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Analysis and Recommendations for Medicaid High Utilizers in New Jersey

Prepared by the Rutgers Biomedical and Health Sciences (RBHS)
Working Group on Medicaid High Utilizers

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Finally, the Working Group is grateful to the Robert Wood Johnson Foundation for funding CSHP's staff on this project and to Rutgers University for supporting the time of the multi-disciplinary faculty who participated on this Working Group.

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Executive Summary

Background

In his Fiscal Year 2015 budget address, Governor Chris Christie called on Rutgers Biomedical and Health Sciences (RBHS) to join with others "…to help us devise a program to innovate and improve health care delivery under Medicaid and FamilyCare" focusing on health care delivery improvements for "super-utilizers." In response to this request, Rutgers Center for State Health Policy (CSHP) was charged with completing: 1) a rigorous quantitative analysis of Medicaid claims and managed care encounter data, 2) extensive outreach and conversations with expert Medicaid stakeholders, and 3) research on effective models and strategies implemented in other states. Using analyses prepared by CSHP, a Working Group of Rutgers experts identified a range of recommendations to inform the state's policy decision making.

Analysis of Medicaid Managed Care Claims & Encounter Data

In 2013, Medicaid spent approximately **$9.4 billion** in direct patient care for approximately **1.6 million New Jersey recipients**. Small groups of high-cost recipients account for disproportionately large shares of this total spending. Specifically, recipients in the top **1% of the spending distribution account for 28% of total statewide spending** and those in the top **10% account for approximately 75% of statewide spending.**

Individuals in the top 1% spending group have a number of distinguishing characteristics. **Eighty-five percent of them are Medicaid eligible because they are aged, blind, or disabled.** Others who are overrepresented in the top 1% spending group include recipients enrolled through children's services (e.g., foster care), individuals ages 40-64, those who died later in the year, and recipients receiving long term services and supports (LTSS).

While high-cost Medicaid recipients are extremely diverse in terms of their physical health problems, the vast majority of these recipients have a **mental health and/or substance abuse problem.** In 2013, **86.2% of individuals in the top 1% spending group had a mental health or substance abuse diagnosis**, while 1/3 of these individuals had at least one diagnosis classified as a severe mental illness (e.g., psychosis, bipolar disorder).

Patients in the top spending categories exhibit a great deal of spending persistence from one year to the next. The vast majority of individuals in high-spending categories in 2012 were at or near the same spending category in 2011 and in 2013. Persistence is slightly stronger within the non-LTSS population.

High-cost groups are also distinguished by their **high rates of overall inpatient utilization, avoidable hospitalizations, and hospital readmissions**.

Recommendations & Opportunities for Impact

This report identifies near-, medium-, and long-term recommendations organized within priority areas. While detailed explanations of the medium- and long-term options are highlighted throughout this report, selected **near-term recommendations** that have the capacity to be **implemented quickly and hold maximum promise for rapid impact** are previewed below.

Area 1: Integration of Behavioral and Physical Health – Models Treating the Whole Person

The significance of behavioral health conditions, which include mental health and substance use disorders, among high-cost beneficiaries is one of the most striking findings of the analysis conducted thus far. Accelerating adoption of effective strategies for providing adequate access to behavioral health services and integrating those services with physical health care through co-location and team-based care models should be an urgent priority.

Near-Term Steps

- Accelerate the implementation of Behavioral Health Home (BHH) pilots to two or three additional counties with the highest concentration of eligible beneficiaries.
- Pursue care models locating behavioral health services in primary care settings, such as Federally Qualified Health Centers (FQHCs), for patients with severe chronic physical health conditions and co-occurring behavioral health problems who are ineligible for the BHH model.

Area 2: Identify & Develop Interventions for Populations with Persistently High Costs

Incarcerated individuals transitioning to community life, homeless individuals, and other adults with severe social and behavioral problems are at significant risk for entering the high spending cohort of Medicaid enrollees. Early identification and intervention may have significant returns with regard to improving health and lowering cost.

Near-Term Steps

- Available predictive modeling techniques and databases should be applied to identify populations most at-risk of having persistently high costs.
- Assure the rapid and seamless transition of the incarcerated population to high-functioning medical homes.

Area 3: Expand Opportunities to Coordinate Social Service and Public Health Initiatives with Medicaid

Factors outside the health care system including **poverty, homelessness, the absence of social supports, and personal trauma are important drivers** of avoidable healthcare costs.

Near-Term Steps

- Fully implement and evaluate the ACO Demonstration; derive lessons from the experiences of the early ACOs.

- For Medicaid beneficiaries at risk for inappropriate or avoidable utilization, continue to implement policies to enable and require Medicaid Managed Care Organizations (MCOs) to engage them in in-person, intensive care coordination that includes linkages with housing and social services when needed.

Area 4: Adopting Best Clinical Practices

Best clinical practice calls for the delivery of evidence-based recommended preventive and health maintenance services, which tend to be particularly under-delivered for disadvantaged populations. **One clinical practice area that merits special attention is adherence to best practices in prescription drug use.**

Near-Term Steps

- Continue to invest in health information technology to support wide adoption of "meaningful use" capabilities.
- Develop a strategy to conduct baseline reviews of use of particular classes of medications that account for substantial shares of Medicaid pharmacy expenditures and where substantial rates of off-label use exist and there are concerns about safe and judicious use.

Area 5: Strengthening Infrastructure and Accountability

New Jersey Medicaid has evolved from a "payer" of claims to a "purchaser" of care based on value delivered by managed care organizations and other contractors. **The degree to which the "purchaser paradigm" can foster innovation and flexibility is greatly influenced by the design of incentive driven performance contracts.**

Steps to Explore

- Identify and address barriers to rapid cycle innovation in Medicaid program strategies, including assessing the adequacy of staff and data resources and streamlining regulatory review.
- Conduct a comprehensive review of the New Jersey MCO contract, including opportunities to link payment with quality performance.
- Review the provider network adequacy within the Medicaid program, particularly in primary care and behavioral health.

Data Sources

Quantitative analyses are based on fee-for-service (FFS) claims and managed care encounter records in service years 2011-2013 for all individuals in NJ FamilyCare, which includes Medicaid and the Children's Health Insurance Programs. In addition, CSHP collected input from **53** New Jersey stakeholders, including **26** who participated in three stakeholder forums and **27** in separate individual or group discussions. Finally, the project team explored several areas of potential promise for New Jersey, including **Medicaid health homes models** and **performance-based managed care contracting**. In addition to reviewing available literature, discussions were held with seven experts and knowledgeable staff in other states regarding their models and lessons learned that could be applied within the context of New Jersey's Medicaid program.

Analysis and Recommendations for Medicaid High Utilizers in New Jersey

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Background

In his Fiscal Year 2015 budget address, Governor Chris Christie called on Rutgers Biomedical and Health Sciences (RBHS) to join with others "…to help us devise a program to innovate and improve health care delivery under Medicaid and FamilyCare" focusing on health care delivery improvements for "super-utilizers." He noted that New Jersey spends over $12 billion in federal and state funds (or about one-third of the state budget) on Medicaid and NJ FamilyCare, covering 1.4 million people. He noted further that the highest costs in NJ FamilyCare come from individuals with repeated emergency department visits and inpatient hospital stays, and those with complex medical conditions. He highlighted the Medicaid Accountable Care Organization (ACO) pilot as one strategy the state is pursuing to enhance care management and coordination, with the goal of improving care and lowering costs for individuals who are high utilizers of health care services, and he requested that Rutgers lead a collaborative effort to propose additional strategies for the State to consider.

In August 2014, the Department of Human Services (DHS), Division of Medical Assistance and Health Services (DMAHS) and the Department of Health (DOH) executed a Memorandum of Agreement (MOA) with Rutgers which designated the Center for State Health Policy (CSHP) within the Institute for Health, Health Care Policy & Aging Research, a unit of RBHS, to provide a quantitative analysis of Medicaid claims and managed care encounter data, to conduct outreach to Medicaid stakeholders, and to prepare other research to inform potential strategies to improve care and decrease costs for the highest utilizers among the program beneficiaries.

Using analyses prepared by CSHP, a Working Group of Rutgers experts, led by Alfred Tallia, MD, MPH, professor and chair of Family Medicine and Community Health at Rutgers Robert Wood Johnson Medical School (RWJMS), and Joel Cantor, ScD, distinguished professor of public policy and director of CSHP, developed strategies and recommendations in response to Governor Christie's request. This report summarizes the data analysis and findings of the Working Group.

The MOA defines high utilizers as Medicaid clients in the top one percent of the Medicaid spending distribution. It also defined several groups of special interest, including those with:

(1) chronic emergency room visits (six or more per year);
(2) repeat inpatient hospital stays (three or more multiple-day stays per year);
(3) hospital stays longer than 30 days;
(4) complications of treatment for complex behavioral, mental health, and substance abuse conditions with a primary behavioral health diagnosis; and
(5) other condition(s) resulting in the client being in or near the top one percent range of New Jersey Medicaid spending for an individual.

The MOA directs RBHS to consider recommendations in several areas: (a) multi-payer initiatives; (b) payment reform; (c) best clinical practices; (d) delivery system changes; (e) case management; (f) appropriate benefit levels; and (g) public health strategies. The MOA also directs RBHS to consider New Jersey's public health programs and Medicaid managed care contract, and reflect on clinical or other best practices as it develops its recommendations.

Project Approach

Data Analysis

The quantitative analyses below are based on fee-for-service (FFS) claims and managed care encounter records for all individuals in NJ FamilyCare, which includes Medicaid and the Children's Health Insurance Programs. **Throughout the report, the term "Medicaid" is used to refer to all of these individuals combined.** All analyses are restricted to paid claims and encounters submitted by service providers and do not include capitation payments made by Medicaid to managed care plans. (Capitation payments to providers are also excluded to avoid double-counting services delivered.) The data include Medicaid spending for Dual Eligibles but not the Medicare portion of spending for these individuals. Although this work focuses primarily on individuals in the top 1% of the Medicaid spending distribution, additional groups are included for comparative purposes and to understand utilization patterns of individuals just outside of the top 1%. Consideration of these individuals is important, since many of them are possibly on a trajectory that will match or exceed the spending levels of the current top 1% in subsequent years. Interventions that prevent high-risk individuals from becoming high users in the future could be just as effective in containing Medicaid spending as interventions that seek to reduce spending among current high users.

The data used in this report cover service years 2011-2013. The longitudinal nature of the data allow for analysis of persistence in spending and utilization among high users in addition to single year descriptions. The analyses provide a thorough description of high-spending Medicaid recipients including factors that are associated with high-spending. These factors, however, are not necessarily the ones that caused individuals to enter the high-spending categories. Although detailed causal modeling is beyond the scope of this report, recommendations for uncovering key causal relationships are included within the report's policy and practice focused recommendations.

New Jersey Stakeholder Input

CSHP and RWJMS collected input from 53 New Jersey stakeholders, including 26 who participated in three stakeholder forums held in New Brunswick and Trenton and 27 in separate individual or group discussions. See the Appendix for a list of participants in the forums and discussions. Discussion questions were developed to elicit input on the general topic of improving care for high-utilizing patients and the specific areas of focus identified in the project MOA. Three similar question guides were developed—one for physical and behavioral health providers, one for community organizations, public health, social services, and housing agencies, and a third for Medicaid managed care organizations. Themes were distilled from the forums and interviews and presented to the RBHS Working Group for review, discussion, and prioritization.

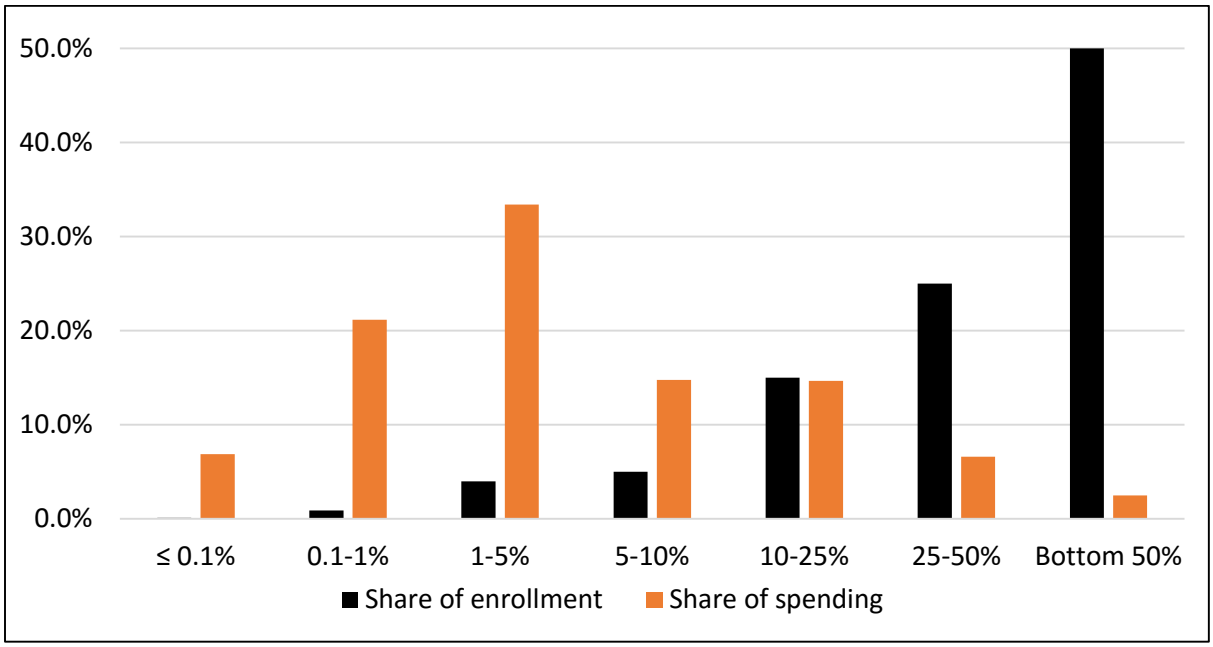
Other Research

Based on suggestions from stakeholders, and the RBHS Working Group, or from other evidence, the project team explored several areas of potential promise for New Jersey, including Medicaid health homes models and performance-based managed care contracting. In addition to reviewing available literature (discussed below where applicable), discussions were held with seven experts and knowledgeable staff in other states regarding their models and lessons learned that could be applied within the context of New Jersey's Medicaid program.

