



SUPPORTING A CULTURE OF HEALTH FOR HIGH-NEED, HIGH-COST POPULATIONS:

Opportunities to Improve Models of Care for People with Complex Needs

November 2015

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ACKNOWLEDGMENTS

The Center for Health Care Strategies (CHCS) is grateful for the generous support of the Robert Wood Johnson Foundation, as it promotes a [Culture of Health](#) for all Americans. In particular, we recognize Susan Mende from the Foundation for her ongoing guidance and partnership in the development of this report. We are also thankful for our partners at Kaiser Permanente Community Benefit, whose support has been critical to building CHCS’ efforts to improve care for complex populations. The authors acknowledge all of the experts (listed on page 4) who generously lent their time and insight to this effort. Finally, the authors also thank their colleagues Rachel Davis and Stephen A. Somers for their strategic guidance, and Lorie Martin and Andrew Kolbenschlager for editing and design support.

C. Thomas-Henkel, A. Hamblin and T. Hendricks. “Supporting a Culture of Health for High-Need, High-Cost Populations: Opportunities to Improve Models of Care for People with Complex Needs.” The Robert Wood Johnson Foundation and the Center for Health Care Strategies, November 2015.

EXECUTIVE SUMMARY

With rapid health care transformation efforts underway across the nation, there is increasing attention on improving outcomes and reducing avoidable health care costs for the small subset of individuals who account for the majority of health care spending. As innovative models continue to emerge, policymakers, payers and providers are eager to identify and scale effective strategies for serving these high-need, high-cost patients, as one component of broader efforts to build more efficient and sustainable systems of care.

Thanks to the efforts of innovative leaders in the field over the last decade, much has been learned about effective ways to organize, deliver and pay for care for high-cost patients. These efforts have collectively identified core elements of care models, financing strategies, data and analytic supports, workforce capacities, governance models, and regulatory frameworks that can improve outcomes and reduce costs for individuals who do not fare well under currently fragmented systems. Perhaps most importantly, these efforts have contributed to a growing appreciation for social determinants of health as key drivers of health care utilization.

However, despite these advances, significant gaps in understanding remain—including, for example, how to: identify and engage individuals; segment populations into meaningful subgroups with tailored interventions; measure quality outcomes; and align financial incentives across systems. This report aims to identify those opportunities that warrant further exploration, with the hopes of targeting future investments and pilot activities to help fill the gaps that remain. Such exploration, and the resulting insights to be gleaned, will be critical to ensuring that the models that are currently being implemented at rapid pace have the maximum shot at delivering on their promise—to improve the health of individuals with very complex needs, and in doing so, to bend the trend in health care spending for the system overall.

IN BRIEF

States, providers and payers are seeding, scaling and spreading innovative strategies that support high-need, high-cost patient populations to drive outcomes, reduce disparities, and bring down the cost of health care. This paper explores promising approaches ranging from pilot projects to statewide efforts, and identifies key opportunities for future investment and program development across the following domains:

- *Care model enhancements*
- *Financing and accountability*
- *Data and analytics*
- *Workforce development*
- *Governance and operations; and*
- *Policy and advocacy*

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To develop this report, the Center for Health Care Strategies (CHCS) conducted a series of structured, telephone-based interviews with experts across the country. Interviewees encompassed a broad range of stakeholders, including: health plans, policymakers, researchers, clinicians and community based organizations. A small group consultation was conducted in February 2015 to vet and refine key findings from the interviews and the companion literature review.

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SECTION I

BACKGROUND

Recognition is growing that a relatively small percentage of patients use a disproportionate share of health care services and account for more than half of health care costs.¹ These individuals often face multiple medical, behavioral health, and social challenges, which contribute to their largely ineffective and costly interactions with the health care system. In addition, patients with complex physical and behavioral health needs (e.g., diabetes, chronic obstructive pulmonary disorder, congestive heart failure, substance abuse, and psychiatric disorders, to name a few) typically require more intensive, ongoing treatment models than the fragmented care available in emergency department (ED) and primary care settings. Providers who work with these high-cost populations widely acknowledge the influence of social and economic determinants—including, for example, income, educational achievement, employment status, social connectedness, access to food, and housing status.² Despite this awareness, comparatively little is being done at the system level to ensure these so-called “super-utilizers” receive community-based, preventive health and social services, rather than expensive hospital-based services.

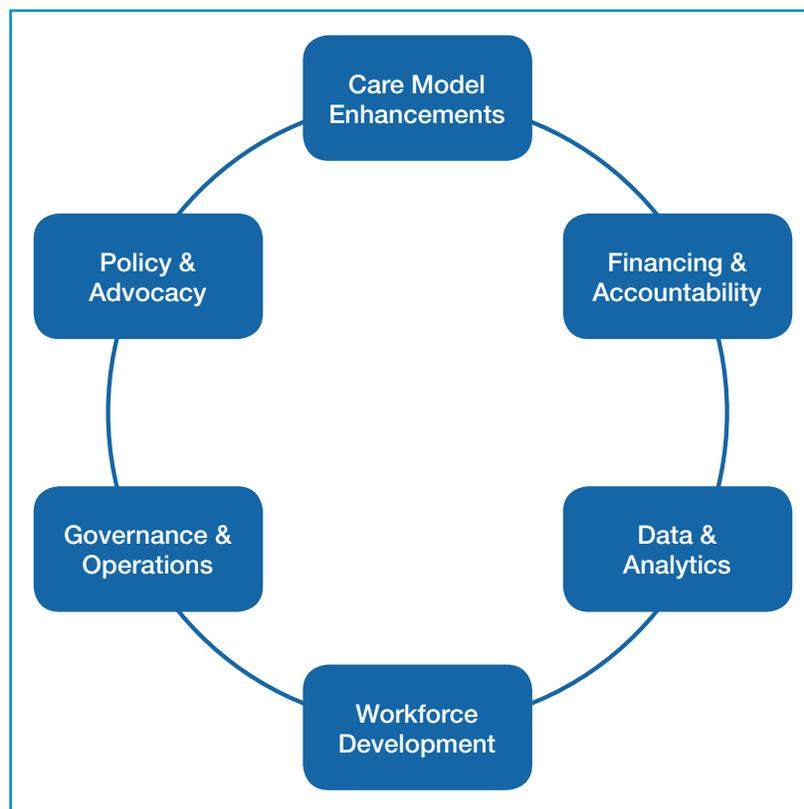
Provider experience and qualitative research with patients who have high levels of ED and hospital use highlight a number of psychosocial factors and life experiences that impact their care needs, including: early-life instability and trauma; a history of difficult interactions with health care providers during adulthood; and the importance of positive and “caring” relationships with primary health care providers and outreach teams.³ Due to the heavy financial burden caused by these individuals’ high levels of health care utilization, there is an urgency among policymakers, payers, and health care leaders to develop strategies that achieve the *Triple Aim* for these patients—improving the experience and quality of care, while driving down costs.⁴

