BEHAVIORAL CARE PROGRAMS SAVE MONEY

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Executive Summary

This report examines the cost-saving and care-enhancing potential of Nevada's Behaviorally Complex Care Program (BCCP). In 2020, more than 600 individuals were in the program. Of these, roughly 100 were diagnosed with dementia or Alzheimer's disease. Prior to the program's creation, Nevada sent many of these high-need patients to facilities in other states. This practice led to expensive legal settlements and was a major incentive for the program's creation.

BCCP is designed to efficiently address the complex medical needs of specific Medicaid populations that account for a disproportionate share of Medicaid expenditures. This supplies additional Medicaid reimbursement for the care of individuals who demonstrate a range of behaviors that render the provision of care more complicated and labor intensive.

These enrollees have a history of chronic illness, multiple comorbidities, and other nonclinical complications. Community-based alternatives can create better, more predictable outcomes at lower cost that reduce emergency department visits and hospitalizations. Accordingly, the redirection of Medicaid resources to programs such as BCCP has been widely viewed as an option to reduce escalating costs while improving the quality of care to high-risk, vulnerable beneficiaries.

In Nevada, the highest 5 percent of Medicaid enrollees account for approximately 57 percent of Medicaid expenditures, while the top 25 percent account for almost four out of every five dollars the program spends. Effectively addressing the needs of this population therefore has the potential to generate enormous savings.

AMPLE EVIDENCE OF COST SAVINGS

Given the array of conditions that are associated with high-cost, high-need patients, there is no single program or intervention that applies universally to this population. Nevertheless, studies of high-cost, high-need populations are available, providing insight into benefits these programs supply.

- A study of the CareMore program in Memphis, TN, found that the program led to savings of $7,732 per person per year for the recipients of this care compared to the control group, a reduction in expenses of roughly 37 percent.
- In New Mexico, a study of the most expensive 1 percent of patients at a university medical system estimated a per patient reduction in billed charges between $44,504-$92,228/year.
- An evaluation of a similar program at Johns Hopkins in Baltimore found savings of $4,295 per beneficiary-episode. Over an 18-month period, aggregate savings for nearly 14,000 beneficiary-episodes led to cost savings of $59.8 million.
- Cost savings may not be restricted to medical expenses. These programs may also have effects on housing, child welfare, and other public systems.

Based on the savings generated by the similarly situated CareMore program in Tennessee and given Nevada's per day hospitalization charges, BCCP saves the State of Nevada at least $4.2 million/annum. Based on other analytical findings pertaining to complex care programs (Geisinger), savings could approach $11 million/year.

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If those results are applied to the 600 participants BCCP's efforts in Nevada, the program would save the State $912,000 per month or $10.9 million per annum.

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Introduction

➢ *Improving Care, Reducing Cost*

Nevada's Behaviorally Complex Care Program (BCCP) is an effort to efficiently address the complex medical needs of specific Medicaid populations. Many states have created these types of programs as a partial cure to persistent growth in healthcare costs. A relatively small portion of the population generates the bulk of expenditure growth, with the implication being that aggressive cost containment efforts in these realms can generate outsized fiscal savings.

Reducing cost need not come at the expense of quality of care. BCCP focuses on improving care and reducing costs in the realm of "super utilizers," who represent a small share of all Medicaid beneficiaries, but roughly half of all Medicaid expenditures.

These high-cost Medicaid beneficiaries typically suffer complicated medical conditions. Four out of five of these beneficiaries suffer from three or more chronic conditions while 60 percent have more than five chronic conditions. Most have mental health issues, histories or trauma, and/or substance use disorders. They also typically struggle with socioeconomic problems including lengthy bouts of unemployment, homelessness, and social isolation.