Analysis of Medicaid Managed Care Claims & Encounter Data

Description of High Spending Populations

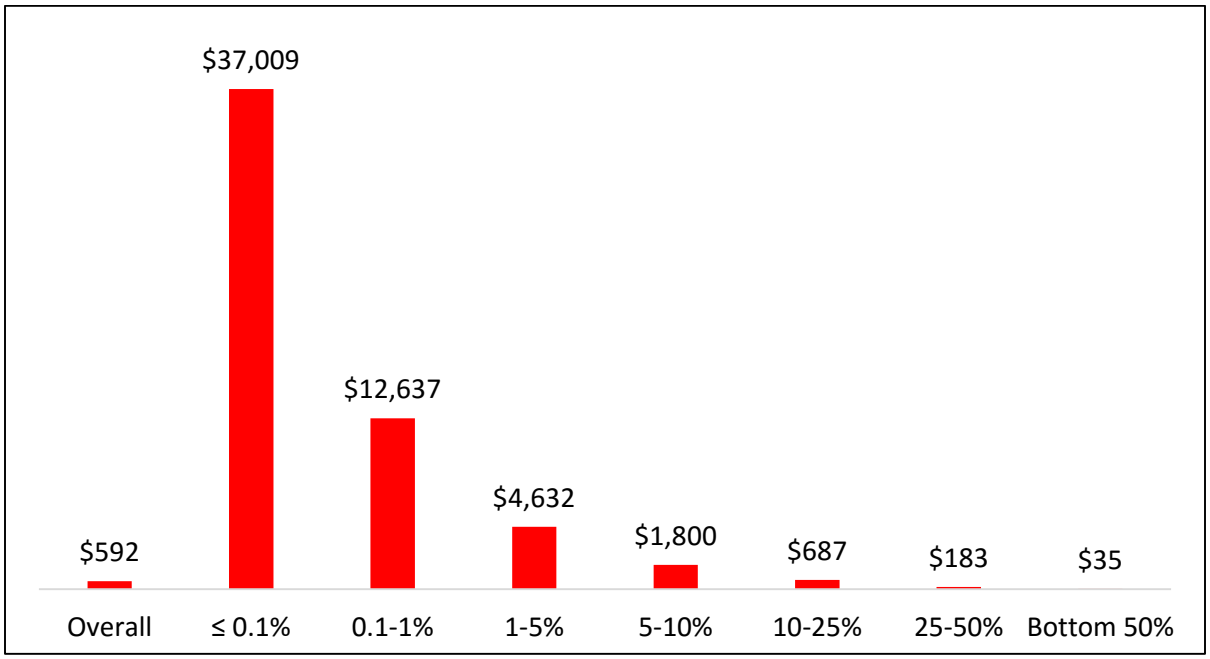
Figure 1: Share of Spending versus Enrollment by Spending Group, 2013[a]



[a] Includes individuals who were enrolled for at least one month in 2013.

- In 2013, Medicaid spent approximately $9.37 billion in direct patient care for approximately 1.59 million enrollees.
- Small groups of high-spending enrollees account for disproportionately large shares of this total spending amount.
- Notably, ¾ of all direct patient care spending is attributable to individuals in the top 10%.

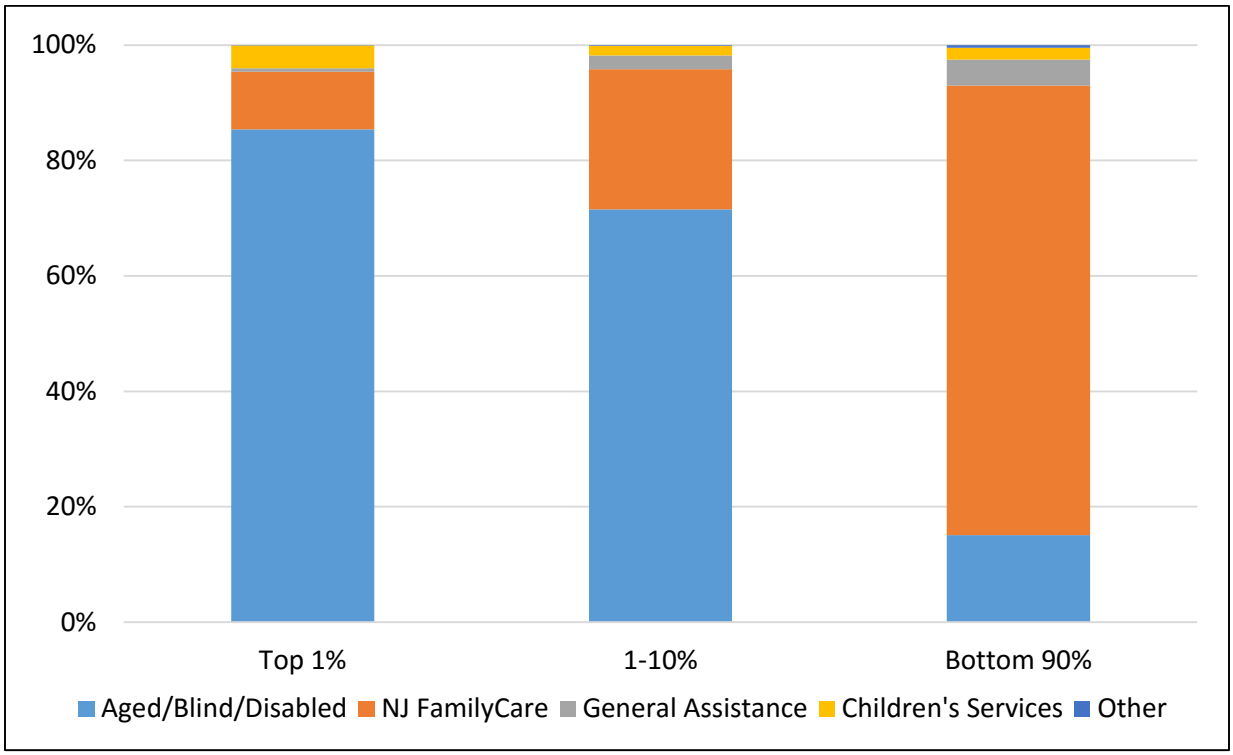
Figure 2: Average Spending per Person per Month, 2013[a]



[a] (Spending/days of enrollment)*30

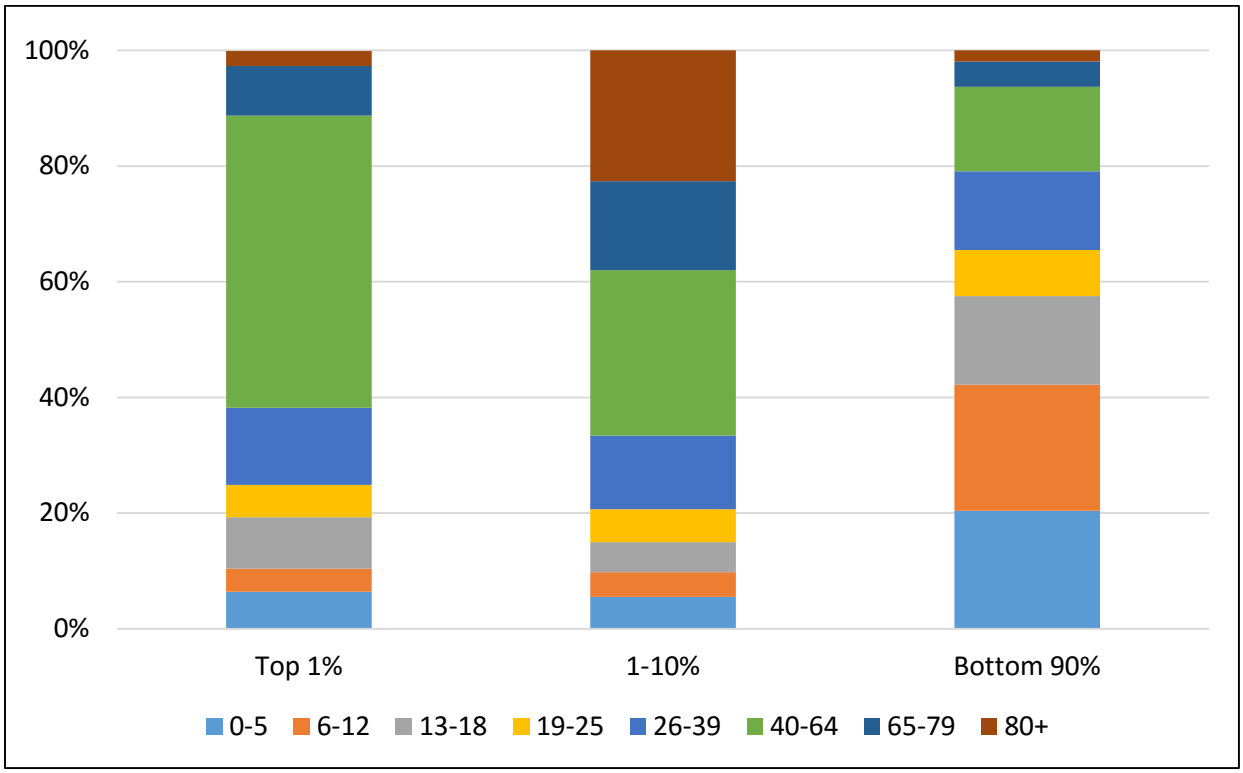
- Spending per person per month varies dramatically by spending group.

Figure 3: Medicaid Eligibility Categories by Spending Group, 2013



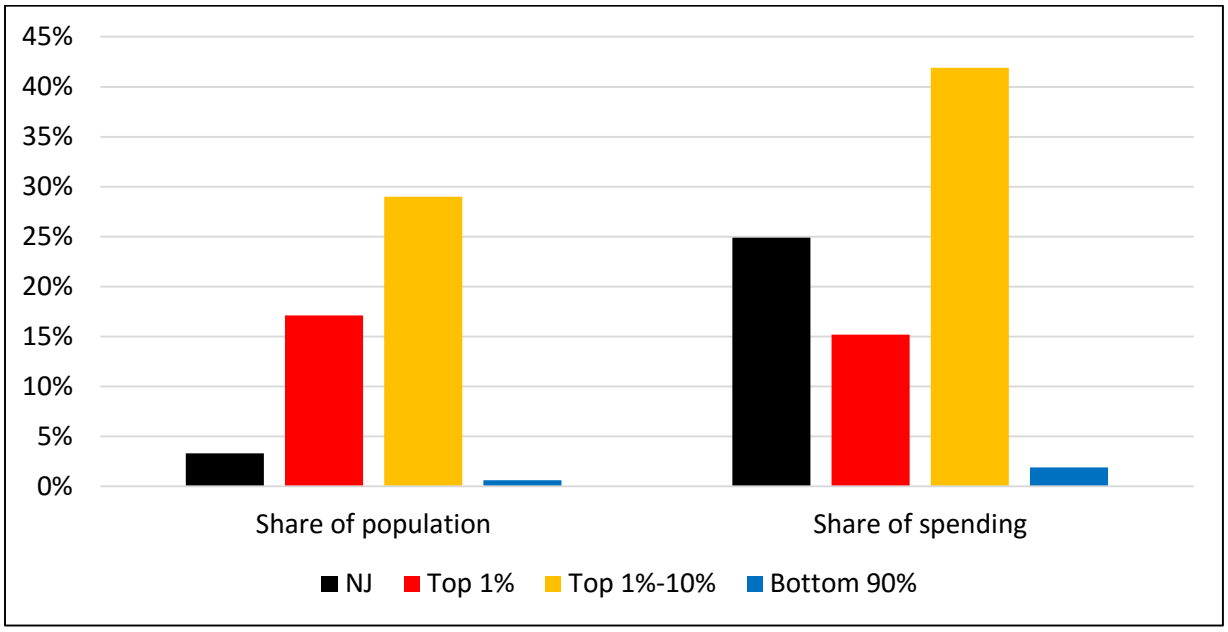
- Individuals in the top 1% spending group are predominantly aged, blind, and/or disabled.
- Although enrollment categories are more mixed in the 1-10% group, the majority within this group is also aged, blind, and/or disabled.
- Relative to their number in the general Medicaid population, individuals enrolled through Children's Services are highly represented among the Top 1% group.
- Individuals in the bottom 90% spending group are predominantly covered through NJ Family Care.

Figure 4: Age Distribution within Spending Groups, 2013



- Approximately half of the individuals in the top 1% spending group are between the ages of 40 and 64.
- Within the 1-10% spending group, the plurality are ages 65 and above.
- Within each of the spending groups, spending amounts for individuals ages 65 and over include payments made by Medicaid only. Since Medicare is likely to cover most of the acute care spending for these individuals (i.e., for Dual Eligibles), the Medicaid portion of spending likely predominantly reflects expenditures for long term services and supports (LTSS).

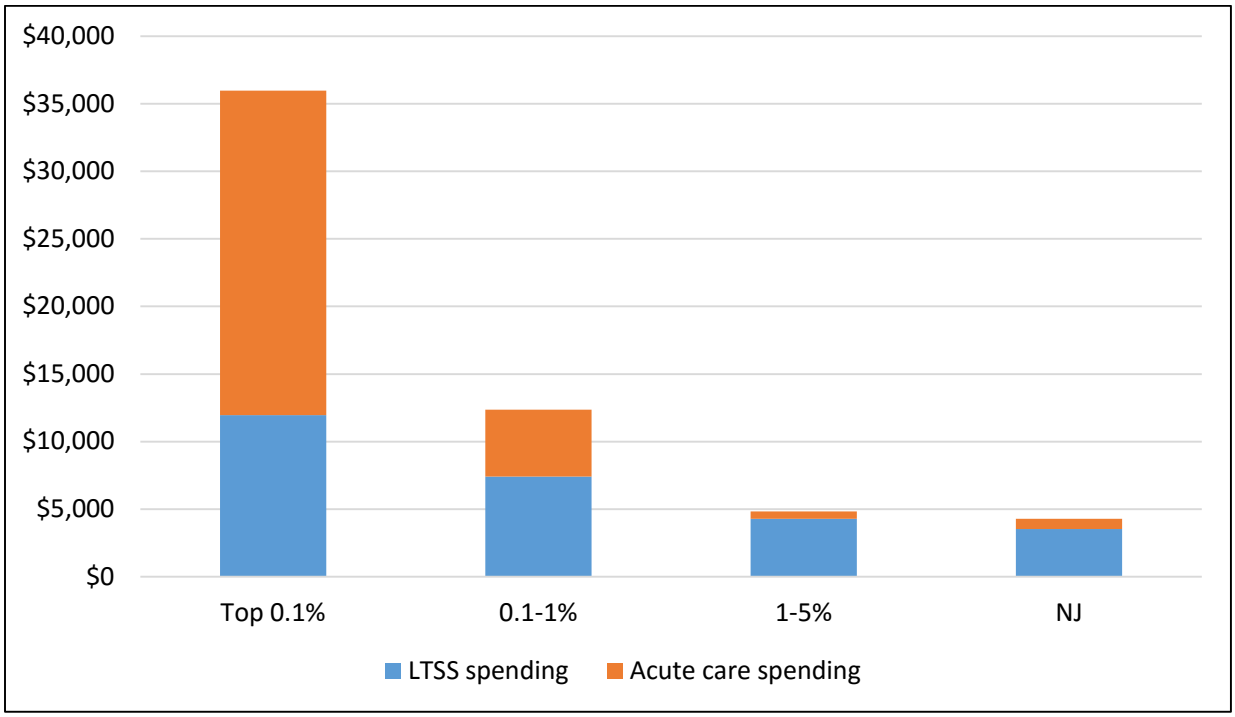
Figure 5: Representation of the Long-Term Services and Supports (LTSS) Population within Spending Groups, 2013[a]



[a] LTSS includes individuals eligible for services in the community, at home, or in facilities.

