein, Carl Rush, Gail Hirsch, Anne Willaert, Jacqueline Scott, Lisa Holderby, and Durrell Fox, "Community Health Workers: Part of the Solution," *Health Affairs* 29, no. 7 (July 2010): 1,338-1,342, available online at http://content.healthaffairs.org/content/29/7/1338.full.pdf+html.

6 Sonjia Kenya, Natasha Chida, Stephen Symes, and Gail Shor-Posner, "Can Community Health Workers Improve Adherence to Highly Active Antiretroviral Therapy in the USA? A Review of the Literature," *HIV Medicine* 12, no. 9 (October 2011): 525-534, available online at http://onlinelibrary.wiley.com/doi/10.1111/j.1468-1293.2011.00921.x/references.

7 Heidi Behforouz, Paul Farmer, and Joia Mukherjee, "From Directly Observed Therapy to *Accompagnateurs*: Enhancing AIDS Treatment Outcomes in Haiti and Boston," *Clinical Infectious Diseases* 38, no. 5 (2004): S429-S436, available online at http://cid.oxfordjournals.org/content/38/Supplement_5/S429.full.

8 Brigham and Women's Hospital, *Prevention and Access to Care and Treatment (PACT)* (Boston: Brigham and Women's Hospital, December 2011), available online at http://www.brighamandwomens.org/departments_and_services/medicine/services/socialmedicine/pact.aspx.

9 Heidi Behforouz, Paul Farmer, and Joia Mukherjee, op. cit.

10 Partners in Health, *Mission Partners & Affiliated Projects: PACT/USA* (Boston: Partners in Health, 2014), available online at http://www.pih.org/pages/mission-partners-supported-projects.

11 Tina Rosenberg, "A Housecall to Help with Doctor's Orders, *The New York Times*, February 28, 2011, available online at http://opinionator.blogs.nytimes.com/2011/02/28/a-housecall-to-help-with-doctors-orders/?_php=true&_type=blogs&hp&_r=0.

12 Brigham and Women's Hospital, op. cit.

13 E. Lee Rosenthal, J. Nell Browstein, Carl Rush, Gail Hirsch, Anne Willaert, Jacqueline Scott, Lisa Holderby, and Durrell Fox, op. cit.

14 Prabjhot Singh and Dave Chokshi, "Community Health Workers—A Local Solution to a Global Problem," *The New England Journal of Medicine* 369, no. 10 (September 5, 2013): 894-896, available online at http://www.nejm.org/doi/full/10.1056/NEJMp1305636.

15 Sonjia Kenya, Natasha Chida, Stephen Symes, and Gail Shor-Posner, op. cit.

16 G. Flores, M. Abreu, C. E. Chaisson, et al., "A Randomized, Controlled Trial of the Effectiveness of Community-Based Case Management in Insuring Uninsured Latino Children," *Pediatrics* 116, no. 6 (December 2005): 1,433-1,441, available online at http://www.ncbi.nlm.nih.gov/pubmed/16322168.

17 K. Babamoto, K. A. Sey, A. J. Camilleri, V. J. Karlan, J. Catalasan, and D. E. Morisky, "Improving Diabetes Care and Health Measures among Hispanics Using Community Health Workers: Results from a Randomized, Controlled Trial," *Health Education Behavior* 36, no. 1 (February 2009): 113-126, available online at http://www.ncbi.nlm.nih.gov/pubmed/19188371.

18 E. M. Whitley, R. M. Everhart, and R. A. Wright, "Measuring Return on Investment of Outreach by Community Health Workers," *Journal of Health Care for the Poor and Underserved* 17, Supplement 1 (February 2006): 6-15, available online at http://www.ncbi.nlm.nih.gov/pubmed/16520499.

19 Joseph Kvedar, Molly Coye, and Wendy Everett, "Improving Patient Care with Telemedicine and Telehealth," *Health Affairs* 33, no. 2 (February 2014): 194-199, available online at http://content.healthaffairs.org/content/33/2/194.abstract.

