CASE STUDY

CARE MODELS FOR HIGH-NEED, HIGH-COST PATIENTS

OCTOBER 2016

This case study is one in an ongoing series examining programs that aim to improve outcomes and reduce costs of care for patients with complex needs, who account for a large share of U.S. health care spending.

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Hennepin Health: A Care Delivery Paradigm for New Medicaid Beneficiaries

Martha Hostetter, Sarah Klein, and Douglas McCarthy

PROGRAM AT A GLANCE

KEY FEATURES In partnership with social service agencies and nonprofits, this Medicaid accountable care organization proactively identifies members most at risk and provides them with care coordination and social support.

TARGET POPULATION Low-income Medicaid beneficiaries with complex and unmet care needs related to serious mental illnesses, substance abuse problems, and other non-medical challenges.

WHY IT'S IMPORTANT New approaches are needed to reach and serve those newly eligible for Medicaid, who often use emergency departments as their main source of care.

BENEFITS Patients have a single point of contact for navigating both the health care and social services systems. Reduces need for acute care and thus medical costs, enabling shared savings and reinvestment. Early results suggest this approach may also reduce costs for jails and other publicly funded services.

LESSONS This work is extremely time- and resource-intensive, and may require payment reform and broader community participation to spread.

INTRODUCTION

Jorge's life began spiraling out of control in 2010 when he lost his job managing a food pantry and his wife died suddenly. Soon after, he became homeless and often wandered the streets, crying uncontrollably. After another blow—his son's death in combat in Afghanistan—a priest took him to Hennepin County Medical Center where a social worker determined he was eligible to receive services from Hennepin Health, a safety-net accountable care organization (ACO). The ACO was launched in 2012 as a Medicaid demonstration project in Hennepin County, Minnesota, to create a new model of care for Medicaid beneficiaries like Jorge who may suffer from debilitating mental health problems, chemical dependencies, and other hallmarks of poverty, trauma, and social isolation.[1]

"These are patients who are systematically disenfranchised because of the chaos of their lives," says Paul Johnson, M.D., medical director of a clinic caring for the highest-risk Hennepin members. "They just do not fit into care systems." Instead, they turn up in emergency departments when their diabetes spirals out of

control, an untreated wound becomes infected, or simply because they have no warm place to sleep. Hennepin Health's approach is to focus first on stabilizing members' lives, then encourage them to take medications, try counseling and addiction treatments, and seek care for their neglected medical problems. In Jorge's case, a community health worker gave him a coupon to get a haircut, toiletries, and groceries, and eventually found him a place in a group home.

The ACO includes four partners: the county's Human Services and Public Health Department; Hennepin County Medical Center, a public teaching hospital; Metropolitan Health Plan, a county-run Medicaid managed care plan; and NorthPoint Health and Wellness Center, a federally qualified health center (FQHC). Together they coordinate efforts to address members' medical, behavioral, and social problems through a defined network of providers and partnering social service agencies. Their goal is to reduce medical costs for some of the poorest and most troubled patients by aligning services and pooling the resources of these organizations—not by creating new programs or looking for new sources of funding. Together they seek to tilt the balance toward greater social support and less-costly preventive and primary care.

TARGET POPULATION

As of August 2015, Hennepin Health served about 12,000 Medicaid beneficiaries ages 21 to 64: poor, childless adults who became eligible under the state's 2011 Medicaid expansion.[2] The members are mostly male, many with mental illnesses and/or substance abuse problems, and half are unstably housed, living in a homeless shelter, or on the street. More than a third have multiple chronic conditions, most commonly diabetes, asthma, and hypertension.

Characteristics of Hennepin Health Population[a]

	Enrollees n=10,150	
Average age	39.4 years	
Male	7,578	75%
Female	2,572	25%
Non-White	7,141	70%
Non-Hispanic, White	3,009	30%
Any homeless indicator	5,188	51%
HCC score[b] (median, range)	.43 (.29–8.49)	
Any mental illness[c]	4,283	68%
Chemical dependency[c]	5134	81%
Mental illness and chemical dependency[c]	3,246	51%
Chronic pain[c]	1,190	19%