Given these complexities, interventions endeavoring to address individuals with complex care needs are diverse. Complex care programs are tailored to the needs of specific groups of individuals that are often best met in community-based settings rather than in acute care facilities such as hospitals.[1]

The complexity of individual needs and the diversity of programmatic interventions may also explain why there have been relatively few evaluations of these programs. One review of these evaluations noted that analyses that focused on cost and utilization can oversimplify definitions of success or failure. While cost and utilization represent important factors in reviewing complex care programs, other factors may also be relevant, including impacts on costs other than healthcare (e.g., housing, criminal justice), improvements to patients' healthcare experiences and wellness status, and the potential to affect costs and utilization over the longer term.[2]

➢ *Many States Utilize Programs Like BCCP*

This paper examines the BCCP in the context of this larger effort by many states to identify high-cost, high-need Medicaid beneficiaries and to design programs that effectively serve this population. Summary information on these Medicaid beneficiaries is presented describing the array of medical conditions they present as well as the highly skewed relationship between super utilizers and all Medicaid beneficiaries in terms of demand for service. Evaluations of complex care programs are reviewed in the context of the benefits and limitations of these evaluations as well as the lessons that can be derived from efforts to understand the impact of these programs.

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1 National Governors Association, "Building Complex Care Programs: A Road Map for States," June 2017 https://www.nga.org/center/issues/complex-care-populations/

2 Davis, Rachel and Iyah Room, "Using a Cost and Utilization Lens to Evaluate Programs Serving Complex Populations: Benefits and Limitations," March 2017 www.chcs.org/resource/beyond-cost-utilization-rethinking-evaluation-strategies-complex-care-programs

Complex Care Programs

- ***Nevada's BCCP***

A core group of stakeholders created Nevada's BCCP in 2014 to provide healthcare services to Medicaid recipients whose medically based behavioral disorders posed a danger either to themselves or to others. BCCP supplies additional Medicaid reimbursement for the care of individuals who demonstrate a range of behaviors that render the provision of care more complicated and labor intensive. These behaviors include self-injury, physical and verbal aggression, regressive behaviors, and resistance to care such as refusing medication or required support for the activities of daily living. These behaviors may pose risks to those receiving care, other residents, visitors, and/or staff.

The program is restricted to residents who reside in Medicaid-certified free-standing nursing facilities located in Nevada. These facilities must demonstrate that eligible individuals have a history of disruptive behavior that is difficult to manage and therefore requires additional staff and resources. Eligible residents of these facilities must be over 18 years of age and have been diagnosed with a severe, medically based mental health disorder or another diagnosis that precludes or reduces the individual's judgment. These disorders and diagnoses include traumatic or acquired brain injury, dementia, depression, Alzheimer's, Huntington's Chorea, and psychosis.

Those excluded from the program include individuals who are under 18 years of age, those receiving hospice services, individuals whose care is provided by a managed care organization, residents of hospital-based nursing facilities, and non-Nevada residents. Additionally, suicidal ideations and wandering behaviors cannot be utilized as a sole diagnosis to qualify for the program.

Out-of-state placements are expensive propositions…A Nevada jury awarded $250,000 to each of "potentially hundreds of former mentally ill patients" of a Nevada psychiatric hospital who were bused across the country without proper care.

In 2020, more than 600 individuals were in Nevada's BCCP program. Of these, roughly 100 had a primary diagnosis of dementia or Alzheimer's disease. To qualify for the program, nursing facilities must have a staff training program for care of residents with dementia. This training must meet the requirements of the Centers for Medicare & Medicaid Services (CMS), a federal agency that, among other things, works with states to administer the Medicaid program.[3]

Reimbursement for BCCP participants is available in three tiers ranging from those needing minimal intervention, moderate intervention, or frequent intervention. In 2016, Tier I reimbursement for behaviors requiring minimal intervention was $111.23 per day; Tier II reimbursement for behaviors requiring moderate intervention was $222.45 per day; Tier III reimbursement for extreme behaviors

3 "Task force on Alzheimer's disease out-of-state placements update," State of Nevada, Department of Health and Human Services https://www.docslides.com/test/nevada-medicaid-behaviorally-complex-care-program "Behaviorally complex care program," State of Nevada, Department of Health and Human Services

posing dangers to the patients themselves or others and requiring frequent intervention was $326.26 per day. These reimbursements are in addition to base rates for the care of qualified individuals. Reimbursement tiers are renewable for periods ranging from annually for those needing minimal interventions (Tier I), to every six months for those needing moderate interventions (Tier II), to every three months for those requiring frequent interventions (Tier III). In 2017, 75 percent of those enrolled in BCCP were in Tier I, 2 percent were in Tier II, and 23 percent were in Tier III.