- The LTSS population accounts for 3.3% of statewide Medicaid enrollment but they account for 24.9% of statewide Medicaid spending.
- The LTSS population is disproportionately represented in the higher spending groups.
- Within the 1-10% spending group, the LTSS population accounts for a disproportionately large percentage of total spending.

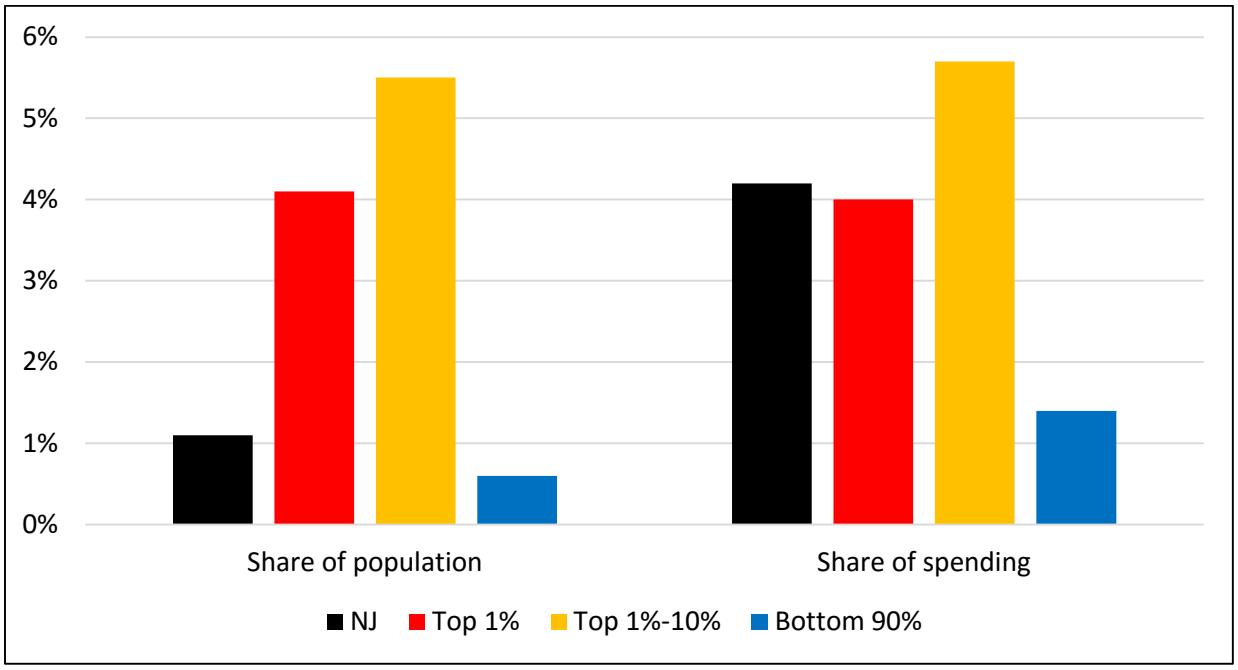
Figure 6: Acute Care Spending versus LTSS Spending within the LTSS Population, 2013[a]



[a] LTSS includes individuals eligible for services in the community, at home, or in facilities.

- For the LTSS population in the Top 0.1% of the overall spending distribution, 2/3's of per capita spending is for acute care services.
- For the LTSS population in the 0.1-1% spending group, 2/5's of per capita spending is for acute care services.
- For the LTSS population in the remaining spending groups (and NJ overall), per capita spending is almost entirely for long terms services and supports.

Figure 7: Representation of Decedents within Spending Groups, 2013



- Decedents (i.e., individuals who eventually died during the year) account for 1.1% of statewide Medicaid enrollment but they account for 4.2% of statewide Medicaid spending.
- Decedents are disproportionately represented within high-spending groups.

Table 1: Representation of Recipients Living in Special Settings within Spending Groups, 2013

Spending group	Nursing facility	People with developmental disabilities living in facilities
Top 0.1%	4.1%	67.1%
0.1-1%	15.0%	8.6%
1-5%	43.5%	0.0%
5-10%	5.4%	0.0%
Statewide	2.4%	0.1%

- Recipients living in nursing facilities are disproportionately represented among high-spending groups, especially the 1-5% group where they account for more than 2/5 of the population in that subgroup.
- People with developmental disabilities living in facilities are disproportionately represented within the 0.1-1% spending group and make up 2/3's of the Top 0.1% spending group. These recipients are not over-represented in spending groups outside of the Top 1%.

Spending Persistence

Table 2: Prior Spending for Spending Groups in 2012[a]

		Spending Group Classification in 2011[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	69.7%	19.4%	4.4%	1.7%	2.3%	1.3%	1.3%
	0.1-1%	2.7%	69.4%	16.6%	4.0%	3.4%	1.6%	2.3%
	1-5%	0.1%	4.4%	67.2%	13.3%	8.4%	3.0%	3.7%
	5-10%	0.02%	0.7%	13.5%	43.6%	24.7%	9.5%	8.1%
	10-25%	0.01%	0.2%	2.0%	9.3%	42.6%	26.5%	19.5%
	25-50%	0.0%	0.04%	0.4%	2.0%	17.0%	41.4%	39.2%
	Bottom 50%	0.0%	0.02%	0.2%	0.7%	5.5%	20.2%	73.4%

[a] Based on 1,192,747 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.

[b] Percentages are row percentages.

[c] Shading highlights individuals who were in the same spending group in 2011 as they were in 2012.

- High-spending individuals often generate persistently high spending from one year to the next.
- For example, among those in the top 0.1% in 2012, 69.7% were in the top 0.1% in 2011. An additional 19.4% of the top 0.1% in 2012 were in the 0.1-1% group in 2011.
- For many individuals across all spending groups, their spending classification in 2012 was the same as it was in 2011. This is especially true for individuals in the top three spending groups where a clear majority stayed in the same spending group from one year to the next.
- Typically, when individuals change spending groups between years, they fall into an adjacent spending group. Thus, for most individuals spending classifications are fairly stable from one year to the next.
- As shown in Appendix 2, Tables A10-A12, spending persistence is not driven by high persistence among individuals receiving LTSS. To the contrary, persistence is usually stronger (especially for the top two spending categories in Table 2) within the non-LTSS population.

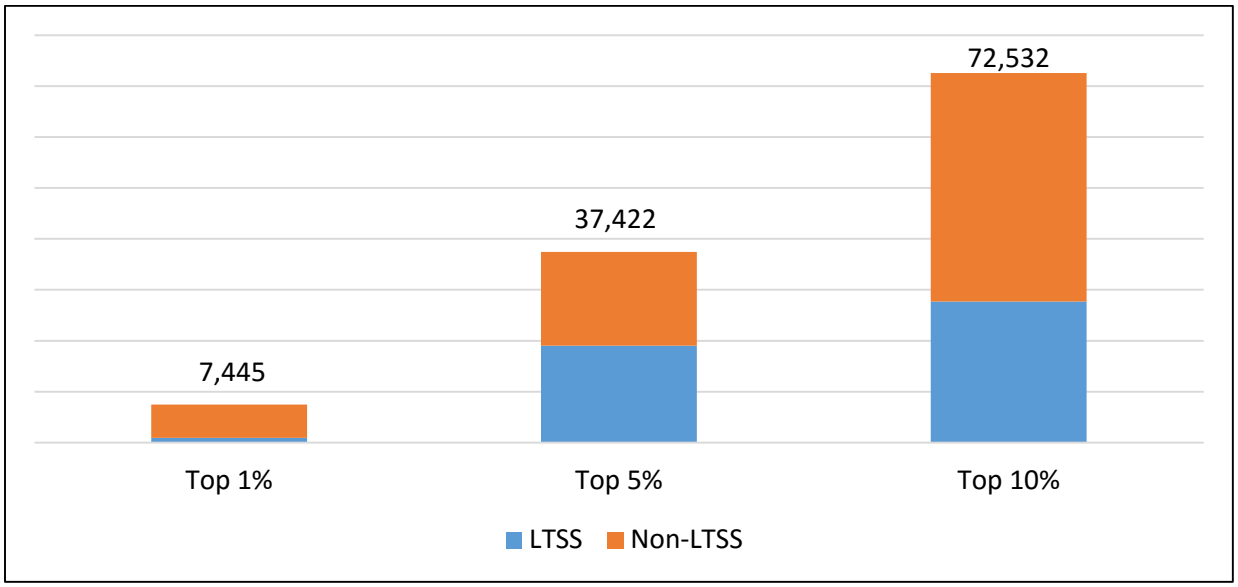
Table 3: Future Spending for Spending Groups in 2012[a]

		Spending Group Classification in 2013[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	63.1%	28.7%	4.3%	1.8%	0.8%	0.6%	0.8%
	0.1-1%	3.4%	67.9%	19.5%	3.9%	3.1%	1.1%	1.2%
	1-5%	0.1%	4.2%	67.8%	13.5%	8.5%	3.1%	2.8%
	5-10%	0.01%	0.7%	12.3%	46.6%	24.9%	8.5%	6.9%
	10-25%	0.01%	0.2%	1.9%	8.9%	44.0%	26.6%	18.5%
	25-50%	0.0%	0.1%	0.4%	1.8%	16.7%	41.4%	39.7%
	Bottom 50%	0.0%	0.03%	0.2%	0.6%	5.2%	20.2%	73.7%

[a] Based on 1,192,747 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.
[b] Percentages are row percentages.
[c] Shading highlights individuals who remained in the same spending group in 2013 as they were in 2012.

- Individuals in 2013 typically remained in the same or adjacent spending categories as they were in 2012, reinforcing the persistence findings shown in Table 5.
- Similar to the case in Table 2, Appendix 2,Tables A13-A15 show that persistence is usually stronger (especially for the top two categories in Table 3) within the non-LTSS population.
- It is important to note, however, that individuals who use high-cost medical resources at the end of life are not well represented in Table 5 & 6, since these tables include only those who were enrolled in Medicaid at some time during each year from 2011-2013.

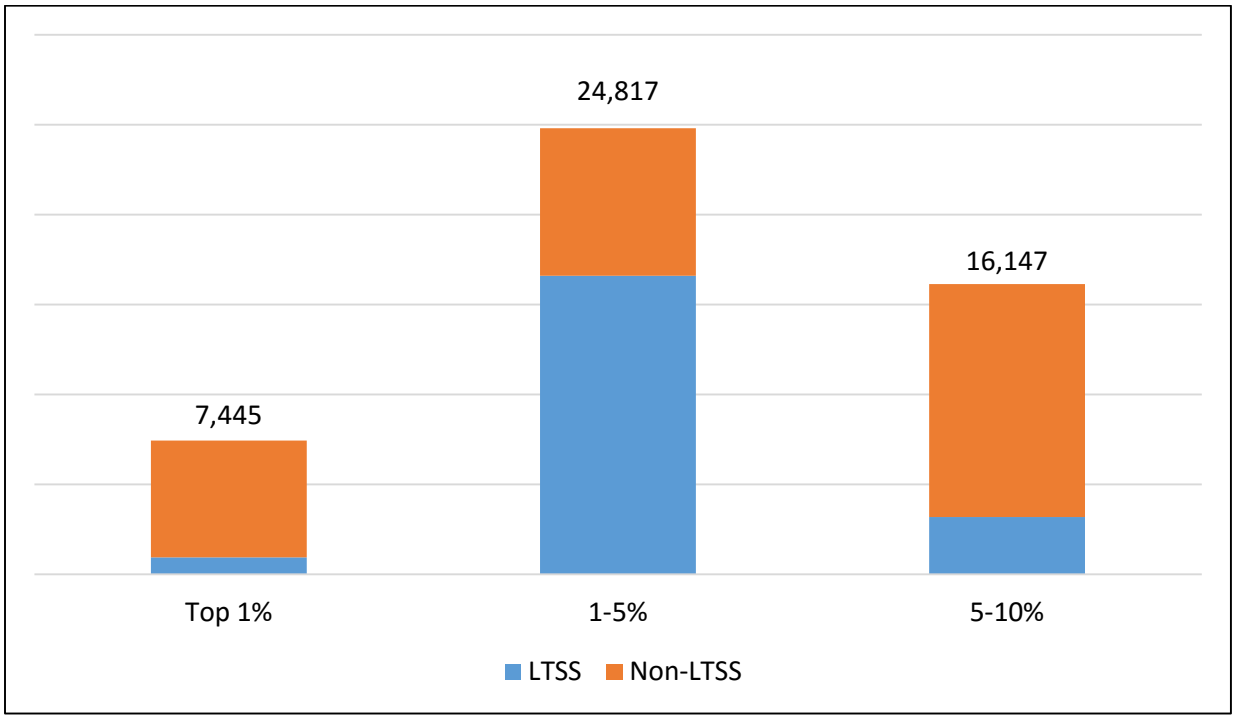
Figure 8: Cumulative Number of Individuals with Persistently High Spending, 2011-2013[a]



[a] Spending groups are cumulative – i.e., individuals in the Top 1% are automatically in the Top 5% and Top 10%, while individuals in the Top 5% are automatically in the Top 10%.

- The potential for savings is higher among individuals with persistently high spending than those who are high spenders in one year only.
- The number of individuals appearing in the top spending groups for three consecutive years appears small enough for focused targeting but large enough to potentially affect statewide Medicaid spending.
- Individuals who received some form of LTSS are disproportionately represented in the persistently high spending groups, accounting for 12.7% of individuals in the Top 1%, 50.9% of individuals in the Top 5%, and 38.2% of individuals in the Top 10%. (As noted above, in 2013, the LTSS population accounted for only 3.3% of the Medicaid population statewide.)

