



# Proactively Identifying the High Cost Population

**INSIGHTS FROM THE  
HEALTH CARE TRANSFORMATION TASK FORCE**



# Who We Are

**The Health Care Transformation Task Force** is an industry consortium that brings together patients, payers, providers and purchasers to align private and public sector efforts to clear the way for a sweeping transformation of the U.S. health care system. We are committed to rapid, measurable change, both for ourselves and our country. We aspire to have 75% of our respective businesses operating under value-based payment arrangements by 2020.

## Our High Cost Patient Work

**The High Cost Patient Work Group** identifies and evaluates key areas that drive costs for patients in health care systems. We address risk stratification of high cost patients and describe best-practice initiatives that perfect handoffs and improve care coordination, assuring person/family-centered care, better outcomes, and lower costs. This includes patients near the end of life, patients who undergo high cost events, and patients with multiple chronic illnesses, including behavioral health issues that challenge traditional disease and case management approaches.

The Work Group is developing three papers that isolate and share key learnings from experienced and successful programs aimed at transforming care for high cost patients. The papers are intended to inform the work of other health systems and payers who are seeking to improve care and reduce costs for these populations and will cover the following topics, respectively:

1. Methods for identifying the high cost population
2. Best practices in care management for high cost beneficiaries
3. Payer-provider relationships that promote sustainability of proven innovations

This first paper summarizes the experience and findings of the Work Group members and evidence from relevant literature to guide the selection of individual patients who might benefit from targeted care management.<sup>1</sup>

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<sup>1</sup> The content of this report was developed in collaboration with Brad Stuart, MD, and Khue Nguyen, PharmD, of the Coalition to Transform Advanced Care (C-TAC) and Purva Rawal, PhD, of CapView Strategies. Special thanks to Diane Stewart from the Pacific Business Group on Health for her role in drafting.



# Proactively Identifying the High Cost Population

Identifying the high cost population is important for practical reasons. Health care costs are highly concentrated in a very small patient subpopulation. For example, the top 5% of patients, ranked by individual health care dollars spent, are responsible for almost half of the nation’s total personal health care dollars spent (see Table 1). Finding and managing care for this group of patients can be an efficient and effective way to increase quality and reduce total costs for the entire population.

**Table 1. 2012 Mean Annual Expenditures per Individual by Percentage Group**

Individual Spender Tier	Spending per Person	Percent of Total Spending
Top 1%	\$97,859	21.8%
Top 5%	\$43,038	49.5%
Top 10%	\$28,452	65.2%
Top 30%	\$12,951	89.6%

Source: *NIHC Concentration of Health Care Spending* (Washington, DC: National Institute for Health Care Management Foundation, July 2012), <http://www.nihcm.org/pdf/DataBrief3%20Final.pdf>.

Care management programs seek to identify and engage those patients anticipated to be persistently high cost because not all patients in a high spender tier will remain there the following year. An Agency for Healthcare Research and Quality (AHRQ) study of “persistence” in spending showed that only 45% of people in the top 10% spender tier in one year remain in the top 10% the following year.<sup>2</sup> Fewer than half of these persistently high spenders are over 65 years of age (see Table 2).

**Table 2. Age Distribution of Persistent High Spenders**

Age Range (in years)	Percent of Persistent High Spender Population
65+	42.9%
45–64	40.1%
30–44	10.6%
18–29	3.1%
0–17	3.4%

Source: Steven B. Cohen and William Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*, Statistical Brief (Rockville, MD: Agency for Healthcare Research and Quality, January 2012).

Providers and payers seeking ways to address high cost patients may find it challenging to successfully identify these patients and appropriately tailor care delivery to them. In the following sections, we define the different types of high cost patients, outline their clinical characteristics, and describe methods that may be used to identify and stratify high cost patients for care management.

<sup>2</sup> Steven B. Cohen and William Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*, Statistical Brief (Rockville, MD: Agency for Healthcare Research and Quality, January 2012).



# Dividing the High Cost Population into Subgroups

A single, monolithic care management strategy is rarely successful in addressing the entire high cost population. Because care management operations may differ for various subgroups, segmenting the high cost population is an important first step in determining appropriate care management strategies.