20 Julie Polisena, Khai Tran, Karen Cimon, Brian Hutton, Sarah McGill, Krisan Palmer, and Richard Scott, "Home Telemonitoring for Congestive Heart Failure: A Systematic Review and Meta-Analysis," *Journal of Telemedicine and Telecare* 16, no. 2 (March 2010): 68-76, available online at http://jtt.sagepub.com/content/16/2/68.short.

21 Keith Mueller, Andrew Potter, A. Clinton MacKinney, and Marcia Ward, "Lessons from Tele-Emergency: Improving Care Quality and Health Outcomes by Expanding Support for Rural Health Systems," *Health Affairs* 33, no. 2 (February 2014): 228-234, available online at http://www.ncbi.nlm.nih.gov/pubmed/24493765.

22 Martha Hostetter, *Quality Matters Case Study: Project ECHO Expands Access to Specialty Care for Rural Patients* (New York: The Commonwealth Fund, December 2009), available online at http://www.commonwealthfund.org/Newsletters/Quality-Matters/2009/November-December-2009/Case-Study.aspx.

23 Ibid.

24 Sanjeev Arora, Summers Kalishman, Denise Dion, et al., "Partnering Urban Academic Medical Centers and Rural Primary Care Clinicians to Provide Complex Chronic Disease Care," *Health Affairs* 30, no. 6 (May 2011): 1,176-1,184, available online at http://content.healthaffairs.org/content/30/6/1176.long.

25 Sanjeev Arora, Karla Thornton, Glen Murata, et al., "Outcomes of Treatment for Hepatitis C Virus Infection by Primary Care Providers," *The New England Journal of Medicine* 364, no. 23 (June 9, 2011): 2,199-2,207, available online at http://www.nejm.org/doi/full/10.1056/NEJMoa1009370. Results from this trial demonstrate that 57.5 percent of patients treated at the University of New Mexico and 58.2 percent of patients treated at ECHO sites had sustained viral responses to intervention. Additionally, only 6.9 percent of patients treated at ECHO sites experienced adverse events, compared to 13.7 percent of patients who were treated at the university.

26 University of New Mexico, *Project ECHO*, available online at http://echo.unm.edu/.

27 Robert Wood Johnson Foundation, *Grants: Project ECHO*, available online at http://www.rwjf.org/content/rwjf/en/grants/grantees/project-echo.html.

28 Julia Adler-Milstein, Joseph Kvedar, and David Bates, "Telehealth among U.S. Hospitals: Several Factors, Including State Reimbursement and Licensure Policies, Influence Adoption," *Health Affairs* 33, no. 2 (February 2014): 207-215, available online at http://healthaff.highwire.org/content/33/2/207.abstract?related-urls=yes&legid=healthaff;33/2/207.

29 David Mancuso, *Identifying Super-Utilizers*, presented at the CHCS Super-Utilizer Summit, February 2013, available online at http://www.chcs.org/usr_doc/3_Mancuso.pdf.

30 Nora Keenan and Kimberly Rosendorf, *Prevalence of Hypertension and Controlled Hypertension—United States, 2005–2008* (Rockville, MD: Centers for Disease Control and Prevention, 2011), available online at http://www.cdc.gov/mmwr/pdf/other/su6001.pdf.

31 U.S. Census Bureau, *State and County Quickfacts: Camden, New Jersey* (Washington: Census Bureau, 2014), available online at http://quickfacts.census.gov/qfd/states/34/3410000.html.

32 Legal Services of New Jersey, *Poverty in the City of Camden* (Edison, NJ: Poverty Benchmarks Project, 2007), available online at http://www.lsnj.org/PDFs/budget/PovertyCityOfCamden041107.pdf.

33 The World Bank, *Data: Mortality (infant, per 1,000 live births)—2004-2008*, 2014, available online at http://data.worldbank.org/indicator/SP.DYN.IMRT.IN?order=wbapi_data_value_2004+wbapi_data_value+wbapi_data_value-first&sort=asc&page=1.

34 Julia Terruso, "New Census Statistics Paint Grim Picture of Camden," *Philly.com*, September 22, 2012, available online at http://www.philly.com/philly/blogs/camden_flow/170812236.html.

