

ADDRESSING PATIENTS' SOCIAL NEEDS

An Emerging Business Case for Provider Investment

Deborah Bachrach, Helen Pfister, Kier Wallis, and Mindy Lipson
Manatt Health Solutions

MAY 2014



The
COMMONWEALTH
FUND

skoll
FOUNDATION



PERSHING SQUARE
FOUNDATION



The COMMONWEALTH FUND

The Commonwealth Fund, among the first private foundations started by a woman philanthropist—Anna M. Harkness—was established in 1918 with the broad charge to enhance the common good.

The mission of The Commonwealth Fund is to promote a high performing health care system that achieves better access, improved quality, and greater efficiency, particularly for society's most vulnerable, including low-income people, the uninsured, minority Americans, young children, and elderly adults.

The Fund carries out this mandate by supporting independent research on health care issues and making grants to improve health care practice and policy. An international program in health policy is designed to stimulate innovative policies and practices in the United States and other industrialized countries.



Jeff Skoll created [The Skoll Foundation](#) in 1999 to pursue his vision of a sustainable world of peace and prosperity. Led by CEO Sally Osberg since 2001, our mission is to drive large scale change by investing in, connecting and celebrating social entrepreneurs and the innovators who help them solve the world's most pressing problems. Social entrepreneurs are society's change agents, creators of innovations that disrupt the status quo and transform our world for the better. By identifying the people and programs already bringing positive change around the world, we empower them to extend their reach, deepen their impact and fundamentally improve society.



PERSHING SQUARE FOUNDATION

The [Pershing Square Foundation](#) is a private family foundation based in New York. The Foundation was founded in December 2006 by Karen and Bill Ackman. Bill is the CEO and Portfolio Manager of Pershing Square Capital Management, L.P.

The Pershing Square Foundation awards grants and social investments to support exceptional leaders and innovative organizations that tackle important social issues and deliver scalable and sustainable impact.



The
COMMONWEALTH
FUND



PERSHING SQUARE
FOUNDATION

ADDRESSING PATIENTS' SOCIAL NEEDS

An Emerging Business Case for Provider Investment

Deborah Bachrach, Helen Pfister, Kier Wallis, and Mindy Lipson
Manatt Health Solutions

MAY 2014

ABSTRACT

Despite growing evidence documenting the impact of social factors on health, providers have rarely addressed patients' social needs in clinical settings. But today, changes in the health care landscape are catapulting social determinants of health from an academic topic to an on-the-ground reality for providers, with public and private payers holding providers accountable for patients' health and health care costs and linking payments to outcomes. These new models are creating economic incentives for providers to incorporate social interventions into their approach to care. Investing in these interventions can enhance patient satisfaction and loyalty, as well as satisfaction and productivity among providers. A variety of tools for addressing patients' social needs are available to providers looking to leverage these opportunities. With the confluence of sound economics and good policy, investing in interventions that address patients' social as well as clinical needs is starting to make good business sense.

Support for this research was provided by The Commonwealth Fund, The Skoll Foundation, and the Pershing Square Foundation. The views presented here are those of the authors and not necessarily those of the funders or their directors, officers, or staff. To learn more about new publications when they become available, visit the Fund's website and [register to receive email alerts](#). Commonwealth Fund pub. 1749.



CONTENTS

About the Authors	6
Executive Summary	7
Introduction	9
Impact of the Changing Health Care Landscape	9
Impact of Social Needs on Patient Health and Costs	10
Economic Incentives for Addressing Patients' Unmet Social Needs	11
Indirect Economic Benefits	14
Strategies to Address Patients' Unmet Social Needs	15
Paying for Social Interventions	16
Conclusion	17
Notes	18
Appendices	23

ABOUT THE AUTHORS

Deborah Bachrach, J.D., a partner with Manatt, Phelps & Phillips, has more than 25 years of experience in health policy and financing in both the public and private sectors and an extensive background in Medicaid policy and health care reform. She works with states, providers, plans, and foundations in implementing federal health reform and Medicaid payment and delivery system reforms. Most recently, Ms. Bachrach was Medicaid director and deputy commissioner of health for the New York State Department of Health, Office of Health Insurance Programs. She has previously served as vice president for external affairs at St. Luke's-Roosevelt Hospital Center and as chief assistant attorney general and chief of the Civil Rights Bureau in the Office of the New York State Attorney General. Ms. Bachrach received her J.D. from New York University School of Law and a B.S. from the University of Pennsylvania, Wharton School.

Helen Pfister, J.D., a partner with Manatt, Phelps & Phillips, focuses on advising health care providers and nonprofit organizations on legislative, regulatory, and transactional matters. Ms. Pfister's clients include hospitals, community health centers, mental health facilities, substance abuse providers, nursing homes, home care agencies, health information exchange organizations, and social service agencies. She has extensive experience representing clients before state and federal regulatory agencies, including the New York State Department of Health and the Centers for Medicare and Medicaid Services, and in helping clients navigate the legal and political challenges of Medicare, Medicaid, and other public health insurance programs. Ms. Pfister received her J.D. from Boston University School of Law and a B.A. from Cornell University.

Kier Wallis, a manager with Manatt Health Solutions, assists public and private organizations in preparing for and responding to federal and state policy changes related to health care policy and reform. Ms. Wallis works closely with foundations, health care providers, health plans, and pharmaceutical manufacturers to understand, implement, and participate in health care reform initiatives. Prior to joining Manatt, she served as a project coordinator for the California Regional Health Information Organization, where she managed their participation in the Health Information Security and Privacy Collaboration (HISPC) project. Ms. Wallis received her B.A. from University of California, Santa Barbara.

Mindy Lipson, M.P.H., a senior analyst with Manatt Health Solutions, provides research, analysis, project support and strategic business services to health care providers and other health care organizations on a broad range of issues, including health care reform, public health insurance programs, health care delivery transformation, payment and reimbursement reform, and health information technology and exchange. Prior to joining Manatt, Ms. Lipson was a health research analyst at Mathematica Policy Research, where she was responsible for quantitative and qualitative data collection and analysis on a wide array of issues, including public health programs, state health policy, Medicare, and Medicaid. Ms. Lipson received an M.P.H. from the Mailman School of Public Health of Columbia University and a B.A. from Brandeis University.

Editorial support was provided by Sandra Hackman.

EXECUTIVE SUMMARY

Extensive research documents the impact of social factors such as income, educational attainment, access to food and housing, and employment status on the health and longevity of Americans, particularly lower-income populations. These findings attribute as much as 40 percent of health outcomes to social and economic factors. Asthma is linked to living conditions, diabetes-related hospital admissions to food insecurity, and greater use of the emergency room to homelessness.

These findings are not lost on health care providers: 80 percent of physicians conclude that addressing patients' social needs is as critical as addressing their medical needs. Yet until recently, providers rarely addressed patients' unmet social needs in clinical settings.

However, changes in the health care landscape are catapulting social determinants of health into an on-the-ground reality for providers. The Affordable Care Act is expanding insurance coverage to millions more low- and modest-income individuals, and, for many, social and economic circumstances will define their health. Six years after analysts introduced the concept of the "Triple Aim," its goals of improved health, improved care, and lower per capita cost of care have become the organizing framework for the health care system. As a result, growing numbers of providers are concluding that investing in interventions addressing their patients' social as well as clinical needs makes good business sense.

The Economic Rationale for Investing in Social Interventions

Informed by the Triple Aim, public and private payers are introducing payment models that hold providers financially accountable for patient health and the costs of treatment. These models—including capitated, global, and bundled payments, shared savings arrangements, and penalties for hospital readmissions—give providers economic incentives to incorporate social interventions into their approach to care. For example, in October 2012, the Centers for Medicare and Medicaid Services penalized 77 percent of safety-net

hospitals for excess readmissions of patients with heart attack, heart failure, or pneumonia. Meanwhile a review of 70 studies found that unemployment and low income were tied to a higher risk of hospital readmission among patients with heart failure and pneumonia.

To be certified as a patient-centered medical home (PCMH) or Medicaid health home, providers must integrate social supports into their care models. And these certifications almost always trigger higher levels of reimbursement. More than 40 states have adopted PCMH programs, providing important funding opportunities for qualified providers. Even if new payment models do not require social interventions, many providers have concluded that they are essential to achieving quality metrics and earning available revenue.

Beyond these direct economic benefits, providers that incorporate social supports into their clinical models can also reap indirect economic benefits. Patient satisfaction rises when providers address patients' social needs, engendering loyalty. Patient satisfaction can also affect the amount of shared savings a provider receives from payers. Providers that include social supports in their clinical models also report improved employee satisfaction. And interventions that address social factors allow clinicians to devote more time to their patients, allowing them to see more patients and improving satisfaction among both patients and clinicians.

Strategies to Meet Patients' Social Needs

A range of tools, both broad and targeted, are available to providers to address patients' unmet social needs. Broad interventions—usually provided at primary care clinics—link clinic patients to local resources that can address their unmet social needs. For example:

- Health Leads, which operates in hospital clinics and community health centers in six cities, enables health care providers to write prescriptions for their patients' basic needs, such as food and heat. Trained volunteers who staff desks at the hospitals and clinics connect patients to local resources to address those needs. Across all sites, Health Leads

volunteers addressed at least one need of 90 percent of patients referred to them.

- Medical-Legal Partnerships (MLPs) place lawyers and paralegals at health care institutions to help patients address legal issues linked to health status. This program has had marked success: an MLP in New York City targeting patients with moderate to severe asthma found a 91 percent decline in emergency department visits and hospital admissions among those receiving housing services.

Targeted interventions, in contrast, link individuals with chronic or debilitating medical conditions to social supports as part of larger care management efforts. For example, in the Seattle-King County Healthy Homes Project, community health workers conduct home visits to low-income families with

children with uncontrolled asthma. Urgent care costs for participants in a high-intensity intervention were projected to be up to \$334 per child lower than among those receiving a less intensive intervention. The share of individuals using urgent care services also fell by almost two-thirds during the intervention.

Looking Forward

As more low-income people gain health care coverage, evidence on which interventions are most cost-effective in addressing their social needs and improving their health will grow, and value-based reimbursement will become standard across payers. With these changes in the health care landscape, the economic case for provider investment in social interventions will become ever more compelling.

ADDRESSING PATIENTS' SOCIAL NEEDS: AN EMERGING BUSINESS CASE FOR PROVIDER INVESTMENT

INTRODUCTION

Social and economic factors such as income, educational attainment, access to food and housing, and employment status have a profound impact on health. In fact, these nonmedical factors account for as much as 40 percent of health outcomes.¹ Nonetheless, until quite recently, clinicians rarely addressed patients' unmet social needs. Payments to health care providers were tied to procedures, visits, and discharges, so providers had limited accountability for clinical outcomes, and little financial incentive to integrate interventions targeting social needs into clinical care.

Health policy, too, focused on providing and paying for interventions that address medical needs, not social needs. And payers had little incentive to cover social interventions that promised long-term clinical and financial rewards when their low-income enrollees regularly churned on and off coverage. Finally, evidence that interventions that target social needs actually improve health and reduce health care costs was limited.

However, changes in the health care landscape are catapulting social determinants of health from a topic for academics into an on-the-ground reality for providers. With more low- and modest-income individuals gaining access to stable coverage through the Affordable Care Act (ACA), a growing focus on the "Triple Aim" of better care, better health, and reduced costs, and the advent of value-based purchasing and other outcomes-based payment models, providers have a strong business case to invest in interventions that address patients' social needs.² What was once a path pursued by a handful of mission-driven providers and grant-funded social services organizations may soon become the standard of care, demanded by payers, policymakers, and consumers alike.

This report explores the impact of social factors on patient health and health care costs, and the growing relevance of such factors in today's health

care environment. Informed by published research and interviews with more than 25 experts, we point out the direct and indirect economic benefits that may inure to providers who address patients' unmet social needs.

We also identify specific strategies and interventions that providers can use to target patients' social needs, and provide evidence for their success in ameliorating social need, improving patient health, and reducing patient costs. For providers unable or unwilling to invest in social interventions, the report suggests several alternative opportunities for funding them. Overall, this exploration shows how social and economic imperatives are converging to create an economic rationale for providers to integrate interventions that target social determinants of health into clinical care.

More than one-quarter of recipients of the Center for Medicare and Medicaid Innovation's 2012 Health Care Innovation Awards included social supports as a key component of their projects.

IMPACT OF THE CHANGING HEALTH CARE LANDSCAPE

Several factors have coalesced to make 2014 an inflection point for the nation's health care system, potentially triggering the fundamental shift from an illness-focused system to the health-focused system called for by policymakers.³ First, the major coverage provisions of the ACA went into effect January 1, 2014: expanding Medicaid to adults with incomes below 133 percent of the federal poverty level (FPL), and providing subsidies to individuals and families with incomes up to 400 percent of the FPL. More than 32 million individuals could gain access to coverage under the ACA—the vast majority of whom will have low and modest incomes. For many of these individuals, their social and economic circumstances will be a defining feature of their health.