The high cost population can be broken down into three subgroups, the first two of which are good candidates for care management:<sup>3</sup> patients with advanced illness, patients with persistent high spending patterns, and patients without persistent high spending.

- 1. Patients with Advanced Illness:** Patients with advanced illness are often nearing the end of life. In fact, 28% of Medicare spending, or about \$170 billion, occurs in the last six months of life.<sup>4</sup> Data from the Institute of Medicine (IOM) 2014 report, *Dying in America*, show that 11% of patients in the top 5% spender tier die within one year.<sup>5</sup> An analysis of Medicare fee-for-service (FFS) expenditures from 2010–2012 shows that 28% of patients in the top 10% spender tier died within two years<sup>6</sup>. In Sutter Health’s Advanced Illness Management (AIM®) program, nearly three-quarters of patients died within one year of enrollment. Because avoidable inpatient spending spikes dramatically upward near death, significant opportunities for quality-improvement-associated savings exist within this subgroup.

Care management strategies involving informed choice and other support can optimize the use of hospice and other palliative care services to redirect end-of-life care from hospital to home and community. Not only is this in the best interest of the patients, recognizing that most patients would prefer not to die in the hospital, but the potential for significant savings from such strategies is high. Aetna reports average savings of nearly \$13,000 per enrollee associated with an 82% hospice election rate, 82% reduction in acute hospital days and 86% reduction in ICU days. Similarly, Sutter’s AIM program found savings of more than \$4,000 per enrollee per month associated with significant reductions in hospital utilization. Focusing on this patient population has the potential to greatly reduce costs, while also providing care that is appropriate and valued by individuals with advanced illness and their families.

<sup>3</sup> The content of this report was developed in collaboration with Brad Stuart, MD, and Khue Nguyen, PharmD, of the Coalition to Transform Advanced Care (C-TAC) and Purva Rawal, PhD, of CapView Strategies. Special thanks to Diane Stewart from the Pacific Business Group on Health for her role in drafting.

<sup>4</sup> Susan Pasternak, “End of Life Care Constitutes Third Rail of U.S. Health Care Policy Debate,” *The Medicare News Group*, June 3, 2013, accessed May 28, 2015, <http://www.medicarenewsgroup.com/context/understanding-medicare-blog/understanding-medicare-blog/2013/06/03/end-of-life-care-constitutes-third-rail-of-u.s.-health-care-policy-debate>.

<sup>5</sup> Committee on Approaching Death, *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life* (Washington, DC: Institute of Medicine, September 17, 2014), accessed May 28, 2015, <http://www.iom.edu/Reports/2014/Dying-In-America-Improving-Quality-and-Honoring-Individual-Preferences-Near-the-End-of-Life.aspx>.

<sup>6</sup> Based on an analysis of Medicare FFS expenditures from 2010–2012 conducted by Avalere on behalf of Aetna.



- 2. Patients with Persistent High Spending Patterns:** This group of patients, often referred to as “medically complex,” is characterized by multiple chronic conditions. Many face psycho-social barriers to care and appear across all populations: Medicare, commercial and Medicaid. Concentration of spending is particularly significant in Medicaid, however, where 60% of patients in the top 10% spender tier in any given year remain in that tier the following year.<sup>7</sup> Based on analysis of Medicare FFS expenditures from 2010-2012, about one-third of the patients in the top 10% spender tier<sup>8</sup> and 40% of patients in the top 5% spender tier<sup>9</sup> have persistently high costs over two years, whereas the IOM report estimates that about 40% of top 5% spenders are in this category. Similar results have been reported for Medicare beneficiaries in general.<sup>10</sup>

In Aetna Medicare, case management for chronic illness engages 10%–14% of members, who are identified principally by claims based algorithm and a utilization management (UM) process, resulting in substantial medical cost reduction.<sup>11</sup>

- 3. Patients with Episodic High Spending (outside of the scope of this paper):** Individuals in this group have increased costs due to a sudden event, but costs decrease as the condition resolves. Based on analysis of Medicare FFS expenditures from 2010-2012, 37% of patients in the top 10% spender tier become “reverters,” meaning they later drop out of this spender tier.<sup>12</sup> According to the IOM report, about 40% of patients in the top 5% spender tier are also reverters. These acute temporary spenders tend to be younger with good or excellent self-reported health status.