An earlier report on the program notes that staff at more than half of the state's nursing facilities had received required training. The result has been higher quality care delivered by these facilities. The report also notes that BCCP Tier pre-approval had averted eight out-of-state placements.[4]

Out-of-state placements are expensive propositions. The issue of out-of-state placements was a major incentive for the creation of the BCCP initiative. In 2013, CMS identified a group of patients discharged from a Las Vegas psychiatric hospital without any plans for their shelter, support, or follow-up care. Most of these patients were discharged to buses headed out-of-state.[5]

Later that year, the San Francisco City Attorney filed a class-action lawsuit against Nevada, the psychiatric hospital, and state mental health administrators that sought reimbursement for care provided to indigent patients that Nevada had illegally transferred to California. The suit also sought a permanent injunction that would prevent Nevada from sending patients to California unless they were California residents, relatives of California residents, or being sent to medical facilities where arrangements had been made to care for patients.[6] Without admitting wrongdoing, the State of Nevada settled this case for $400,000 in 2015.[7]

In another suit, a Nevada jury awarded $250,000 to each of "potentially hundreds of former mentally ill patients" of a Nevada psychiatric hospital who were bused across the country without proper care. One report indicates that roughly 1,500 patients were sent from Nevada to other states between 2008 and 2013.[8]

➢ *Other states*

As noted, Nevada is hardly the only state seeking effective interventions to address the complex care needs of certain Medicaid enrollees. In 2018, the National Governors Association (NGA) noted that because healthcare costs are a substantial and increasing burden on budgets, governors are looking for transformational ways to improve the performance of Medicaid programs, including along the dimension of cost. Individuals with complex care needs, known as "super-utilizers" and sometimes as "frequent flyers" because of their frequent use of hospital emergency departments, account for a substantial portion of Medicaid budgets. These individuals tend to be a relatively small share of all Medicaid beneficiaries, but require extensive, multi-faceted care.

4 Nevada Department of Health Human Services, "Behaviorally Complex Care Program," March 17, 2016 http://dhcfp.nv.gov/
5 Reese, Phillip and Cynthia Hubert, "U.S. probe turns up more homeless patients bused from Nevada mental hospital," Sacramento Bee, August 27, 2013 https://www.sacbee.com/news/investigations/nevada-patient-busing/article2578603.html
6 Hubert, Cynthia and Phillip Reese, "San Francisco sues Nevada over 'patient dumping'," Sacramento Bee, September 10, 2013 https://www.sacbee.com/news/investigations/nevada-patient-busing/article2578750.html
7 "Nevada Oks $400k to settle patient dumbing suit from Calif.," Nevada Public Radio, October 13, 2015 https://knpr.org/headline/2015-10/nevada-oks-400k-settle-patient-dumping-suit-calif
8 Hubert, Cynthia, "Jury finds in favor of mentally ill patients who were bused out of Nevada psychiatric hospital," Sacramento Bee, November 1, 2018 https://www.sacbee.com/article220994870.html

The NGA noted that these super utilizers tend to have a history of chronic illness, multiple comorbidities, special needs, and other nonclinical complications. Because of their extensive use of emergency departments and inpatient hospital services, community-based (i.e. non-hospital) alternatives can create better, more predictable outcomes at lower cost. Accordingly, the redirection of Medicaid resources to programs such as BCCP has been widely viewed as an option to reduce escalating costs while improving quality of care to high-risk, vulnerable beneficiaries. In 2018, the NGA was working with nine states in the second round of a program to develop state capacities for complex care needs designed to improve health and reduce cost.[9] Nevada was not one of them.[10]

The CMS Innovation Lab is an effort by the federal health agency to support new models for service delivery. It provides guidance to local providers seeking to implement new programs for Medicaid enrollees such as the Johns Hopkins program described below.[11] The private sector has also developed programs to support Medicaid innovation. The Complex Care Innovation Lab is a privately funded effort to assemble national leaders to identify ways to improve care for high-need, high-cost, low income individuals with complex care and social needs.[12]

Super utilizers and Medicaid costs

A well-established characteristic of healthcare in the United States is that a relatively small share of the population accounts for a very large proportion of total healthcare costs. "Super utilizers" are found in Medicaid and other populations.