Second, in light of the ACA's continuum of coverage options and streamlined eligibility and enrollment processes, health care coverage for low- and modest-income populations should become more stable,

giving providers more opportunity to address patient health, including the social needs that affect it.

This new coverage paradigm is occurring in a health care system poised to change. Six years ago, the Institute for Healthcare Improvement (IHI) articulated a vision for a new health care system organized around the Triple Aim of improving population health, improving the patient experience of care, and reducing the per capita cost of care.⁴ Since then, the Triple Aim has become an organizing framework for growing numbers of public and private systems of care.

While the powerful role social and economic factors play in health outcomes and population health had been well documented, the Triple Aim injected patients' social needs into the health care continuum.⁵ The ACA took that development one step further by establishing the Center for Medicare and Medicaid Innovation (CMMI), and appropriating \$10 billion from 2011 to 2019 to test "innovative payment and service delivery models to reduce program expenditures... while preserving or enhancing the quality of care" for individuals who receive benefits under Medicare, Medicaid, or the Children's Health Insurance Program.⁶ CMMI has targeted much of its grant funding to testing payment and service delivery models that advance the Triple Aim.⁷

Finally, new public and private payment models are holding providers accountable for health care quality and costs, offering both an imperative and a financial opportunity for providers to look beyond patients' medical needs. Notably, almost two-thirds of providers report that they are signing value-based contracts with commercial payers, and provider participation in contracts in which they share financial risk for health outcomes more than doubled between 2011 and 2013.⁸ That trend is likely to continue.⁹

IMPACT OF SOCIAL NEEDS ON PATIENT HEALTH AND COSTS

Compelling evidence has revealed the impact of unmet social needs on people's health and longevity, and on health care spending:

- **More illness.** Poor health is closely tied to inadequate housing, food insecurity, and unemployment or underemployment.^{10,11} Individuals with inadequate housing are more likely to experience lead poisoning, asthma, and other respiratory conditions.¹² Food insecurity is linked to a higher risk of chronic conditions and overall poor mental and physical health status.¹³ Food-insecure individuals are 20 percent more likely to report that they have hypertension, and 30 percent more likely to report they have hyperlipidemia, than their food-secure counterparts.¹⁴ Individuals who lose their jobs because their place of employment closes are 54 percent more likely to report that they are in fair or poor health and 83 percent more likely to develop a stress-related health condition such as heart disease or stroke.¹⁵
- **Shorter life expectancy.** Better-educated adults have longer life expectancies. As of 2006, 25-year-olds with a bachelor's degree or higher were expected to live eight to nine years longer than their peers without a high-school diploma.¹⁶ Babies born to mothers who have not finished high school are almost twice as likely to die before their first birthdays as babies born to women who have graduated from college.¹⁷ Social factors are the direct cause of death for a large number of Americans. One study attributed some 133,000 deaths to individual poverty, 245,000 deaths to low educational attainment, and 162,000 to weak social support (a lack of social ties and relationships) in 2000.¹⁸ Those figures are comparable to deaths that occurred from acute myocardial infarction (192,898) and cerebrovascular disease (167,661)—two of the leading reported causes of death in the United States.¹⁹
- **Increased health care spending.** Unmet social needs are associated with higher rates of emergency room use, hospital admissions, and readmissions.²⁰ A recent study in California found that in the fourth week of the month, low-income individuals had a 27 percent greater risk of hospital admission for hypoglycemia than in the first week of the

month, suggesting that their monthly food budget was insufficient.²¹ Several of the 10 health conditions in 2011 that accounted for the highest health care expenditures are linked to unmet social needs, including heart disease, mental disorders, asthma, diabetes, hypertension, and hyperlipidemia.²²

ECONOMIC INCENTIVES FOR ADDRESSING PATIENTS' UNMET SOCIAL NEEDS

The impact of social factors on patient health is playing out in new payment models that hold providers accountable for patient health and health care costs. These models give providers substantial economic incentives to incorporate interventions that target patients' social needs into their approach to care.

Capitated, Global, and Bundled Payments

Several payment approaches give providers a budget for managing covered services. Some arrangements, generally referred to as bundled payments, cover a limited number of services for a limited time period, or for an episode of care. Other arrangements, such as capitation or global payments, cover a comprehensive range of services for a fixed time period. Some payment models require providers to include social supports, while other models allow providers to choose to include these supports to manage patient care effectively within a fixed budget.

In Oregon, coordinated care organizations (CCOs) receive global capitation payments for 90 percent of the state's Medicaid population.²³ CCOs must help members gain access to social support services, and many are taking innovative approaches to addressing social barriers to health in their communities.²⁴ Emergency department visits declined by 9 percent among people served by CCOs, and hospital admissions for individuals with certain chronic conditions dropped by up to 29 percent, according to the state. These outcomes have obvious implications for the ability of

“Because Kaiser does not operate within the traditional fee-for-service reimbursement model, we can look for the best package of services to meet members’ needs. This package may venture outside of traditional medical services.”

**–Ray Baxter, Senior Vice President,
Community Benefit, Research and Health Policy**

the CCOs to manage patient costs within a capitated payment.²⁵

In Minnesota, Hennepin Health—a partnership of two providers, a health plan, and the county health and human services agency—receives a global payment to provide physical health, behavioral health, and social services, including vocational training, housing, and transportation, to low-income childless adults.²⁶ Providers and organizations are eligible for shared savings based on performance.²⁷ In its first year, Hennepin Health reduced hospital admissions and emergency room use for target patient populations by more than 20 percent. The partnership used the savings to finance a vocational services program.²⁸

Both Medicaid and Medicare are beginning to rely on bundled payment models.²⁹ For example, in January 2013 the Centers for Medicare and Medicaid Services (CMS) announced the first 100 participants in its Bundled Payments for Care Improvement Initiative, under which Medicare providers take performance and financial accountability for episodes of care.³⁰ Participating acute care hospitals receive a fixed fee for an episode of care, defined as an inpatient stay and all related services during a certain period after discharge. The hospital does not receive any additional payment if a patient is readmitted during that period.

Penalties for Readmissions

Medicare's Hospital Readmission and Reduction Program, created under the ACA, also gives hospitals financial incentives to avoid readmissions. Under the program, which took effect in October 2012, CMS reduces payments to hospitals with excess readmissions

within 30 days of discharge for patients with at least one of three conditions: heart attack, heart failure, and pneumonia.³¹ CMS has already penalized some 2,225 hospitals for excess readmissions. Those hospitals saw their reimbursements drop by an average of 0.38 percent, translating into \$227 million in fines.³² Safety-net hospitals, which treat patients with the greatest social needs, were hit hard: 77 percent were penalized.³³ However, Medicare hospital readmission rates have dropped by 10 percent since 2011.³⁴

To reduce readmissions, hospitals—especially those serving large numbers of low-income patients—have a strong incentive to address their patients’ social needs. A review of more than 70 studies that examined social factors in hospital readmissions among patients with heart failure and pneumonia found a link between those factors and readmission risk. For example, pneumonia patients who had low education levels and income, or who were unemployed, had a higher risk of readmission.³⁵ Similarly, a North Carolina transitional program for Medicaid enrollees that coordinated care management across physician, social services, and community organizations found that 20 percent of participants were readmission-free after one year, compared with 12 percent of a control group.³⁶

Shared Savings Programs

Shared savings programs incentivize providers to reduce spending on a defined patient population by offering them a share of savings realized as a result of their efforts—if they meet quality metrics. In Medicare alone, more than 360 accountable care organizations (ACOs) were participating in two shared savings initiatives as of January 2014. These are the Medicare Shared Savings Program (MSSP) and the Pioneer ACO Program, which together affect 5.3 million Medicare beneficiaries.³⁷ Almost an equal number of ACOs have shared savings agreements with commercial payers.

Preliminary results are promising: 54 of 114 MSSP ACOs that began operating in 2012 had lower expenditures than projected for the first 12 months, while 29 of the 54 produced more than \$126 million in savings.³⁸ Pioneer ACOs generated savings of \$147

“We partner to align stable housing, job and educational opportunities, and access to healthy foods and exercise with our comprehensive, coordinated health care to advance the health of our community.”

**–Dr. Steven Safyer, president and CEO,
Montefiore Health System, New York City**

million during this period, with nine of the 23 ACOs exceeding both savings and quality benchmarks.³⁹

While the MSSP and Pioneer programs do not require ACOs to address patients’ social needs, anecdotal evidence suggests that many of the most successful ones do. Montefiore Medical Center, in New York City, is an early and leading Pioneer ACO. Montefiore relies on several strategies to improve quality and outcomes and reduce spending. These include using a centralized system for collecting and analyzing data, actively following up with at-risk patients, and partnering with community organizations to provide “wraparound” services, such as housing, legal, financial, employment, and transportation assistance.⁴⁰ In its first year as an ACO, Montefiore reduced the cost of care for its 23,000 Medicare patients by 7 percent, and earned some \$14 million in shared savings payments from CMS.⁴¹

Montefiore is not alone in successfully managing the care of its ACO beneficiaries by targeting both clinical and social needs.⁴² For example, the Franciscan

One-Stop Shop in Michigan Focuses on Social and Medical Needs of Patients

Dr. David Share—founding medical director of the Corner Health Center, which participates in the medical home initiative of Blue Cross Blue Shield of Michigan—considers the Center a one-stop shop for addressing patients’ medical and social needs. The Center offers an onsite team of social workers, peer educators, psychiatrists, and nutritionists as well as family doctors, nurse practitioners, certified nurse midwives, and pediatricians.

“There is no question in my mind that if we didn’t address psychosocial needs, we would put on a lot of bandages and give immunizations, but we wouldn’t change the trajectory of our patients’ lives from a health and well-being perspective,” says Share. “We wouldn’t be very effective.”

Alliance ACO in Indiana earned \$6.6 million in shared savings for managing 20,000 high-need Medicare patients. And Phoenix-based Banner Health Network received \$13 million in shared savings for managing the care of 50,500 Medicare beneficiaries.⁴³ Both include social supports in their care models.⁴⁴

Enhanced-Reimbursement Models

The new payment models noted above do not require providers to address their patients' social needs, although many do, finding that such interventions can improve patient outcomes, reduce patient costs, and trigger more revenue. Models such as the patient-centered medical home (PCMH), in contrast, do require providers to address patient social needs as a prerequisite to payment. To achieve PCMH recognition, a provider must meet standards focused on organizing care around patients, by enhancing care coordination and supporting self-care by linking patients to local social service agencies.

As of April 2013, 43 states had adopted policies and programs to advance PCMHs, and 19 of those included multipayer initiatives.⁴⁵ Public and private payers are offering a range of additional payments to PCMH-recognized providers.⁴⁶ For example:

- In 2009, New York State began offering PCMH-recognized providers incentive payments for Medicaid fee-for-service and managed-care patients, ranging from \$7 a visit for a provider with Level I recognition to \$21.25 for a provider with Level III recognition.⁴⁷ From January 2010 to April

Patient-Centered Medical Home in New York State Reduces Medicaid Costs

In the patient-centered medical home at the Hudson Headwaters Health Network in New York's Adirondack region, case managers screen and refer patients with social needs to the network's community resource advocate, who assists patients with housing, heat, food, and transportation needs, finds financial support for medical care and prescriptions, and helps them enroll in insurance and disability programs. The medical home initiative has produced a 7 percent drop in emergency department visits and a 15 percent to 20 percent drop in Medicaid costs.

2013, New York State Medicaid paid PCMH-recognized providers more than \$148 million in incentive payments.⁴⁸

- Providers in New York's Adirondacks region are participating in a multipayer medical home pilot that includes Medicare, Medicaid, and seven commercial health plans, each of which has agreed to pay PCMH-certified providers \$84 per member per year over their regular reimbursement rates. One payer noted that these upfront payments were a "leap of faith," but that it expected to break even by year three, and achieve a positive return on investment in years four and five.⁴⁹ Participating providers received about \$2.3 million in such payments from 2010 to 2012.⁵⁰

Blue Cross in Michigan Requires Medical Homes to Refer Patients to Social Supports

Primary care providers and specialists participating in Blue Cross Blue Shield of Michigan's patient-centered medical home program must show that they:

- Maintain a database of community resources.
 - Have received training in those resources, so they can identify and refer patients to them.
 - Have created a systematic approach to assessing patients' needs and making referrals to community resources.
 - Track referrals of high-risk patients to community resources, and work to ensure that the patients follow up on their referrals.
- Blue Cross Blue Shield of Michigan pays PCMH-recognized providers enhanced fees through a fee-for-value reimbursement system made possible by savings achieved through the PCMH program. More than 3,600 primary care physicians in 1,243 practices participate, and the program achieved savings of \$155 million from 2009 to 2011—its first three years—and \$155 million in 2012 alone.