Such patients cannot be targeted proactively because the events that result in their cost spikes are seldom foreseeable or predictable. In addition, their spending will return to lower levels without intervention. For this reason, they are not good candidates for long-term chronic care management, and the remainder of this paper will focus on identifying patients in the first two subgroups.

<sup>7</sup> Cindy Mann, “Targeting Medicaid Super-Utilizers to Decrease Costs and Improve Quality,” CMCS Informational Bulletin, July 24, 2013, <http://medicaid.gov/federal-policy-guidance/downloads/cib-07-24-2013.pdf>.

<sup>8</sup> Based on an analysis of Medicare FFS expenditures from 2010–2012 conducted by Avalere on behalf of Aetna.

<sup>9</sup> Committee on Approaching Death, *Dying in America: Improving Quality and Honoring Individual Preferences Near the End of Life* (Washington, DC: Institute of Medicine, September 17, 2014), accessed May 28, 2015, <http://www.iom.edu/Reports/2014/Dying-In-America-Improving-Quality-and-Honoring-Individual-Preferences-Near-the-End-of-Life.aspx>.

<sup>10</sup> *High-Cost Medicare Beneficiaries* (Congressional Budget Office, May 1, 2005), <https://www.cbo.gov/publication/16487>.

<sup>11</sup> *Global Population Ageing: Peril or Promise?*, World Economic Forum (Chapter 16: Global Agenda Council on Ageing Society, 2011), accessed May 28, 2015, <http://www.weforum.org/reports/global-population-ageing-peril-or-promise>.

<sup>12</sup> Based on an analysis of Medicare FFS expenditures from 2010–2012 conducted by Avalere on behalf of Aetna.



# Individual Clinical Characteristics of High Cost Patients

Understanding the specific clinical characteristics of high cost patients is useful when identifying these patients as well as determining where to place care management focus to get the most meaningful results.

## *Patients with Advanced Illness (Subgroup 1)*

The clinical factors in Table 3 have been shown to be strongly correlated with advanced illness, limited prognosis, and increasing resistance to treatment in both cancer and nonmalignant disease.<sup>13,14</sup> Major clinical categories and associated measurable indicators are outlined in the table and can be refined or extended based on additional evidence. Application of these factors as criteria for patient selection will identify a large fraction of Subgroup 1 patients with advanced illness and can be used by providers to determine referral to care management.

These referral procedures can be added easily to current utilization and case management workflows, engaging clinicians in the referral process and also helping to stimulate advance care planning, discussions of personal preferences for care, and shared decision making. With a good care management model design and careful messaging about the nature of the program and the potential benefits for patients and clinicians alike, providers often become enthusiastic about participating.

**Table 3. Identifying Target Population by Individual Patient Characteristics**

<b>Recurrent or Extensive Disease/ Chronic Illness</b>	<ul style="list-style-type: none"> <li>• Diagnoses: Heart failure, chronic obstructive pulmonary disease (COPD), cancer, coronary disease, chronic kidney disease, peripheral vascular disease, diabetes, chronic liver disease, dementia, autoimmune disease, neurodegenerative/neuromuscular disease, and others, including geriatric frailty</li> <li>• Disease-specific indicators of advanced illness: Widespread cancer metastases, imaging evidence, significant laboratory abnormalities</li> </ul>
<b>Refractory Disease Process</b>	<ul style="list-style-type: none"> <li>• Cancer: 2<sup>nd</sup> line chemotherapy, others</li> <li>• Noncancer: Increasing diuretic dose in heart failure, resistance to bronchodilators in COPD, others</li> </ul>
<b>Accelerating Utilization</b>	<ul style="list-style-type: none"> <li>• Increasingly frequent hospitalizations</li> <li>• Increasingly frequent ED visits</li> </ul>
<b>Supplemental Factors</b>	<ul style="list-style-type: none"> <li>• Comorbid illness: Charlson comorbidity score</li> <li>• Advanced age</li> <li>• Self-reported state of health: fair to poor</li> <li>• Polypharmacy</li> <li>• Mental or behavioral health issues</li> <li>• Socioeconomic determinants: homelessness, poverty</li> <li>• Eligibility for hospice, but patient, family, or physician refuses enrollment</li> </ul>