An array of federal and philanthropic projects are underway that will contribute new insights to the field of complex care. Investments at the national level include the Center for Medicare and Medicaid Innovation (CMMI) *Health Care Innovation Awards* (HCIA), the *State Innovation Model* (SIM) Initiative and the National Governor’s Association *Developing State-Level Capacity to Improve Health and Reduce Cost of Populations with Complex Care Needs Policy Academy*.

The Center for Health Care Strategies (CHCS) has been an active partner in these efforts, most recently through the *Complex Care Innovation Lab*, made possible by Kaiser Permanente Community Benefit, and through the Robert Wood Johnson Foundation (RWJF)-funded [Super Utilizer Summit](#) of 2013. This project, supported by RWJF as part of its vision of building a [Culture of Health](#) for all Americans, has two primary goals:

- (1) To identify opportunities to better address social determinants, integrate health and social services, and produce desired outcomes for high-need, high-cost populations; and
- (2) To develop a series of recommendations to guide future investment in provider capacity, dissemination of effective models, and solidification of the evidence base.

Through a series of interviews and a small group consultation with expert stakeholders across the U.S., combined with a [literature review](#) of peer-reviewed and other relevant resources, CHCS organized these inquiries across six domains (see figure below).



These six domains provide an organizing framework for the remainder of this report. For each domain, this report briefly summarizes promising approaches currently in practice and then details key opportunities for future investment in models of care for high-need, high-cost populations.

SECTION II

CARE MODEL ENHANCEMENTS

PROMISING APPROACHES

Traditional models of care are generally insufficient for individuals with multiple chronic conditions and an array of complex social challenges that affect their overall health status and well-being. Given their complicated needs, this population requires tailored approaches to engagement, needs assessment, and care plan development and coordination.

Clinical *integration* is cited as a fundamental approach to delivering comprehensive care.^{5,6} Ample evidence supports the co-location of primary and behavioral health care services to integrate physical and behavioral health conditions, as well as the social determinants of health. Effective models include interdisciplinary teams and careful transitions from acute to community-based settings. These steps can prevent poor outcomes, which often lead to avoidable hospital admissions and readmissions.⁷

Most models center on care management and care coordination. “Lower touch” interventions include telephonic outreach, provider referrals, and “warm hand-off” programs like [Health Leads](#)⁸—which train volunteers to connect patients to social services and other resources and assistance. A range of “higher touch” interventions—such as transportation to medical appointments, advocacy/legal support during medical appointments, linkages to mental health and substance use treatment, home visits, and connections to needed social services and supports—require a more hands-on, community-based approach to managing care and are increasingly viewed as the gold standard for high-need, high-cost patients. Increasingly, these programs are making use of “accompaniment models” that employ community health workers (CHWs), peer specialists, or recovery coaches with lived experience to assist individuals in navigating the health care system, accomplishing daily tasks, and other activities.⁹

Patient-centered, tailored approaches to care are also widely acknowledged as critical. Robust patient engagement, bio-psychosocial models, and motivational interviewing can assist in building tailored care plans and clinical interventions. Matching team

Our care managers’ role is to be a relentless advocate, know the locally available services, and then stick with it to achieve the end result for getting whatever service is needed by an individual. Just making the referral is not enough to ensure care is received. Without advocacy and pushing and follow-up, there is a lack of follow-through and outcomes.



— Dr. Ken Coburn, Health Quality Partners



INNOVATION SPOTLIGHT

Montefiore Medical Center, a designated New York health home for Medicaid patients in the Bronx and Westchester County, uses a robust, individualized care planning process with a multidisciplinary team comprised of a dedicated care manager and a variety of specialists (e.g., pharmacists, palliative care providers, hospice providers, housing coordinators, skilled nursing professionals, chemical dependency counselors, etc.). In addition, Montefiore routinely reassesses complex patients for changes in risk and acuity, and monitors for automatic triggering events that may require changes in care including higher levels of intervention to meet patients' needs. Triggering events include social as well as medical risk factors—such as eviction notices or incarceration.

composition and interventions to patient needs is an important aspect of complex care management.¹⁰ Additionally, it is important to operationalize patient-centered care through extended hours, open access to primary care scheduling, home visits, and collaborative care models.¹¹ Models that include dedicated care managers as “hubs” for coordinating patient information, and those that establish partnerships with community-level social service agencies (especially housing providers), first responders, and courts are all cited as valuable approaches for improving care and outcomes.