Under the ACA's health home provisions, CMS pays a 90 percent federal match for Medicaid health home programs that include community and social supports.⁵¹ And in July 2013, CMS proposed regulations

that would establish two new Medicare payment codes for complex care management that includes social supports.⁵² That Medicare is proposing to reimburse health care providers for nonclinical services delivered outside clinical visits demonstrates both growing recognition of the importance of interventions that address social factors and the willingness of payers to support programs that include them.

INDIRECT ECONOMIC BENEFITS

In considering whether and how to invest in social interventions, providers will want to take into account indirect as well as direct economic returns that may inure to their benefit.

Employee Productivity

Some 40 percent of primary care physicians report that they are unable to spend enough time with their patients.⁵³ Yet many physicians spend a substantial share of a patient visit addressing social needs.⁵⁴ Interventions that address patients' social needs allow providers to reallocate their time to patients' physical needs, and can increase the capacity of clinicians to practice at the "top of their license."⁵⁵

Addressing patients' social needs also can boost office productivity by increasing employees' billable time. For example, after a health and human services agency in Boston instituted Health Leads, an intervention that connects individuals to resources that address their social needs, weekly billable minutes by the agency's pediatric social worker rose an average of 57 percent.⁵⁶ (See [Appendix B](#) and [Appendix C](#) for more on this example.)

Provider Satisfaction

Eighty percent of physicians do not feel adequately equipped to address their patients' social needs, and as a result do not believe they are providing high-quality care.⁵⁷ Physicians who believe that they are providing high-quality care are more than twice as likely to report that they are satisfied.⁵⁸

"For many of us (particularly primary care physicians), more than any... financial incentives, our most fulfilling rewards and professional satisfactions come from having meaningful relationships with our patients, as well as our ability to broadly ameliorate their problems and suffering."

**—Dr. Gordon Schiff,
Brigham and Women's Hospital, Boston**

Interventions that address social needs can improve the satisfaction of providers and other employees. For example, providers and staff at Washington's Group Health medical home reported less staff burnout and emotional exhaustion than employees at control clinics.⁵⁹

Patient Satisfaction

Many new health care delivery and payment models hold providers accountable for patient satisfaction.⁶⁰ For example, to be eligible for the maximum shared savings payment under the MSSP, ACOs must score well on eight measures of patient satisfaction, including patients' ratings of their providers.

Interventions that address patients' social needs have been shown to improve patient satisfaction. For example, in one intervention targeting low-income minority women with abnormal mammograms, patient navigators guided the women through their care and connected them to social supports. Women who participated in the intervention reported significantly higher satisfaction than women in a control group who received usual care—4.3 versus 2.9 on a five-point scale.⁶¹

"If the medical home program were to go away, there would be an uproar among patients and providers, who have come to expect social services as the status quo."

**—Dr. John Ruggie, CEO,
Hudson Headquarters Health Network**

EXHIBIT 1. TECHNIQUES FOR ADDRESSING PATIENTS' SOCIAL NEEDS

Social need	Technique to address it
Housing	<ul style="list-style-type: none"> • Assess home safety • Connect individuals to housekeeping services • Connect individuals to pest extermination services • Connect individuals to appliance repair services • Assist individuals with legal needs related to housing, such as housing code violations and utility shutoffs
Food	<ul style="list-style-type: none"> • Connect individuals to food supports, such as the Supplemental Nutrition Assistance Program, a food bank, the Women, Infants and Children Program, and Meals on Wheels • Connect individuals to a home care agency that can prepare meals • Provide prescriptions for healthy foods
Public benefits	<ul style="list-style-type: none"> • Help individuals apply for Medicaid and overturn wrongful denials • Help individuals apply for Social Security Disability Insurance and Supplemental Security Income, and overturn wrongful denials • Provide counseling on available public benefits
Employment	<ul style="list-style-type: none"> • Offer workshops to improve professional qualifications

STRATEGIES TO ADDRESS PATIENTS' UNMET SOCIAL NEEDS

Providers looking to address the social needs of their patients can tap a growing number of tools and techniques (Exhibit 1). These interventions fall into two buckets: those that focus broadly on connecting low- and modest-income patients with social supports, and those that target more medically complicated, high-cost patients through both clinical and social components.

The broad interventions typically depend on referrals from clinicians, who use a screening tool to identify patients' social needs and connect them to support services, usually within the clinical setting. For example:

- Health Leads, which operates in six cities, encourages health care providers to write prescriptions for patients' basic needs, such as food and heat. The prescriptions are filled by trained volunteers, who staff desks at hospitals and clinics and connect patients to community resources.⁶² Across all sites, Health Leads volunteers addressed at least one need of 90 percent of patients referred to them.⁶³
- HelpSteps and Healthify offer electronic platforms that screen patients for unmet social needs in clinical settings, such as clinic waiting rooms. Patients in the Boston area use HelpSteps on a laptop while waiting to see a doctor, and receive

a printout of local social services that could help them address their unmet needs.⁶⁴ More than half of families that contacted the organization to which they were directed resolved their primary problem, according to HelpSteps.⁶⁵ Healthify developed a screening tool that patients can use on a tablet or in a kiosk in a waiting room. The tool transmits a list of each patient's social needs to the clinician. The tool also provides patients with a list of local, state, and federal resources that could help address their needs, and follows up with a text message.⁶⁶

- Medical-Legal Partnerships (MLPs) place lawyers and paralegals at health care institutions to help patients address legal issues that affect health status. The program has had marked success: a health system funding an MLP in rural Illinois obtained a 319 percent return on investment over a three-year period by helping individuals appeal Medicaid coverage denials.⁶⁷ An MLP in New York targeting individuals with moderate to severe asthma produced a 91 percent decline in emergency department visits and hospital admissions among those receiving services to improve their housing conditions.⁶⁸

Targeted interventions, in contrast, integrate social supports into larger care management initiatives for individuals with chronic or debilitating medical conditions. For example:

- The Frequent Users of Health Services Initiative—six case management programs in California—refers frequent users of emergency departments during a specified time frame to medical and social services. During the two years after patients enrolled, their inpatient charges fell by 69 percent, and inpatient days by 62 percent, on average.⁶⁹ Homeless individuals connected to permanent housing showed a 32 percent drop in emergency department charges, compared with a 2 percent drop among those who were not connected to permanent housing.⁷⁰
- The Seattle-King County Healthy Homes Project in Washington State relies on community health workers to conduct home visits to low-income families with children with uncontrolled asthma, and to provide self-management and social support services. The project recruited families into a randomized, controlled trial through health clinics, hospitals, emergency departments, and referrals from community agencies. Urgent care costs among families receiving a high-intensity intervention were estimated to be up to \$334 per child lower than among families receiving a less intensive intervention. The percentage of individuals using urgent care services also declined by almost two-thirds during the intervention.⁷¹
- The Camden Coalition for Healthcare Providers in New Jersey operates a care management program for intensive users of health care services, providing connections to both medical and social services. The program relies on a citywide health information exchange to identify people who would benefit from the program.⁷² Monthly hospital charges among 36 participants who completed the intervention fell by 56 percent, and their monthly emergency department and hospital visits declined by about 40 percent.⁷³
- The Community Asthma Initiative, run by Boston Children’s Hospital, coordinates cares for low-income children with asthma, including by referring them to community-based services.

Nurse case managers use records of recent emergency department and hospital admissions to identify potential participants, and inform eligible families about the intervention by phone or during a hospital admission. At two-year follow-up, the intervention had saved \$3,827 per child in decreased emergency department visits and hospitalizations.⁷⁴

(See [Appendix B](#) and [Appendix C](#) for more information on these examples.)

Both broad and targeted interventions aim to meet patients’ medical and social needs holistically, as envisioned by the Triple Aim. Considerable evidence shows that broad interventions connecting individuals to social supports do ameliorate their social needs—although evidence on improvements in health outcomes and reductions in health care spending stemming from each intervention is more limited.

There is more evidence showing that targeted interventions reduce costs and improve health outcomes. However, because these interventions target both the clinical and social needs of select patients, isolating the impact of the social component can be difficult.⁷⁵

Collecting better data on the impact of these programs is crucial, but providers report that obtaining funding to gather such information and pursue research can be difficult.⁷⁶ Nonetheless, given compelling evidence of links between social factors and patient health—and growing evidence of the success of interventions that address patients’ unmet social needs—many providers have concluded that investing in such interventions will in fact improve health outcomes and lower costs. In short, they are not waiting for the final piece of evidence.

PAYING FOR SOCIAL INTERVENTIONS

Some providers are prepared to commit operating dollars to fund interventions connecting individuals to social supports, having determined that the direct and indirect economic benefits can support that investment.

Other providers remain unwilling or unable to commit operating funds. For those providers, “community benefit” spending by hospitals could be a source of funding.

To justify their tax-exempt status, nonprofit hospitals must provide a community benefit usually equal to the value of their tax exemption—estimated to total \$13 billion annually.⁷⁷ While the majority of community benefit dollars have historically gone toward care for underinsured and uninsured patients, expanded coverage under the ACA should enable providers to shift some funds to programs that target social needs.^{78,79} For example, Kaiser Permanente, recognizing that the process of ameliorating patients’ social needs may take place over time, has instituted a community benefit strategy that budgets these dollars across multiple years.⁸⁰

The Affordable Care Act requires tax-exempt hospitals to conduct a community health needs assessment and develop an implementation strategy for addressing identified needs every three years,⁸¹ and the U.S. Centers for Disease Control and Prevention recommends that the assessments include information on the social determinants of health.⁸² Tax-exempt hospitals must report their spending on activities benefiting the community to the Internal Revenue Service. Such activities may include alleviating water or air pollution to protect the community from environmental hazards, providing child care and mentoring programs, providing or rehabilitating housing for vulnerable populations, and advocating for policies and programs that improve housing and transportation.⁸³

The ACA is also triggering significant transformations in state-based systems for delivering and paying for health care, with social interventions often a key element of the emerging models. With funding from CMMI programs such as the State Innovation Model (SIM) Program and the Health Care Innovation Awards, states are designing, implementing, and evaluating a broad range of projects aimed at improving patient and community health, and advancing the Triple Aim. Medicaid waivers are likewise providing new funding opportunities through delivery system reform incentive payment (DSRIP) programs, which support

state transformation plans. For example, New York’s recently approved DSRIP program makes more than \$6 billion available for revamping the state’s delivery system, supporting, among other efforts, programs that bring together medical, mental health, and social service organizations as well as payers to move care from hospitals to the community.

Social impact bonds are another source of funds for serving patients’ social needs. Such funds use private capital to support efforts to address complex social problems. If the efforts work, investors receive a portion of the cost savings or returns.⁸⁴

The Massachusetts Prevention and Wellness Trust Fund, created in 2012, offers yet another approach to funding interventions aimed at nonclinical determinants of health and wellness-focused activities. With a four-year, \$60 million commitment of state funds, the fund will invest in a small number of community–clinical partnerships that, among other things, will link local residents to health-related resources and track referrals, to address nonclinical barriers to optimal health.⁸⁵

CONCLUSION

Few working in health care would doubt the role that social factors play in patients’ health. Until recently, however, that understanding did not translate into action by providers—no matter how many policy briefs called on them to expand their mind-set and mission from treating illness to advancing health. Today the health care system is poised for change, girded by the Triple Aim, supported by expanded insurance coverage, and financed by value-based approaches to reimbursement. With this confluence of sound economics and good policy, investments in interventions that address patients’ social as well as clinical needs are starting to make good business sense.