Figure 9: Individuals Who Persistently Remain within Specified Mutually Exclusive High Spending Groups, 2011-2013



- For analytic purposes, individuals were grouped into mutually exclusive categories of spending persistence as shown in Figure 8. These categories define the subgroups in the remaining analyses below.
- As in Figure 7, the LTSS population is disproportionately represented among the high-spending groups accounting for 12.7% of the Top 1%, 66.9% of the 1-5% spending group, and 19.7% of the 5-10% spending group (compared to 3.3% representation in Medicaid statewide).

Services Used by High Spending Populations

Table 4: Distribution of Spending by Category of Service among Persistently High Spending Groups, 2011-2013

	Spending Group					
Category of Service	**Top 1%**		**1-5%**		**5-10%**	
	Overall	**Non-LTSS, non-DD[a]**	**Overall**	**Non-LTSS, non-DD[a]**	**Overall**	**Non-LTSS, non-DD[a]**
Long Term Care	51.7%	0.5%	63.2%	0.0%	0.6%	0.0%
Independent Clinic	28.5%	60.9%	18.2%	48.0%	41.0%	30.2%
Inpatient Hospital	6.2%	11.7%	2.8%	7.4%	3.2%	3.5%
Pharmacy	4.2%	8.1%	6.5%	20.0%	14.5%	18.1%
Physician	6.3%	13.7%	5.3%	16.2%	32.0%	38.3%
Outpatient	1.6%	2.8%	2.0%	6.0%	4.6%	5.6%
Home Health	0.8%	1.6%	0.2%	0.4%	0.2%	0.2%
All other	0.7%	0.7%	1.8%	2.1%	3.9%	4.1%
Total dollars of spending	100%	100%	100%	100%	100%	100%

[a] Individuals in the designated spending category who are not receiving long term services and supports and are not people with developmental disabilities living in facilities (i.e., residential developmental centers).

- For individuals persistently in the Top 1% and 1-5% spending groups, most spending is on long term care services followed by spending in independent clinics.
- For individuals persistently in the 5-10% spending group, the plurality of spending is on independent clinic services followed by physician services.
- The predominance of long term care services in the higher spending groups is driven by spending among the LTSS population and people with developmental disabilities living in facilities. When these individuals are removed from the tabulations, independent clinic spending takes on a larger role along with spending for physician, pharmacy, and inpatient services.

Table 5: Heavy Hospital Use by Spending Group, 2013

	Spending Group			
	Top 1%	**1-10%**	**Bottom 90%**	**NJ**
Percentage with 3 or more inpatient admissions				
Overall	13.7%	3.3%	0.0%	0.5%
LTSS population	21.9%	1.4%	0.7%	2.4%
Percentage with at least one inpatient admission lasting 30 or more days				
Overall	6.1%	0.6%	0.0%	0.1%
LTSS population	10.7%	0.5%	0.4%	1.0%
Percentage with 6 or more treat-and-release emergency department visits				
Overall	6.3%	3.8%	0.5%	0.9%
LTSS population	4.7%	0.6%	0.4%	0.8%

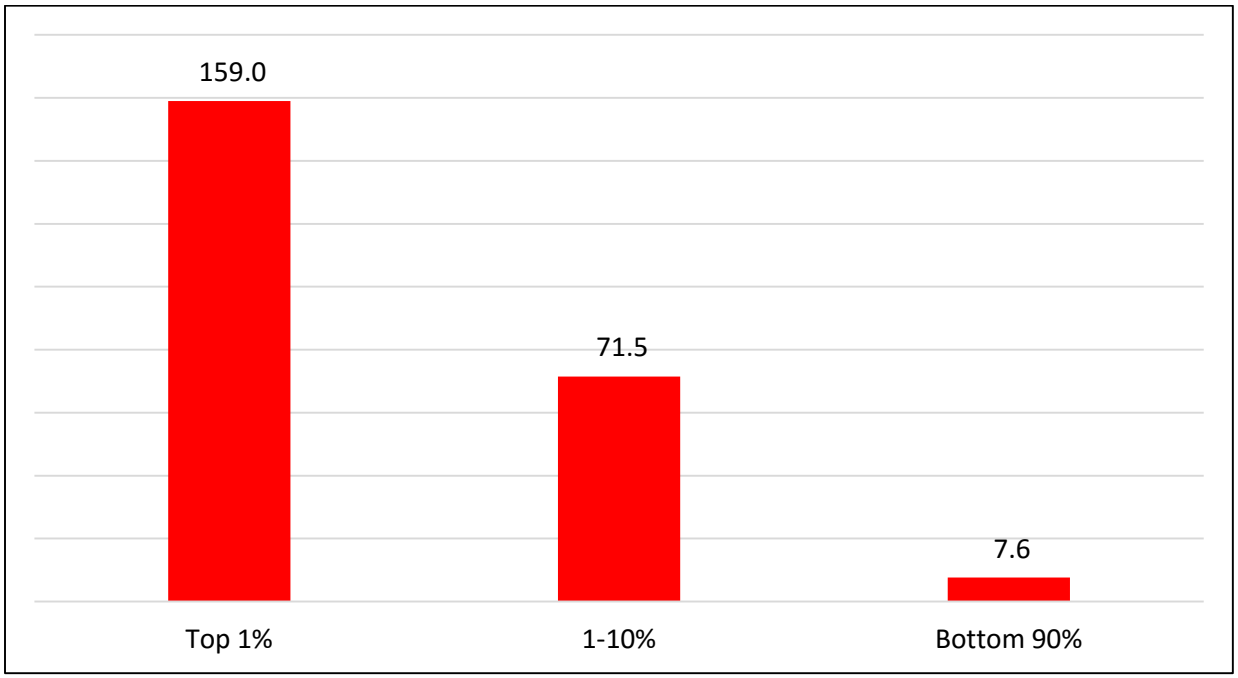
- Although heavy use of hospital care is very rare overall, it is much more common among the high spending patient groups.
- This is especially true for the LTSS population within the statewide Top 1% spending group. (Since the vast majority of Medicaid recipients do not receive LTSS, the percentages for the non-LTSS group are nearly same as the overall percentages.)
- Nevertheless, even within the high spending groups (overall and LTSS), most individuals are not heavy hospital users.

Table 6: Heavy Hospital Use by Individuals Who Consistently Appear in the Listed Spending Groups, 2011-2013

	2011	2012	2013
Top 1% (N=7,445)			
Percentage with 3 or more inpatient admissions			
Overall	5.4%	5.3%	4.9%
LTSS population	16.9%	14.5%	13.2%
Percentage with at least one inpatient admission lasting 30 or more days			
Overall	1.5%	0.9%	1.0%
LTSS population	5.5%	2.2%	3.2%
Percentage with 6 or more treat-and-release emergency department visits			
Overall	4.5%	4.1%	4.5%
LTSS population	6.0%	6.2%	5.2%
1-5% (N=24,817)			
Percentage with 3 or more inpatient admissions			
Overall	3.1%	2.9%	2.7%
LTSS population	1.3%	1.0%	1.0%
Percentage with at least one inpatient admission lasting 30 or more days			
Overall	0.4%	0.2%	0.3%
LTSS population	0.4%	0.2%	0.2%
Percentage with 6 or more treat-and-release emergency department visits			
Overall	2.4%	2.3%	2.1%
LTSS population	0.7%	0.6%	0.5%
5-10% (N=16,147)			
Percentage with 3 or more inpatient admissions			
Overall	1.0%	1.5%	1.2%
LTSS population	0.9%	1.6%	1.3%
Percentage with at least one inpatient admission lasting 30 or more days			
Overall	0.1%	0.1%	0.2%
LTSS population	0.0%	0.1%	0.4%
Percentage with 6 or more treat-and-release emergency department visits			
Overall	2.3%	2.4%	2.1%
LTSS population	0.6%	0.9%	0.6%

- Only small percentages of recipients who are persistently in the high-spending categories are also persistently high users of hospital care.
- Members of the LTSS population who are persistently in the Top 1% spending category are somewhat more likely to be persistently high users of hospital care.

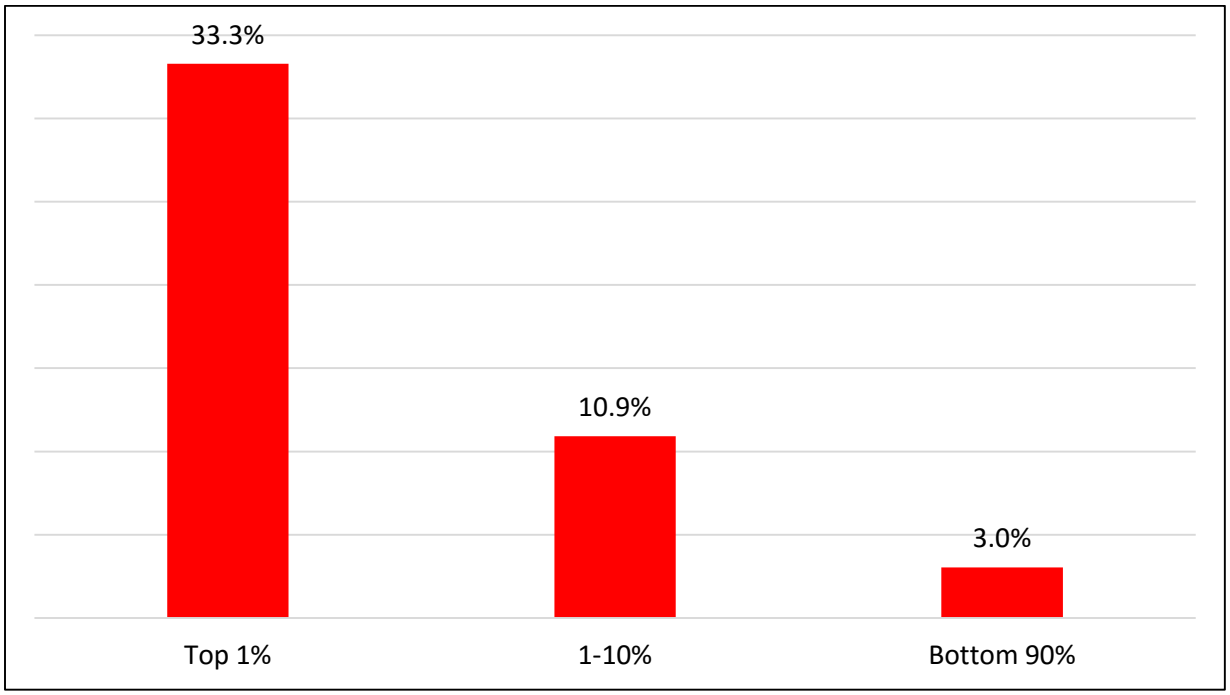
Figure 10: Avoidable Hospitalization Rate per 1,000 Adult Recipients (ages 18 and over) by Spending Group, 2013[a]



[a] Avoidable hospitalizations were calculated using Prevention Quality Indicator (PQI) software maintained by the Agency for Healthcare Research and Quality (AHRQ).

- Compared to recipients in the Bottom 90% spending group, those in the Top 1% have 20 times the rate of avoidable hospitalizations.
- Compared to recipients in the Bottom 90% spending group, those in the 1-10% group have 9 times the rate of avoidable hospitalizations.
- Within the Top 1% group, 5 conditions account for 81% of avoidable hospitalizations: chronic obstructive pulmonary disease (COPD), heart failure, diabetes with short-term complications, diabetes with long-term complications, & bacterial pneumonia.
- The most frequently occurring conditions leading to avoidable hospitalizations are similar for the two other spending groups.
- Although the avoidable hospitalization rate among children (age 17 and under) is higher within the higher spending groups, these rates are generally small for all of the spending groups. (For example, in 2013, the avoidable hospitalization rate among children was 13.7 per 1,000 in Top 1%, 16.4 per 1,000 in the 1-10% spending group, and 1.0 per 1,000 in the Bottom 90%).

Figure 11: General All-Cause Hospital Readmission Rate by Spending Group, Ages 18 and Over, 2013[a]



[a] Readmissions were calculated by adapting for Medicaid data the methodology currently used to administer the Medicare Hospital Readmissions Reduction Program (HRRP).

- Compared to recipients in the Bottom 90% spending group, those in the Top 1% have 10 times the rate of hospital readmission.
- Compared to recipients in the Bottom 90% spending group, those in the 1-10% group have more than 3 times the rate of hospital readmission.
- Recipients in the higher spending groups also have higher rates of inpatient admissions overall (1,044 per 1,000 individuals in the Top 1%, 509 per 1,000 individuals in the 1-10% group, & 47 per 1,000 in the Bottom 90% group.

Table 7: Per Person, Per Month Prescription Drug Spending by Overall Spending Category and Statewide, 2013