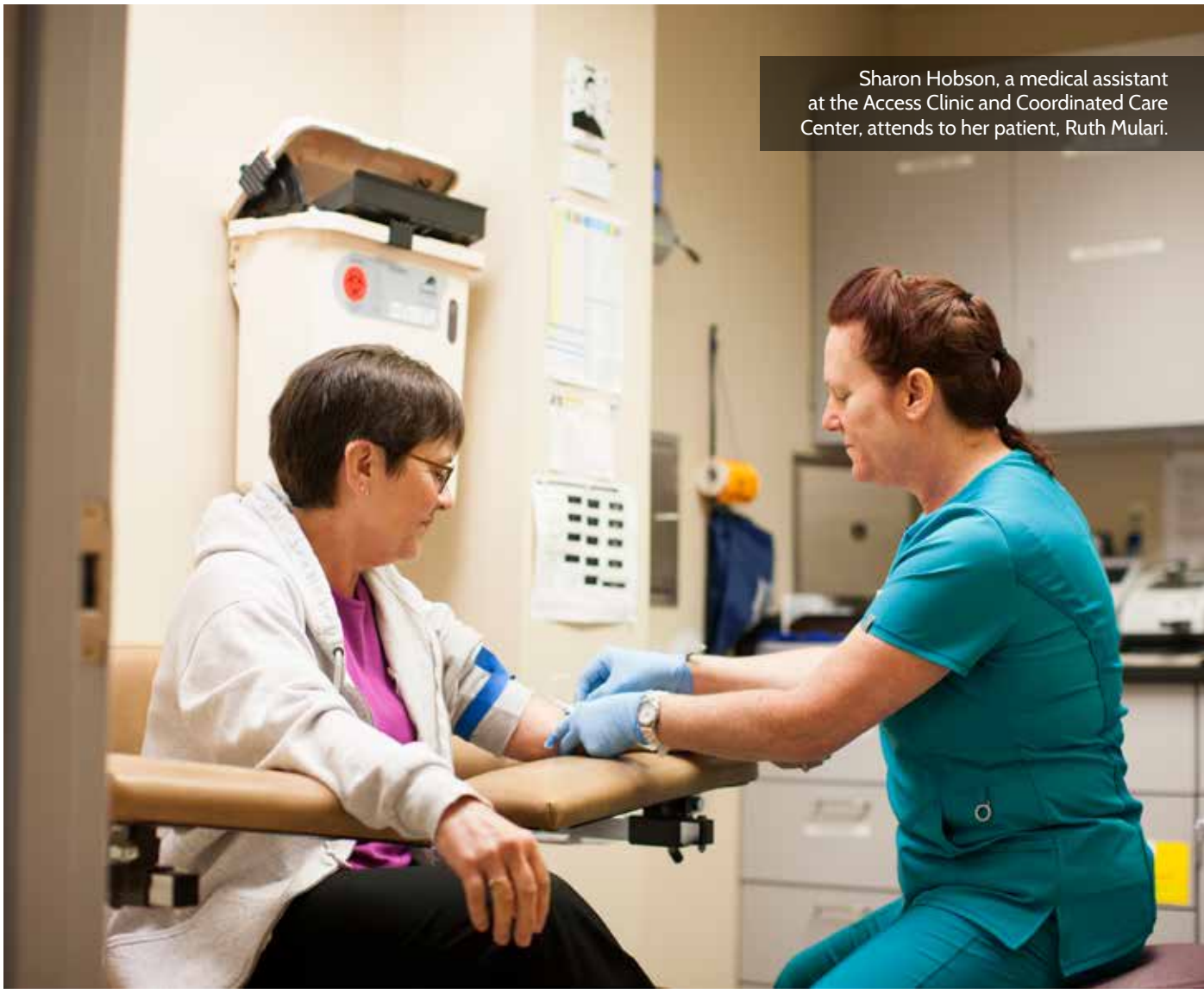
Notes: [a] Data for Medicaid expansion enrollees with at least 6 months of continuous enrollment at least once over 3/1/2012–6/1/2013. [b] HCC refers to the Hierarchical Condition Category, a measure used by the Centers for Medicare and Medicaid Services to assess disease burden, based on diagnostic codes. [c] Percentages indicate percentage of people with diagnosis out of all individuals with any medical claim.

In January 2016 Hennepin Health transitioned from a demonstration project exclusively serving Medicaid expansion enrollees to a Medicaid managed care organization serving families and children as well under the same ACO model.