<sup>13</sup> Shelley R. Salpeter et al., "Systematic Review of Cancer Presentations with a Median Survival of Six Months or Less," *Journal of Palliative Medicine* 15, no. 2 (February 2012): 175–185.

<sup>14</sup> Shelley R. Salpeter et al., "Systematic Review of Noncancer Presentations with a Median Survival of 6 Months or Less," *The American Journal of Medicine* 125, no. 5 (May 2012): 512.e1–6.



### Persistent High Spenders (Subgroup 2)

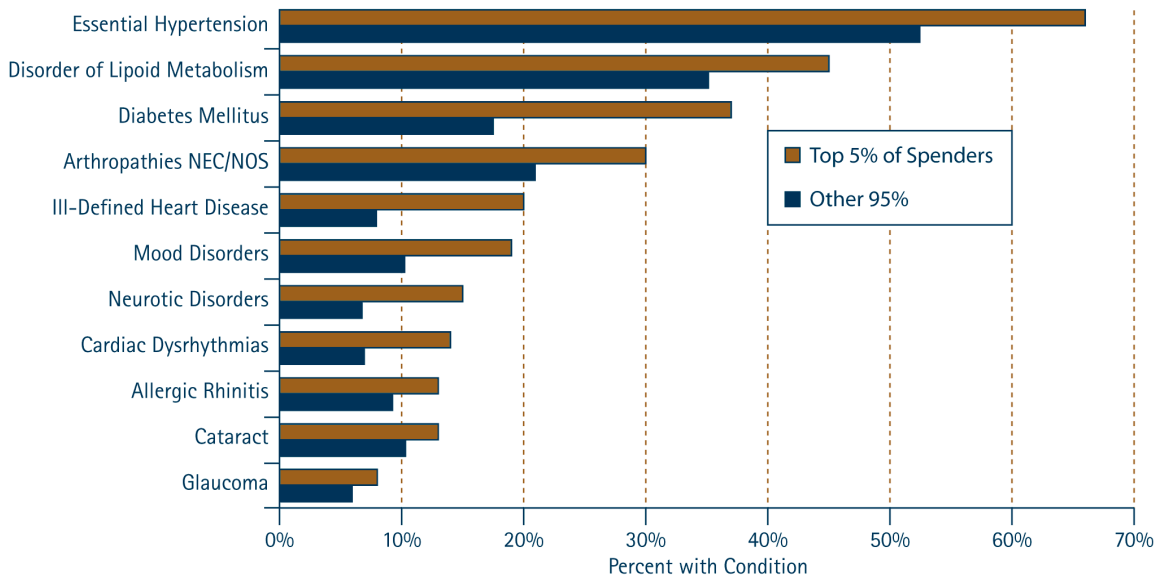
Chronic illnesses are the most prevalent clinical conditions in this group. More than 90% of patients in the top 5% spender tier have at least one chronic condition, and many have functional limitations or need assistance with activities of daily living.<sup>15</sup> Medical conditions for continuing complex patients vary depending on patient age, contributing to markedly different clinical profiles for senior, adult, and youth populations (see Chart 1).