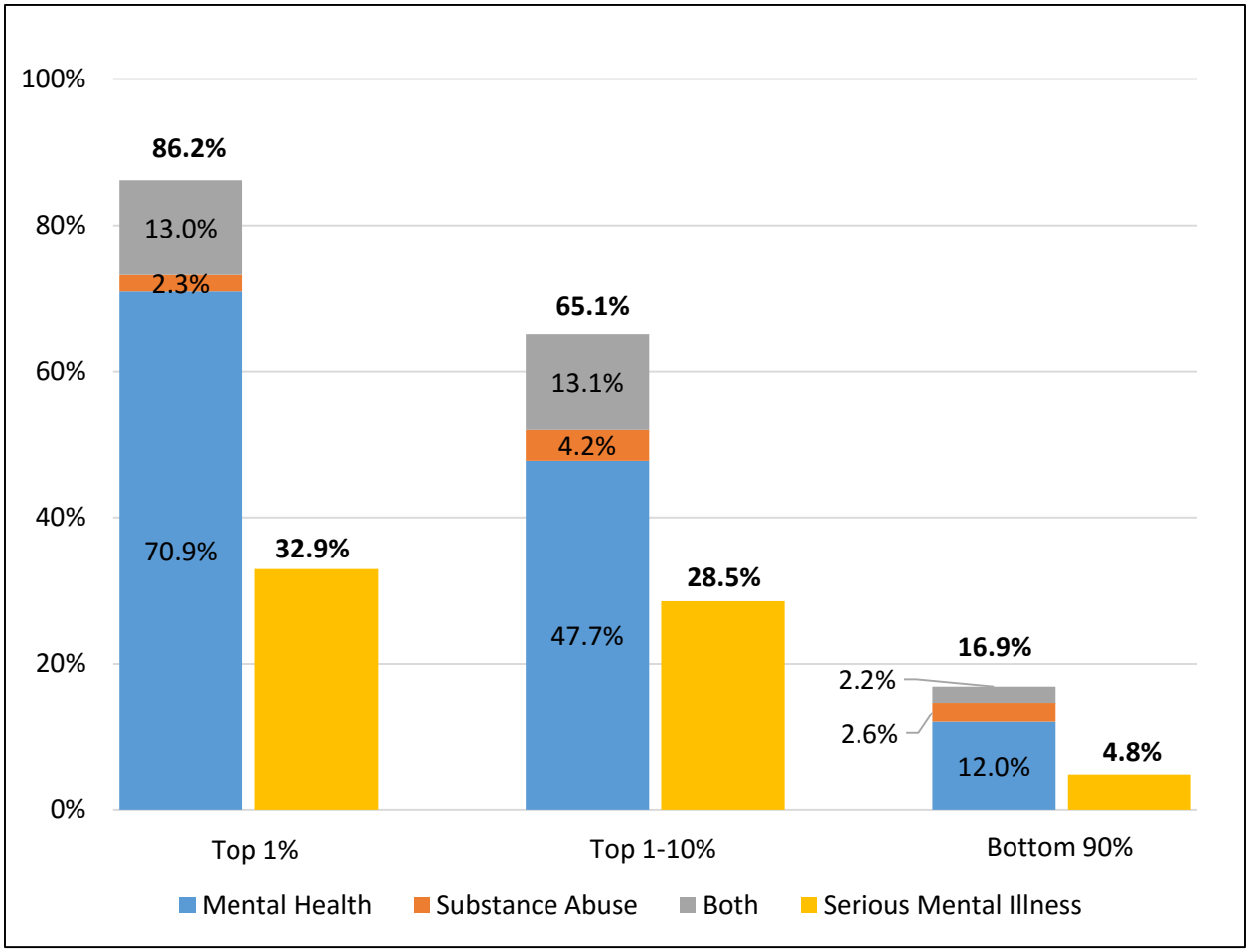
Drug category[a]	Top 0.1%	0.1-1%	1-5%	5-10%	NJ
Anti-coagulants	$6.97	$10.80	$3.96	$1.62	$0.41
Cardiac	$4.36	$7.40	$4.79	$4.57	$1.15
Psychosis/Bipolar/ Depression	$20.96	$76.70	$48.65	$45.54	$7.31
Diabetes	$3.70	$19.75	$17.36	$18.82	$3.37
ESRD / Renal	$1.84	$4.42	$0.90	$0.17	$0.09
Hemophilia/von Willebrands Disease	$1,036.25	$27.95	$0.89	$0.27	$1.34
Hepatitis	$0.93	$21.59	$12.58	$2.29	$0.85
HIV	$5.72	$51.08	$77.56	$25.00	$5.19
Infections	$42.39	$8.57	$1.63	$0.36	$0.22
Inflammatory /Autoimmune	$0.71	$2.86	$15.07	$7.61	$1.17
Malignancies	$56.76	$54.93	$14.00	$2.81	$1.32
Multiple Sclerosis /Paralysis	$1.20	$19.36	$15.78	$1.65	$0.92
Parkinson's /Tremor	$0.12	$0.57	$0.29	$0.23	$0.05
Seizure disorders	$37.64	$21.51	$5.88	$3.57	$0.85
Tuberculosis	$0.03	$0.14	$0.06	$0.02	$0.01
Other/not classified	$854.11	$261.11	$121.24	$86.77	$27.07
Total	$2,073.69	$588.73	$340.64	$201.32	$51.31

[a] Drug Categories based on the Chronic Illness and Disability Payment System (CDPS).

- Drug use for blood disorders (Hemophilia/von Willebrand Disease) accounts for half of all drug spending per person per month among the Top 0.1% spending group.
- Drug use for psychosis, bipolar disorder, or depression accounts for the largest share of per person per month drug spending among the next three spending categories.

Common Diagnoses among High Spending Populations

Figure 12: Mental Health and Substance Abuse Diagnoses by Mutually Exclusive Spending Group, 2013[a]



[a] Although state funding for some mental health services is available through NJ Charity Care, the data in this figure do not include diagnoses or spending through NJ Charity Care.

- Mental health and substance abuse diagnoses are common among all spending groups and very common among the top groups.
- Severe illness (which includes conditions such as psychoses, bipolar disorder, and chronic depression) affects large percentages of individuals in the top spending groups. CSHP observed very similar patterns in its November 2014 study using DOH hospital discharge data (http://www.cshp.rutgers.edu/Downloads/10530.pdf). That study showed a higher proportion of high hospital users with both mental health and substance abuse disorders than we observe in the Medicaid data. It also showed similarly high rates of behavioral health conditions among non-Medicaid patients.

Table 8: Mental Health and Substance Abuse Diagnoses by Spending Group, 2011-2013

	Persistent Spending Group		
Diagnoses	**Top 1%**	**Top 1-5%**	**Top 5-10%**
Mental Health Only	86.3%	71.3%	55.2%
Substance Abuse Only	0.3%	1.3%	2.7%
Mental Health and Substance	9.7%	14.8%	18.1%
Mental health and/or substance abuse	96.3%	87.4%	76.1%
Severe Mental Illness	38.5%	41.3%	36.0%

- The vast majority of individuals with persistently high spending have mental health or substance abuse diagnoses. Mental health and substance abuse diagnoses are nearly universal among individuals persistently in the Top 1%.
- Persistently high spenders are also more likely to have severe mental illness (compared to single-year high spenders, Figure 12).

Table 9: Top 10 High-Cost Diagnostic Categories among the Top 1% Spending Group, 2013

Diagnostic Category[a]	Overall	LTSS	Non-LTSS
Gastrointestinal, High cost	13.3%	29.1%	10.0%
Pulmonary, Very high cost	11.4%	27.3%	8.1%
Psychiatric, High cost	9.9%	13.8%	9.1%
Central nervous system, High cost	9.0%	20.1%	6.7%
Renal, Very high cost	6.9%	14.8%	5.3%
Skin, High cost	6.6%	23.0%	3.3%
Metabolic, High cost	5.1%	4.4%	5.2%
Cardiovascular, Very high cost	4.2%	7.2%	3.6%
Cancer, High cost	3.9%	4.1%	3.9%
Renal, Extra high cost	3.6%	7.8%	2.8%

[a] Diagnostic Categories based on the Chronic Illness and Disability Payment System (CDPS), which classifies diagnoses based on clinical categories and costs of treatment.

- Recipients in the Top 1% spending category fall into a wide range of high-cost diagnostic categories.
- The most commonly occurring high-cost diagnostic categories are usually more prevalent among high spenders who are receiving LTSS.

Table 10: Top 10 High-Cost Diagnostic Categories among the 1-10% Spending Group, 2013

Diagnosis[a]	Overall	LTSS	Non-LTSS
Psychiatric, High cost	8.8%	6.9%	9.6%
Renal, Very high cost	6.5%	10.3%	4.9%
AIDS, High cost	3.6%	0.9%	4.7%
Skin, High cost	3.5%	9.0%	1.2%
Gastrointestinal, High cost	3.1%	5.8%	1.9%
Pulmonary, High cost	2.9%	6.2%	1.5%
Pulmonary, Very high cost	2.5%	4.1%	1.9%
Cancer, High cost	2.3%	2.0%	2.4%
Metabolic, High cost	2.3%	1.3%	2.7%
Renal, Extra high cost	1.9%	2.4%	1.7%

[a] Diagnostic Categories based on the Chronic Illness and Disability Payment System (CDPS).

- Relative to the Top 1% spending group, high-cost diagnostic categories are usually less prevalent in the 1-10% spending group.
- Within the 1-10% spending group, the relative ranking of high-cost diagnostic categories and relative prevalence between LTSS and non-LTSS populations are similar to those observed in the Top 1% group.

Summary of Descriptive Data Analyses

- High-spending populations are characterized by a combination of disability status and high prevalence of mental health and substance abuse problems, including severe mental illness.
- High-spending individuals are extremely heterogeneous in terms of physical health disorders.
- People with development disabilities living in facilities stand out for their predominant representation within the top 0.1% of the statewide spending distribution as well as their disproportionate representation in the 0.1-1% spending group.
- Individuals living in nursing facilities and those receiving Medicaid children's services (i.e., foster children) also have a disproportionately high representation within the highest spending groups.
- Although some individuals in high-cost groups have extreme levels of hospital utilization (inpatient and emergency department), the vast majority of them do not.
- Individuals in the Top 0.1% of the statewide spending distribution spend more than $2,000 per person month on drugs with approximately half of this amount going toward drugs for hemophilia and related illnesses.
- Many individuals with high spending overall exhibit strong persistence in spending from year to year. Persistence is not driven by the use of long term services and supports within the LTSS population.
- Because it is based on data from 2011-2013, the analysis above does not reflect the implementation of Managed LTSS (MLTSS) and other reforms under the Comprehensive Medicaid Waiver, which occurred in 2014. Ongoing work evaluating the Waiver initiative will shed light on whether patterns of care change in subsequent years.

Recommendations

Introduction

Recommendations presented here are based on the data analysis shown above, discussions with New Jersey stakeholders and external experts, and comments received on earlier drafts of this report.

The recommendations are organized into three categories: near-term strategies that can be implemented quickly and may present the opportunity for rapid impact; medium-term approaches that would require further development but could be implemented within two to three years; and longer-term strategies that, while promising, would require commitment to more extensive exploration and development.

Area 1: Integration of Behavioral and Physical Health – Models Treating the Whole Person

Background. The significance of behavioral health conditions, which include mental health and substance use disorders, among high-cost beneficiaries is among the most striking findings of the analysis conducted thus far. Figure 12 shows that 86% of New Jersey Medicaid beneficiaries in the top percentile of the spending distribution have mental health and/or substance abuse diagnoses, including about one in three with severe mental illness (SMI), such as psychoses, bipolar disorder, and other disabling mental health problems. The prevalence of these conditions is also high in the rest of the top decile (1% to 10%) of the spending distribution, with 65% having a behavioral health diagnosis and more than one in four with SMI.

Among patients who are persistently in high-spending categories from 2011-2013, the findings are even more compelling. Nearly all (96.3%) of those persistently in the top 1% of the spending distribution and the vast majority (86.3%) of those persistently in the 1-10% spending group had one or more mental health and substance abuse diagnoses (Table 8). More than 1/3 of individuals persistently appearing in the high-spending groups had a diagnosis of severe mental illness.

The data analysis presented here does not permit an assessment of the extent to which behavioral health conditions *cause* patients to be high-cost, but it is clear that these conditions must be effectively managed in order to achieve better care and reduced cost for high-cost individuals. Recent research has shown that high users of inpatient hospital services have high rates of behavioral health conditions (see, for example, Chakravarty et al. 2014), and a Task Force convened by the NJ Department of Human Services reported high rates of mental health problems in persons with developmental disabilities.

New Jersey is actively pursuing a range of policy strategies to address gaps in behavioral health services and promote integration of behavioral and physical health care through co-location of services and team-based care. Specifically, under the NJ Comprehensive Medicaid Waiver, for beneficiaries receiving long-term care services and supports (LTSS) the state has consolidated responsibility for behavioral and physical health care into the contracts of Medicaid managed care organizations (MCOs) in a managed care long term services and support approach (MLTSS) for these patients.

After a period of developing an RFP for an Administrative Services Organization (ASO) to be responsible for the efficient and effective delivery of behavioral health services to most of the rest of the Medicaid population, New Jersey is now considering either using a separate managed behavioral health care organization (MBHO) or "carving in" behavioral health services to managed care organization (MCO) contracts. The state has pursued an agreement with Rutgers University Behavioral Health Care (UBHC)

to be an Interim Managing Entity (IME) for addiction services starting in July 2015. Given the timing of the introduction of the IME approach, we were unable to gauge stakeholder views on this approach. In earlier discussions, however, we found mixed views of the likely effectiveness of the ASO approach to service authorization and care management. Most were optimistic that it could improve access to behavioral health services and encourage better integration of care, but many felt that it could fall short by keeping behavioral and physical health services in separate "silos", managed by organizations that do not have strong incentives or resources to integrate care. The critical importance of harmonizing the behavioral health and physical health care for these complex patients is clearly illustrated in the data presented above.

Finally, New Jersey has begun to pilot Behavioral Health Homes (BHHs). Based in community mental health provider organizations, the BHH program serves patients with severe mental illness who are at high risk of high acute care utilization. This model is operating in two counties (Bergen and Mercer) and planning is underway to expand to additional counties.

The expansion of Medicaid eligibility in New Jersey is likely to magnify the already extensive challenges of caring for patients with behavioral health problems.

Recommendations. Accelerating adoption of effective strategies for providing adequate access to behavioral health services and integrating those services with physical health care through co-location and team-based care models should be an urgent priority. While no single model of care integration has emerged as effective in all populations, and experimentation with multiple approaches should continue to be pursued, core components of any strategy that is considered should include "high touch", personal, and frequent care management and care coordination activities for the highest cost/highest need patients. Recent research suggests that the cost-effectiveness of very intensive, in-person care coordination depends on selecting patients who are most likely to generate high potentially avoidable costs and the adoption of evidence-based care coordination and health improvement strategies (see, for example Brown et al. 2012). Specifically, the following steps are recommended:

Near-Term Steps

- Accelerate the implementation of BHH pilots to two or three additional counties with the highest concentration of eligible beneficiaries (including the anticipated growth in the eligible population due to Medicaid expansion) and rigorously evaluate the implementation and outcomes of the pilots. If supported by positive evaluation findings, robustly expand the BHH model, refining implementation based on lessons learned from previous experiences. The focus of program expansion should be on adaptation rather than replication to ensure that local needs are met. A common denominator of intriguing programs for persons with severe mental illness accompanied by chronic medical illnesses is that they are based in mental health clinic settings. A promising model in Missouri is described in a report by the National Academy for State Health Policy (NASHP).
- Pursue care models co-locating behavioral health services in primary care settings, such as Federally Qualified Health Centers (FQHCs) for patients with severe chronic physical health conditions and co-occurring behavioral health problems who are ineligible for the BHH model (e.g., do not have qualifying SMI conditions). Tennessee's *Cherokee Health Systems* model is widely cited as an effective care integration approach and is highlighted in the NASHP report referenced above. Other recent reviews of state strategies for integration have been published by the Commonwealth Fund, Kaiser Family Foundation and the Milbank Memorial Fund.

    - Assess barriers to co-location of behavioral health care in FQHCs and other primary care settings such as licensing and reimbursement regulations, and streamlining processes to support care integration as necessary.
- Expand the Emergency Intensive Support System (EISS) programs beyond the current 10 counties as an alternative to the ED for individuals in a crisis or near-crisis state.
- Whenever possible and across care settings, support the expansion of peer-to-peer case management and expand the opportunities for appropriate training and oversight for volunteers.
- Conduct analyses of indicators of effective treatment of mental health conditions, e.g., rates of 30-day readmission following mental health hospitalizations across the state, with analysis by county and hospital, in order to inform initiatives to improve management of mental health hospital transitions. In parallel with this effort, conduct baseline analysis of performance on community care follow-up after psychiatric hospitalization, a key intervening variable in mental health readmissions.