Over three years, the most expensive 5% of individuals enrolled only in Medicaid accounted for almost half of the program's expenditures.

Because Medicaid is a federal-state partnership that provides access to healthcare for those whose low-income renders them eligible for coverage, the impacts of super utilizers has been a matter of public policy interest for years. In 2015, the United States Government Accountability Office (GAO) published an analysis of the expenditures associated with super utilizers. Over three years, the most expensive 5 percent of individuals enrolled only in Medicaid accounted for almost half of the program's expenditures. Conversely, the least expensive 50 percent of Medicaid-only enrollees generated less than 8 percent of the program's expenditures.[13]

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9 https://www.nga.org/center/issues/complex-care-populations/
10 "Medicaid and complex care," National Governors Association, June 27, 2018 https://www.nga.org/center/issues/complex-care-populations/. The nine states were Alaska, Colorado, Connecticut, Kentucky, Michigan, Rhode Island, West Virginia, Wisconsin and Wyoming.
11 "The CMS Innovation Center" https://innovation.cms.gov/
12 Center for Health Care Strategies, "Complex Care Innovation Lab" https://www.chcs.org/project/complex-care-innovation-lab/
13 Medicaid only enrollees presumably means a population of low-income, non-elderly individuals. Some low-income individuals are also eligible for Medicare and are enrolled in both Medicare and Medicaid. Those enrolled in both Medicare and Medicaid are excluded from the data presented in this paper.

More detail regarding this rather skewed distribution of Medicaid spending nationally and in Nevada is supplied in Exhibit 1. As indicated, relatively small shares of all Medicaid-only enrollees generate outsized proportions of the program's expenditures in Nevada. The top 25 percent account for almost four out of every five dollars the program spends. The top 1 percent of super utilizers generate approximately 31 percent of total program expenditure. Effectively addressing the needs of this population therefore has the potential to generate enormous savings.[14]

Exhibit 1. Distribution of Medicaid expenditures, U.S. and Nevada, 2011

State	Highest 1%	Highest 5%	Highest 10%	Highest 25%	Lowest 50%
United States	25.54%	48.02%	60.35%	78.61%	7.20%
Nevada	30.90%	56.79%	65.79%	79.83%	7.43%

Source. United States Government Accountability Office

While there was considerable variation in the characteristics of these super utilizers from state to state, some patterns emerged in the GAO analysis. Medicaid-only enrollees who were categorized as disabled accounted for fewer than 10 percent of all enrollees, but a disproportionately high share of these high-expenditure individuals (64 percent). Interestingly, the elderly account for only 2 percent to 3 percent of these high-expenditure individuals.

Most high-expenditure Medicaid enrollees suffer from chronic diseases or are associated with particular conditions or services. The GAO analysis of these Medicaid enrollees found that nationally more than half suffered mental health conditions and almost one in five was diagnosed with a substance use disorder. Diabetes and asthma were also common among these high-expenditure individuals.

As indicated in Exhibit 2, high-expenditure enrollees in Nevada were generally similar to their national counterparts in terms of being associated with comorbidities and substance abuse, though the prevalence of mental health conditions among Nevada high-expenditure Medicaid-only enrollees was significantly higher than the national average (65% v. 53%).