NOTES

- ¹ B. C. Booske, J. K. Athens, D. A. Kindig et al., *Different Perspectives for Assigning Weights to Determinants of Health* (Madison, Wis.: University of Wisconsin Population Health Institute, Feb. 2010).
- ² Institute for Healthcare Improvement, “The IHI Triple Aim,” <http://www.ihio.org/engage/initiatives/tripleaim/pages/default.aspx>.
- ³ R. Wilkinson and M. Marmot (eds.), *Social Determinants of Health: The Solid Facts*, 2nd ed. (Geneva: World Health Organization, 2003); U.S. Department of Health and Human Services, “Social Determinants of Health,” <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=39>; Centers for Medicare and Medicaid Services, “Health Care Innovation Awards Round Two,” <http://innovation.cms.gov/initiatives/Health-Care-Innovation-Awards/Round-2.html>; and RWJF Commission to Build a Healthier America, *Time to Act: Investing in the Health of Our Children and Communities* (Princeton, N.J.: Robert Wood Johnson Foundation, 2014).
- ⁴ D. M. Berwick, T. W. Nolan, and J. Whittington, “The Triple Aim: Care, Health, and Cost,” *Health Affairs*, May/June 2008 27(3):759–69. See also: Institute for Healthcare Improvement, “The IHI Triple Aim,” <http://www.ihio.org/Engage/Initiatives/TripleAim/Pages/default.aspx>.
- ⁵ Wilkinson and Marmot, *Social Determinants of Health*, 2003.
- ⁶ Section 1115A [42 U.S.C. 1315a] of the Social Security Act, Center for Medicare and Medicaid Innovation.
- ⁷ CMS Innovation Center, *Early Implementation Efforts Suggest Need for Additional Actions to Help Ensure Coordination with Other CMS Offices* (Washington, D.C.: U.S. Government Accountability Office, Nov. 2012), www.gao.gov/assets/660/650119.pdf.
- ⁸ J. Stone, “Survey Results: Percentage of Providers Taking on Risk Doubled Since 2011” (New York: The Advisory Board Company, June 5, 2013), <http://www.advisory.com/Research/Health-Care-Advisory-Board/Blogs/Toward-Accountable-Payment/2013/05/Accountable-payment-survey>.
- ⁹ In 2013, UnitedHealthCare tied \$20 billion of its reimbursements to providers to quality and cost efficiency. The insurer hopes to raise that amount to \$50 billion by 2017. See UnitedHealth Group, “UnitedHealthCare Expects to More Than Double Industry-Leading Accountable Care Contracts to \$50 Billion by 2017,” News release, <http://www.unitedhealthgroup.com/Newsroom/Articles/Feed/UnitedHealthcare/2013/0710AccountableCareAnswers.aspx>.
- ¹⁰ C. Mansfield and L. F. Novick, “Poverty and Health: Focus on North Carolina,” *North Carolina Medical Journal*, Sept.–Oct. 2012 73(5):366–73.
- ¹¹ S. H. Woolf and P. Braveman, “Where Health Disparities Begin: The Role of Social and Economic Determinants—And Why Current Policies May Make Matters Worse,” *Health Affairs*, Oct. 2011 30(10):1852–59.
- ¹² J. Krieger, and D. L. Higgins, “Housing and Health: Time Again for Public Health Action,” *American Journal Public Health*, May 2002 92(5):758–68.
- ¹³ H. K. Seligman, B. A. Laraia, and M. B. Kushel, “Food Insecurity Is Associated with Chronic Disease Among Low-Income NHANES Participants,” *Journal of Nutrition*, Feb. 2010 140(2):304–10; and J. E. Stuff, P. H. Casey, K. L. Szeto et al., “Household Food Insecurity Is Associated with Adult Health Status,” *Journal of Nutrition*, Sept. 2004 134(9):2330–35.
- ¹⁴ Seligman, Laraia, and Kushel, “Food Insecurity Is Associated with Chronic Disease,” 2010.
- ¹⁵ K. W. Strully, “Job Loss and Health in the U.S. Labor Market,” *Demography*, May 2009 46(2):221–46.
- ¹⁶ National Center for Health Statistics, Health, United States, 2011: With Special Feature on Socioeconomic Status and Health (Hyattsville, Md.: NCHS, 2012).
- ¹⁷ T. J. Matthews and M. F. MacDorman, “Infant Mortality Statistics from the 2008 Period Linked Birth/Infant Death Data Set,” *National Vital Statistics Reports*, May 2012 60(5).
- ¹⁸ S. Galea, M. Tracy, K. J. Hoggatt et al., “Estimated Deaths Attributable to Social Factors in the United States,” *American Journal of Public Health*, Aug. 2011 101(8):1456–65.
- ¹⁹ Ibid.
- ²⁰ L. A. Lebrun-Harris, T. P. Baggett, D. M. Jenkins et al., “Health Status and Health Care Experiences Among Homeless Patients in Federally Supported Health Centers: Findings from the 2009 Patient Survey,” *Health Services Research*, June 2013 48(3):992–1017; H. K. Seligman, A. F. Bolger, D. Guzman et al., “Exhaustion of Food Budgets at Month’s End and Hospital Admissions for Hypoglycemia,” *Health Affairs*, Jan. 2014 33(1):116–23; and L. Calvillo-King, D. Arnold, K. J. Eubank et al., “Impact of Social Factors on Risk of Readmission or Mortality in Pneumonia and Heart Failure: Systematic Review,” *Journal of General Internal Medicine*, Feb. 2013 28(2):269–82.
- ²¹ Seligman, Bolger, Guzman et al., “Exhaustion of Food Budgets at Month’s End,” 2014.
- ²² Agency for Healthcare Research and Quality, *Medical Expenditure Panel Survey* (Rockville, Md.: U.S. Department of Health and Human Services, 2011).

- ²³ Oregon Health Authority, “Director’s Message: We’re Heading in the Right Direction,” (Salem, Ore., Dec. 6, 2013), <http://www.dhs.state.or.us/oha/dir-msg/2013/2013-1206.html>.
- ²⁴ Chapter 414 of the 2011 Laws of Oregon, Section 414.625(1)(e); Jackson Care Connect, “Jackson Care Connect Wants to Ease Barriers to Health for Its Members,” <http://jacksoncareconnect.org/sub-group/news/2013/09/16/jackson-care-connect-wants-to-ease-barriers-to-health-for-its-members>; and K. Foden-Vencil, “How Oregon Is Getting ‘Frequent Flyers’ Out of Hospital ERs,” *Kaiser Health News*, July 10, 2013, <http://www.kaiserhealthnews.org/Stories/2013/July/10/emergency-room-frequent-flyers.aspx>.
- ²⁵ Oregon Health Authority, “Oregon’s Health System Transformation, Quarterly Progress Report,” <http://www.oregon.gov/oha/Metrics/Documents/report-november-2013.pdf>.
- ²⁶ J. DeCubellis, “Hennepin Health,” presentation to the National Center for Quality Assurance, Nov. 2013; and S. Somers and T. McGinnis, “Broadening the ACA Story: A Totally Accountable Care Organization,” *Health Affairs Blog*, Jan. 23, 2014, <http://healthaffairs.org/blog/2014/01/23/broadening-the-aca-story-a-totally-accountable-care-organization/>.
- ²⁷ Agency for Healthcare Research and Quality, “County-Based Accountable Care Organization for Medicaid Enrollees Features Shared Risk, Electronic Data Sharing, and Various Improvement Initiatives, Leading to Lower Utilization Costs,” <http://www.innovations.ahrq.gov/content.aspx?id=3835>.
- ²⁸ N. Garrett, “How a Social Accountable Care Organization Improves Health and Saves Money and Lives,” Nov. 12, 2013, http://healthyamericans.org/health-issues/prevention_story/how-a-social-accountable-care-organization-improves-health-and-saves-money-and-lives; and Hennepin Health, <http://healthyamericans.org/health-issues/wp-content/uploads/2013/11/Hennepin-Health-1-page-description-v2.docx>.
- ²⁹ Health Care Payment Improvement Initiative (Arkansas), “How It Works,” <http://www.paymentinitiative.org/howit-works/Pages/default.aspx>; Centers for Medicare and Medicaid Services, “State Innovation Models Initiative: Model Design Awards,” <http://innovation.cms.gov/initiatives/state-innovations-model-design/>; and S. Silow-Carroll, *Medicaid Is One of Multiple Payers in Vermont’s Health Care Reforms* (New York: The Commonwealth Fund, March 2013).
- ³⁰ Centers for Medicare and Medicaid Services, “BPCI Model 1: Retrospective Acute Care Hospital Stay Only,” <http://innovation.cms.gov/initiatives/BPCI-Model-1/>; Centers for Medicare and Medicaid Services, “BPCI Model 2: Retrospective Acute and Post Acute Care Episode,” <http://innovation.cms.gov/initiatives/BPCI-Model-2/index.html>; Centers for Medicare and Medicaid Services, “BPCI Model 3: Retrospective Post Acute Care Only,” <http://innovation.cms.gov/initiatives/BPCI-Model-3/index.html>; and Centers for Medicare and Medicaid Services, “BPCI Model 4: Prospective Acute Care Hospital Stay Only,” <http://innovation.cms.gov/initiatives/BPCI-Model-4/index.html>.
- ³¹ Centers for Medicare and Medicaid Services, “Readmissions Reduction Program,” <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/AcuteInpatientPPS/Readmissions-Reduction-Program.html>.
- ³² Foden-Vencil, “How Oregon Is Getting ‘Frequent Flyers’ Out of Hospital ERs,” <http://www.kaiserhealthnews.org/Stories/2013/July/10/emergency-room-frequent-flyers.aspx>.
- ³³ *Ibid.*
- ³⁴ D. Cutler, “The Health-Care Law’s Success Story: Slowing Down Medical Costs,” *Washington Post*, Nov. 8, 2013, http://www.washingtonpost.com/opinions/the-health-care-laws-success-story-slowing-down-medical-costs/2013/11/08/e08cc52a-47c1-11e3-b6f8-3782ff6cb769_story.html.
- ³⁵ Calvillo-King, Arnold, Eubank et al., “Impact of Social Factors on Risk of Readmission or Mortality,” 2013.
- ³⁶ C. T. Jackson, T. K. Trygstad, D. A. DeWalt et al., “Transitional Care Cut Hospital Readmissions for North Carolina Medicaid Patients with Complex Chronic Conditions,” *Health Affairs*, Aug. 2013 32(8):1407–15. Arkansas and Massachusetts are also implementing bundled payment initiatives for their Medicaid programs; see American Medical Association, “Issue Brief: Innovative Medicaid Delivery System and Payment Models” (Chicago: AMA, 2013), <http://mmaoffice.org/janda/files/home/Medicaid/Issue%20Brief%20Medicaid%20Delivery%20and%20Payment%20Models%20FINAL.pdf>.
- ³⁷ Centers for Medicare and Medicaid Services, “More Partnerships Between Doctors and Hospitals Strengthen Coordinated Care for Medicare Beneficiaries,” News release, Dec. 23, 2013, <http://www.hhs.gov/news/press/2013pres/12/20131223a.html>.
- ³⁸ Centers for Medicare and Medicaid Services, “Medicare’s Delivery System Reform Initiatives Achieve Significant Savings and Quality Improvements: Off to a Strong Start,” News release, Jan. 30, 2014, <https://www.cms.gov/Newsroom/MediaReleaseDatabase/Press-releases/2014-Press-releases-items/2014-01-30.html>.
- ³⁹ *Ibid.*