Medium-Term Steps

- In light of potential problems that may be caused by vesting responsibility for behavioral and physical health care in separate entities, the state should explore more fully integrated models.
    - Consider including responsibility for behavioral health in MCO contracts for non-LTSS populations, creating a fully integrated model. Such a model should initially exclude persons with mental health needs that are severe and persistent, who would be better cared for in settings such as BHHs or specialized MCOs (discussed further below). The capacity of the MCOs to take on this responsibility should be fully assessed before making this modification and strong performance metrics should be developed (including measures of behavioral health network adequacy). Such an approach might be piloted with one MCO that has been deemed to have the most advanced capabilities to integrate behavioral health in one region of the state.
    - Promote specialized primary care-based models for populations with significant behavioral and physical health challenges that would not meet the criteria for the BHH model (e.g., do not have the SMI diagnoses required for BHH enrollment). Such a strategy should facilitate detection and intervention of behavioral health problems, e.g., the Screening, Brief Intervention and Referral to Treatment (SBIRT) model underway in multiple states and should focus on patients with high levels of potentially avoidable care and patterns of poor disease management. These programs should be designed as advanced primary care models such as patient-centered medical homes with fully integrated behavioral health services with requisite reimbursement mechanisms for behavioral health services.
- Annually review implementation and outcomes of the integrated behavioral health strategies described above using rigorous evaluation strategies and make mid-course adjustments as indicated.

Long-Term Steps

- Explore the value of developing new specialized MCOs and models of service delivery for high-need populations with severe and persistent behavioral health problems and co-occurring chronic physical health problems.
- Assess the extent to which the supply of behavioral health providers available in Medicaid networks is adequate and address shortfalls in supply that are identified.

Area 2: Identify & Develop Interventions for Populations with Persistently High Costs

Background. A second important finding of the analysis is the significant number of New Jersey Medicaid beneficiaries who persistently fall within the high cost categories. Large majorities of individuals in high cost categories (i.e., top 0.1%, 0.1-1%, 1-5%) in 2012 were at or near the same level of spending in 2011 and 2013 (Tables 2 and 3). Specifically, 7,445 Medicaid beneficiaries remained in the top 1% of the spending distribution for each of the three years. An additional 24,817 remained in the 1-5% group and an additional 16,147 remained in the 5-10% group for each of the three years (Figure 8), numbers that are likely to increase with the addition of the Medicaid expansion population. Moreover, as shown above, the LTSS population is clearly over-represented among these groups of persistently high users. These findings present an important opportunity to focus strategies on a defined cohort or cohorts of persistently high-cost patients.

Although little is known about their care patterns, many in the Medicaid expansion population are likely to be at high risk of becoming persistently high cost. For example, one particularly important subgroup of the expansion population consists of incarcerated persons who are eligible for Medicaid for the first time upon their release. Such individuals are known to have a high prevalence of mental health and substance use problems but are not well connected to any community-based care for these conditions. This situation raises a coordination challenge that is exacerbated by the bifurcated oversight structure of the prisons (overseen by the Department of Corrections) and the county jails (overseen by the Administrative Office of the Courts). In addition, the expansion population includes homeless adults and others with severe social and behavioral problems, making them also at high risk for entering the high spending cohort of Medicaid enrollees. This may present the opportunity to augment and enhance the current primary care delivery system to better meet the needs of this targeted population.

Recommendations. The high level of persistence of high-cost Medicaid beneficiaries suggests that early identification and intervention might have significant returns with regard to improving health and lowering cost; the following steps are recommended:

Near-Term Steps

- Take steps to understand better the predictors of persistent high costs, with emphasis on costs that can be reduced with better care management, such as hospital stays for acute exacerbation of chronic conditions. To inform the development of interventions, available databases and predictive modeling techniques should be applied to identify the most at-risk populations. Effective targeting of interventions to improve care for high users is essential to achieve cost effectiveness.
- Develop strategies to assure that complete medical information, including care management plans and medical records for high cost patients are available when patients relocate, gain or lose Medicaid benefits as their eligibility status changes, change MCOs, or transition from one provider to another.
- Assure the rapid and seamless transition of the incarcerated population to high-functioning medical homes.
    - Coordinate with correctional and jail health systems to assure effective and timely transition from these systems to community-based providers with expertise in managing the challenges of the re-entry population.
    - Identify steps so that disenrollment and re-enrollment in Medicaid are seamless for the formerly incarcerated population.
    - Modify MCO accountability metrics to include measurement of the effectiveness of ex-offender transition into community-based provider settings.

Medium-Term Steps

- Develop specialized medical homes within high-functioning advanced multi-disciplinary primary care practices focusing on the needs of persistently high-cost patients and coordinate with MCOs to maximize enrollment in such practices and to provide enhanced reimbursement or other financial incentives for providers to assure effective performance of the teams. Such development will likely need to be sufficiently flexible to account for varying combinations of medical and social factors that place individuals at risk for being high users.
- Accelerate the adoption of existing integrated care models for individuals eligible for both Medicare and Medicaid, including the Program of All-Inclusive Care for the Elderly (PACE) and Dual Eligible Special Needs Plan (D-SNPs), and explore additional models of fully integrated care for dual eligible individuals. These efforts would be enhanced by developing analytic capacity to evaluate care for dual eligible populations using linked Medicare and Medicaid claims and encounter data.

Long-Term Steps

- Consider developing specialized medical homes for beneficiaries who are transitioning from the criminal justice system and are at high risk of becoming persistently high cost patients. Such models should closely coordinate with various programs designed to aid the re-entry of ex-offenders, including job training, housing, substance use counseling, and other behavioral health services.
- Explore the value of developing new specialized MCOs to oversee the care of patients who are likely to have persistently high costs that can be reduced by assertive care coordination and management that is culturally competent and community engaged.
- Explore assigning responsibility for patients with a high likelihood of persistently high costs to Accountable Care Organizations (ACOs) (discussed further below), alone or in partnership with MCOs.

Area 3: Expand Opportunities to Coordinate Social Service and Public Health Initiatives with Medicaid

Background. Factors outside the health care system including poverty, homelessness, the absence of social supports, and emotional trauma are important drivers of preventable/avoidable health care costs. These factors can directly exacerbate many medical conditions and present major obstacles to effective engagement with the health care system and to self-care and wellness behaviors. These factors are linked to the avoidable use of emergency departments, but also contribute to poor management of chronic conditions, such as diabetes and heart failure, which lead to high cost hospitalizations and related services. Work by the Camden Coalition of Healthcare Providers (CCHP), the Trenton Health Team, and other community-based coalitions in New Jersey have demonstrated the importance of the social drivers of high cost health care.

The New Jersey Medicaid Accountable Care Organization (ACO) Demonstration project (PL 2011, Ch. 114) grew out of the work of CCHP. There was a robust response of applicants for ACO certification from diverse provider coalitions across the state, and three Medicaid ACOs in Camden, Trenton, and Newark were certified in July 2015. While ACOs are a promising avenue for addressing social determinants of health and avoidable healthcare costs, stakeholders in our discussion forums pointed to a number of limitations of the New Jersey model. First, ACOs will exist only in selected communities and will not serve portions of the Medicaid population. Second, MCO participation in the demonstration is voluntary, and their engagement to date has been limited. Finally, the New Jersey ACO model is funded only with

the promise of shared savings, which come well after ACO operations begin. This funding strategy provides resources for staff and other expenses long after services are delivered, and it is uncertain whether the amounts that will ultimately be shared will be sufficient to cover start-up costs or sustain ACO operations.

It is clear from the work of the coalitions and other stakeholder groups and from available research that the effective engagement of individuals who face homelessness, social isolation, or other social determinants of ill health requires the involvement of trusted caregivers or others who can assist the individuals in navigating the healthcare and social services in tandem. Expanding care teams to include community health workers, faith-based volunteers, and social workers, particularly if they are from or can closely relate to local communities, appears to hold considerable promise for reaching out to the most disenfranchised populations. Integrating a community-based, "ground up" approach with traditional medical approaches is more likely to achieve success.

As discussed above, the Medicaid expansion population is likely to increase significantly the number of individuals who confront social barriers that impede achieving optimal health and cost-effective health care utilization patterns.

Recommendations. The following steps are recommended to reduce avoidable costs through the coordination of social services with Medicaid interventions:

Near-Term Steps

- Fully implement and evaluate the ACO Demonstration, as required by New Jersey statute; derive lessons from the experiences of the early ACOs to create strategies to address gaps in the current model related to geographic coverage, MCO participation, and financing. Strongly encourage the participation of MCOs in the ACO demonstration.
- Identify and facilitate connections between the Medicaid MCOs and local agencies and organizations providing housing and social services across the state.
- For Medicaid beneficiaries at risk for inappropriate or avoidable utilization, continue to implement policies to enable and require the MCOs to engage them in in-person, intensive care coordination that includes linkages with housing and social services when needed. Enhance the composition of care teams with individuals, including community health workers recruited from local communities, most likely to gain the trust of disenfranchised populations. The ACOs offer one option for implementing effective in-person care coordination but, even with full participation of ACOs, other innovations will be needed outside the designated ACO areas.
- Develop Geographic Information Systems (GIS) analytic capacity to map high utilizers' place of residence and overlay with neighborhood data to "hot spot" and prioritize the social factors that could prevent or impede care being received in the most appropriate setting.
- Continue to work to improve transportation benefits for Medicaid beneficiaries in general, with special emphasis on assuring effective transportation to ambulatory care services for those at risk of avoidable hospital use.
- Review opportunities to improve accessibility of assigned or chosen primary care providers for high-risk patients.
- Continue work being led by the Department of Health to improve birth outcomes in New Jersey, including implementing strategies to reduce tobacco use overall and among pregnant women and families (work currently under way under the NJ State Innovation Model (SIM) Design award).

Medium-Term Steps

- Begin work on a second-generation ACO design which is sustainable, has broad geographic reach, and promotes effective collaboration of health, social services, faith-based, and other community organizations. This might be done, for example, through the use of per patient, per month payments to support coordination with housing or social service activities when it has been shown that effective linkages to these services can reduce avoidable hospital costs. Next generation ACOs should more directly engage MCOs, perhaps through the MCO contracting process. New Jersey has taken a step in this direction by requiring MCOs to allocate a portion of their care management spending on direct face-to-face (rather than telephonic) approaches. The state could go further, as Pennsylvania has done, by requiring MCOs to develop collaborative approaches with local ACO coalitions to improve care coordination and engagement in appropriate social services for local Medicaid beneficiaries. Such an approach should have clear accountability metrics and appropriate financial incentives. In addition, expanded MCO responsibility (with capitation payments appropriately adjusted) for mental health and other services as suggested above might be tied to participation in ACO arrangements.
- Assess the availability of subsidized housing options for beneficiaries who lack stable housing, and develop plans to expand the availability of service-enriched housing as needed. Models such as *Housing First* have been demonstrated to be effective for high-risk populations, particularly those with substance use disorders. Innovative approaches should include team members with clinical expertise (SAMHSA Best Practices for Providers: Housing First). UBHC uses this model in its Supportive Housing Program and provides training for other organizations.
    - Engage the Department of Community Affairs and others to assure an adequate supply of affordable housing for Medicaid beneficiaries.
    - Leverage opportunities presented by the impending implementation of the CMS Supportive Housing Services waiver by the Division of Mental Health & Addiction Services (DMHAS) and identify other Medicaid funding mechanisms to expand coverage for supportive housing settings for high-risk Medicaid populations (Pathways to Housing Library).
- Annually review implementation and outcomes of the use of ACOs, MCOs, subsidized housing, and other strategies described above using rigorous evaluation techniques, and make mid-course adjustments as indicated.

Area 4: Adopting Best Clinical Practices

Background. Best clinical practice calls for the delivery of evidence-based recommended preventive and health maintenance services, which tend to be under-delivered in the US health care system in general and for disadvantaged populations in particular. Best practice also calls for evidence-based diagnostic and treatment services, some of which are subject to over or inappropriate use. Adherence to preventive and health maintenance regimens are particularly important for individuals with chronic conditions, as non-adherence can lead to preventable use of hospital inpatient and emergency department services.

Causes of non-adherence to best clinical practice guidelines are complex and involve both health system delivery failures (e.g., inadequate health information technology to notify primary care providers when their patients are hospitalized or visit an ED) and patient and community factors (e.g., inadequate transportation services, housing instability, communication difficulties, and patient mistrust of the

health care system). The recommendations described above address some of these underlying causes of non-adherence to guidelines.

Developments in the field point to one clinical practice area that merits special attention: adherence to best practices in prescription drug use. Although pharmacy does not stand out as a particularly prominent service category among the highest-spending patients (Table 4), over, under, or inappropriate use of prescription medicines can lead to avoidable hospital stays and other potentially avoidable costs. Moreover, trends in drug development are making new agents available which can be very costly. For example, as shown in Table 7, among individuals in the top 0.1% spending group, spending on drug therapies for hemophilia and related diagnoses amounts to more than $1,000 per person per month. Another widely reported example is the drug Sovaldi, which is used to treat hepatitis C and costs $84,000 per course of treatment. Experts anticipate that in the coming years additional, very high priced drugs for the treatment of severe but common conditions will become available. The careful evaluation of the conditions under which such drugs can and should be used is of growing importance. Moreover, common practices in drug utilization review (DUR) have been shown to be largely ineffective (Hennessy et al. 2003). Thus, more attention to both promotion of highly effective preventive and maintenance drug adherence and to proper prescribing practices for emerging expensive new treatments is warranted.

Adoption and appropriate use of new medical technologies more generally, not just prescription drugs, may also merit attention (Chandra and Skinner 2011). Some technologies, such as robotic surgery for some types of cancer, are expensive but have not been proven to be more effective than less costly techniques. Other new technologies are demonstrated to be effective among patients with a limited set of medical indications, but then are more widely adopted among patient populations where benefits and risks are unproven. Like new drugs, careful review of which medical technologies to cover and under what clinical circumstances has the potential to lead to better clinical outcomes at lower cost.

Recommendations. The limited time available to the Working Group precluded the evaluation of specific prescription drugs or other medical technologies, but the following systemic reforms are recommended.