KEY PROGRAM FEATURES

Proactive Risk Identification

Hennepin Health's efforts to identify and engage high-risk patients are key to its success, since the ACO is financially responsible for all of its enrolled members. Staff use algorithms to analyze new members' past medical histories (including records of hospital and emergency department visits and diagnoses) and identify those most likely to incur high costs. An electronic health record (EHR) system shared by the partnering health plan, hospital, clinics, and human services department makes this analysis possible, providing a richer clinical history than claims data alone. Still, the approach is not perfect, says Julie Bluhm, director of medical administration, noting the ACO is starting to supplement medical information with data from the corrections department, foster care system, housing providers, and other local agencies to identify those whose health may be at risk because of nonmedical issues. For example, members who have multiple address changes are flagged as potentially unstably housed. Patients enrolled in care coordination programs also are given a lifestyle assessment to help staff understand their social challenges.

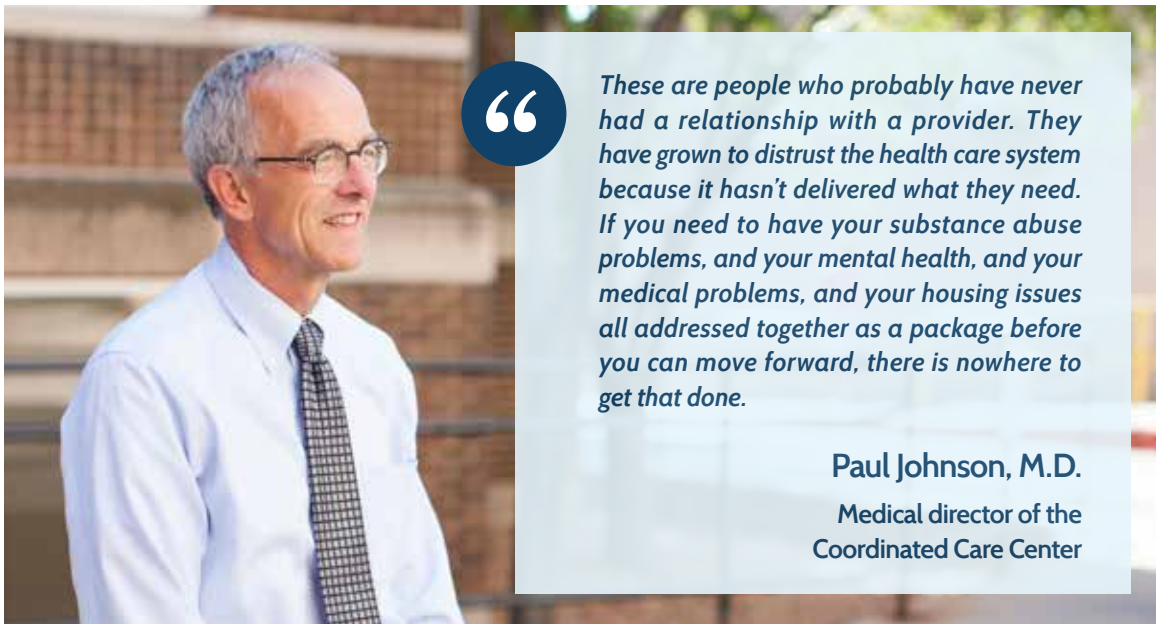


Sharon Hobson, a medical assistant at the Access Clinic and Coordinated Care Center, attends to her patient, Ruth Mulari.

Selected Questions from Hennepin Health's Member Lifestyle Assessment

1	How often do you have access to a telephone?	All the time	Some of the time	Rarely
2	How often do you have access to transportation?	All the time	Some of the time	Rarely
3	In the past 6 months, how often did the food you bought not last, and you didn't have money to buy more?	Never	Sometimes	Often
4	How often do you eat during your usual day?	0–3 times	4–5 times	6 or more times
5	In one week, how many days do you walk or engage in other physical activity (such as using exercise equipment, gardening, housework, etc)?	0–1 day	2–3 days	4 or more days
6	On those days, how many times are you physically active for at least 10 minutes?	0 times	1–2 times	3 or more times
7	When was your last dental appointment?	Less than a year ago	1–2 years ago	More than 2 years ago

After high-risk members are identified, representing about 6 percent to 10 percent of total membership, staff use several channels to track them down. Because calling or sending letters is impractical—many members don't have phones or regular addresses—community health workers reach out to people wherever they can find them, including in shelters and jails.[3] Social workers and community health workers at Hennepin County Medical Center's emergency department and urgent care clinics seek to identify Hennepin Health members and try to connect them to primary care—in some cases offering immediate or next-day visits. In a pilot program, a social worker goes on rounds with a local nonprofit's street outreach team to find homeless members.