35 Robert Wood Johnson Foundation, *A Coalition Creates a Citywide Care Management System* (Princeton, NJ: RWJF, January 13, 2011), available online at http://www.rwjf.org/content/dam/farm/reports/program_results_reports/2011/rwjf69151.

36 Atul Gawande, "The Hot Spotters," *The New Yorker* (January 24, 2011), available online at http://www.newyorker.com/reporting/2011/01/24/110124fa_fact_gawande.

37 Camden Coalition of Health Providers, *Care Management Program* (Camden, NJ: Camden Coalition of Health Providers, 2014), available online at http://www.camdenhealth.org/programs/care-management-program/.

38 Camden Coalition of Health Providers, *Healthcare Cost Hotspots in Camden, NJ, January 2002-June 2008* (Camden, NJ: Camden Coalition of Health Providers, 2011), available online at http://www.camdenhealth.org/wp-content/uploads/2011/01/Charges-Hotspots.pdf.

39 Camden Coalition of Health Providers, *Outreach* (Camden, NJ: Camden Coalition of Health Providers, 2014), available online at http://www.camdenhealth.org/about/community-organizing/.

40 Atul Gawande, op. cit.

41 Robert Wood Johnson Foundation, *Better Care for Super-Utilizers* (Princeton, NJ: RWJF, October 31, 2012), available online at http://www.rwjf.org/en/about-rwjf/newsroom/newsroom-content/2012/10/improving-management-of-health-care-superutilizers.html.

42 Camden Coalition of Health Providers, *Cross-Site Learning* (Camden, NJ: Camden Coalition of Health Providers, 2014), available online at http://www.camdenhealth.org/cross-site-learning.

43 Sara Toomey, Alyna Chien, Marc Elliot, Jessica Ratner, and Mark Shuster, "Disparities in Unmet Need for Care Coordination: The National Survey of Children's Health," *Pediatrics* 131, no. 2 (January 21, 2013): 217-224, available online at http://pediatrics.aappublications.org/content/131/2/217.long.

44 Raluca Groene, Carola Orrego, Rosa Sunol, Paul Barach, and Oliver Groene, "'It's Like Two Worlds Apart': An Analysis of Vulnerable Patient Handover Practices at Discharge from Hospital," *BMJ Quality and Safety* 21, Supplement 1 (October 30, 2012): i67 – i75, available online at http://qualitysafety.bmj.com/content/21/Suppl_1/i67.short.

45 Patient-Centered Primary Care Collaborative, *Joint Principles of the Patient-Centered Medical Home* (Washington: Patient-Centered Primary Care Collaborative, 2007), available online at http://www.aafp.org/dam/AAFP/documents/practice_management/pcmh/initiatives/PCMHJoint.pdf.

46 Marci Nielsen, J. Nwando Olayiwola, Paul Grundy, and Kevin Grumbatch, *The Patient-Centered Medical Home's Impact on Cost and Quality: An Annual Update of the Evidence, 2012-2013* (Washington: Patient-Centered Primary Care Collaborative, January 2014), available online at http://www.milbank.org/uploads/documents/reports/Patient-Centered_Medical_Homes_Impact_on_Cost_and_Quality.pdf.

47 Jaya Asola, Asaf Bitton, and John Ayanian, "Quality and Equity of Primary Care with Patient-Centered Medical Homes: Results from a National Survey," *Medical Care* 51, no. 1 (January 2013): 68-77, available online at http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3766903/.

48 Rushika Fernandopoulle, *Transforming Patient Engagement: Health IT in the Patient Centered Medical Home* (Washington: Patient Centered Primary Care Collaborative, October 2010), available online at http://www.pcpcc.org/sites/default/files/media/pep-report.pdf.

49 Daniela Hernandez, "Is a Health Coach Better than an Overworked Doctor?" *Wired*, November 6, 2013, available online at http://www.wired.com/wiredscience/2013/11/wired-data-life-iora-health/.

50 Marci Nielsen, J. Nwando Olayiwola, Paul Grundy, and Kevin Grumbatch, op. cit.

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