Exhibit 2. Percentage of High-Expenditure Medicaid-Only Enrollees with Certain Conditions or Services, Fiscal Year 2011

State	Asthma	Diabetes	HIV/ AIDS	Mental health conditions	Substance abuse	Long-term care residence	None of these
United States	14.20%	18.79%	3.10%	52.64%	19.87%	8.35%	22.23%
Nevada	15.97%	16.44%	2.31%	64.97%	20.64%	12.14%	13.94%

Source. United States Government Accountability Office

As noted, a characteristic of high-expenditure Medicaid-only enrollees is that they frequently have co-occurring diseases or conditions. For example, 65 percent of those suffering from asthma also had mental health conditions and 29 percent of asthmatics had a substance use disorder. Almost 27 percent of those with mental health conditions also had a substance use disorder. More than 70 percent of those with substance use disorder also had mental health conditions. Three out of four enrollees in long-term care or residences had mental health conditions. More detail regarding these co-occurring conditions or services is provided in Exhibit 3, which supplies national averages.

[14] United States Government Accountability Office, "Medicaid: a small share of enrollees consistently accounted for a large share of expenditures," GAO-15-460, May 2015

Exhibit 3: Percentage of High-Expenditure Medicaid-Only Enrollees with Certain Co-Occurring Conditions or Services in Fiscal Year 2011

Condition/service	Asthma	Diabetes	HIV/AIDS	Mental health conditions	Substance abuse	Long-term care/residence	None of the other conditions/services
Asthma	N/A	24.46	3.9	65.11	29.14	7.37	17.05
Diabetes	18.49	N/A	2.57	52.41	23.86	12.7	29.67
HIV/AIDS	17.89	15.57	N/A	48.13	39.43	7.52	28.95
Mental health conditions	17.57	18.71	2.83	N/A	26.73	11.85	42.94
Substance abuse	20.84	22.57	6.14	70.83	N/A	10.23	15.56
Delivery or childbirth	9.28	5.94	0.66	21.29	9.03	0.48	66.04
Long-term care or residence	12.53	28.59	2.79	74.71	24.35	N/A	14.14

Source. United States Government Accountability Office

As indicated in Exhibit 4, high-expenditure enrollees are more likely to have co-occurring conditions than all Medicaid enrollees. Compared to all Medicaid-only enrollees, a high-expenditure Medicaid-only enrollee who has asthma is more than twice as likely to also have mental health conditions (65 percent versus 28 percent) and more than three times as likely to also have substance use disorder (29 percent versus 9 percent). High-expenditure enrollees with mental health conditions are also substantially more likely to have substance use disorder (27 percent versus 15 percent) and significantly higher rates for other chronic diseases—asthma, diabetes, and HIV/AIDS. The same is true for high-expenditure enrollees with substance use disorders, who have substantially higher rates of mental health conditions (70.83 percent versus 51.41 percent) and are almost twice as likely to have co-occurring chronic diseases — asthma, diabetes, and HIV/AIDS.

Exhibit 4: Percentage of All Medicaid-Only Enrollees with Certain Co-Occurring Conditions or Services in Fiscal Year 2011

Condition or service	Asthma	Diabetes	HIV/AIDS	Mental health conditions	Substance abuse	Long-term care or residence	None of the other conditions or services
Asthma	N/A	6.08	0.67	28.28	9.04	1.32	61.37
Diabetes	11.69	N/A	1.1	32.06	14.13	6.28	51.95
HIV/AIDS	14.35	12.31	N/A	38.77	31.97	6.1	37.76
Mental health conditions	11.92	7.03	0.76	N/A	15.2	4.06	65.92
Substance abuse	12.9	10.48	2.12	51.41	N/A	3.83	37.35
Delivery or childbirth	5.3	1.85	0.15	8.41	3.36	0.1	84.47
Long-term care or residence	7.48	18.58	1.61	54.75	15.27	N/A	35.24

Source. United States Government Accountability Office

The picture that emerges from this GAO analysis of Medicaid-only enrollees is not only that a small share of enrollees generates a highly disproportionate share of program expenditures, but also that these high-expenditure individuals frequently have many chronic diseases or conditions that require medical attention. Far and away, the most common chronic condition associated with high expenditure Medicaid-only enrollees is challenging mental health.

Evaluating complex care programs

This combination of high cost and complicated medical conditions gives rise to a need for programs and interventions that can address complex care. Such programs are frequently innovative and seek to improve the quality of care provided to these individuals and to manage, or even reduce, costs associated with this care.