> *These are people who probably have never had a relationship with a provider. They have grown to distrust the health care system because it hasn't delivered what they need. If you need to have your substance abuse problems, and your mental health, and your medical problems, and your housing issues all addressed together as a package before you can move forward, there is nowhere to get that done.*
>
> **Paul Johnson, M.D.**
> Medical director of the Coordinated Care Center

Care Coordination for High-Risk Members

Once members do seek care, those deemed to be at greatest risk based on their diagnoses and lifestyle assessment scores may be referred to the Coordinated Care Center, which operates out of the Hennepin County Medical Center (see sidebar). The center is an ambulatory intensive care unit, providing primary care and behavioral health services through multidisciplinary teams that each serve just 100 to 150 patients.[4] Each team includes a nurse care coordinator, advanced practice provider, and a social worker supported by psychologists, addiction counselors, and a physician. Because the center is located at the hospital and offers open access, staff members are often able to encourage those used to going to the emergency department to come to their clinic instead.

Hennepin Health's leaders initially thought their members could be stabilized after three to six months of intensive oversight and then be transitioned to more traditional primary care clinics. In practice, however, most members have required this higher level of oversight for longer periods. "It's this really expensive and intensive intervention that requires specialized skill sets," says Ross Owen, Hennepin Health's director. "I have no doubt that people's lives have been changed by this part of the program, but we're still learning how to dose it appropriately and where it fits in the toolbox."

In 2014, Hennepin Health opened an "Access Clinic" to provide team-based primary care and close monitoring for members who are not at high enough risk to be referred to the Coordinated Care Center, but who appear to need help to prevent deterioration. Many are referred to the clinic after hospital discharge; the intent, says Owen, is "to be proactive with patients who appear to heading toward 'super utilizer' status."

The Coordinated Care Center: Help for Those Who Need It Most

Hennepin County Medical Center's Coordinated Care Center was created in 2010 to redesign care for the hospital's highest service users–the 3 percent of patients incurring 50 percent of medical costs. It now serves about 100 Hennepin Health members, and about 500 people overall; all of these patients are Medicaid beneficiaries who are referred to the center if they have more than three emergency department visits in a year or if their physicians, social workers, or other caregivers think they need extra help.

While patients can make regular appointments, they tend to turn up at the center when they're experiencing problems. Providers see patients to address pressing needs and bring in team members as needed to address underlying issues. For instance when two homeless brothers, both diabetics with psychiatric problems, turned up late one winter's day with nowhere to go, their social worker set out to solve what appeared to be an intractable housing problem.

Rather than sleep in shelters–which can seem like threatening places to those with mental health problems–the brothers chose to live on the streets. As Minnesota's winter set in, one would stop taking his insulin until he reached diabetic ketoacidosis, which would earn him a warm hospital bed for a few nights. This happened as often as 10 times in a 10-week period.

"The barriers to getting them housed were extraordinary," says Paul Johnson, M.D., the center's medical director. "Because they are siblings who want to live together, they don't fit into any of the housing models we have. Because they had a little bit of income from SSI, they didn't necessarily meet all the poverty criteria. After many months, our social work staff got them stabilized in housing. They've not had a perfect last 18 months, but they have done so much better."

Together, the Coordinated Care Center and Access Clinic serve around 650 members. Others deemed to need extra help are enrolled in Hennepin Health's main care coordination program, which is staffed by about 40 care coordinators across multiple clinic sites.[5] Members are assigned a primary coordinator, chosen based on his or her most pressing need: registered nurses work with those who have uncontrolled medical conditions; social workers work with those who have serious mental health or substance abuse problems; and community health workers work with those who face language, housing, or other barriers to care.