- ⁴⁰ Advisory Board Company, "Update from the Symposium: Inside Medicare's ACO Programs," Sept. 16, 2013, <http://www.advisory.com/research/health-care-advisory-board/blogs/toward-accountable-payment/2013/09/update-from-the-national-population-health-symposium>.
- ⁴¹ Montefiore Medical Center, "Montefiore Pioneer ACO Model Achieves Success in First Year: Results Show Improved Care Quality and Patient Outcomes with Significant Cost Savings" News release, July 7, 2013, <http://www.montefiore.org/body.cfm?id=1738&action=detail&ref=1069>.
- ⁴² M. Evans and J. Zigmond, "Complex Coordination: Successful Pioneers Credit Focus on Improving Care," *Modern Healthcare*, July 20, 2013, <http://www.modernhealthcare.com/article/20130720/MAGAZINE/307209990>.
- ⁴³ Franciscan Alliance, "Franciscan Alliance Accountable Care Organization Achieves 2012 Cost Savings," News release, July 16, 2013, http://www.franciscanalliance.org/hospitals/indianapolis/news/Pages/PressRelease.aspx?ARTICLE_ID=550; and Banner Health Network, *Smart and Healthy*, Winter 2013, <http://issuu.com/rmcp/docs/smart-healthy-winter2013#embed>.
- ⁴⁴ J. Brehm and J. Westall, "Lessons Learned from a Pioneer ACO," presentation to Indiana HIMSS, Nov. 13, 2013, http://www.indianahimss.org/Brehm_and_Westfall_3_Franciscan_Alliance_ACO.pdf; and A. Gonzales, "Cigna, Banner Health Team on Preventative Health," *Phoenix Business Journal*, Oct. 17, 2012, <http://www.bizjournals.com/phoenix/news/2012/10/17/cigna-banner-health-deal-on.html?page=all>.
- ⁴⁵ National Academy for State Health Policy, "Medical Home and Patient Centered Care: Interactive Map," <http://www.nashp.org/med-home-map>.
- ⁴⁶ See, e.g., M. Bailit, K. Phillips, and A. Long, "Paying for the Medical Home: Payment Models to Support Patient-Centered Medical Home Transformation in the Safety Net" (Seattle, Wash.: Bailit Health Purchasing and Qualis Health, Oct. 2010), <http://www.co.fresno.ca.us/viewdocument.aspx?id=47520>; and M. Bailit, "Payment Rate Brief," (Patient Centered Primary Care Collaborative, March 2011), http://www.pcpc.org/sites/default/files/media/payment_brief_2011.pdf.
- ⁴⁷ New York State Department of Health, "New York State Medicaid Update," Dec. 2009, 25(16), http://www.health.ny.gov/health_care/medicaid/program/update/2009/2009-12spec.htm.
- ⁴⁸ New York State Department of Health, *The Patient-Centered Medical Home Initiative in New York State Medicaid: Report to the Legislature* (Albany, N.Y.: NYS DOH, April 2013), http://www.health.ny.gov/health_care/medicaid/redesign/docs/pcmh_initiative.pdf.
- ⁴⁹ G. Burke and S. Cavanaugh, *The Adirondack Medical Home Demonstration: A Case Study* (New York: United Hospital Fund, 2011), <http://www.uhfnyc.org/publications/880729>.
- ⁵⁰ NYS DOH, *Patient-Centered Medical Home Initiative*, 2013.
- ⁵¹ Patient Protection and Affordable Care Act, Pub. L. No. 111-148 § 2703 (2010).
- ⁵² 78 C.F.R. § 43281 (2013).
- ⁵³ B. E. Sirovich, S. Woloshin, and L. M. Schwartz, "Too Little? Too Much? Primary Care Physicians' Views on U.S. Health Care: Brief Report," *Archives of Internal Medicine*, Sept. 26, 2011 171(17):1582-85.
- ⁵⁴ D. Goldstein and J. Holmes, "2011 Physicians' Daily Life Report," Presentation to the Robert Wood Johnson Foundation, Nov. 15, 2011, <http://www.rwjf.org/content/dam/web-assets/2011/11/2011-physicians--daily-life-report>, reporting that primary care physicians and pediatricians spend an average of seven minutes during a visit attending to the patient's social needs.
- ⁵⁵ R. Pettignano, S. B. Caley, and S. McLaren, "The Health Law Partnership: Adding a Lawyer to the Health Care Team Reduces System Costs and Improves Provider Satisfaction," *Journal of Public Health Management and Practice*, July-Aug. 2012 18(4):E1-E3; "Aligning Federal and State Approaches to Integrating Primary Care and Community Resources," webinar by D. Gifford, Rhode Island Executive Office of Health and Human Services, <http://www.nashp.org/webinars/integrating-primary-care-community-resources/lib/playback.html>; and R. Onie, interviews with Manatt, June and Dec, 2013.
- ⁵⁶ E. Fernandez Maldonado, *Health Leads Desk: Does It Affect Weekly Billable Hours? An Analysis Using Data from Purposively Selected Site* (Washington, D.C.: George Washington University, 2011), pp. 1-7.
- ⁵⁷ Robert Wood Johnson Foundation, *Health Care's Blind Side: The Overlooked Connection Between Social Needs and Good Health*, Dec. 2011, <http://www.rwjf.org/en/research-publications/find-rwjf-research/2011/12/health-care-s-blind-side.html>.
- ⁵⁸ M. W. Friedberg, P. G. Chen, K. R. Van Busum et al., *Factors Affecting Physician Professional Satisfaction and Their Implications for Patient Care, Health Systems, and Health Policy* (Santa Monica, Calif.: RAND Corp., Oct. 2013), http://www.rand.org/pubs/research_reports/RR439.html.

- ⁵⁹ Patient-Centered Primary Care Collaborative, "Summary of Patient-Centered Medical Home Cost and Quality Results, 2010–2013," July 2013, <http://www.pcpcc.org/resource/summary-patient-centered-medical-home-cost-and-quality-results-2010-%E2%80%932013>; and R. J. Reid, K. Coleman, E. A. Johnson et al., "The Group Health Medical Home at Year Two: Cost Savings, Higher Patient Satisfaction, and Less Burnout for Providers," *Health Affairs*, May 2010 29(5):835–43.
- ⁶⁰ National Center for Quality Assurance, "2011 Patient-Centered Medical Home Standards and Guidelines," <http://www.ncqa.org/tabid/629/Default.aspx#Standards>; and Centers for Medicare and Medicaid Services, "Accountable Care Organization 2013 Program Analysis: Quality Performance Standards, Narrative Measure Specifications," Dec. 21, 2012, <http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/sharedsavingsprogram/Downloads/ACO-NarrativeMeasures-Specs.pdf>.
- ⁶¹ J. M. Ferrante, P. H. Chen, and S. Kim, "The Effect of Patient Navigation on Time to Diagnosis, Anxiety, and Satisfaction in Urban Minority Women with Abnormal Mammograms: A Randomized Controlled Trial," *Journal of Urban Health*, Jan. 2008 85(1):114–24.
- ⁶² Onie interviews, 2013; Health Leads, "Our Model," <https://healthleadsusa.org/what-we-do/our-model/>.
- ⁶³ Health Leads, correspondence, 2014.
- ⁶⁴ S. A. Wylie, A. Hassan, E. G. Krull et al., "Assessing and Referring Adolescents' Health-Related Social Problems: Qualitative Evaluation of a Novel Web-Based Approach," *Journal of Telemedicine and Telecare*, Oct. 2012 18(7):392–98.
- ⁶⁵ E. Fleegler and E. Manz, "The Online Advocate: Assessing and Referring Health-Related Social Problems," presentation at Children's Hospital Association conference on Creating Connections, March 13, 2012, <http://www.childrenshospitals.net/AM/Template.cfm?Section=t&template=/CM/ContentDisplay.cfm&ContentID=61791>.
- ⁶⁶ M. Bhat and M. Rogers, interview with Manatt, Aug. 2013.
- ⁶⁷ J. A. Teufel, D. Werner, D. Goffinet et al., "Rural Medical-Legal Partnership and Advocacy: A Three-Year Follow-up Study," *Journal of Health Care for the Poor and Underserved*, May 2012 23(2):705–14.
- ⁶⁸ M. M. O'Sullivan, J. Brandfield, S. S. Hoskote et al., "Environmental Improvements Brought by the Legal Interventions in the Homes of Poorly Controlled Inner-City Adult Asthmatic Patients: A Proof-of-Concept Study," *The Journal of Asthma*, Nov. 2012 49(9):911–17.
- ⁶⁹ K. W. Linkins, J. J. Brya, and D. W. Chandler, *Frequent Users of Health Services Initiative: Final Evaluation Report* (Falls Church, Va.: The Lewin Group, Aug. 2008), http://usich.gov/usich_resources/research/frequent_users_of_health_services_initiative_final_evaluation_report/.
- ⁷⁰ Ibid.
- ⁷¹ J. W. Krieger, T.K. Takaro, L. Song et al., "The Seattle-King County Healthy Homes Project: A Randomized, Controlled Trial of a Community Health Worker Intervention to Decrease Exposure to Indoor Asthma Triggers," *American Journal of Public Health*, April 2005 95(4):652–59.
- ⁷² J. Brenner, interview with Manatt, Aug. 2013; and Camden Coalition of Healthcare Providers, "Camden Health Information Exchange," <http://www.camdenhealth.org/programs/health-information-exchange/>.
- ⁷³ S. R. Green, V. Singh, and W. O'Byrne, "Hope for New Jersey's City Hospitals: The Camden Initiative," *Perspectives in Health Information Management*, April 1, 2010 7:1d.
- ⁷⁴ E. R. Woods, U. Bhaumik, S. J. Sommer et al., "Community Asthma Initiative: Evaluation of a Quality Improvement Program for Comprehensive Asthma Care," *Pediatrics*, March 2012 129(3):465–72.
- ⁷⁵ L. Gottlieb, interview with Manatt, Aug. 2013.
- ⁷⁶ Brenner interview, 2013; Onie interviews, 2013; B. Zuckerman, interview with Manatt, July 2013; M. Sandel, interview with Manatt, Aug. 2013; and L. Gottlieb, M. Sandel, and N. E. Adler, "Collecting and Applying Data on Social Determinants of Health in Health Care Settings," *JAMA Internal Medicine*, June 10, 2013 173(11):1017–20.
- ⁷⁷ U.S. Government Accountability Office, *Nonprofit Hospitals: Variation in Standards and Guidance Limits Comparison of How Hospitals Meet Community Benefit Requirements*, GAO-08-880 (Washington, D.C., Sept. 2008).
- ⁷⁸ G. J. Young, C. H. Chou, J. Alexander et al., "Provision of Community Benefits by Tax-Exempt U.S. Hospitals," *New England Journal of Medicine*, April 18, 2013 368(16):1519–27.
- ⁷⁹ Kaiser Permanente, "Community Benefit: Beyond Our Doors, Beyond Our Dollars," http://info.kaiserpermanente.org/san-bernardino/about_us/documents/Community%20Benefit%20Special%20Section%20Feb12.pdf.
- ⁸⁰ R. Baxter, interview with Manatt, Aug. 2013.
- ⁸¹ S. Rosenbaum and R. Margulies, "Tax-Exempt Hospitals and the Patient Protection and Affordable Care Act: Implications for Public Health Policy and Practice," *Public Health Report*, March–April 2011 126(2):283–86.

- ⁸² Centers for Disease Control and Prevention, “Desired State: A Unified Community Health Improvement Framework Supporting Multiple Stakeholders,” <http://www.cdc.gov/policy/ohsc/desiredstate.html>.
- ⁸³ Internal Revenue Service, “Instructions for Schedule H (Form 990),” <http://www.irs.gov/pub/irs-pdf/i990sh.pdf>.
- ⁸⁴ For example, Collective Health is pursuing a \$1.1 million health impact bond to implement home-based interventions targeting children with asthma in Fresno, Calif. The organization estimates that the initiative will save California’s Medicaid program, employers, and health care providers \$6.3 million. Collective Health, “Example: Asthma Mitigation in Fresno,” http://collectivehealth.net/new/about_files/CH_fresno%20asthma%20value%20model.pdf.
- ⁸⁵ Massachusetts Executive Office of Health and Human Services, “The Prevention and Wellness Trust Fund,” <http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/prevention-and-wellness/>.

APPENDIX A. LIST OF INTERVIEWEES

- Dr. Karl Altenburger, Board Member, [The Physicians Foundation](#), and Dr. Walker Ray, Vice President and Chair of the Research Committee, [The Physicians Foundation](#)
- Ray Baxter, Senior Vice President for Community Benefit, Research and Health Policy, [Kaiser Permanente](#)
- Manik Bhat, CEO, [Healthify](#), and Mike Rogers, Community Programs Director, [Charm City Clinic](#)
- Dr. Jeffrey Brenner, Founder and Executive Director, [Camden Coalition of Healthcare Providers](#)
- Rick Brush, Founder and CEO, [Collective Health Center for Medicare and Medicaid Innovation \(CMMI\) Official](#)
- Dr. David Cohen, Vice Chair, Medicine and Senior Vice President of Clinical Integration and Affiliations, [Maimonides Medical Center](#)
- Gary Cohen, Founder, President, and Executive Director, [Health Care Without Harm](#)
- Dr. Vera Cordeiro, CEO and Founder, [Associação Saúde Criança](#), and Cristiana Velloso, COO, [Associação Saúde Criança](#)
- Karen Fifer Ferry and Ray Sessler, Founder and Founding Partner, [Harwich Group](#)
- Dr. Eric Fleegler, Instructor in Pediatrics, [Harvard Medical School](#)
- Art Gianelli, President and CEO, [Nassau Health Care Corporation](#)
- Dr. Laura Gottlieb, Assistant Professor of Family and Community Medicine, [University of California, San Francisco](#)
- Brian Hermanspan, Vice President of Business Development, [Health Leads](#)
- Dr. James Krieger, Chief, Chronic Disease and Injury Prevention for Public Health, [Seattle and King County](#), and Clinical Professor of Medicine, [University of Washington](#)
- Anne Langley, Director of Health Policy Planning, [Johns Hopkins' Office of Health Care Transformation and Strategic Planning](#)
- Ellen Lawton, Co-Principal Investigator, [National Center for Medical-Legal Partnership](#)
- Carol Lewis, Associate Director, [University of North Carolina Innovation and Health Care System Transformation](#)
- Rebecca Onie, Founder and CEO, [Health Leads](#)
- Daniel Ortega Nieto, Ph.D. Student, [Georgetown Department of Government](#)
- Dr. Kavita Patel, Managing Director for Clinical Transformation and Delivery, [Engelberg Center for Health Care Reform, The Brookings Institution](#)
- Dr. John Rugge, Chief Executive Officer, and Cynthia Nassivera Reynolds, Vice President for Transformation and Clinical Quality, [Hudson Headwaters Health Network](#); Cathy Homkey, Executive Director, [Adirondack Health Institute](#)
- Dr. Steven Safyer, President and CEO, [Montefiore Health System](#)
- Dr. Megan Sandel, Associate Professor of Pediatrics, [Boston University Schools of Medicine and Public Health](#); Medical Director, [National Center for Medical-Legal Partnership](#); and Co-Principal Investigator, [Children's Health Watch](#)
- Dr. David Share, Preventive Medicine and Public Health, [The Corner Health Center](#), and Senior Vice President, Value Partnerships, [Blue Cross Blue Shield of Michigan](#)
- Dr. Prabhjot Singh, Lead Strategic Advisor and Founding Technical Advisor, [City Health Works](#)
- Dr. Barry Solomon, Associate Professor in the Division of General Pediatrics and Adolescent Medicine at [Hopkins School of Medicine](#); Medical Director, [Harriet Lane Clinic](#); and Medical Director, [Health Leads Baltimore](#)
- Alissa Wassung, Executive Policy and Planning Associate, [God's Love We Deliver](#)
- Dr. Barry Zuckerman, Professor of Pediatrics, [Boston University School of Medicine](#)

APPENDIX B. INITIATIVE PROFILES

ASSOCIAÇÃO SAÚDE CRIANÇA

After witnessing the vicious cycle of poverty in Brazil's public hospitals, Dr. Vera Cordeiro founded Associação Saúde Criança in 1991 and developed a social methodology to address the issues children and their families were facing trying to stay healthy. Saúde Criança is a Brazilian nonprofit and nongovernmental organization (NGO) dedicated to empowering families living below the poverty level to take care of themselves and achieve self-sustainability. As a result, they break the cycle of hospital readmissions. Saúde Criança's work is grounded in the belief that health status is social as well as biological, and that social inclusion is important to individuals and families' well-being.