This complex care program reduced total medical expenses by $7,732 per person per year for recipients of care compared to the control group.

Fundamental difficulties in evaluating complex care programs include the highly varied nature of the medical conditions that fall under the general category of complex care and the heterogeneous nature of the individuals who are served by these programs. Given these high degrees of variability in medical conditions and populations served, there are correspondingly high degrees of variability in the nature of the interventions supported by complex care programs.[15] With the wide array of conditions that are associated with high-cost, high-need patients, there is no single program or intervention that applies universally to this population. These programs are therefore difficult to study as a group. Nevertheless, studies of high-cost, high-need populations are available and provide some insights into the benefits these programs can achieve.

- ***CareMore in Memphis, TN – Medical Expenses Reduced by 37 percent per year***

A February 2020 article summarizes results of a randomized trial of 253 high need, high cost Medicaid patients designed to assess the impacts of a complex care management program, CareMore in Memphis, Tennessee, compared to a control group. The program focused on those among the top 5 percent of medical expenditures in the prior 12 months, those in the top 5 percent of the Chronic Illness Intensity Index score, or those nominated by program members. Those served by the program also had at least two inpatient admissions and at least three emergency department visits during the prior 12 months as well as two or more chronic conditions.

For Medicaid patients served by the program, savings per beneficiary-episode were $4,295, resulting in an aggregate reduced cost of care of $59.8 million.

A team comprised of a community health workers, social workers, and primary care physicians conducted a 12-month intervention. Evaluators measured total medical expenses, inpatient hospital

15 Khullar, Dhruv and Dave A. Chokski, "Can Better Care Coordination Lower Health Care Costs?" JAMA Network Open, November 2, 2018 https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2712173

bed days, emergency department visits, and other medical provider visits.[16] This complex care program reduced total medical expenses by $7,732 per person per year for recipients of care compared to the control group. This amounted to a 37 percent reduction in overall medical expenditures per year, driven largely by fewer inpatient hospital days (reduced by 59 percent), fewer inpatient admissions (reduced by 44 percent), and fewer specialist visits.[17]

- ***Savings in New Mexico range from $44,500 to $92,200 per patient***

Similarly, a study of high cost, medically complex patients in a university healthcare system in New Mexico found even greater cost reductions from the provision of intensive complex care. Researchers designed this study to target the most expensive 1 percent of patients in the system. An analysis of 753 such patients compared to a control group of 794 similar patients who did not participate in the intensive care management program found substantial reductions in costs. A pre-post empirical model estimated a per patient reduction in billed charges of $92,227, while a difference-in-differences model estimated the per patient reduction in billed charges at $44,504.[18]

- ***Geisinger reduces per member costs by 28 percent***

A study of complex care for adolescents and young adults also found substantial cost reductions resulting from this approach. This study looked at the Comprehensive Care Clinic developed by the Geisinger Health System (PA/NJ). Within this clinic, a team comprised of a physician, advanced practitioner, pharmacist, and nurse case manager design and implement a care plan. The study analyzed 83 Medicaid patients and compared costs and acute care utilization for these patients while enrolled in the program compared to periods during which they were not. Results indicate that enrollment in the program reduced per member per month total costs by 28 percent from $5,451 to $3,931, a result driven by reduced hospitalization and emergency department visits.[19]

- ***Johns Hopkins reduces cost of care by $60 million***

The Johns Hopkins Community Health Partnership (J-CHiP) is a care coordination initiative focused on inner-city residents in Baltimore; residents who often have medically complex conditions and are affected by underlying social factors. One of two program components provides a bundle of interventions deployed in two Johns Hopkins' hospitals. Additional attention is given to those who were discharged to local skilled nursing facilities. Discharge planning includes predictions of service needs after discharge, telephone follow-up after discharge, and additional efforts for high-risk patients. This program provided nearly 14,000 beneficiary-episodes to Medicaid patients.