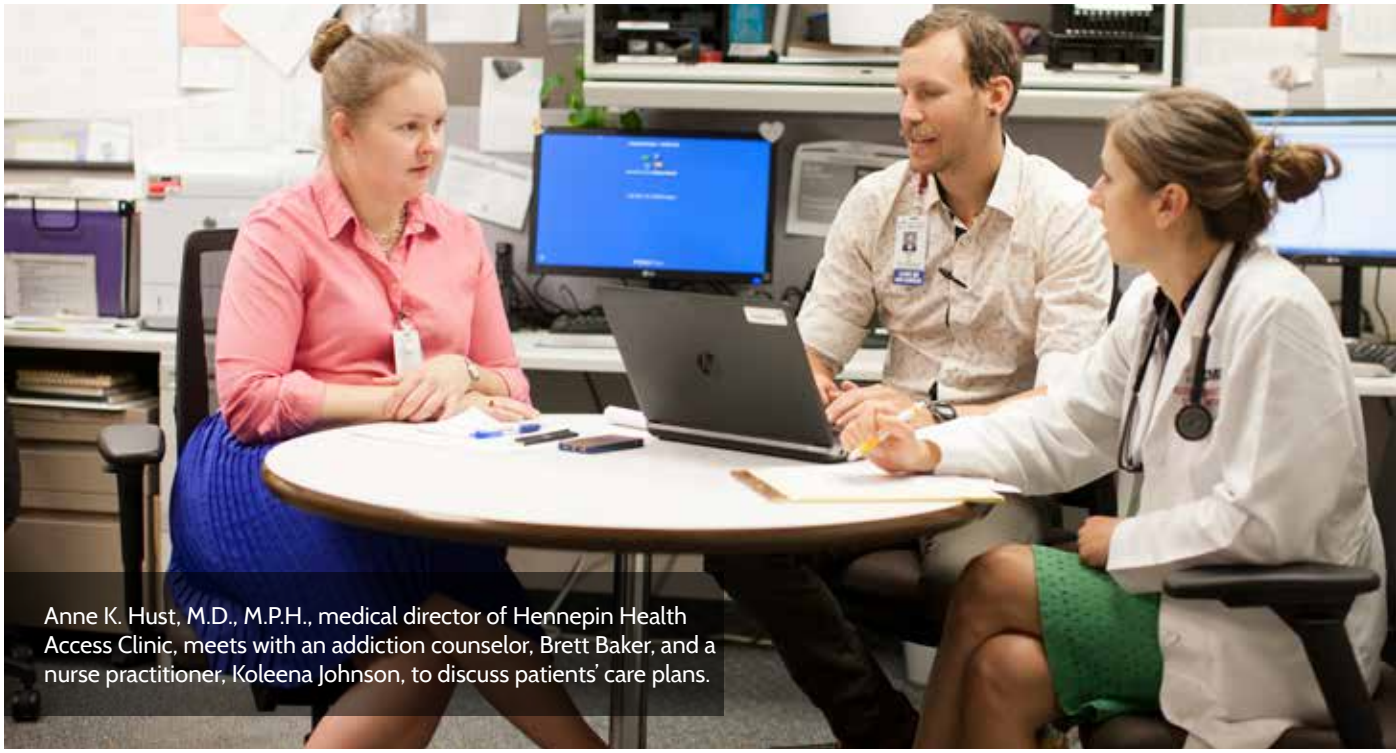
Use of Unconventional Multidisciplinary Teams

Given members' multiple needs, care is provided through multidisciplinary teams that collaborate across the clinics, the public hospital, and the community. The teams include staff not traditionally found in clinical settings, who offer services not reimbursed by Medicaid. "Slowly but surely there are all these people who weren't working in the clinics even five years ago," says Owen. "We are working to get our whole system to a point where even the most risk-averse chief financial officer believes that having these people who can't bill Medicaid for what they do is the right financial strategy."

Hennepin Health Team Members

Nurse care coordinators	Oversee care for medically complex patients
Pharmacists	Review and reconcile medications
Dental health providers	Work in the FQHC and hospital clinic to improve access to dental care
Clinical social workers	Oversee care for those with behavioral health problems
Community health workers	Educate members about their health, help them set goals, and provide support to follow care plans
Housing and social services navigators	Help arrange housing and links to social services
Vocational services counselors	Provide help in finding training programs/jobs for those with recent hospitalizations or residential treatments for behavioral health problems
Emergency medical services staff	Work in a homeless shelter to triage members to clinics or urgent care

Collaboration among team members is enabled by the ACO's use of a defined network of providers and the shared EHR system. This team approach enables, for instance, a primary care provider who notices signs of depression to ask a behavioral health provider to perform an immediate evaluation. A social worker could then arrange counseling or psychiatric care, perhaps also identifying an appropriate support group. Community health workers teach those with uncontrolled diabetes how to take their insulin, sometimes giving them cell phones so they can check in regularly. Patients who go to Hennepin County Medical Center's emergency department with tooth pain—a common



Anne K. Hust, M.D., M.P.H., medical director of Hennepin Health Access Clinic, meets with an addiction counselor, Brett Baker, and a nurse practitioner, Koleena Johnson, to discuss patients' care plans.

reason for emergency visits among this population—can be given immediate access to an appointment at an onsite dental clinic, or offered a next-day appointment at the FQHC. Housing and social service navigators connect people with housing and other benefits, while vocational services counselors help them find training and jobs.