KEY OPPORTUNITIES

The elements described briefly above are informing the development and spread of models of care for high-need, high-cost populations across the country. However, key gaps in knowledge among these programs—particularly about what works best for whom—limit their potential impact, as well as their likelihood for long-term sustainability. Accordingly, opportunities for further exploration include:

- **“Teasing out” the effectiveness of discrete care management and clinical interventions through robust performance tracking and evaluation strategies.** Model programs generally employ an array of interventions. To date, however, these programs have insufficient understanding of which interventions are most effective overall, or for specific population subsets. There are opportunities at both the organization-level and more broadly to carefully analyze these programs and isolate key drivers of impact. Standardized data collection and sharing of intervention and outcome data through population registries could enhance effectiveness and support more spread of these programs.
- **Appropriate “dosing” of care management intensity and duration.** There is substantial variation across programs regarding: (1) the frequency of contact between care teams and high-cost patients; and (2) the duration of engagement in ongoing care management activities. For example, current benchmarks range from 30-day interventions to indefinite engagement periods. Effective scaling and sustainability require greater understanding of how “much” intervention is needed and for “how long”—particularly given implications for the cost of implementing these models. This understanding will also help providers determine how to best calibrate the intensity of care management based on patient’s acuity levels and needs over time.

- **Strengthening information technology connections across service providers.** Shared technology greatly influences care coordination across traditionally siloed providers. [Maimonides Medical Center](#), through its *Brooklyn Health Home*, provides a compelling example of how web-based dashboards and text-messaging alerts are being used to encourage collaboration across hospitals, outpatient providers, care managers, and cross-system partners in housing and criminal justice. In addition, outreach to patients by home care agencies, primary care providers, and community-based providers can exert a greater influence if there is interconnected health information technology.
- **Developing a more unified crisis system, since high utilizers of health care services are often frequent utilizers of other systems.** Health care system-based efforts need to develop formal connections with other systems—including law enforcement and corrections, child welfare, housing and shelter services—to more efficiently identify, engage, and meet the needs of individuals who frequently bounce between these systems. The [Maricopa Crisis Response Network](#) in Phoenix, Arizona is an innovative example of a unified crisis system, where local law enforcement partners closely with Housing First and behavioral health providers to address urgent and interrelated health and social needs.
- **Refining models of “accompaniment,” where CHWs and peers with common lived experience help patients navigate the system.** With growing support for the use of lay health workers, there is a need to: (1) clarify effective roles within multi-disciplinary care teams; (2) refine responsibilities for these team members who may feel obligations to patients well beyond traditional boundaries; (3) establish and “mainstream” reimbursement models for these workers, who may not have “billable” status in all regions; and (4) identify pathways to transition these relationships beyond the health care system as patients stabilize and increase self-management capacity over time. For example, [Johns Hopkins Community Partnership](#) is employing neighborhood navigators in East Baltimore to help residents address their health care needs. The program is being implemented in close collaboration with local community organizations in the hopes of building long-term capacity to provide “navigation” and related health and social supports in those neighborhoods.

SECTION III

FINANCING AND ACCOUNTABILITY

PROMISING APPROACHES

As part of broader delivery system and payment reforms, payers are exploring a range of approaches to better align incentives with effective care for high-cost populations. For instance, the Center for Medicare and Medicaid Innovation is supporting an array of relevant payment reforms through the State Innovation Model (SIM) Awards and the Medicare Shared Savings Program (MSSP), among other efforts. Such reforms include: (1) shifting from strictly fee-for-service to value-based payment arrangements, including episodic/bundled payments; (2) paying for care coordination activities, such as by establishing medical homes or health homes; (3) integrating physical and behavioral health services through comprehensive managed care arrangements; and/or (4) developing accountable care organizations (ACOs) that enable shared-savings.¹²

Innovative approaches such as the *Pathways Community HUB* model, which ties payments to positive outcomes and requires a central organization (i.e., the HUB) to oversee all care coordination activities in a region, are also gaining ground.¹³ The Pathways Model originated with at-risk, pregnant women, but has expanded to additional patient populations including super-utilizers with multiple chronic conditions. The approach may enhance the ability of ACOs and other models to work across organizational silos within communities and better connect health and social services. Additional innovative efforts include community-based ACOs—including in Minnesota, Colorado and Oregon—that serve a coordinating function by taking accountability for providing and paying for an array of services outside of the medical realm.¹⁴

KEY OPPORTUNITIES

The United States lags in improving population health outcomes when compared to other industrialized countries. This may be attributed, in part, to a lack of investment in services and strategies that address the underlying social determinants of health.^{15,16}

Fragmentation across public and private sectors (i.e., government, employers, health care organizations, and social service organizations) and a lack of coordination, financial alignment, and shared accountability further complicate financing models, and limit the ability of health care providers to address underlying social factors.





INNOVATION SPOTLIGHT

Spectrum Health Medical Group's Center for Integrative Medicine (CIM) is a multi-specialty clinic that focuses exclusively on individuals with frequent visits to emergency departments in West Michigan. CIM employs a bio-psycho-social model of care, including a comprehensive medical exam, mental health evaluation and addiction assessment, and case management evaluation and intervention. It focuses on delivering enhanced medical management, targeted services and intensive psychiatric treatment through a network of behavioral health, substance use disorder and specialty providers. CIM also partners on data analysis, care management and cost control with Spectrum Health's integrated health plan, Priority Health, which funds its efforts through a per member per month payment.