In these patients it is useful to distinguish common diagnoses from diagnoses that drive spending. For example, hypertension and hyperlipidemia are widely prevalent conditions, but do not necessarily directly result in high costs, as renal failure, congestive heart failure (CHF), and COPD do. On the other hand, complex patients with low patient activation—as measured by the Patient Activation Measure (PAM)—are at particular risk due to the inability to perform adequate self-care to manage their condition.<sup>16</sup>

Serious mental health and substance use diagnoses are among the most significant drivers of cost. The evidence shows that per capita costs are double or triple for Medicaid patients with a co-morbid mental health diagnosis or with evidence of substance abuse. These diagnoses are especially prevalent in Medicaid high cost populations and care management programs need to address these underlying drivers of utilization.<sup>17</sup>

**Chart 1. Clinical profiles of Persistent High Spenders: Prevalence of Clinical Conditions**

**FIGURE 6. COMMON CONDITIONS AMONG ELDERLY HIGH SPENDERS, 2006**



NIHCM Foundation analysis of data in The Lewin Group, "Individuals Living in the Community with Chronic Conditions and Functional Limitations: Closer Look," Jan. 2010. Featured conditions are among the most prevalent for both high and non-high spenders.

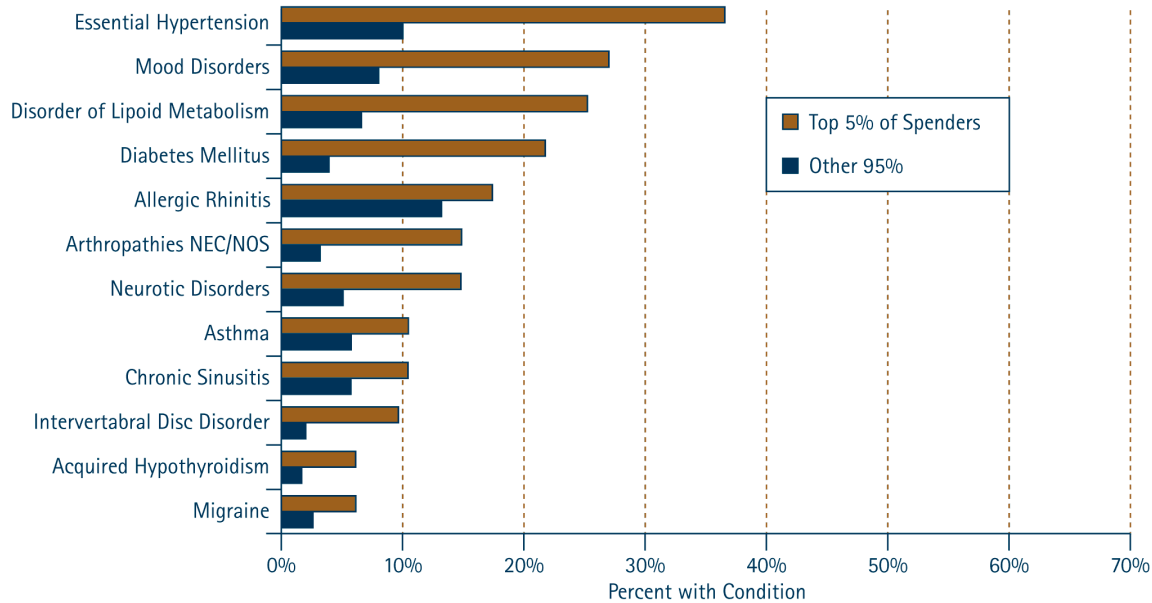
<sup>15</sup> Cohen and Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*.

<sup>16</sup> Intensive Outpatient Care Program, Pacific Business Group for Health, Clinical Advisory Committee; Milliman analysis of clinical conditions driving predicted spending, performed for the Intensive Outpatient Care Program.

<sup>17</sup> Dianne Hasselman, *Common Themes from Innovative Complex Care Management Programs*, Super-Utilizer Summit (Center for Health Care Strategies, Inc., 2013), <http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf407990>.



FIGURE 7. COMMON CONDITIONS AMONG NON-ELDERLY HIGH SPENDERS, 2006



NIHCM Foundation analysis of data in The Lewin Group, "Individuals Living in the Community with Chronic Conditions and Functional Limitations: Closer Look," Jan. 2010. Featured conditions are among the most prevalent for both high and non-high spenders.

Source: Steven B. Cohen and William Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*, Statistical Brief (Rockville, MD: Agency for Healthcare Research and Quality, January 2012).