Partnerships with Local Organizations to Address Nonmedical Needs

In addition to relying on county-operated services, Hennepin Health partners with nonprofits and social services agencies to help meet members' nonmedical needs. Some of the greatest returns on investments from this work have come from efforts to secure housing for the up to 50 percent of its members who are unstably housed or homeless. Hennepin follows a "housing first" approach—first seeking to get members stably housed and then offering a range of services, including mental health and substance abuse treatment, medical care, coaching, education, and employment assistance.[6] A team of housing and social service navigators secure priority admission for their members to the county's group residential housing, with more than 300 members housed since 2012.[7] This effort, combined with other services, has led to a dramatic reduction in use of the emergency department and acute care.

Impact of Housing on Health Care Use

After being placed in housing, Hennepin Health members:

- were admitted to a hospital **16% less often**
- visited the emergency department **35% less often**
- visited the psychiatric emergency department **18% less often**
- received outpatient clinic visits (including primary care) **21% more often**

Source: Hennepin Health, based on pre- and post-analysis of EHR data for 123 patients housed, covering 2012 through mid-2014, comparing 12 months of pre- and post- experience for all patients.

Hennepin also partners with local nonprofits that have expertise in helping people find the most appropriate course of substance abuse treatment, such as programs that specialize in treating addicts who have underlying mental health problems. It also has piloted use of certified peer specialists, recovering addicts who volunteer to counsel others toward recovery.

Another key partner is Rise, Inc., which provides vocational counseling and work support to help members become financially independent. In a unique experiment, Hennepin Health is funding a Rise consultant who helps members serving short-term prison sentences search for jobs in advance of their release.

FINANCING

Hennepin Health's health plan receives per-member per-month Medicaid payments to cover the costs of medical, dental, and behavioral health services as well some care coordination services. The plan then reimburses its medical providers through fee-for-service payments. This payment model enables flexibility in allocating resources, with the four ACO partners able to direct funds toward hiring staff or paying for services they believe will benefit members' health. Social services, such as help with housing or addiction recovery, are paid for by the county's human services fund, supplemented by Medicaid payments.

While several Medicaid programs are forming ACOs, Hennepin's is unique in that it is led by a county, with each of the four partners taking on full financial risk.[8] In 2012, the ACO partners made an initial investment of $1.6 million to pay for new staff members and data infrastructure. Even after spending on social services and other supports, it has been able to achieve savings each year: medical costs have fallen on average about 11 percent a year since 2012.

The ACO distributed shared savings to each of its partners in 2013, 2014, and 2015, with the amounts based on each partners' involvement in members' care that year and their achievement of performance benchmarks. In addition, Hennepin Health had about $3 million left over between 2013, 2014, and 2015 to reinvest. These reinvestment funds have been used to hire additional community health workers, create the Access Clinic, deploy community paramedics after hours in a homeless shelter to avoid unnecessary ambulance runs, hire a part-time psychiatrist to help with medications, and other initiatives.

Growth in Percentage of Hennepin Health Members Receiving Recommended Care

- Optimal diabetes care increased from **8.6%** in the second half of 2012 to **10%** in the second half of 2013.
- Optimal vascular care increased from **25.0%** to **36.1%** in the same period.
- Optimal asthma care increased from **10.6%** in the last five months of 2012 to **13.8%** in the last five months of 2013.

Source: S. Sandberg, "Hennepin Health: A Safety-Net Accountable Care Organization For The Expanded Medicaid Population," *Health Affairs,* Nov. 2013.

RESULTS

Hennepin Health's efforts have improved access to primary care for its members and reduced use of acute care. Emergency department visits decreased by 9.1 percent between 2012 and 2013, while hospital admissions remained stable. Over the same period, outpatient visits increased by 3.3 percent. "It takes a lot of behavior change and work to build relationships," Bluhm says, "and so the increase in primary care services is very hopeful."