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16 Hamblin, Allison and Rachel Davis, "From Camden to Memphis: Recent complex care randomized controlled trials present a call to action," Center for Health Care Strategies, Inc., February 20, 2020 https://www.chcs.org/from-camden-to-memphis-recent-complex-care-randomized-controlled-trials-present-a-call-to-action/

17 Powers, Brian w. et al, "Impact of complex care management on spending and utilization for high need, high-cost Medicaid patients," American Journal of Managed Care, February 10, 2020 https://www.ajmc.com/journals/issue/2020/2020-vol26-n2/impact-of-complex-care-management-on-spending-and-utilization-for-highneed-highcost-medicaid-patients

18 Horn, Brady P. et al, "The economic impact of intensive care management for high cost medically complex patients: an evaluation of New Mexico's Care One Program," Population Health Management, December 1, 2016 https://www.liebertpub.com/doi/abs/10.1089/pop.2015.0142?journalCode=pop

19 Maeng, Daniel D. et al, "Impact of complex care management model on cost and utilization among adolescents and young adults with special care and health needs," Population Health Management, December 1, 2017 https://www.liebertpub.com/doi/abs/10.1089/pop.2016.0167

For this program component, evaluators reviewed healthcare utilization beginning 18 months before the program initiated and continuing for the following three years. The assessment of program impacts also utilized a comparison group drawn from similar hospitals in Maryland.

For Medicaid patients served by the program, savings per beneficiary-episode were $4,295, resulting in an aggregate reduced cost of care of $59.8 million. There were significant reductions in rates for emergency department visits and for practitioner follow-up visits. Reduced costs may also have reflected reduced needs for skilled nursing facility care resulting from more attention paid to early discharge planning from acute care hospitals.[20]

The Johns Hopkins' programs included both Medicaid and Medicare recipients. One review of the Johns Hopkins program suggested that comprehensive care coordination can be an especially effective intervention for social economically disadvantaged communities like East Baltimore.[21]

- ***Patient experience improves in California***

Another evaluation examined a large Medi-Cal (California's state-run Medicaid program) managed care plan that seeks to address challenges in accessing health care for approximately 7,000 enrollees with multiple chronic conditions. The project (the Behavioral Health Integration and Complex Care Initiative) increased staffing for care management, care coordination, and behavioral health integration. The evaluation determined that participation in the project was associated with improved clinical indicators for common chronic conditions, reduced inpatient costs in some sites, and improved patient experience in all sites. The evaluators saw the project as a new type of ongoing strategic partnership among Medi-Cal, its providers, and their patients.[22]

20 Berkowitz, Scott A. et al, "Association of a Care Coordination Model With Health Care Costs and UtilizationThe Johns Hopkins Community Health Partnership (J-CHiP)," JAMA Network Open, November 2, 2018 10.1001/jamanetworkopen.2018.4273
21 Khullar, Dhruv and /Dave A. Chokski, "Can better care coordination lower healthcare costs?" JAMA Network Open, November 2, 2018 10.1001/jamanetworkopen.2018.4295
22 Gilmer, Todd P. et al, "Evaluation of the Behavioral Health Integration and Complex Care Initiative in Medi-Cal" Health Affairs, September 2018 https://www.healthaffairs.org/doi/10.1377/hlthaff.2018.0372

A Pattern of Avoided Costs

Nevada hospitalization costs in 2016 averaged approximately $2,000/day depending on the type of hospital (State/local government hospitals = $1,933, Nonprofit hospitals = $2,195, For-profit hospitals = $1,715).[23] It is almost assured that these costs have risen over the past four years, though precise post-2016 data are not yet available. The daily rate for inpatient hospital care fails to consider the number of days that a patient typically spends in the hospital. One recent report indicated that each hospital stay costs an average of $15,734.[24] Other research has found even higher costs for average inpatient hospital stays.[25]

If those results are applied to the 600 participants BCCP's efforts in Nevada, the program would save the State $912,000 per month or $10.9 million per annum.