# Quantitative and Qualitative Approaches to Stratifying Patients into Subgroups 1 and 2



The next challenge providers and payers often face in implementing high cost patient programs is accurately identifying those who need—and would benefit from—these services. There are two general methods for identifying potential enrollees for care management: (1) Quantitative—using claims and other electronic data sources, if available; and (2) Qualitative—using physician referral or patient-reported information. A recent review of 18 care management programs concluded that **a hybrid method is the most reliable approach to identify high cost patients.**<sup>18</sup>

## Quantitative Methods for Risk-Stratification: Claims-based Algorithms

Many sponsors of high risk care management programs purchase prospective risk modeling software tools, relying on algorithms that use claims and electronic health record (EHR) data to predict spending in the following year. Examples include the SCAN Health Plan risk stratification and Aetna’s predictive risk-scoring tool. Many prospective algorithms have been produced through considerable investment of time and funding. Because they are felt to provide a competitive advantage for the developing organization, they are seldom published or publicly shared. However, some prospective risk modeling tools are available for purchase. In general, prospective identification is likely to identify the right target population and produce the most successful program outcomes.

In the absence of prospective risk modeling software, claims-based algorithms can be used to identify potential persistently high cost individuals. One method recommended by clinical advisors from the Intensive Outpatient Care program (Pacific Business Group on Health program funded through a CMMI Innovation Award) uses the utilization criteria in Table 4 and one year of claims data to identify Medicare patients likely to have continued patterns of high utilization.<sup>19</sup> The utilization criteria are the same used by the Camden Coalition to screen for high utilizers in a Medicaid/uninsured population.<sup>20</sup> It should be noted that when using claims algorithms for Medicaid populations, the presence of alcohol/drug use and severe mental health diagnoses are strong predictors of patterns of high spending and should be added to claims-based algorithms.<sup>21,22</sup>

<b>Utilization Criteria</b>	<ul style="list-style-type: none"> <li>• <math>\geq 2</math> (non-OB) admissions in last year, with priority if one in last 6 months</li> <li>• <math>\geq 6</math> ED visits in last year</li> </ul>
<b>Other Stratification Criteria</b>	<ul style="list-style-type: none"> <li>• <math>\geq 5</math> prescription medications</li> <li>• <math>\geq 3</math> active specialists</li> <li>• <math>\geq 3</math> chronic conditions</li> <li>• Absence of PCP visits</li> </ul>

<sup>18</sup> Clemens S. Hong, Allison L. Siegel, and Timothy G. Ferris, *Caring for High-Need, High-Cost Patients What Makes for a Successful Care Management Program?*, Issue Brief (The Commonwealth Fund, August 2014).

<sup>19</sup> The Intensive Outpatient Care Program, developed by the Pacific Business Group for Health, has initiated complex care management programs within 22 delivery systems across 5 states through a CMMI Innovation Award. Clinical Advisors included Drs. Alan Glaseroff, Ann Lindsay, and Pranav Kothari. Additional information can be found here: <http://www.pbgh.org/key-strategies/paying-for-value/28-aicu-personalized-care-for-complex-patients>.

<sup>20</sup> Dianne Hasselman, *Common Themes from Innovative Complex Care Management Programs*, Super-Utilizer Summit (Center for Health Care Strategies, Inc., 2013), <http://www.rwjf.org/content/dam/farm/reports/reports/2013/rwjf407990>.

<sup>21</sup> Ibid.

<sup>22</sup> Kenneth W. Kizer and Jim Watkins, “Understanding Medi-Cal High Utilizers,” March 4, 2015, accessed May 28, 2015, <http://www.chcf.org/~media/MEDIA%20LIBRARY%20Files/PDF/D/PDF%20DataSymposium03042015KizerWatkins.pdf>.



Another method, used by Aetna, relies on two years of claims data and the four criteria listed below. These criteria are similar to a methodology developed by the Congressional Budget Office when it examined the costs associated with Medicare FFS's top 5% beneficiary spending tier, based on per member per month (PMPM) spending.<sup>23</sup>

1. Identify individuals alive for all of a base year (e.g., 2010).
2. Find all paid claims for each individual in each year and aggregate the payment amounts.
3. Among eligible individuals, determine whether their payments are in the top 10% on a PMPM basis.
4. Follow individuals and payments for two years (e.g., through 2012) or until death.