Hennepin Health also has provided better care for members with chronic conditions. Growing percentages of its members receive recommended diabetes, vascular, and asthma care—though the numbers are still low. Hennepin Health's leaders are encouraged by members' increasing use of primary care, but say it will likely take longer before this yields appreciable improvements in health.

INSIGHTS AND LESSONS

New models of care for newly eligible Medicaid beneficiaries may be more effective than traditional care management approaches in engaging patients and reducing total costs. Part of Hennepin Health's success is the result of its efforts to close gaps in care and respond quickly to evidence of need. For example, to provide timely support for members with chemical dependencies, the health plan—which learns that a member has entered a residential treatment program when it receives the claim—informs Hennepin's social service navigators (when appropriate consent is in place). Navigators can then reach out to members before they're discharged from residential treatment programs, helping them to avoid relapse and continue to work toward recovery.

Hennepin Health's experience shows that such efforts take significant resources and long-term investment. "There's a lot of unmet need," says Owen. "And our time horizon, because of the way we pay for health care, is year-on-year savings and we've been able to achieve some of that. But we're also investing in people in ways that are going to take many years to pay off." Hennepin Health's experience also suggests that the timing of interventions is critical. Reaching out to members before they're released from residential drug treatment programs or prisons, for example, has been an effective way to engage members and avoid problems.[9]

Scaling this approach may take payment reform. Medicaid payment rates are based only on members' diagnoses, age, and gender—not factors such as homelessness or trauma that can cause people to use care in chaotic, expensive ways. States, which have considerable discretion in setting capitation rates for Medicaid managed care or similar programs, should consider rate-setting mechanisms that incorporate social determinants, Owen says. "We've seen firsthand the disproportionate need in this population, and if we could resource our safety net in ways that more appropriately recognize that, I think we'd be in a better place." Recently, Minnesota's legislature directed its Medicaid agency to look at risk adjustment for social determinants both in quality measurement and in payment models.

It takes a communitywide approach to care for the most vulnerable residents. To build on this success, it may be important to bring other partners on board. Hennepin County is conducting an analysis to measure whether the ACO's investments in things like housing and rehabilitation result in savings in other high-cost areas, such as emergency shelters and jails. "These investments we're making in mental health aren't just bad medical costs that we need to cut," Owen says. "They're actually keeping people out of our jails and saving us money at the back end. That's the broader public investment question that really is at the heart of all this."

Medical director of the Coordinated Care Center, Paul Johnson, M.D., consults with his patient, Joe Jones.

Greater investment in social services throughout people's lifespans may prevent some from becoming high-need, high-cost patients. While the U.S. spends much more on health care than all other wealthy nations, it devotes a relatively small share of its economy to social services such as housing, employment, and food support that help people live healthier lives.[10] Hennepin Health is an effort to tilt the balance toward greater social support and less costly preventive and primary care. But the experiences of its members—particularly those whose childhoods were marred by abuse, instability, or neglect—raise the question of whether it's possible to intervene earlier to help those at the margins of society, before they wind up in jails or on the street.

NEXT STEPS

Hennepin Health is getting a chance to practice earlier intervention as it begins serving families and children enrolled in Medicaid in Hennepin County this year. While the needs of these beneficiaries differ from other Hennepin Health members, families and children stand to benefit from a similar approach to aligning health and social services, Owen says. He notes in particular the potential to create specialized medical homes for children in foster care, to leverage public health efforts to avoid childhood asthma crises, and to create better nutrition and prenatal care programs for expectant mothers. "There's a lot of opportunity and I think a lot of challenge in expanding and broadening the partnership," he says.

In the meantime, Hennepin Health member Jorge, now living in a group home, has improved through treatment for his depression and other conditions, and is enrolled at the University of Minnesota and working toward a teaching degree. Jorge gives his time back to Hennepin Health as an advisory member on research initiatives.