The average emergency room visit cost $1,389 in 2017, an increase of 176 percent over the previous decade.[26] As with the average hospitalization cost in Nevada in 2016, the estimate of the cost of an average emergency room visit almost certainly underestimates contemporary costs. Avoiding hospital-based cost generally means receiving medical services from other providers. Recent research suggests some remarkable price differences between emergency departments and doctors or urgent care centers. For instance, research finds that the cost of a trip to the emergency room is on average 12 times higher than being treated at a physician's office for common ailments. The cost of that same trip to the ER is also 10 times higher than a visit to an urgent care center.[27]

Exhibit 5 lists costs for different hospital-based care in Nevada and the number of such events that are equal to $1 million of costs. This is intended to illustrate how avoided costs represent a rationale for investment into complex care capacity.

Exhibit 5. Avoided costs for Nevada hospital-based care

Type of event	Cost per event	No. of events equal to $1,000,000
ER visit	$1,389	720
Hospital day	$2,000	500
Hospital stay	$15,734	64

Sources. Becker's Hospital Review, debt.org, Kaiser Health News

As noted above, the BCCP engages as many as 600 patients per year. The CareMore program in Memphis found that each participant required 3.46 fewer hospital days compared to their needs

23 Ellison, Ayla, "Average hospital expenses per inpatient day across 50 states," Becker's Hospital Review, January 4, 2019 https://www.beckershospitalreview.com/finance/average-hospital-expenses-per-inpatient-day-across-50-states.html
24 "Hospital and Surgery Costs" https://www.debt.org/medical/hospital-surgery-costs/
25 Pecci, Alexandra Wilson, "Average Inpatient Stay Costs More than $22,000," January 22, 2019 https://www.healthleadersmedia.com/finance/average-inpatient-stay-costs-more-22000
26 Alltucker, Kenneth, "USA Today: 'Really astonishing': Average cost of hospital ER visit surges 176 percent in a decade, report says," June 4, 2019 https://healthcostinstitute.org/in-the-news/usa-today
27 Kaiser Health News, "The Cost Of Unwarranted ER Visits: $32 Billion A Year," July 25, 2019 https://khn.org/morning-breakout/the-cost-of-unwarranted-er-visits-32-billion-a-year/

prior to participating in the program. For 600 BCCP participants, similar savings from participating in the program would total $4.2 million. The Geisinger program reduced healthcare costs by $1,520 per month. If those results are applied to the 600 participants BCCP's efforts in Nevada, the program would save the State $912,000 per month or $10.9 million per annum.

Here are some other considerations suggesting that programmatic benefits may be larger than researchers have determined to date:

1. The complicated needs of individuals and complex care programs may mean that it can take 4 to 5 years or more for utilization to stabilize and outcomes to improve, a longer timeframe than many evaluations consider;
2. Cost savings may not be restricted to medical expenses. Complex care programs have diverted individuals from jail into healthcare and substance use disorder programs. These programs may also have effects on housing, child welfare, and other public systems;
3. The very nature of complex care programs may make effective evaluation design much more difficult. For example, creating a comparison group as part of a randomized controlled trial may be impossible or unethical. Resource constraints may also limit evaluation efforts.[28]

Summary

BCCP are one of many programs that states have developed to help low-income individuals with complex care needs. These individuals frequently also are categorized as "super utilizers," that is, individuals whose needs for frequent and high cost care generate disproportionately high proportions of Medicaid healthcare budgets. The high rates of growth in Medicare expenses are significant concerns for state governments and have encouraged major efforts by the National Governors Association, Centers for Medicare and Medicaid Services, and private parties to find effective solutions that improve care and lower costs. BCCP represents Nevada's most important response to super utilizers within the State's Medicaid program.

Available research regarding similarly situated programs indicates that:

- CareMore reduced medical expenses by 37 percent per year in Memphis, TN;
- Savings in New Mexico range from $44,500 to $92,200 per patient;
- Geisinger (PA/NJ)) reduced per member costs by 28 percent;
- Johns Hopkins reduced cost of care in East Baltimore by $60 million.

Based on CareMore's performance in Tennessee and the structure of hospital charges in Nevada, it is estimated that BCCP saves the State of Nevada approximately $4.2 million/annum. Based on other analytical findings pertaining to complex care programs (Geisinger), savings could approach $11 million/year.

[28] Op. cit., he Davis, Rachel.