Description of Model: Associação Saúde Criança works with health care providers at select public hospitals to identify families with unmet social needs. Upon referral, Saúde Criança helps the family develop a Family Action Plan addressing five domains: health care, income, housing, education, and citizenship. To assist families in meeting their goals, Saúde Criança provides a variety of supports, including medical, psychological, social, and legal services; food and medication; assistance with housing; and job training. Families enrolled with Saúde Criança visit the program monthly to check-in on their Family Action Plans, document progress toward goals, and address barriers. Saúde Criança makes extensive use of volunteers and employs social workers, psychologists, physicians, engineers, and architects.

Location of Intervention and Spread: Founded in Rio de Janeiro, the Saúde Criança model has been adopted and replicated by 23 NGOs near public health institutions throughout Brazil, benefiting more than 50,000 people over the life of the organization. Saúde Criança became a social franchise in 2010 and, as of 2012 there were 11 Saúde Criança franchises. The third largest municipality in Brazil has adopted Saúde Criança's model as public policy.

“Poverty is very often the real cause of many diseases. Traditional medical care is not enough for those families who live below the poverty line.”

—Dr. Vera Cordeiro

Population Served: Saúde Criança works with sick children and their families who are living below the poverty level. Candidates for their services are identified upon a child's admission to or interaction with one of Saúde Criança's partner public hospitals.

Social Determinants Addressed by Intervention: Saúde Criança and its multidisciplinary approach to developing a Family Action Plan address health care, income, housing, education, and citizenship.

Financing: Saúde Criança operates on an annual budget of \$2 million for its services in Rio de Janeiro and additional funds in its other five states. Its primary source of funding is corporate and international donations.

Saúde Criança spends, on average, \$320 per family per month to cover its services.

Key Outcomes

- An evaluation of the intervention by Georgetown University showed that it was associated with improved health outcomes, economic circumstances, and educational attainment.
- Children's hospital stays were an average of 90 percent shorter after participating in Saúde Criança. In addition, participating children were 11 percent less likely than comparable nonparticipating children to have needed a clinical treatment or surgery.
- Adults participating in Saúde Criança were approximately 12 percent more likely to be employed than similar nonparticipating adults in their community.
- Families receiving Saúde Criança's assistance saw a 35 percent average increase in their income.
- After participating in Saúde Criança, 50 percent of beneficiaries owned their homes, as compared with

an ownership rate of 25 percent upon entry into the program.

Awards and Recognitions: Saúde Criança has received more than 30 national and international awards. Recently, Saúde Criança was named the “best nongovernmental organization in Latin America” and 38th best in the world, out of 100 nongovernmental organizations, by Swiss magazine *The Global Journal*. Dr. Cordeiro, the organization’s founder, has been named an Ashoka Fellow, a Skoll Entrepreneur, an Avina Foundation leader, a Schwab Social Entrepreneur, a member of the Ashoka World Council, and member of the Volans Advisory Board.

Contacts: Dr. Vera Cordeiro, CEO and Founder, Associação Saúde Criança.

Sources

Associação Saúde Criança, *Annual Report, 2012*, <http://www.saudecrianca.org.br/annual-report-2012/>.

Associação Saúde Criança, “Our Work,” <http://www.saudecrianca.org.br/en/nosso-trabalho/metodologia/>.

V. Cordeiro, C. Velloso, interview with Manatt, Aug. 2013.

Georgetown University, *Evaluating Saúde Criança: Policy Brief* (Washington, D.C.: Georgetown University, Oct. 2013).

J. Habyarimana, D. Ortega Nieto, and J. Tobin, *Assessing the Impact of Saúde Criança* (Washington, D.C.: Georgetown University, Oct. 2013).

D. Ortega Nieto, interview with Manatt, Sept. 2013.

CAMDEN COALITION OF HEALTHCARE PROVIDERS

What began in 2002 as a small group of primary care providers meeting to discuss issues facing providers in Camden, New Jersey, became the Camden Coalition of Healthcare Providers, a well-respected community organizer focused on a collaborative approach to improving care delivery and patient outcomes. The Coalition “focuses on creating solutions from the providers and health systems sides of care,” recognizing

that no single provider or organization has the ability to solve a population or citywide problem alone. Today, the Coalition operates a care management program for high utilizers of health care services.

Description of Model: A care management team comprising a social worker, health outreach worker, and nurse practitioner assists participants with such activities as coordinating primary and specialty care, connecting to a medical home, obtaining housing and other public benefits, managing their legal needs, and meeting their personal goals. The Coalition makes extensive use of a health information exchange across providers in Camden to evaluate health outcomes and health care utilization of participants.

Location of Intervention and Spread: The Coalition serves the residents of Camden, New Jersey, one of America’s poorest cities. The Coalition model is currently being replicated in 10 communities including Allentown, Pennsylvania; Aurora, Colorado; Kansas City, Missouri; and San Diego, California. Six are funded by the Robert Wood Johnson Foundation and four are funded by the Coalition’s Healthcare Innovation Award from the Center for Medicare and Medicaid Innovation (CMMI). The CMMI award will expand the Coalition’s reach to approximately 1,000 residents who are frequent users of hospital and emergency department (ED) services.

Population Served: The Coalition targets high-cost, complex patients who are often frequent utilizers of the city’s EDs and hospitals. Coalition staff segment patients into two groups: patients with no source of primary care and who have significant social and

“Work with our care management teams came out of looking at the data and getting really interested in the outliers—extreme patients who go to the emergency or hospital over and over. We decided to go out and meet patients, engage them, and follow them through the health care system and slowly we learned how to fix health care for the most extreme patients.”

—Dr. Jeffrey Brenner

mental health issues, and patients with more stable primary care and less severe social issues. Each morning, Coalition staff review data on hospitalized patients and determine whether they are eligible for assistance. Once an individual is enrolled in the program, Coalition staff visit their home within 24 hours of discharge to begin providing services and with the goal of finding a primary care medical home.

Social Determinants Addressed by Intervention:

The Coalition aims to address all social determinants impeding their clients' pursuit and completion of identified goals. This may include, but is not limited to: housing, addiction, psychosocial issues, legal, and access to food.

Financing: The Coalition is primarily grant-funded, but it also receives some funding from hospitals whose patients benefit from the Coalition's services. The health information exchange utilized by the Coalition is supported by funding from local hospitals, health plans, and the federal government.

Key Outcomes

- After intervention, average hospital charges per month for 36 high utilizers fell by 56.4 percent from \$1,218,010 to \$531,203.
- After intervention, the average number of emergency department and hospital visits across 36 high utilizers decreased approximately 40 percent from 61.6 to 37.2 visits per month.
- By helping high utilizers obtain insurance, provider reimbursement increased by 52 percent.
- A study of 36 high utilizers found that after intervention, hospital costs and utilization decreased, while hospital reimbursement increased.
- The Coalition is currently conducting a randomized controlled trial.

Awards and Recognitions: Dr. Jeffrey Brenner, the Coalition's Founder and Executive Director, won the MacArthur Foundation Award in September 2013. Dr. Brenner will serve as a MacArthur Fellow, an honor recognizing exceptionally creative individuals with a track record of achievement and the potential for

significant contributions in the future. Dr. Brenner has been recognized for his work to identify "hot spots" of health care high utilizers using data and subsequently reducing patient visits and costs by 40 percent to 50 percent.

Contacts: Dr. Jeffrey Brenner, Founder and Executive Director, Camden Coalition of Healthcare Providers.

Sources

- Camden Coalition of Healthcare Providers, Care Management Program, <http://www.camdenhealth.org/programs/care-management-program/>.
- S. R. Green, V. Singh, and W. O'Byrne, "Hope for New Jersey's City Hospitals: The Camden Initiative," *Perspect Health Inf Manag*, April 2010 7:1d.
- J. Brenner, Interview with Manatt, Aug. 2013.
- MacArthur Foundation, MacArthur Fellows Program, <http://www.macfound.org/fellows/886/>.

CITY HEALTH WORKS

After leading the One Million Community Health Workers Campaign, an initiative to accelerate community health worker programs in sub-Saharan Africa, Dr. Prabhjot Singh sought to bring the "most scalable and transferrable model" from Africa to the United States. The result was City Health Works, a social enterprise founded by Manmeet Kaur in 2011 with Dr. Singh as a technical advisor, which is currently piloting its community health worker model in East Harlem in New York City.

Description of Model: In the City Health Works model, individuals deemed eligible for the program because of their diagnosis of diabetes or hypertension are "onboarded" in a community clinic and connected to a community health worker coach. The community health worker meets with the individual at his or her home to assess goals, and performs three primary functions: 1) assists in the early detection of diabetes or hypertension complications; 2) coaches the individual on self-management of diabetes or hypertension; and 3) performs care coordination activities. The community health worker also conducts community and service

“Our goal has been to enrich the public imagination for what community health can be in a way that is systematic, financially oriented, and most relevant now.”

–Dr. Prabhjot Singh

mapping to match individuals with needed assistance. While in the community, the community health workers communicate with nurses and clinics by phone and a mobile decision-support application. City Health Works aims to engage networks within communities to “target an entire microenvironment,” such that the intervention improves both the health of participating individuals and the community as a whole.

Location of Intervention and Spread: Currently, City Health Works is piloting its intervention in East Harlem and plans to expand to other cities in the United States in coming years. In 2014, the organization anticipates implementing its model in Dallas.

Population Served: City Health Works targets individuals with diabetes and hypertension who have a moderate readmission risk. It is considering widening its target population to include individuals who are both higher and lower risk.

Social Determinants Addressed by Intervention: As part of their role as coaches, City Health Works’ community health workers connect individuals to community services and organizations, such as those providing assistance related to food and shelter.

Financing: The majority of City Health Works’ financing is currently through foundation support. It also receives payments from a hospital’s operating budget for being a component of the hospital’s patient-centered medical home. City Health Works is working with three insurance providers to determine optimal pricing of services. In August 2013, City Health Works submitted an application for a \$5,721,280 Center for Medicare and Medicaid Innovation (CMMI) Health Care Innovation Award. The organization aims to achieve revenue sustainability within three to four years.

Key Outcomes: City Health Works began its pilot program in September 2013, and does not yet have

outcomes data. In its CMMI Health Care Innovation Award application, City Health Works projected the following expected cost savings resulting from the intervention:

- \$3,103,223 per year in cost savings across all participants, equating to \$1,862 per participant per year;
- A return on investment of 1.63; and
- An average of a 15 percent reduction in costs per participant over three years, as compared with if the individual had not participated in the intervention.

Awards and Recognitions: For his work with community health workers in Africa and in the United States, Dr. Singh received a Robert Wood Johnson Young Leader Award in 2012.

Contacts: Manmeet Kaur, Executive Director and Founder, City Health Works; Dr. Prabhjot Singh, Lead Strategic Advisor, City Health Works.

Sources

City Health Works, About Us, <http://cityhealthworks.com/about-us/>.

City Health Works, Center for Medicare and Medicaid Innovation Request (New York: City Health Works, Aug. 2013).

City Health Works, Project Narrative (New York: City Health Works, Aug. 2013).