Features of Hennepin Health's Approach to Improving Care for High-Need Medicaid Beneficiaries

Targeting the population most likely to benefit	Low-income Medicaid beneficiaries with complex medical, behavioral health, and social service needs, including those who need help getting sober, finding jobs and stable housing, and managing their mental and physical health conditions.
Assessing patients' health-related risks and needs	Through claims and medical record reviews, the ACO identifies patients who would benefit from additional clinical and social services, and assesses their needs in part through a lifestyle assessment that pinpoints barriers to care such as lack of access to transportation, food, and a telephone.
Developing patient-centered care plans	Risk for utilization determines the degree of support patients receive. Patients considered to be at intermediate risk are assigned a care coordinator from teams of registered nurses, social workers, and community health workers who work to ensure their primary care, behavioral health, and social service needs are met. Those deemed at higher risk are sometimes referred to the Hennepin County Medical Center's Coordinated Care Center, an ambulatory intensive care unit where multidisciplinary teams coordinate their care.
Engaging patients and family in managing care	Nurse care coordinators oversee care for medically complex patients, while community health workers educate patients about their health, help them set goals, and provide support to follow care plans.
Transitioning patients following hospital discharge	Patients receive enhanced support during care transitions.
Coordinating care and facilitating communication among providers	To promote collaboration among ACO partners, which include medical providers, the county's human services and public health agency, and the Medicaid managed care plan, the ACO leverages a unified EHR that allows for the exchange of medical, behavioral health, and social service information.
Integrating physical/ behavioral health care	Because mental health and substance abuse problems are widespread, behavioral health services are integrated in some clinic settings and/or provided by the county and community-based organizations.
Integrating health and social services	The ACO connects patients to job training programs, housing assistance, and other services that tangibly improve their quality of life.
Making care or services more accessible	Community health workers and social workers are embedded in the emergency department and deployed to the community to locate and engage those who would benefit from primary care services. The ACO provides immediate access to dental services through the FQHC and the hospital as a means of reducing emergency department use.
Monitoring patients' progress	Care coordinators assigned to high-risk patients monitor their progress over time.

Note: EHR = electronic health records; FQHC=federally qualified health center.

NOTES

[1] For background, see: J. N. Edwards, "Health Care Payment and Delivery Reform in Minnesota Medicaid," *Aligning Incentives in Medicaid* (The Commonwealth Fund, March 2013).

[2] Hennepin Health is one of three health plan options presented to newly eligible Medicaid beneficiaries in the county, and is the default option for those who don't select a plan.

[3] Hennepin Health is the lead organization in the Hennepin County Corrections Clients—Accountable Community for Health, funded as part of Minnesota's State Innovation Model grant.

[4] For background on ambulatory intensive care units, see: A. Milstein, *How Ambulatory Intensive Caring Units Can Reduce Costs and Improve Outcomes* (California HealthCare Foundation, May 2011).

[5] The care coordinators work across Hennepin County and Hennepin County Medical Center's primary care clinics, and do not work exclusively with Hennepin Health members.

[6] By contrast, alternative approaches ask the homeless to "earn their way" into housing by first getting sober, for example, or agreeing to live in a halfway house. For more on housing and health care, see M. Hostetter and S. Klein, "In Focus: Using Housing to Improve Health and Reduce the Costs of Caring for the Homeless," *Quality Matters,* Oct./Nov. 2014.

[7] S. Tavernise, "Health Care Systems Try to Cut Costs by Aiding the Poor and Troubled," *New York Times*, March 22, 2015, p. A13.

[8] As of December 2014, at least 17 other state Medicaid agencies were forming Medicaid ACOs. See J. Maxwell, M. Bailit, R. Tobey et al., "Early Observations Show Safety-Net ACOs Hold Promise to Achieve the Triple Aim and Promote Health Equity," *The Pump,* Dec. 3, 2014.

[9] One study found parolees are 12 times more likely to die during the first two weeks after their release than the general population. See I. A. Binswanger, M. F. Stern, R. A. Deyo et al., "Release from Prison—A High Risk of Death for Former Inmates," *New England Journal of Medicine*, Jan. 11, 2007 356(2):157–65.

[10] D. Squires and C. Anderson, *U.S. Health Care from a Global Perspective: Spending, Use of Services, Prices, and Health in 13 Countries* (The Commonwealth Fund, Oct. 2015).

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All photos by Josh Kohanek.

The aim of Commonwealth Fund–sponsored case studies of this type is to identify institutions that have achieved results indicating high performance in a particular area of interest, have undertaken innovations designed to reach higher performance, or exemplify attributes that can foster high performance. The studies are intended to enable other institutions to draw lessons from the studied institutions' experience that will be helpful in their own efforts to become high performers. It is important to note, however, that even the best-performing organizations may fall short in some areas; doing well in one dimension of performance does not necessarily mean that the same level of performance will be achieved in other dimensions. Similarly, performance may vary from one year to the next. Thus, it is critical to adopt systematic approaches for improving performance and preventing harm to patients and staff.

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