This method provides the ability to follow high cost Medicare beneficiaries over a two-year period to determine whether they remain high cost ("persisters") or became lower-cost over time ("reverters").

Although claims-based algorithms, especially prospective modeling, would seem to be the ideal method for proactive identification of costly patients, several shortcomings limit its effectiveness as a sole approach:

- **Lack of sensitivity:** Patients identified by claims-based algorithms tend to be excellent candidates for care management. However, these algorithms miss almost half of potential enrollees. Each year Aetna identifies and engages slightly less than 1% of its Medicare Advantage population in its Compassionate Care program that is geared toward individuals with advanced illness. Of the individuals who do participate in the program, 57% are identified by algorithm, and the remainder are referred through utilization or case management. Since Medicare's decedent rate is over 4%, there is a lot of opportunity to identify a greater number of high cost individuals to participate in programs targeted at improving quality and reducing costs, especially given that more than half of the decedents in Medicare are preceded by an identifiable advanced illness.
- **Limited clinical data:** Many data elements that are good metrics of illness progression and mortality are not routinely gathered in the traditional medical record (e.g., functional status). Without these, the effectiveness of prospective modeling is limited.
- **Time delay:** Collection, aggregation, and reporting of insurance claims take time. When they finally become available to individuals, illnesses may have progressed significantly and preventable utilization or death may have already occurred.

Despite these current limitations, prospective modeling may become more prevalent and useful as these barriers are overcome. Even now, publicly available instruments may be used to build these systems. The LACE+ index,<sup>24</sup> for example, uses Length of stay, Acuity of admission, Comorbidities, Emergency department use, age, gender, diagnoses, procedures, prior admissions, and other factors to predict early death or unplanned readmission. However, LACE+ starts with patients who have been admitted to the hospital. Especially for patients with advanced illness, it is best to identify populations for intervention before they become hospitalized so that they can be placed into outpatient programs earlier. Identification of individuals based on illness class may be one way to help the medical community design programs to target patients before they are admitted.

<sup>23</sup> The content of this report was developed in collaboration with Brad Stuart, MD, and Khue Nguyen, PharmD, of the Coalition to Transform Advanced Care (C-TAC) and Purva Rawal, PhD, of CapView Strategies. Special thanks to Diane Stewart from the Pacific Business Group on Health for her role in drafting.

<sup>24</sup> Carl van Walraven, Jenna Wong, and Alan J Forster, "LACE+ Index: Extension of a Validated Index to Predict Early Death or Urgent Readmission after Hospital Discharge Using Administrative Data," *Open Medicine* 6, no. 3 (July 19, 2012): e80–e90.



An emerging method is to supplement claims-based approaches with population-level information from publicly available data sets. Although publicly available data sets cannot help organizations identify individuals for care management, they can identify geographies (units as small as ZIP code+4) where high cost patients might be concentrated. For example, the Behavioral Risk Factor Surveillance System (BRFSS) is a long-standing, survey-based data set with extraordinary longitudinal stability and generates analytically derived data elements (second-order facts) that avoid the observational intensity bias of claims-based systems. Cross-sectional analysis has demonstrated that models using the BRFSS more accurately predict population-level costs for Medicare Advantage than a wide variety of models using Medicare claims and similar population-based models.<sup>25</sup>

### *Qualitative Methods for Risk-Stratification*

Qualitative methods are also important. Factors not captured in claims or EHR data can be the best predictors of advanced illness or persistent spending. Patient-based self-reporting and engagement in the variety of portals and electronic medical records that are becoming available may be a way to collect some of this information from patients in the future.