Payers and providers have varying levels of capacity to align physical/behavioral health and social services. Additionally, Medicaid, which covers a large portion of super-utilizers, often does not have the regulatory authority to pay for non-clinical services, especially in fee-for-service models.¹⁷ Despite increased flexibilities to reimburse non-clinical services under a value-based or per member per month (PMPM) reimbursement system, these services typically must meet “medical necessity” criteria under the state definition. In addition, alignment efforts must often show the capacity to yield a return on investment to attract payer interest. Opportunities for further exploration include:

- **Increasing the availability of existing reimbursement options.** Substantial regional variation exists regarding how community-based providers are paid for managing high-cost patients. For example, within Medicaid, many states have not opted to pay for care management or implement shared savings programs, making it highly unlikely that providers have the right incentives to get into this business. Similarly, many payers impose limitations on the ability to bill for services delivered by unlicensed professionals, or for services delivered outside a traditional office visit. New York is an example of a state that has substantially improved how it serves high-cost populations through its Medicaid health home program launched three years ago. Since then, the state has seen an increase from a handful of provider organizations serving hundreds of high-cost patients to a statewide network of providers serving close to 200,000 high-cost patients statewide.
- **Identifying effective incentives for provider-level collaboration within the “medical realm.”** Programs serving high-need, high-cost populations require close collaboration across primary care providers, specialists, and care managers—which can be particularly challenging outside of integrated delivery systems or when care managers are not embedded within medical practices. One approach involves shifting from encounter-based payment models toward population-based models, where payment is tied to managing the total cost of care for a set of individuals. Other options include developing payment incentives that encourage primary care providers to spend more time with complex patients during clinical visits, and to prioritize scheduling of follow-up visits immediately post-discharge from a hospital.

Much of what we do is not taught in medical school or residency, particularly the value of how to link quality and cost outcomes in patient care. This holistic view of the system doesn't get taught. I think we should do a better job of that—it's part of the reason that health care costs in this country are so out of control.



— Dr. Toyin Ajayi ,
Commonwealth Care Alliance

- **Establishing risk-adjustment methodologies that sufficiently account for social as well as medical complexity.** A number of existing care management programs use acuity-adjustments to match the level of provider payment with the expected intensity of service needs of their patients. As payment arrangements evolve to shift financial risk to the provider-level, use of effective risk-adjustment methodologies will become more critical. For these methodologies to accurately reflect risk for high-need, high-cost populations, they must account for key social as well as medical factors. For example, New York recently modified its health home care management rates to account for functional status, including indicators of homelessness, recent incarceration, or active substance use.
- **Refining approaches to managed care rate setting.** As Medicaid populations with complex needs are increasingly enrolled in managed care organizations (MCOs), these organizations are key partners in reform efforts that seek to improve outcomes and reduce costs. That said, there are two key limitations to current managed care rate-setting in Medicaid that must be addressed to encourage investment in effective super-utilizer models: (1) over the long run, savings generated through more effective models of care reduce rates paid to MCOs when rates are reset in future periods; and (2) MCO investments in non-health care services (such as housing) are not taken into account in rate-setting processes, which generally reflect only the costs of providing Medicaid-covered services.
- **Exploring financing options for greater use of “flexible” services.** Policymakers, payers and providers are increasingly seeking strategies to finance the provision and coordination of non-clinical services such as housing, transportation and other social supports. Approaches may include, for example, new or expanded use of Medicaid waiver authorities, or reinvestment of health care savings in targeted efforts to build community capacity. For example, [Hennepin Health](#) in Minneapolis, Minnesota, has reinvested savings to support development of new transitional housing units and a sobering center, both of which enhance Hennepin’s ability to reduce emergency room visits and hospital lengths of stay.
- **Increasing use of blended or braided funding strategies and aligned accountability across publicly financed systems.** Many counties are well-suited to capitalize on blended or braided funding opportunities, given the significant county role in funding a broad array of health and social services. Short of braiding service dollars, it may also be possible to align accountabilities across systems through cross-system performance targets and quality metrics. For example, the [Center for Health Care Services](#) in San Antonio, Texas, tracks its impact on an array of criminal justice-related outcomes, which has increased its financial support from county-based law enforcement partners.
- **Redefining accountability at the provider and payer levels.** The [Maimonides Medical Center](#) in New York City, through its Brooklyn Health Home, now holds primary care providers financially accountable for communication with care managers and participation in case conferences. Similarly, Medicaid programs are increasingly interested in greater accountability among managed care organizations for supporting community-based care management efforts focused on high-need, high-cost populations. Arizona, New Jersey, Pennsylvania, and Texas developed health plan standards and reporting requirements related to community-based care management for high-cost populations. Meanwhile, Kansas and Washington implemented quality measures tied to financial incentives for their managed care partners that broaden the plans’ accountability to include outcomes related to housing status, employment, and criminal justice interactions.

What we need to figure out is how to integrate the social determinants of health directly into the health system. Housing should be something we can write a prescription for. Not having heat should be considered a medical problem.



— Dr. Corey Waller, SpectrumHealth

SECTION IV

DATA AND ANALYTICS

PROMISING APPROACHES

Identifying high-risk individuals, selecting appropriate clinical interventions, supporting real-time data exchange, and tracking health and social services utilization and outcomes are integral to improving care for these populations. A growing number of stakeholders are using sophisticated risk stratification tools and predictive analytics to identify high-need patients and implement tailored outreach, engagement, and care delivery strategies. In doing so, these stakeholders seek to assess not only health status, utilization, and outcomes, but also account for social factors, such as housing, food insecurity, and income instability.¹⁸ Due to the erratic utilization patterns among high-cost individuals, a combination of “sentinel” event data—e.g., periods of hospitalizations, acute episodes, and no show rates to appointments—are being used by some leading organizations to identify future high-cost patients and design appropriate interventions.¹⁹

A recent study published by the [California HealthCare Foundation](#) outlines a number of successful approaches to identifying individuals at risk for high-utilization and poor health outcomes based on interviews with 20 care management programs.²⁰ Key findings included: (1) prioritizing the desired outcomes and timeframes; (2) identifying a specific high-risk and care sensitive target; and (3) matching staffing, available resources, and clinical interventions to the target population.²¹

An array of evidence-based screening and assessment tools can provide key information on psychosocial needs and functional status, which can enhance efforts to identify “impactable” patients as well as develop comprehensive care plans. These data can be incorporated into health information exchanges to ensure efficient and effective sharing of health and social needs among providers to enable appropriate transitions, communication, and linkages to appropriate resources.