P. Singh, interview with Manatt, Aug. 2013.

HEALTH LEADS

Founded in 1996, Health Leads envisions a health care system that addresses all patients’ basic resource needs as a standard part of patient care. In the clinics where Health Leads operates, physicians can prescribe food, heat, and other basic resources their patients need to be healthy, alongside prescriptions for medication. Patients then take those prescriptions to a Health Leads’ desk in the clinic waiting room, where a corps of highly trained college student Advocates work side-by-side with patients to access community resources and public benefits.

“Health Leads envisions moving clinics from the status quo to addressing patients’ social needs as a routinized, standard part of care—enabling providers to ask the previously unaskable questions. Social needs, and the clinic-based infrastructure to tackle them effectively, become a basic component of the patient visit.”

—Rebecca Onie

Description of Model: Health Leads’ model has been implemented in over two dozen clinical locations and is an integrated aspect of care delivery in each of its partner health care institutions. This integration is achieved through five elements:

1. *Seamless clinical integration:* Health Leads utilizes systematic screening to determine patient social needs, electronic resource “prescriptions” via the electronic medical record, and real-time updates to the clinical team.
2. *Trained lay workforce:* Health Leads’ corps of college student Advocates are competitively recruited, trained, and supervised by full-time, clinic-based staff with social work/case management experience.
3. *Patient engagement:* Advocates follow-up weekly with patients until they secure the needed resources, providing targeted guidance on how to navigate financial, linguistic, and bureaucratic obstacles.
4. *Technology:* Health Leads has developed a technology platform to drive resource connections via a client management database and a linked resource directory with a search engine, mapping feature, and geography-specific information.
5. *Data and analytics:* This technology platform also includes back-end analytics capacity, enabling Health Leads to equip clinics with real-time, population-level data about their patients’ social needs.

Location of Intervention and Spread: Health Leads desks are located in adult and pediatric outpatient clinics, newborn nurseries, ob/gyn clinics, and community health centers in six cities across the United States. Last year, Health Leads’ 900 Advocates served 11,500 patients in 23 clinics in Baltimore, Boston, Chicago, New York City, Providence, and Washington, D.C.

Population Served: Health Leads targets low-income patients and their families who have unmet social needs.

Social Determinants Addressed by Intervention: Health Leads’ scope of services includes multiple categories of patient social needs, ranging from food assistance to adult education. A recent analysis found that the most prevalent needs of Health Leads’ client population were: education, housing assistance, utilities assistance, food assistance, and employment.

Financing: Health Leads’ primary funding sources are philanthropic dollars and fees from partner health care institutions, drawn from operating budget, community benefit, or philanthropic dollars.

Key Outcomes

- A 2010 study of a Health Leads site in Baltimore found that 90 percent of families using the Health Leads desk were satisfied with the connection made by Health Leads. Ninety percent of patients with whom Health Leads worked successfully solved at least one need or reported that they are equipped to secure resources with the information provided by Health Leads and without further assistance.
- A time series analysis conducted at The Dimock Center in Boston demonstrated that the health center’s pediatric social worker’s average weekly billable minutes increased by 57 percent after the implementation of Health Leads.

Awards and Recognitions: Co-Founder and CEO Rebecca Onie is a MacArthur Fellow and a World Economic Forum Young Global Leader.

Contacts: Rebecca Onie, Co-Founder and CEO, Health Leads; Brian Hermanspan, Vice President of Business Development, Health Leads.

Sources

- A. Garg, M. Marino, A. Vikani et al., “Addressing Families’ Unmet Social Needs Within Pediatric Primary Care: The Health Leads Model,” *Clinical Pediatrics*, Dec. 2012 51(12):1191–93.
- A. Garg, S. Sarkar, M. Marino et al., “Linking Urban Families to Community Resources in the Context of Pediatric Primary Care,” *Patient Educ Couns*, May 2010 79(2):251–54.
- B. Hermanspan, interview with Manatt, July 2013.
- E. Fernandez Maldonado, *Health Leads Desk: Does It Affect Weekly Billable Hours? An Analysis Using Data from Purposively Selected Site* (Washington, D.C.: George Washington University, 2011).
- Health Leads, Our History, <https://healthleadsusa.org/about/our-history/>.
- Health Leads, Our Model, <https://healthleadsusa.org/what-we-do/our-model/>.
- R. Onie, interviews with Manatt, June and Dec. 2013.
- R. D. Onie, “Creating a New Model to Help Health Care Providers Write Prescriptions for Health,” *Health Affairs*, Dec. 2012 31(12):2795–96.

HELPSTEPS

Founded in 2004 by Dr. Eric Fleegler, HelpSteps is a patient-centered online platform that provides individuals with information about targeted local services to meet their social needs.

Description of Model: HelpSteps exists in two forms: 1) a “guided search,” where individuals fill out a questionnaire that identifies their social needs, such as assistance with obtaining food or accessing health insurance; and 2) a “direct search” that allows users to skip the questionnaire and directly find resources to help them. Services are categorized into 13 social domains, including access to health care, food security, income security, housing, domestic violence, and others. In both cases, the platform identifies community-based organizations that can support the individual.

Location of Intervention and Spread: Currently, HelpSteps has been implemented in locations across Boston Children’s Hospital, such as waiting rooms, and in at least two other health care facilities in the Boston

“The process of going through HelpSteps helped individuals take the step of thinking about how to solve their problems themselves.”

–Dr. Eric Fleegler

area. It is the backbone referral system for the Boston Public Health Commission’s “Mayor’s Health Line.” A pilot program is also under way at a community-based clinic in Little Rock, Arkansas. HelpSteps is in discussion with other providers in Massachusetts and Rhode Island about further expansion. The Boston-oriented version of the platform is publicly available at <https://www.helpsteps.com/home.html>.

Population Served: HelpSteps targets low-income families.

Social Determinants Addressed by Intervention: HelpSteps targets a wide range of social determinants of health. Its platform directs individuals to community-based resources for issues including housing, food, employment, safety equipment, education, parenting, and transportation.

Financing: Thus far, HelpSteps has primarily been funded through research and service grants totaling approximately \$500,000.

Key Outcomes

- Forty percent of young adults receiving a referral through HelpSteps contacted the referral organization selected through HelpSteps. Of the families that were in touch with the referral organization, more than 52 percent resolved their main problem.
- A study of families with young children showed that more than 90 percent of families would be receptive to HelpSteps becoming integrated into their annual physical.
- A qualitative study of adolescents and young adults found that more than 95 percent would recommend HelpSteps to a friend.

Awards and Recognitions: In 2005, HelpSteps received the American Academy of Pediatrics' Special Achievement Award.

Contacts: Dr. Eric Fleegler, Founder, HealthSteps.

Sources

E. Fleegler, interview with Manatt, Sept. 2013.

E. Fleegler, "The Online Advocate: Assessing and Referring Health-Related Social Problems," Presentation at Children's Hospital Association Creating Connections Conference, Mar. 13, 2012.

E. W. Fleegler, T. A. Lieu, P. H. Wise et al., "Families' Health-Related Social Problems and Missed Referral Opportunities," *Pediatrics*, June 2007 119(6):e1332-e1341.

A. Hassan, E. A. Blood, A. Pikcilingis et al., "Youths' Health-Related Social Problems: Concerns Often Overlooked During the Medical Visit," *J Adolesc Health*, Aug. 2013 53(2):265-71.

HelpSteps, Home, <https://www.helpsteps.com/home.html>.

S. A. Wylie, A. Hassan, E.G. Krull et al., "Assessing and referring adolescents' health-related social problems: qualitative evaluation of a novel web-based approach," *Journal of Telemedicine and Telecare*, Oct. 2012 18(7):392-98.

MEDICAL-LEGAL PARTNERSHIP

Recognizing that "many legal problems are health problems," the Medical-Legal Partnership (MLP) is a health care delivery model that combines the expertise of health and legal professionals to address and prevent health-harming legal needs for patients, clinics, and populations. Under the MLP model, existing health care and legal institutions come together and leverage their existing capabilities and resources to build an integrated, interprofessional health care team. The first MLP program, MLP-Boston, was founded in 1993 at Boston Medical Center.

The National Center for Medical-Legal Partnership (NCMLP) was launched in 2005 and is a project of the George Washington University School

of Public Health and Health Services' Department of Health Policy. NCMLP promotes learning and sharing of best practices across MLP sites and leads research and policy initiatives focused on sustaining and scaling the MLP model.

Description of Model: At MLPs, lawyers and paralegals become part of the health care team, working on-site in clinical settings alongside physicians, nurses, case managers, and other health care professionals to address health-harming legal needs related to income, health insurance, housing and utilities, education and employment, legal status/immigration, and personal safety and stability. Under the MLP model,

- Legal professionals train health care team members to recognize health-harming legal needs;
- Health care team members identify patients' health-harming legal needs by implementing screening procedures;
- Legal professionals treat individual patients' existing health-harming legal needs with triage, consultations, and legal representation;
- Health care and legal professionals jointly treat multiple patients' existing health-harming legal needs by changing clinical or institutional policies; and
- Health care and legal professionals jointly prevent additional health-harming legal needs broadly by improving policies and regulations that have an impact on population health.

Location of Intervention and Spread: There are MLPs at more than 250 hospitals and health centers across the United States.

Population Served: MLPs target low-income and other vulnerable populations. Some MLPs focus on specific populations including children and families,

"We are convinced the MLP model is an effective way to address social determinants and make the shift from emergency care to more preventive strategies. It's an intervention that more than 250 hospitals and health centers have already embraced."

–Ellen Lawton

elderly patients, patients with HIV, chronically ill adults, oncology patients, Medicaid patients, and veterans.

Social Determinants Addressed by Intervention:

The MLP model addresses unmet legal needs and legal barriers that impede health, including income, health insurance, housing and utilities, education and employment, legal status/immigration, and personal safety and stability.

Financing: MLPs are financed through a variety of strategies and sources, predominantly at the local level and predicated on leveraging and matching existing institutional and community resources, including health care institutions' operating budgets, community benefit dollars, local and regional private philanthropy, and, increasingly, state and federal funding streams targeting the social determinants of health for specific populations.

Key Outcomes

- An MLP between a federally funded legal aid agency and a community health clinic in rural Illinois assisted individuals with appealing Medicaid coverage denials, and it obtained a 319 percent return on investment over a three-year period by obtaining reimbursement through health care recovery dollars.*
- A small pilot study of adults with moderate to severe asthma who received services through an MLP in New York demonstrated a 91 percent decline in emergency department visits and hospital admissions. Approximately 92 percent of participants experienced a decrease of at least two asthma severity classes.
- 70 percent of providers felt that their institution's use of an Atlanta MLP saved them time that they could use on other cases.

Awards and Recognitions: The value of the MLP model was recognized by the American Medical Association's passage of a supportive resolution in June 2010, similar to the supportive resolution passed

* A white paper published by the Medical-Legal Partnership for Children defines health care recovery dollars as "funds reimbursed to hospitals as a result of a successful appeal of improperly denied Medicaid or Social Security Disability application."

"Health care alone can't solve poverty. We can and should assess and manage poverty like the chronic disease that it is, tracking and treating the social problems that most impact health."

—Dr. Megan Sandel

by the American Bar Association in 2008. In 2007, the NCMLP and MLP-Boston were awarded the American Hospital Association NOVA Award, which recognizes hospitals and health systems for collaborative efforts toward improving community health. The MLP model was also cited as a best practice by the Joint Commission in 2009.

Contacts: Ellen Lawton, Co-Principal Investigator, National Center for Medical-Legal Partnership; Dr. Megan Sandel, Medical Director, National Center for Medical-Legal Partnership.

Sources

- T. Beeson, B. D. McAllister, and M. Regenstein, *Making the Case for Medical-Legal Partnerships: A Review of the Evidence* (Washington, D.C.: National Center for Medical-Legal Partnership, George Washington University School of Public Health and Health Services, Feb. 2013).
- R. Knight, *Health Care Recovery Dollars: A Sustainable Strategy for Medical-Legal Partnerships?* (Boston: Medical-Legal Partnership for Children, April 2008).
- E. Lawton, interview with Manatt, July 2013. National Center for Medical-Legal Partnership, "Core Components and Activities," <http://www.medical-legalpartnership.org/model/core-components>.
- M. M. O'Sullivan, J. Brandfield, S. S. Hoskote et al., "Environmental Improvements Brought by the Legal Interventions in the Homes of Poorly Controlled Inner-City Adult Asthmatic Patients: A Proof-of-Concept Study," *J Asthma*, Nov. 2012 49(9):911–17.
- R. Pettignano, S. B. Caley, and S. McLaren, "The Health Law Partnership: Adding a Lawyer to the

Health Care Team Reduces System Costs and Improves Provider Satisfaction,” *J Public Health Manag Pract*, July-Aug. 2012 18(4):E1–E3.

M. Sandel, interview with Manatt, Aug. 2013.

J. A. Teufel, D. Werner, D. Goffinet et al., “Rural Medical-Legal Partnership and Advocacy: A Three-Year Follow-Up Study,” *J Health Care Poor Underserved*, May 2012 23(2):705–14.