Near-Term Steps

- Continue to invest in health information technology to support wide adoption of "meaningful use" capabilities, particularly those that are interoperable and support effective management of chronic care such as the capacity to (a) produce patient reminders for guideline-consistent prevention and follow-up care, (b) produce and deliver clinical summaries for each transition in care (e.g., from hospital to community), and (c) submit relevant information (e.g., immunizations) in a timely way to state public health registries.
- Develop a strategy to conduct baseline reviews of the use of particular classes of medications that account for substantial shares of Medicaid pharmacy expenditures and where substantial rates of off-label use exist and there are concerns about safe and judicious use, such as off-label use of antipsychotic medications, especially in children. Consider oversight strategies adopted by other states such as those participating in the AHRQ Medicaid Network for Evidence-based Treatment (MEDNET) and related initiatives.
- Review the potential costs and benefits of joining the Medicaid Evidence-based Decisions Project (MED) and the Drug Effectiveness Review Program (DERP) hosted at the Oregon Health and Sciences University. These programs serve a multi-state consortium by conducting independent scientific reviews of the effectiveness and safety, and by analyzing the policy implications of health services and technologies, including prescription drugs. They have the

potential to inform and improve New Jersey Medicaid coverage decisions about existing and emerging medical interventions.

Medium-Term Steps

- Develop and pilot test a Targeted Clinical Review (TCR) process involving medical directors from the managed care organizations, health care providers, and Medicaid officials to identify high-cost clinical areas where there may be unwarranted variation in care or suboptimal care leading to higher costs. In order to have sufficient expertise and dedicated staff for this process, we envision a full-time clinical leader (e.g., an advance practice nurse) to manage the processes of 1) identifying clinical areas for review; 2) facilitating review of relevant clinical literature and guiding targeted analysis of Medicaid data to inform the review process; and 3) convening clinical expert panels to develop recommendations on specific focus areas. The clinical leader would need additional data analytic and research support provided by other staff.
    - The TCR would be overseen by an advisory group and report to the Medicaid medical director, and it would consist of the stakeholders mentioned above. It can be housed and operated within RBHS, with CSHP providing research support. The TCR advisory group would convene periodically (e.g., quarterly), and initially conduct three to four formal reviews annually. Recommendations would be made to the DMAHS and may include changes to the Medicaid scope of benefits, changes in MCO or ACO care management approaches, establishment of centers-of-excellence for the management of selected conditions, provider education strategies, or other approaches.
    - Initial ideas for focus areas raised by experts engaged in the process of the preparation of this report include care of adult patients with sickle cell disease and ventilator-dependent patients.
        - Among 4,198 sickle cell patients identified in the Medicaid claims data in 2013, 4.7% appeared in the top 1% spending group and 28.1% appeared in the top 10% spending group.
        - Despite expert consensus on the adequacy of pediatric care for children with sickle cell, adult sickle cell patients frequently rely on the Emergency Department (ED) for related care. A pilot program establishing a medical home for adult high-utilizing sickle cell patients in Trenton showed reduced utilization of the ED.
        - Among 5,299 patients receiving mechanical ventilation in 2013, 25.5% appeared in the top 1% spending group and 73.8% appeared in the top 10% spending group. Moreover, among the 71 LTSS recipients appearing in the top 0.1% of the statewide spending distribution, 57.7% were receiving mechanical ventilation.
        - An expert in pulmonary rehabilitation reported conducting a 2006 investigation of ventilator-dependent patients in New Jersey, which showed a number of such patients living in facilities may prefer to be in home settings. With focused assistance from trained aides, these consumers could potentially live in community settings at a lower cost.
- Annually review implementation and outcomes of uses of TCR and other strategies described above using rigorous evaluation strategies, and make mid-course adjustments as indicated.

Long-Term Steps

- Invest in the development and evaluation of a new generation of drug utilization review, e.g., including prospective DUR and genetic testing, and make changes to MCO utilization review contract provisions or oversight as needed.

Area 5: Strengthening Infrastructure and Accountability

Background. In recent years New Jersey Medicaid has evolved from a "payer" of claims within a fee-for-service environment to a "purchaser" of care based on value delivered by managed care organizations and other contractors. The purchaser paradigm has the potential to foster innovation and flexibility in care delivery and health improvement, but the degree to which it is effective in doing so is greatly influenced by the design of contracts, including incentives and performance measures.

In the time available, one model of performance-based MCO contracting in Ohio was investigated. Ohio has integrated pay-for-performance bonuses as well as quality requirements with possible financial sanctions into its Medicaid managed care contracts with its five MCOs, beginning in 2013. Unlike New Jersey, Ohio managed care plans are not responsible for long-term services and supports. However, Ohio is consistent with New Jersey's approach by "carving out" behavioral health from the MCOs at this time.

Ohio MCO providers can earn an annual bonus of 1.25% of the payments made to them, based on their level of performance on six national (HEDIS, AHRQ) metrics. This represents additional compensation that is paid to the providers, rather than a reduction in payment that the providers are required to "earn back." Quality requirements for care management include minimum staffing ratios (e.g., 1 FTE for every 25 high-risk patients), development of community resource guides, and monitoring for potential underutilization of care. Failure to comply with these requirements results in an assessment of points that could lead to fines or possible termination of the agreement. The current Ohio managed care contract is available on line.

Ohio officials report that implementation of the contract is progressing well, but that it is too early to draw conclusions about the impact of the new contracting strategy on quality of care or cost. Ohio officials are refining requirements for case management and thinking about how to expand requirements for patient activation and engagement. Ohio's experience and those of other states pursuing similar contracting strategies should be closely monitored. Early pay-for-performance programs for physicians yielded disappointing results, so some caution is in order when considering such strategies for MCOs.

New Jersey Medicaid is presently undertaking major reforms under the Comprehensive Waiver and other policy initiatives, and these changes require substantial investment of time and other resources within the Medicaid division. There is an opportunity to leverage and integrate promising provider and MCO strategies that are already percolating in support of the goals of the Waiver. However these activities should be streamlined to optimize efficiency and reduce the opportunity for duplication or "siloed" efforts. Innovations should be assessed for performance, and adaptation and course adjustment should occur swiftly. These assessments should occur routinely, be memorialized in workflows, and be grounded in data to enable continuous process improvement.

Recommendations. This section addresses opportunities to improve the infrastructure for maximizing the effectiveness of Medicaid purchasing:

Steps to Explore

- Identify and address barriers to rapid cycle innovation in Medicaid program strategies, including assessing the adequacy of staff and data resources and streamlining regulatory review requirements.
- Conduct a comprehensive review of the New Jersey MCO contract, including alternatives to be considered such as:
    - Linking rewards and penalties to achieving high levels of behavioral-physical health integration and achieving improvements among populations at risk of avoidable use. New funding may not be needed to pay bonuses. Other reward mechanisms for high plan performance could also be implemented. For example, assignment of Medicaid enrollees who fail to select a plan (i.e., auto-enrollment) could be designed to favor higher performing health plans.
    - Ensuring that particular contractual provisions can be and have been enforced, possibly by redrafting unenforceable provisions and by devoting sufficient resources to monitor compliance.
- Develop enhanced data analytic capacity to monitor program performance and assess new program strategies.
    - Build capacity to link contextual (e.g., local housing capacity) and outcomes data to Medicaid claims and encounter records for analysis.
    - Partner with Rutgers CSHP to expand and complement the data analytic capacity of agency staff.
- Review provider network adequacy within the Medicaid program, particularly in primary care and behavioral health.

Issues Requiring Further Exploration

The Working Group reviewed several additional areas that merit further investigation, but about which it did not feel ready to develop specific recommendations. These include the following:

- Investigate opportunities to develop multi-payer initiatives to promote more effective delivery system and administrative improvements. Collaboration between Medicaid and the State Health Benefits Program seems potentially very fruitful.
- Reduce administrative burdens by aligning operational and data reporting requirements for providers and MCOs (e.g., establishing one provider credentialing standard that is accepted across all health plans).
- Further explore modifying the Medicaid benefit design to assure the cost-effective delivery of evidence-based care.
- Further explore strategies to promote patient engagement in their own health and self-care through incentives to patients and providers.
- Further review public health programs currently supported by DOH that may complement efforts to improve care and reduce cost for the Medicaid high-cost populations.
- Conduct a careful reassessment of possible targeted, population-specific enhancements of prevention programs related to high cost conditions, e.g., tobacco control programs and COPD.

Appendix 1: New Jersey Stakeholder Interview List

MCO Medical Directors & Clinical Staff

- Edith Calamia, Chief Medical Officer, United Healthcare Community & State
- Mark Calderon, VP, Clinical Affairs, Horizon NJ Health
- Jennifer Langer Jacobs, Vice President, Amerigroup
- Anthony Johnson, Accountable Care Analyst, United Healthcare Community & State
- Roberta McNeill, Medicaid Medical Director, Amerigroup
- Gayle Nachbauer, Director, Health Services, United Healthcare Community Plan
- Steven Peskin, Medical Director, Horizon Blue Cross Blue Shield of NJ

Consumer & Social Service Organizations

- Elena Bostick, Executive Director, Hemophilia Association of New Jersey
- Sharon Clark, Executive Director, Counselor, Central Jersey Housing Resource Center
- Mark Humowiecki, Legal Counsel & Director of Government Affairs, Camden Coalition of HealthCare Providers
- Taiisa Kelly, Associate, Monarch Housing Associates
- Pascale Leone, Sr. Program Manager, Corporation for Supportive Housing
- Crystal McDonald, Director of Organizing, Faith in New Jersey
- Mariam Merced, Director of Community Health Promotions, Robert Wood Johnson University Hospital
- Jose Montes, CEO, Puerto Rican Action Board
- Carl Piercey, Board Member, Hemophilia Association of New Jersey
- Shabnam Salih, Program Manager, Legal & External Affairs, Camden Coalition of HealthCare Providers
- Mark Scudiery, Board Member, Hemophilia Association of New Jersey
- Joshua M. Spielberg, Senior Attorney, Health Care Access Project, Legal Services of NJ
- Jennifer Warren, Vice Chair, Trenton Housing Authority Commission, Trenton Housing Authority

Physical & Behavioral Health Providers

- Carolyn Beauchamp, President & CEO, Mental Health Association in NJ
- Debra Birkenstamm, Director, Clinical Transformation St. Francis Medical Center
- Jim Donnelly, President, NJ Adult Day Services Association
- Margaret Drozd, Director, Community Mobile Health Services, Saint Peter's University Hospital
- Kenneth Gill, Professor & Department Chair, Psychiatric Rehab & Counseling Profession, Rutgers University
- Christopher O. Kosseff, President & CEO, Rutgers University Behavioral Health Care
- Dennis Lafer, Public Policy Consultant, Mental Health Association in NJ
- Clifford G. Lisman, President & CEO, Dental Health Associates
- Joe Masciandaro, President & CEO, Care Plus NJ
- Shauna Moses, Associate Executive Director, NJ Association of Mental Health and Addiction Agencies
- Kathy Opromollo, Executive Director, Ambulatory Care, University Hospital
- Catherine Shaltis, Nurse Practitioner, Care Navigator, St. Francis Medical Center

- Deborah Spitalnik, Executive Director, The Boggs Center, Rutgers RWJMS
- Christy Stephenson, Interim President & CEO, St. Francis Medical Center
- Kathleen Stillo, Executive Director, Urban Health Institute, Cooper University Health Care
- Peggy Swarbrick, Director, Wellness & Recovery, Collaborative Support Programs of NJ
- Jill Williams, Professor of Psychiatry & Director of the Division of Addiction Psychiatry, Rutgers RWJMS

Criminal Justice & Corrections Experts

- Jeff Dickert, COO, University Correctional Health Care, Rutgers University Behavioral Health Care
- Mike Ostermann, Assistant Professor, Rutgers School of Criminal Justice
- Steven Rosenberg, President, Community Oriented Correctional Health Services

Other NJ Experts

- Mishael Azam, COO & Senior Manager, Legislative Affairs, Medical Society of NJ
- Rachel Cahill Director, Health Improvement & Transformation, The Nicholson Foundation
- Maureen Deevey, Director, Process Improvement & Health Quality, The Nicholson Foundation
- Lawrence Downs, CEO, Medical Society of NJ
- Neil Eicher, Vice President, Government Relations & Policy, NJ Hospital Association
- Allison Hamblin, Vice President, Center for HealthCare Strategies
- Aileen Holmes, Senior Vice President, Clinical Affairs, NJ Hospital Association
- Sean Hopkins, Senior Vice President, Federal Relations & Health Economics, NJ Hospital Association
- Raquel Mazon Jeffers, Director, Health Integration, The Nicholson Foundation
- Tricia McGinnis, Director, Delivery System Reform, Center for HealthCare Strategies
- Joan Randell, Chief Operating Officer The Nicholson Foundation
- Richard Ridge, CEO, NJ State Nurses Association
- Betsy Ryan, President & CEO, NJ Hospital Association
- John Slotman, Vice President, Graduate Medical Education & Teaching Hospital Issues, NJ Hospital Association
- Steven Somers, President, Center for HealthCare Strategies

Experts in Other States

Missouri

- Sonya Dicken, Director, Primary Care Health Home, Truman Medical Centers
- Gerard Grimaldi, Vice President, Health Policy & Government Relations, Truman Medical Centers
- Kathy Knotts, Director, Government Relations, Truman Medical Centers

New York

- Deirdre Astin, Program Manager, Health Home NY Department of Health

Ohio

- Jon Barley, Chief, Health Research and Quality Improvement, Ohio Department of Medicaid
- Dale Lehmann, Chief, Medicaid Managed Care Contract Administration, Ohio Department of Medicaid
- Kara Miller, Chief, Performance Improvement & Care Management, Ohio Department of Medicaid

Appendix 2: Tables

Table A1: Distribution of Total Spending among Spending Groups, 2013

Spending Group	Number of Individuals	Average Spending per Person per Month[a]	Share of Total Statewide Spending
≤ 0.1%	1,593	$37,009	6.9%
0.1-1%	14,335	$12,637	21.2%
1-5%	63,709	$4,632	33.4%
5-10%	79,636	$1,800	14.8%
10-25%	238,909	$687	14.7%
25-50%	398,182	$183	6.6%
Bottom 50%	796,363	$35	2.5%
NJ	1,592,727	$592	100.0%

[a] (Spending/days of enrollment)*30

Table A2: Distribution of Total Spending among Spending Groups, 2012

Spending Group	Number of Individuals	Average Spending per Person per Month[a]	Share of Total Statewide Spending
≤ 0.1%	1,582	$33,843	6.3%
0.1-1%	14,231	$12,476	21.1%
1-5%	63,251	$4,583	33.4%
5-10%	79,063	$1,827	15.0%
10-25%	237,190	$701	14.9%
25-50%	395,314	$185	6.6%
Bottom 50%	790,631	$36	2.7%
NJ	1,581,262	$590	100.0%