### Methods for Identifying Subgroup 1 Patients

In the sub-population of patients with advanced illness, ideal programs could identify patients in advance of any excessive hospitalization utilization. Useful tools include:

- **Vulnerable Elders Survey (VES-13):** a valid predictor of mortality and functional decline in community-dwelling seniors<sup>26</sup>
- **Indications of active functional and/or nutritional decline:**<sup>27</sup>
  - Functional status: Karnovsky performance status (KPS), Activities of Daily Living (ADLs), and Eastern Cooperative Oncology Group (ECOG), among others
  - Nutritional status: involuntary weight loss, reduced intake, cachexia
- **Patient self-reported state of health:** Fair to poor
- **Physician report:** “Would you be surprised if this patient died within the next year?”

<sup>25</sup> David E. Wennberg et al., “A Population Health Approach to Reducing Observational Intensity Bias in Health Risk Adjustment: Cross Sectional Analysis of Insurance Claims,” *British Medical Journal* 348, no. g2392 (April 10, 2014): 1–10. For a summary and explanation from the study’s leads, see the video from the British Medical Journal: <http://www.bmj.com/content/348/bmj.g2392#aff-1>.

<sup>26</sup> Stuart Levine et al., *Predicting the Financial Risks of Seriously Ill Patients* (California HealthCare Foundation, December 2011), accessed May 28, 2015, <http://www.chcf.org/publications/2011/12/predictive-financial-risks>.

<sup>27</sup> Dr. Brad Stuart, CMO at Coalition to Transform Advanced Care (C-TAC).



## Methods for Identifying Subgroup 2 Patients

In the persistent spending group, patients living with multiple chronic illnesses can be an important target. Some will successfully self-manage their clinical conditions while others with exactly the same clinical profile are less able to do so, resulting in multiple hospitalizations and/or ED visits. Qualitative methods to identify the underlying barriers patients face in caring for themselves will more accurately predict future utilization. Useful tools include:

- **Patient Health Questionnaire (PHQ-2 [or -9]):** Mood disorders are common among high spenders, especially for patients in this group under the age of 65.<sup>28</sup>
- **Depression:** Seniors may be likely to encounter social isolation, which contributes to depression and less mental health well-being, as measured by the PHQ and Veterans RAND 12 Item Health Survey (VR-12).
- **Patient Activation Measure (PAM):** The PAM survey is a validated survey measuring a patient’s knowledge and confidence in managing their own disease. Lower activation scores have been shown to be associated with high utilization patterns.<sup>29</sup>
- **Homelessness:** This factor is especially important in Medicaid populations, where per capita spending is significantly higher for patients without housing security.<sup>30</sup>
- **Physician referral:** Many programs successfully incorporate primary care physician referral.<sup>31</sup> Others have built workflows that incorporate primary care feedback of patients appearing on claims-based lists.

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<sup>28</sup> Cohen and Yu, *The Concentration and Persistence in the Level of Health Expenditures over Time: Estimates for the U.S. Population, 2008-2009*.

<sup>29</sup> Jessica Greene et al., “When Patient Activation Levels Change, Health Outcomes And Costs Change, Too,” *Health Affairs* 34, no. 3 (March 1, 2015): 431–437.

<sup>30</sup> Sharon A. Salit et al., “Hospitalization Costs Associated with Homelessness in New York City,” *New England Journal of Medicine* 338, no. 24 (June 11, 1998): 1734–1740.

<sup>31</sup> Hong, Siegel, and Ferris, *Caring for High-Need, High-Cost Patients: What Makes for a Successful Care Management Program?*.



## Conclusion

This paper provides a starting point for payer- and provider-led efforts to identify high cost individuals who are most likely to benefit from care management programs and approaches. Changing overall clinical, utilization, and cost outcomes for the entire population may best be accomplished by intervening with the small number of patients with highest need and highest cost. Care management programs can be developed and brought to scale fairly easily to manage this cohort. On the other hand, applying interventions to the entire population may greatly dilute its effectiveness, resulting in failure to achieve positive return on investment or savings.

Strategies to improve care for patients with advanced illness or persistently high costs are challenging to implement, but several viable innovative models exist. The next paper in this series will highlight successful interventions, as well as strategies for building sustainable programs, so that they can be emulated, tested, and scaled in diverse clinical and cultural settings. The resulting cost savings will help move payers and provider groups toward value-based payment and improve the care that patients receive.