SEATTLE-KING COUNTY HEALTHY HOMES PROJECT

The Seattle-King County Healthy Homes Project began as a demonstration project to reduce the exposure of low-income children with asthma to asthma triggers by providing them with home visits by community health workers (CHWs). In its second phase, the Project broadened its focus to include in-home support from CHWs for both trigger reduction and improved skills for asthma self-management.

Description of Model: CHWs conduct home visits for families of low-income children with uncontrolled asthma. CHWs conduct a home assessment for environmental triggers, assess knowledge and skills for asthma self-management, develop an action plan with the family, and provide bedding encasements, vacuums, and other asthma control tools. They also may provide families with social support services, including assistance with obtaining extermination services, advocacy for better housing, and other services geared toward improving asthma control.

Location of Intervention and Spread: The intervention is located in Seattle-King County in Washington State. The intervention has been adopted by multiple sites across the nation, including public health agencies and health delivery systems in Boston, Baltimore, Philadelphia, Fresno, Calif., and many other places.

Population Served: The Project targets low-income and minority children affected by asthma in Seattle-King County, Washington. Other criteria

“In the real world, it makes sense to integrate the medical and social components of patients’ needs. For the patient, it makes sense to deal with everything at once, holistically”

–Dr. James Krieger

include: enrollment in Medicaid; primary language is English or Spanish; and the primary caretaker must have the mental and physical capacity to participate.

Social Determinants Addressed by Intervention:

The Project is focused on those social determinants that impact children’s asthma and their families’ ability to address and control asthma, including housing conditions, stress, social support, and access to education and employment.

Financing: The Project is grant-funded and has received support from the Centers for Disease Control and Prevention, U.S. Department of Housing and Urban Developments, and National Institutes of Health.

Key Outcomes

- In the two months post-intervention, only 8.4 percent of children in the high-intensity group used urgent health services, a decline from 23.4 percent in the pre-intervention period. The low-intensity group experienced a smaller, statistically insignificant decrease, from 20.2 percent to 16.4 percent.
- Post-intervention, days of activity limitation for children in the high-intensity group declined by 4.1 days over a two-week period. The decline for children in the low-intensity group was only 2.6 days.
- On a scale of seven, quality-of-life scores for caregivers in the high-intensity group increased from 4.0 to 5.6, while quality-of-life scores for caregivers in the low-intensity group increased from 4.4 to 5.4.

Awards and Recognitions: The Environmental Protection Agency named the Project a 2005 Children's Environmental Health Excellence Award Winner. In addition, it received the Secretary of Health and Human Services' Innovation in Prevention Award in 2003 and the U.S. Department of Housing and Urban Development's Healthy Homes Innovator Award in 2011.

Contacts: Dr. James Krieger, Chief, Chronic Disease and Injury Prevention for Public Health—Seattle and King County; and Clinical Professor of Medicine, University of Washington.

Sources

J. W. Krieger, interview with Manatt, Oct. 2013.

J. W. Krieger, T.K. Takaro, L. Song et al., "The Seattle-King County Healthy Homes Project: A Randomized, Controlled Trial of a Community Health Worker Intervention to Decrease Exposure to Indoor Asthma Triggers," *American Journal of Public Health*, April 2005 95(4):652–59.

Public Health—Seattle-King County, Asthma Program, <http://www.kingcounty.gov/healthservices/health/chronic/asthma.aspx>.

APPENDIX C.

COST SAVINGS AND QUALITY AND CARE UTILIZATION MEASURES ASSOCIATED WITH SELECTIVE INTERVENTIONS

Intervention name	Description	Cost savings	Quality and care utilization measures
Adirondack Medical Home Demonstration	The Adirondack Medical Home Demonstration is a five-year pilot across payers and providers in the Adirondack region of New York State in which participating providers become NCQA-certified patient-centered medical homes (PCMHs). The payers distribute \$7 per-member per-month to providers to support an extensive set of PCMH services, including employing care managers and community resource advocates who assist patients with social needs. ^a	The Hudson Headwaters Health Network, a participant in the Adirondack Medical Home Demonstration, has shown 15% to 20% savings for Medicaid beneficiaries. ^b	After implementing a transition program for individuals discharged from the hospital, the Hudson Headwaters Health Network reduced its readmissions rate for targeted conditions from 19% to 7%. Within the Network, patients are assessed upon intake and referred to Community Resource Advocates to provide social supports, including assistance with housing/living conditions, food, and transportation. ^c
Camden Coalition of Healthcare Providers	The Camden Coalition of Healthcare Providers operates a care management program for high utilizers of health care services, where an outreach team assists participants with activities such as connecting to a medical home, obtaining housing and other public benefits, managing their legal needs, and meeting their personal goals. ^d	In the period post-intervention, average total hospital charges per month for 36 high utilizers fell by 56.4%, from \$1,218,010 to \$531,203. ^e	After participating in the intervention, the average total number of emergency department and hospital visits across 36 high utilizers fell by approximately 40%, decreasing from 61.6 to 37.2 visits per month. ^f
Community Asthma Initiative	The Community Asthma Initiative is an intervention operated out of Children's Hospital Boston and a community health center, in which nurse case managers provide care coordination services for low-income children with asthma. The families receive home visits from nurses or community health workers supervised by nurses, who assess the families' homes for asthma triggers, provide asthma remediation items, and connect families to community-based services. ^g	At two-year follow-up, the intervention saved \$3,827 in decreased emergency department visits and hospitalizations per child when measured against a comparison group. The intervention cost \$2,529 per child, resulting in a return on investment of 1.46. ^h	At 12 months into the intervention, participants experienced a 68% decrease in emergency department visits, an 85% decline in hospitalizations, and a 43% reduction in "days of limitation of physical activity." In addition, children missed 41% fewer school days and their parents missed 50% fewer days of work. ⁱ
Frequent Users of Health Services Initiative	The Frequent Users of Health Services Initiative includes six hospital and community-based case management programs in California providing referrals to medical and social services for individuals who are frequent users of emergency departments. ^j	After two years of program enrollment, average inpatient charges decreased by 69%, falling from \$46,826 at one-year pre-enrollment to \$14,684 at the two-year point. ^k	Two years post-enrollment into the initiative, average inpatient days decreased by 62%. ^l
Geriatric Resources for Assessment and Care of Elders (GRACE)	The GRACE intervention begins with a home visit by a nurse practitioner-led support team to assess low-income seniors' medical and psychosocial needs. The support team reports its findings to a larger group of health care professionals, which develops and implements a care plan to address the individual's needs, including those related to home safety and social support. ^m	For individuals with a high-risk of hospitalization, a randomized controlled trial found similar costs between individuals participating in GRACE and a comparison group receiving usual care during the two years of the study. However, in the year following the intervention, individuals at high-risk of hospitalization participating in GRACE had significantly lower total mean costs than similar individuals in the comparison group; a difference of \$5,088 v. \$6,575, respectively. ⁿ	Individuals receiving the intervention had a significantly lower rate of emergency department visits over a two-year period than individuals receiving usual care (1,445 per 1,000 v. 1,748 per 1,000). In addition, GRACE participants experienced statistically significant improvements on the SF-36 quality of life instrument in the areas of general health, vitality, social functioning, and mental health as compared with the usual care group. ^o
Health Leads	In the clinics where Health Leads operates, physicians and other members of the clinical team can systematically screen their patients for unmet social needs and prescribe resources to meet those needs. Trained student Advocates connect the patients to community resources by leveraging a client management database and resource inventory. They then conduct follow-up to ensure the services were received, and loop back to the referring provider. ^p	After the Dimock Center, a health and human services agency in Boston, instituted Health Leads, their pediatric social worker's average weekly billable therapy minutes increased by 57%. ^q	In fiscal year 2013, 90% of patients with whom Health Leads worked successfully solved at least one need or reported that they are equipped to secure resources with the information provided by Health Leads and without further assistance.

Intervention name	Description	Cost savings	Quality and care utilization measures
Medical-Legal Partnership	In the Medical-Legal Partnership (MLP), lawyers and paralegals work onsite in clinical settings or at locations affiliated with provider institutions and assist patients in addressing legal issues associated with health status. ^a	An MLP between a federally funded legal aid agency and a community health clinic in rural Illinois assisted individuals with appealing Medicaid coverage denials and obtained a 319% return on investment over a three-year period by obtaining reimbursement through health care recovery dollars. ^a	In a small pilot study, adults with moderate to severe asthma who received services through an MLP in New York demonstrated a 91% decline in emergency department visits and hospital admissions. Approximately 92% of participants experienced a decrease of at least two asthma severity classes. ^a
Seattle-King County Healthy Homes Project	The Seattle-King County Healthy Homes Project is an intervention in which community health workers conduct home visits for families of low-income children with uncontrolled asthma. Intervention participants received self-management support services including a home assessment for environmental triggers, help with reducing exposure to asthma triggers, and assistance in developing skills to better control asthma, such as correct use of medications. ^u	Urgent care costs for participants in the high-intensity version of the intervention were estimated to be \$201-\$334 per child less than those in the low-intensity version of the intervention. ^v	For participants in the high-intensity version of the intervention, from baseline to the period post-intervention, the percentage of participants using urgent health services over the past two months declined from 23.4% to 8.4%, a greater decline than observed in the low-intensity group. In addition, symptom-free days and asthma-related quality of life for the children's caregivers improved more among families in the high-intensity group. ^w

^a G. Burke and S. Cavanaugh, *The Adirondack Medical Home Demonstration: A Case Study*, 2011 (New York: United Hospital Fund, March 2011); J. Ruge, D. Reynolds, C. Homkey, interview with Manatt, Nov. 2013.

^b Interview with John Ruge, Nov. 2013.

^c Ibid.

^d S. R. Green, V. Singh, and W. O'Byrne, "Hope for New Jersey's City Hospitals: The Camden Initiative," *Perspect Health Inf Manag*, April 2010 7: 1d.

^e Ibid.

^f Ibid.

^g E. R. Woods, U. Bhaumik, S. J. Sommer et al., "Community Asthma Initiative" Evaluation of a Quality Improvement Program for Comprehensive Asthma Care," *Pediatrics*, March 2012 129(3):465-72.

^h Ibid.

ⁱ Ibid.

^j K. W. Linkins, J. J. Brya, and D. W. Chandler, *Frequent Users of Health Services Initiative: Final Evaluation Report*, 2008 (Falls Church, Va.: The Lewin Group, Aug. 2008).

^k Ibid.

^l Ibid.

^m S. R. Counsell, C. M. Callahan, A. B. Buttar et al., "Geriatric Resources for Assessment and Care of Elders (GRACE): A New Model of Primary Care for Low-Income Seniors," *Journal of the American Geriatrics Society*, 2006 54(7):1136-41.

ⁿ S. R. Counsell, C. M. Callahan, W. Tu et al., "Cost Analysis of the Geriatric Resources for Assessment and Care of Elders Care Management Intervention," *Journal of the American Geriatrics Society*, 2009 57(8):1420-27.

^o S. R. Counsell, C. M. Callahan, D. O. Clark et al., "Geriatric Care Management for Low-Income Seniors: A Randomized Controlled Trial," *Journal of the American Medical Association*, 2007 298(22):2623-33.

^p Garg, Marino, Vikani et al., "Addressing Families' Unmet Social Needs within Pediatric Primary Care: The Health Leads Model," 2012; Health Leads, Our Model, <https://healthlead-susa.org/what-we-do/our-model/>.

^q E. Fernandez Maldonado, "Health Leads Desk: Does It Affect Weekly Billable Hours? An Analysis Using Data from Purposively Selected Site (Washington, D.C.: George Washington University, 2011), 1-7.

^r National Center for Medical-Legal Partnership, Core Components and Activities, <http://www.medical-legalpartnership.org/model/core-components>.

^s J. A. Teufel, D. Werner, D. Goffinet et al., "Rural Medical-Legal Partnership and Advocacy: A Three-Year Follow-up Study," *J Health Care Poor Underserved*, May 2012 23(2):705-14.

^t M. M. O'Sullivan, J. Brandfield, S. S. Hoskote et al., "Environmental Improvements Brought by the Legal Interventions in the Homes of Poorly Controlled Inner-City Adult Asthmatic Patients: A Proof-of-Concept Study," *J Asthma*, Nov. 2012 49(9): 911-17.

^u J. W. Krieger, T. K. Takaro, L. Song et al., "The Seattle-King County Healthy Homes Project: A Randomized, Controlled Trial of a Community Health Worker Intervention to Decrease Exposure to Indoor Asthma Triggers," *American Journal of Public Health*, April 2005 95(4):652-59.

^v Ibid.

^w Ibid.



The
COMMONWEALTH
FUND



PERSHING SQUARE
FOUNDATION