The challenge is how to prove to payers that non-clinical interventions are worth investing in. Not having the ability to match different data sources and show the outcomes of providing these services on utilization is a barrier now as we think about the impact of intervening on the social determinants of health and understanding what can change the trajectory.



— Ginger Zielinskie, Benefits Data Trust



INNOVATION SPOTLIGHT

The *Washington State Department of Social and Health Services* is a pioneer in integrating health and social services data through the **PRISM system**, which it uses to support clinical management as well as policymaking and program design. Washington uses a combination of predictive analytics, claims data, and assessment data across medical, mental health, chemical dependency, and long-term services and supports to drive its analytics. The system's web-based interface allows providers a near real-time view of critical information to support effective care management and care coordination. By linking individual identifiers across public systems, Washington can track the impact of, for example, access to substance use treatment on medical costs and incarceration rates.

One widely cited strategy for maximizing the use of data is integrating disparate data sources like medical claims, behavioral health, and social services data (e.g., housing, criminal justice, Temporary Aid to Needy Families (TANF)) into a single integrated data warehouse. The aggregate data can then be used to explore gaps and drive improvements in the system. As an example, the Michigan Department of Community Health has a sophisticated [data warehouse](#) integrating 12 separate health-related agencies and 34 data sources into a single integrated environment. This system has become an essential tool to: improving the delivery of health care services; conducting data analysis to determine utilization patterns; evaluating program effectiveness; detecting and reducing fraud and abuse; and prioritizing strategies to improve the health and health care outcomes of the Medicaid population.

KEY OPPORTUNITIES

Barriers to effective use of data to support programs serving high-need, high-cost individuals include federal and state privacy laws that limit information sharing across providers and other system partners. Federal regulation 42 CFR Part II, which restricts information sharing regarding substance use records, is especially relevant.²² Further, a lack of connection between various data systems (e.g., Medicaid, behavioral health, criminal justice, housing, etc.) limits ability to tailor clinical interventions, monitor system encounters, or holistically track patient outcomes. Evidence of effectiveness of various care coordination approaches is still lacking.^{23,24} Researchers point to methodological challenges in establishing rigorous evaluation for these programs—specifically, establishing valid comparison groups, accounting for significant variation in costs and utilization across individuals and time periods, and regression to the mean.²⁵ Opportunities for exploration include:

- **Shifting from reliance solely on claims data to identify patients and manage their care.** Current approaches to predictive modeling—which generally rely on utilization and diagnostic information—can be greatly enhanced by adding information on functional status and other social factors. However, efforts to integrate non-health data sources are still in the early stages. [Benefits Data Trust](#), for example, integrates data from an array of public benefits systems to inform identification and outreach strategies. The [Parkland Center for Clinical Innovation](#) in Dallas, Texas, is using data from an array of community-based organizations to enhance its ability to identify needs and coordinate services for high-risk patients.
- **Segmenting heterogeneous populations into meaningful subgroups that inform intervention approaches.** Leading providers consistently underscore the importance of identifying specific

subgroups within the very heterogeneous high-need, high-cost population. Approaches to segmentation may explore variations in utilization patterns—for example, the [Camden Coalition of Healthcare Providers](#) groups frequent ED visitors separately from individuals with frequent hospital readmissions, recognizing that drivers of avoidable acute care utilization typically vary between the two. Alternatively, providers may find significant clinical distinctions between individuals whose social needs are of highest priority versus others who principally need help managing their medical or behavioral health conditions.

- **Increasing access to real-time, integrated data systems.** These systems should allow for: (1) timely targeting of patients for intervention; (2) building comprehensive clinical care plans; (3) supporting real-time tracking of admissions, discharges, and transfers; and (4) demonstrating outcomes within and outside of health care. The [Washington Department of Social and Health Services](#) is a pioneer in integrating health and social services data and using it to support clinical management as well as policymaking and program design.
- **Refining approaches to quality measurement.** Measures of effective care are fairly nascent and there is limited agreement on standard outcome measures for high-cost populations beyond reductions in ED visits and hospital admissions. A standardized approach to quality measurement for patients with complex needs would drive increased collaboration across providers and could increase the pace at which effective models are spread. Such measures would also enhance efforts to employ value-based purchasing arrangements to drive better care for high-cost patients.
- **Developing and implementing a robust research and evaluation agenda.** Given the relative youth of this field, substantial gaps in the evidence base exist regarding which intervention strategies are most effective for which population subsets. While randomized controlled trials may be possible in some circumstances, there is considerable interest among stakeholders in alternative research designs that are easier to implement in real-world settings (e.g., comparison group designs, propensity score matching, interrupted time series analyses, etc.). Longitudinal studies are also an option for exploring the long-term effectiveness of these programs on defined cohorts.

SECTION V

WORKFORCE DEVELOPMENT

PROMISING APPROACHES

A myriad of traditional and non-traditional providers work to address the unique physical and behavioral health and social needs of complex patient populations. In addition to the physicians, nurses, social workers, nurse practitioners and other clinicians involved, an array of other professionals are increasingly part of these complex care teams. These team members can include: peers, CHWs, paramedics, medical technicians, and first responders who can play a critical role in patient engagement and addressing social needs.

Lay health workers, such as CHWs, play a unique role in understanding and responding to the many challenges faced by patients in navigating the health system, obtaining necessary supportive resources, and building self-efficacy and health literacy.²⁶ These workers also have the unique capacity to fill gaps in service provision and co-manage individuals' needs outside of traditional care models. In addition to assisting patients with complex physical conditions and behavioral conditions, CHWs and other nontraditional health workers play an important role in addressing health disparities.

States are employing a variety of policy levers to strengthen the role and sustainability of CHWs. As an example, in 2007 the Minnesota legislature approved the direct hourly reimbursement of CHW services under a Medicaid State Plan Amendment. The state then passed legislation requiring specific training, credentialing, supervision, and reimbursement procedures.^{27,28} Minnesota's model is highly regarded for its sound regulatory approach, ability for workers to serve as active contributors on care teams, and success in garnering 500 credentialed CHWs to date.