[a] (Spending/days of enrollment)*30

Table A3: Distribution of Total Spending among Spending Groups, 2011

Spending Group	Number of Individuals	Average Spending per Person per Month[a]	Share of Total Statewide Spending
≤ 0.1%	1,570	$28,923	5.9%
0.1-1%	14,128	$12,041	21.2%
1-5%	62,789	$4,508	34.0%
5-10%	78,486	$1,755	14.9%
10-25%	235,460	$684	14.9%
25-50%	392,434	$176	6.5%
Bottom 50%	784,863	$34	2.6%
NJ	1,569,730	$569	100%

[a] (Spending/days of enrollment)*30

Table A4: High Spending Populations by County and LTSS Status[a]

County	Top 1%	Top 1% to 10%	Bottom 90%
Atlantic			
Percentage of county residents in the statewide spending group	1.0%	8.4%	90.6%
Percentage of county residents in each spending group receiving LTSS	20.1%	26.4%	0.5%
Bergen			
Percentage of county residents in the statewide spending group	1.0%	9.9%	89.2%
Percentage of county residents in each spending group receiving LTSS	19.5%	34.7%	0.6%
Burlington			
Percentage of county residents in the statewide spending group	2.0%	10.0%	88.1%
Percentage of county residents in each spending group receiving LTSS	10.4%	34.3%	0.9%
Camden			
Percentage of county residents in the statewide spending group	0.9%	9.7%	89.3%
Percentage of county residents in each spending group receiving LTSS	24.9%	24.5%	0.6%
Cape May			
Percentage of county residents in the statewide spending group	2.8%	9.8%	87.4%
Percentage of county residents in each spending group receiving LTSS	6.7%	42.9%	1.3%
Cumberland			
Percentage of county residents in the statewide spending group	1.7%	8.0%	90.4%
Percentage of county residents in each spending group receiving LTSS	6.4%	24.2%	0.4%
Essex			
Percentage of county residents in the statewide spending group	0.7%	9.0%	90.3%
Percentage of county residents in each spending group receiving LTSS	24.8%	20.7%	0.3%
Gloucester			
Percentage of county residents in the statewide spending group	1.4%	9.0%	89.6%
Percentage of county residents in each spending group receiving LTSS	13.0%	28.6%	0.8%
Hudson			
Percentage of county residents in the statewide spending group	0.4%	8.1%	91.5%
Percentage of county residents in each spending group receiving LTSS	20.2%	21.0%	0.4%
Hunterdon			
Percentage of county residents in the statewide spending group	6.8%	10.4%	82.8%
Percentage of county residents in each spending group receiving LTSS	1.0%	45.5%	1.7%
Mercer			
Percentage of county residents in the statewide spending group	1.0%	9.5%	89.6%
Percentage of county residents in each spending group receiving LTSS	19.1%	25.1%	0.5%

[a] LTSS: Long-term services and supports.

County	Top 1%	Top 1% to 10%	Bottom 90%
Middlesex			
Percentage of county residents in the statewide spending group	0.9%	9.0%	90.1%
Percentage of county residents in each spending group receiving LTSS	19.5%	28.1%	0.5%
Monmouth			
Percentage of county residents in the statewide spending group	1.1%	11.1%	87.8%
Percentage of county residents in each spending group receiving LTSS	24.1%	38.8%	1.1%
Morris			
Percentage of county residents in the statewide spending group	1.5%	11.3%	87.3%
Percentage of county residents in each spending group receiving LTSS	20.7%	42.1%	1.0%
Ocean			
Percentage of county residents in the statewide spending group	0.7%	8.6%	90.7%
Percentage of county residents in each spending group receiving LTSS	20.7%	39.6%	0.8%
Passaic			
Percentage of county residents in the statewide spending group	0.7%	7.7%	91.6%
Percentage of county residents in each spending group receiving LTSS	20.0%	21.6%	0.3%
Salem			
Percentage of county residents in the statewide spending group	1.0%	10.3%	88.7%
Percentage of county residents in each spending group receiving LTSS	18.5%	34.3%	0.8%
Somerset			
Percentage of county residents in the statewide spending group	2.5%	11.0%	86.4%
Percentage of county residents in each spending group receiving LTSS	7.7%	40.3%	1.0%
Sussex			
Percentage of county residents in the statewide spending group	2.2%	9.9%	87.9%
Percentage of county residents in each spending group receiving LTSS	9.2%	47.5%	1.1%
Union			
Percentage of county residents in the statewide spending group	0.8%	7.7%	91.5%
Percentage of county residents in each spending group receiving LTSS	20.1%	31.8%	0.5%
Warren			
Percentage of county residents in the statewide spending group	1.3%	10.5%	88.2%
Percentage of county residents in each spending group receiving LTSS	4.3%	44.7%	1.5%
NJ			
Percentage of state residents in the statewide spending group	1.0%	9.0%	90.0%
Percentage of county residents in each spending group receiving LTSS	17.1%	29.0%	0.6%

[a] LTSS: Long-term services and supports.

Table A5: Major Categories of Spending by Persistent High User Spending Group, 2011-2013: Overall

	Spending Group		
Claim Type	**Top 1%**	**1-5%**	**5-10%**
Long-Term Care	51.7%	63.2%	0.6%
Independent Clinic	28.5%	18.2%	41.0%
Inpatient Hospital	6.2%	2.8%	3.2%
Pharmacy	4.2%	6.5%	14.5%
Physician	6.3%	5.3%	32.0%
Outpatient	1.6%	2.0%	4.6%
Home Health	0.8%	0.2%	0.2%
All other	0.7%	1.8%	3.9%
Total	100%	100%	100%

Table A6: Major Categories of Spending by Persistent High User Spending Group, 2011-2013: LTSS Population Only[a]

	Spending Group		
Claim Type	**Top 1%**	**1-5%**	**5-10%**
Long-Term Care	54.9%	90.2%	3.0%
Independent Clinic	19.4%	5.5%	81.2%
Inpatient Hospital	10.0%	0.9%	1.7%
Pharmacy	5.6%	0.8%	1.1%
Physician	4.6%	0.7%	8.8%
Outpatient	2.9%	0.2%	1.0%
Home Health	0.6%	0.1%	0.2%
All other	1.9%	1.6%	3.0%
Total	100%	100%	100%

[a] LTSS: Long-term services and supports.

Table A7: Major Categories of Spending by Persistent High User Spending Group, 2011-2013: Non-LTSS Population Only[a]

	Spending Group		
Claim Type	**Top 1%**	**1-5%**	**5-10%**
Long-Term Care	51.3%	0.0%	0%
Independent Clinic	29.7%	48.1%	30.2%
Inpatient Hospital	5.6%	7.4%	3.5%
Pharmacy	4.0%	20.0%	18.1%
Physician	6.6%	16.2%	38.3%
Outpatient	1.4%	6.0%	5.6%
Home Health	0.8%	0.4%	0.2%
All other	0.5%	2.1%	4.1%
Total	100%	100%	100%

[a] LTSS: Long-term services and supports.

Table A8: Major Categories of Spending by Persistent High User Spending Group, 2011-2013: Non-LTSS Non-DD Population Only[a,b]

	Spending Group		
Claim Type	**Top 1%**	**1-5%**	**5-10%**
Long-Term Care	0.5%	0.0%	0%
Independent Clinic	60.9%	48.0%	30.2%
Inpatient Hospital	11.7%	7.4%	3.5%
Pharmacy	8.1%	20.0%	18.1%
Physician	13.7%	16.2%	38.3%
Outpatient	2.8%	6.0%	5.6%
Home Health	1.6%	0.4%	0.2%
All other	0.7%	2.1%	4.1%
Total	100%	100%	100%

[a] LTSS: Long-term services and supports.

[b] DD: Developmentally disabled living in facilities.

Table A9: Major Categories of Spending by Persistent High User Spending Group, 2011-2013: Non-LTSS DD Population Only[a,b]

	Spending Group		
Claim Type	**Top 1%**	**1-5%**	**5-10%[c]**
Long-Term Care	97.4%	1.9%	N/A
Independent Clinic	1.5%	93.8%	N/A
Inpatient Hospital	0.2%	0%	N/A
Pharmacy	0.4%	0.2%	N/A
Physician	0.1%	0.3%	N/A
Outpatient	0.2%	3.0%	N/A
Home Health	0%	0%	N/A
All other	0.3%	0.9%	N/A
Total	100%	100%	N/A

[a] LTSS: Long-term services and supports.

[b] DD: Developmentally disabled living in facilities.

[c] No individuals from the non-LTSS DD population fell into the persistent 5-10% statewide spending group.

Table A10: Prior Spending for Spending Groups in 2012: Overall[a]

		Spending Group Classification in 2011[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	69.7%	19.4%	4.4%	1.7%	2.3%	1.3%	1.3%
	0.1-1%	2.7%	69.4%	16.6%	4.0%	3.4%	1.6%	2.3%
	1-5%	0.1%	4.4%	67.2%	13.3%	8.4%	3.0%	3.7%
	5-10%	0.0%	0.7%	13.5%	43.6%	24.7%	9.5%	8.1%
	10-25%	0.0%	0.2%	2.0%	9.3%	42.6%	26.5%	19.5%
	25-50%	0.0%	0.04%	0.4%	2.0%	17.0%	41.4%	39.2%
	Bottom 50%	0.0%	0.02%	0.2%	0.7%	5.5%	20.2%	73.4%

[a] Based on 1,192,747 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.

[b] Percentages are row percentages.

[c] Shading highlights individuals who were in the same spending group in 2012 as they were in 2011.

Table A11: Prior Spending for Spending Groups in 2012: LTSS Population Only[a,d]

		Spending Group Classification in 2011[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	52.3%	22.1%	9.3%	4.7%	3.5%	3.5%	4.7%
	0.1-1%	4.1%	60.9%	24.4%	3.8%	3.1%	1.3%	2.4%
	1-5%	0.0%	2.5%	80.1%	9.2%	4.8%	1.1%	2.2%
	5-10%	0.0%	0.3%	14.3%	60.4%	16.0%	4.1%	4.8%
	10-25%	0.0%	0.3%	5.0%	19.9%	45.9%	13.6%	15.4%
	25-50%	0.0%	0.3%	3.7%	4.7%	21.3%	35.6%	34.3%
	Bottom 50%	0.0%	0.2%	3.2%	1.6%	8.5%	13.2%	73.4%

[a] Based on 38,130 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.
[b] Percentages are row percentages.
[c] Shading highlights individuals who remained in the same spending group in 2012 as they were in 2011.
[d] LTSS: Long-term services and supports.

Table A12: Prior Spending for Spending Groups in 2012: Non-LTSS Population Only[a,d]

		Spending Group Classification in 2011[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	71.0%	19.2%	4.1%	1.5%	2.2%	1.2%	1.0%
	0.1-1%	2.4%	71.3%	15.0%	4.0%	3.4%	1.6%	2.3%
	1-5%	0.2%	6.4%	53.2%	17.7%	12.3%	4.9%	5.3%
	5-10%	0.0%	0.7%	13.3%	41.1%	26.0%	10.3%	8.6%
	10-25%	0.0%	0.2%	1.9%	9.1%	42.6%	26.6%	19.5%
	25-50%	0.0%	0.04%	0.4%	2.0%	17.0%	41.4%	39.2%
	Bottom 50%	0.0%	0.02%	0.2%	0.7%	5.5%	20.2%	73.4%

[a] Based on 1,154,617 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.
[b] Percentages are row percentages.
[c] Shading highlights individuals who remained in the same spending group in 2012 as they were in 2011.
[d] LTSS: Long-term services and supports.

Table A13: Future Spending for Spending Groups in 2012: Overall[a]

		Spending Group Classification in 2013[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	63.1%	28.7%	4.3%	1.8%	0.8%	0.6%	0.8%
	0.1-1%	3.4%	67.9%	19.5%	3.9%	3.1%	1.1%	1.2%
	1-5%	0.1%	4.2%	67.8%	13.5%	8.5%	3.1%	2.8%
	5-10%	0.0%	0.7%	12.3%	46.6%	24.9%	8.5%	6.9%
	10-25%	0.0%	0.2%	1.9%	8.9%	44.0%	26.6%	18.5%
	25-50%	0.0%	0.1%	0.4%	1.8%	16.7%	41.4%	39.7%
	Bottom 50%	0.0%	0.03%	0.2%	0.6%	5.2%	20.2%	73.7%

[a] Based on 1,192,747 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.
[b] Percentages are row percentages.
[c] Shading highlights individuals who were in the same spending group in 2012 as they were in 2011.

Table A14: Future Spending for Spending Groups in 2012: LTSS Population Only[a,d]

		Spending Group Classification in 2013[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	16.3%	67.4%	10.5%	2.3%	2.3%	1.2%	0.0%
	0.1-1%	0.9%	61.3%	31.5%	3.4%	1.8%	0.4%	0.9%
	1-5%	0.0%	1.6%	82.2%	7.8%	5.2%	1.4%	1.7%
	5-10%	0.0%	0.8%	23.1%	61.5%	9.6%	2.3%	2.7%
	10-25%	0.0%	1.8%	20.3%	26.9%	40.0%	6.7%	4.3%
	25-50%	0.5%	3.0%	27.2%	20.8%	22.5%	18.2%	7.8%
	Bottom 50%	0.0%	3.36%	36.4%	24.1%	16.5%	7.0%	12.6%

[a] Based on 38,130 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.
[b] Percentages are row percentages.
[c] Shading highlights individuals who remained in the same spending group in 2012 as they were in 2011.
[d] LTSS: Long-term services and supports.

Table A15: Future Spending for Spending Groups in 2012: Non-LTSS Population Only[a,d]

		Spending Group Classification in 2013[c]						
		≤ 0.1%	**0.1-1%**	**1-5%**	**5-10%**	**10-25%**	**25-50%**	**Bottom 50%**
Spending Group Classification in 2012[b]	**≤ 0.1%**	66.8%	25.7%	3.8%	1.7%	0.7%	0.5%	0.8%
	0.1-1%	4.0%	69.3%	16.9%	4.0%	3.4%	1.2%	1.3%
	1-5%	0.1%	7.0%	52.2%	19.6%	12.1%	4.8%	4.1%
	5-10%	0.0%	0.7%	10.8%	44.4%	27.1%	9.4%	7.6%
	10-25%	0.0%	0.2%	1.6%	8.6%	44.0%	26.9%	18.7%
	25-50%	0.0%	0.1%	0.4%	1.7%	16.7%	41.5%	39.7%
	Bottom 50%	0.0%	0.03%	0.2%	0.6%	5.2%	20.2%	73.8%

[a] Based on 1,154,617 individuals who were enrolled in Medicaid at some time in each year from 2011-2013.

[b] Percentages are row percentages.

[c] Shading highlights individuals who remained in the same spending group in 2012 as they were in 2011.

[d] LTSS: Long-term services and supports.

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