Leveraging human resources already available in the community—such as paramedics—is another promising strategy to reduce avoidable hospital and ED visits. In Massachusetts, [Commonwealth Care Alliance](#) is

I would argue that police are non-traditional health workers. They are the nexus for this population to get care. They see people at the front lines and have the ability to prevent acute crises early. Mobilizing this community force can be very effective. Ideally, hand-offs to a community-based mobile team are cheaper and allow more flexibility than taking individuals to psychiatric centers.



— Nick Margiotta, Phoenix Police Department



INNOVATION SPOTLIGHT

As part of the federal State Innovation Model (SIM) Initiative, Vermont established the [Integrated Communities Care Management Learning Collaborative](#). The learning collaborative is designed to enhance multi-organization care management on behalf of at-risk people, and provide skill development for front-line care coordinators. The collaboratives are open to teams of health care and social service organizations in participating communities, and provide shared learning opportunities (including in-person learning sessions with expert faculty), tools to assist in implementing and testing promising interventions to improve integrated care management, and quality improvement facilitators to provide transformation support and technical assistance. The model was developed in response to requests from multiple stakeholders for increased opportunities to improve care for populations with complex needs, and to better integrate health care and social services to more effectively understand and address the social determinants of health.

piloting a community paramedicine model that deploys specially trained paramedics to individuals' homes to avoid unnecessary hospital admissions. The paramedics examine patients, conduct basic interventions (e.g., labs, vital signs), take specimens for follow up, initiate treatment plans (e.g., intravenous fluids, first dose of antibiotics, wound care), and provide end-of-life care. The model has shown early signs of promise in achieving improved health outcomes, patient satisfaction, and cost savings.

KEY OPPORTUNITIES

Effective models of care for high-need, high-cost patients require a workforce capable of meeting this population's many, complex needs. Barriers include gaps in the training of current and newly graduated clinicians, a lack of inter-professional education among team members, low reimbursement rates that may limit recruitment efforts, and the need to develop more effective models for preventing and managing staff burnout given the professional and emotional challenges this work can entail. Prevalent conditions such as mental illness, substance use disorders, and chronic pain can be difficult for professionals to address without appropriate training, skills, and staffing resources. Robust training models that enhance providers' clinical skills as well as soft skills, such as patient engagement and active listening, can bolster staff morale and prevent fatigue and burnout. Opportunities for exploration include:

- **Standardizing and increasing access to necessary tools and training related to serving a complicated patient population.** Priority topics include, for example, substance use disorder identification and treatment; pain management; team-based care; motivational interviewing; and soft skills, such as trauma-informed care, patient engagement, active listening, and resiliency. Training may be delivered in the academic setting as part of a medical school or residency curriculum, or as a requirement for obtaining or maintaining ongoing licensure or board certification. Medical associations are likely to be critical partners in training efforts aimed at “seasoned” versus new professionals.
- **Developing collaborations with academic health centers/professional societies and identifying new training and certification opportunities.** Given the unique complexities of managing high-need, high-cost patients, a clinical sub-specialty in this area may evolve over time. There is an opportunity to partner with leading academic institutions to build momentum for this development, and to create a curriculum that encompasses team-based approaches and training in behavioral health, substance use disorder, complex psychosocial factors, and pain management, among others. As an example, the [National Center for Interprofessional Practice and Education](#) at the [University of Minnesota](#) has

developed a network of 11 academic medical centers across the country that is testing new models of collaboration across health professions in hopes of achieving the Triple Aim.

- **Adapting models to include new or different types of health professionals.** A significant amount of experimentation is occurring in the field around use of an expanded workforce for high-need, high-cost populations. In addition to the efforts noted above to integrate CHWs and/or peers to support engagement and system navigation, a growing number of programs are piloting use of a continuum of non-medical specialists to extend the reach of primary care teams. As an example, the [Medical Legal Partnership](#) integrates lawyers as part of the care team model to assist individuals with addressing legal challenges (e.g., evictions), obtaining and maintaining access to disability benefits, and providing other critical supports. This intervention is prefaced on the idea that a high proportion of low- and moderate-income families face significant legal challenges that significantly influence their overall health.
- **Building and reimbursing adequate supervisory models for the entire spectrum of the workforce.** Integration of new types of health workers requires new models of supervision, as well as accommodating business models. Programs that have incorporated CHWs, for example, are still early in developing effective practices for clinical supervision and oversight. More generally, there is much to be learned around how to best implement, and reimburse for, case conferencing. Given the unique challenges associated with managing patients with complex health and social needs, excellence in supervision is all the more critical to prevent staff fatigue and burnout. [Project ECHO](#) provides one compelling example of innovation in supervision—where video-conferencing technology is used to create expert-led communities of practice in specific clinical areas (including complex care). Participating clinicians can present cases to seek input on treatment plans, and can also observe and learn from case discussions presented by others.
- **Promoting sustainable strategies for incorporating non-traditional health workers.** As mentioned earlier in this report, critical opportunities exist to advance payment models that allow lay health workers to be successfully integrated into team-based care models. This work involves expanding the uptake of available reimbursement options (e.g., new state Medicaid options to reimburse non-licensed providers for prevention and health promotion services), as well as testing new payment models and approaches to aligning incentives (e.g., moving beyond payment models for paramedic services that rely on transport to the emergency room).

Traditional pedagogical techniques aren't effective with this work—it is much too complicated to be learned in a classroom.



— Dr. Jeffrey Brenner, Camden Coalition of Healthcare Providers

SECTION VI

GOVERNANCE AND OPERATIONS

PROMISING APPROACHES

As new provider and system partnerships emerge to support integrated service delivery for high-need, high-cost populations, new governance models must be developed. This includes new infrastructure and processes to support intra-agency collaboration, communications, goal alignment, and transparency. Strategies to support effective governance include: (1) multi-stakeholder or community governance boards, with defined accountability and representation of key stakeholders; (2) formation of cross-agency workgroups to address specific policy or operational issues; (3) agreements on routine and systematic data-sharing or data integration; (4) clear and ongoing reporting of relevant performance metrics with accountability; and (5) clearly defined financial arrangements for sharing costs and savings.

Likewise, as long-term sustainability becomes more of a focus for programs serving high-cost populations, providers increasingly need to focus on operational efficiency. Operational efficiency aims to minimize the cost of delivering effective services and producing desired outcomes, and to maximize the productivity of the care teams charged with doing this work. Strategies to support these aims include: (1) rigorous analyses of processes and outcomes to identify the essential components of care delivery and reduce/eliminate ineffective efforts; (2) development and implementation of management dashboards that provide leadership with the necessary intelligence to inform decision-making; (3) establishment of a culture of continuous quality improvement; and (4) a clear understanding of and appreciation for the economic model underlying service delivery.

Oregon's *Coordinated Care Organization (CCO)* program, which deployed a broad stakeholder engagement process, illustrates steps involved in developing a comprehensive infrastructure to maximize operational effectiveness. The [Oregon Office of Health Administration \(OHA\)](#) developed a flexible health services workgroup, tasked with designing an alternative health services benefit. OHA engaged a number of health care workers and CEO-level leadership from health plans and provider agencies in this work. Their feedback highlighted the types of health services that would be most useful for patients under the CCO model. OHA then worked with CCO leadership to operationalize billing codes, reimbursements, rate-setting, and implementation.



INNOVATION SPOTLIGHT

The [Camden Coalition of Healthcare Providers'](#) success in identifying and effectively managing care for high-cost populations has been built off a community engagement model. The approach includes four domains: (1) promoting collaboration among providers and the community; (2) building public will for fundamental changes in the delivery of care; (3) directly engaging residents in “hot spot” neighborhoods and populations; and (4) training residents to participate in decision-making over health care resources.

KEY OPPORTUNITIES

An array of barriers exist for establishing effective governance models, including: divergent goals among partnering agencies; competing priorities for resources and leadership attention; limited existing infrastructure upon which to build; and a narrow set of examples to turn to for best practice.

To achieve operational excellence, organizations must: address staff concerns about changes in practice and organizational culture; ensure staff are working to the “top of their license”; develop or hire for new competencies in management and operations; and potentially invest in information and reporting systems to track performance in new ways. These efforts will require internal champions who can serve as leaders in advancing new policies and standards for instituting high-level changes to achieve long-term sustainability. Opportunities for exploration include:

- **Implementing effective governance models.** Next generation models of care for high-need, high-cost populations will rely on close collaboration across an array of medical and social service providers and other community partners. For these collaborations to develop, partners will need to: (1) bridge cultural differences; (2) align objectives; (3) develop new channels for communication and data exchange; and (4) broadly engage stakeholders in decisions around resource allocation and efforts to address policy and other operational barriers.
- **Leveraging governance models to promote effective reinvestment in community capacity.** One of the more promising opportunities for increasing access to cost-effective non-medical services is through reinvestment of health care (and potentially other system) savings. Both [Hennepin Health](#) and [Maimonides Medical Center](#) are partnering with community agencies outside of traditional medical providers to develop reinvestment plans, whereby savings generated through coordinated care management of high-cost populations are allocated to community-development efforts. For example, these funds may go toward expansion of affordable housing and vocational training, which are expected to increase the likelihood that additional health care savings will be generated. Community governance boards have important roles to play in prioritizing community development needs, identifying partners to implement reinvestment plans, and, ideally, bringing non-health care savings to the table to increase the reinvestment pool.

- **Developing management capacity to support operational excellence.** Whereas much activity in the health system is currently aimed at refining care delivery for high-cost populations, less recognized—but, arguably equally important—is the opportunity to improve the organizational capacity of health care organizations to deliver their cross-cutting services and operate efficiently. This work involves standardizing processes, tracking key operational metrics through management dashboards, and changing organizational culture to emphasize efficiency. [Health Quality Partners](#), for example, attributes much of its success with high-cost populations to its steadfast efforts to reduce variation in how care is delivered across the organization.
- **Investing in practice transformation to support basic quality improvement and population management capacity.** The importance of such capacity is not specific to high-need, high-cost populations, but without it, most practices would likely struggle to implement the workflows necessary for effective complex care models (e.g., enabling longer visit times, integrating new care team members, etc.). Vermont and Maine have both leveraged substantial investments in patient-centered medical homes to provide the foundation for statewide approaches to more effective management of high-cost populations. Having developed large-scale transformation in primary practice settings, these states were able to overlay mobile, multi-disciplinary complex care teams to support the primary care sites' capacity to serve their most complex patients.

SECTION VII

POLICY AND ADVOCACY

PROMISING APPROACHES

Advancements in delivery system reforms, financial alignment, data and analytics, workforce development, and governance and operations require significant policy, regulatory, and public education efforts to achieve true system transformation. Years of momentum building will be necessary to shift existing payment policies from volume to value. Program leaders will have to use policy levers to transform payment and support care programs for high-cost patient populations that are integrated with social service benefits and tied to cross-system outcomes.

Although the Affordable Care Act (ACA) and other laws have created opportunities for payment innovation, policymakers, payers and providers need strong leadership to build cross-system consensus, and trust from stakeholders, for models to achieve their true potential.²⁹ Transforming how health care is delivered for high-need, high-cost populations requires new ways of aligning services, establishing financial incentives, and promoting quality metrics across multiple health and social service settings. Securing legislative support and implementing regulatory changes can help reduce barriers to data sharing and increase financial alignment and modification in scope of practice to ensure that health professionals and non-traditional health workers have the ability to work at the top of their licenses.

KEY OPPORTUNITIES

Barriers to policy change include divergent outcomes and administrative requirements among the variety of agencies and organizations responsible for meeting the needs of high-need, high-cost populations. Agreeing on how to define the target populations of interest is a challenge in and of itself. In addition, there are substantial investments by systems, plans, providers and government necessary for producing system-wide changes (e.g., investing in integrated data systems or workforce training). These improvements can often present obstacles if federal funding is limited or opportunities to participate in practice transformation activities are not available.

Paying for services—including housing and case managers—that enable clients to make connections with the health care system is critical. By leveraging a capitated model, with full risk on the population in the form of a contracted, prepaid percentage of premium, we are able to be flexible and creative in paying for these necessary supports.



— Anne Meara, Montefiore Medical Center



INNOVATION SPOTLIGHT

The State of Washington has leveraged diverse multi-sector partnerships comprised of public and private organizations to improve health and health systems through [Accountable Communities of Health \(ACH\)](#). Regional ACHs will focus on social determinants of health, community linkages, and person centered-care. Although the ACHs are not yet fully implemented, Washington envisions shared priorities across health and social services stakeholders for population health, delivery system reforms, and value-based payment models. The ACHs will work toward physical and behavioral health care integration through financing and delivery system reforms.

Other hurdles include the variety of players at the federal, state and local levels, with disparate funding sources and restrictions on how individual funding streams can be spent or combined. Finally, although much research points to the value of addressing the social determinants of health and investing in social services,^{30,31,32} health care reforms often focus on narrowly on reducing health expenditures—rather than improving quality of care. Opportunities for exploration include:

- **Establishing a consistent definition for high-cost populations or super-utilizers.** There is currently no standard definition for what constitutes “super-utilization,” and although there is substantial variation across the high-needs population, programs often do not differentiate. One or more consistent, consensus-based definitions would enable more accurate comparisons of approaches and outcomes across programs, and also help advance the policy agenda by enabling more objective and uniform evaluation of new models of care.
- **Addressing key policy barriers at a federal level.** Key barriers include: (1) federal privacy law 42 CFR Part II that restricts the ability of providers and payers to share substance use disorder information without prior consent; and (2) limitations on the ability to use Medicaid funds to pay for certain non-medical interventions (namely, housing). Engaging federal partners in discussions about alternatives or pilot initiatives that address these barriers could dramatically improve the effectiveness of current models and support faster replication.
- **Showcasing what is working to support replication and spread.** Although much of the post-ACA innovation in this area is not yet in the published literature, there are a growing number of promising models across the country that could greatly inform future policymaking. In addition to programs cited throughout this report, another example comes from the [Pacific Business Group on Health \(PBGH\)](#), which is partnering with physician groups in California, Arizona, Oregon and Washington to spread the *Intensive Outpatient Care Program* model for high-need, high-cost patients. PBGH collaborated with the [California Quality Collaborative](#) to develop the [Intensive Outpatient Care Managers Toolkit](#) to disseminate best practices to inform professionals engaged in care management for complex patients.
- **Spreading innovative “accountable communities of health” type models.** At both the federal and state level, there is growing interest in supporting healthy community initiatives that are broadly responsible for population health at the regional or local level (in some cases including total cost of care). Early adopters (such as Minnesota, Vermont, and Washington) are focused on increasing

integration of health and social services, with a specific interest in high-cost populations. By studying these early approaches, including the specific policy levers and payment methods employed to support implementation, best practices can be identified to inform replication of these new models.

- **Refining the message about why super-utilizers matter.** The ability to effectively marshal all the necessary resources—within and outside of health care—to improve quality and cost outcomes for high-need, high-cost populations requires consistent messaging to ensure resonance with policymakers, practitioners, and the public at large. A robust, strategic communications and advocacy strategy will be crucial to supporting future investments in these models, particularly while financial sustainability has yet to be proven.
- **Ensuring the voice of consumers and the community is represented.** Efforts to improve care and reduce costs for high-need populations cannot be isolated from broader discussions about community capacity and development. Consumers, families and communities have much at stake and much to offer these efforts throughout design and implementation. The [Camden Coalition of Healthcare Providers](#) has worked closely with community groups and faith-based initiatives throughout its history, engaging these partners in activities such as care model development, replication, and advocacy around state-level policy change.
- **Streamlining access and management of social factors.** Many practitioners and policymakers agree that addressing the underlying social and economic determinants of health is critical to achieving outcomes. This undertaking cannot rest solely on the shoulders of the clinical and front line practitioners in their day-to-day responsibilities to incorporate as part of the care plan, or through the referrals to community based organizations. Making long-term, meaningful change requires embedding policies and practices at the state and federal level. This can be accomplished in a variety of ways including: simplifying access to benefits (e.g., Medicaid, food stamps, TANF, etc.); integrating social risk factors, such as eviction notices, into health information exchanges as a trigger for increased interventions; and aligning agencies so that they may more readily integrate resources and services.

SECTION VIII

MOVING FORWARD

Policymakers, providers and payers are increasing their focus on and investments in improved models of care for high-need, high-cost patients. In order to meet the high expectations for improved outcomes and reduced costs, leaders must examine all potential levers at their disposal (i.e., administrative, clinical, and financial) to ensure effective implementation, balancing opportunities to promote innovation while ensuring appropriate accountability for outcomes.

Success will require a long-term commitment to investing in, developing, and scaling models to examine what works—and does not work—for individuals with complex needs. As in any area of emerging practice, not all attempts to improve care for this population will succeed. Stakeholders should look to learn as much from the failures as from those efforts that produce desired outcomes.

The findings presented throughout this report have been designed as a roadmap for policymakers, providers, researchers, and practitioners to inform future investments for solidifying the evidence base for what works to improve care for high-cost patients. With the continuing momentum of health care reform providing fertile ground for these efforts, now is an optimal time to build critical capacities that can help deliver increased value for the health care dollars we spend.

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