Session 84PD, Cost Reduction via Site of Service Shift & Provider Analytics

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2018 SOA Health Meeting

Chris Schmidt, FSA, MAAA, Gnana Kumar Kanisan, ASA, MAAA, Nicholas Massiello
Session 84, Cost Reduction via Site of Service Shift & Provider Analytics
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Panel Introductions

**Chris Schmidt – Minneapolis, MN**
Mr. Christopher A. Schmidt has over 16 years of consulting experience. Mr. Schmidt’s focus has been in the area of health actuarial and data analytic services. He has worked with Federal, State and local government agencies, large national and regional health plans, and providers. He has expertise in a variety of areas including issues such as Value Based Care analysis, Value Based Care program design and implementation, payer/provider reimbursement analysis and contracting strategy, Medicaid capitation rate setting, and Medicare pricing and bid development.

**Gnana Kumar Kanisan – Chicago, IL**
Kumar has worked with payers, providers, governmental entities and large employers. Kumar has extensive experience in providing strategic and analytical support in developing Medicare Advantage product and bid strategy, modeling provider reimbursement contracts, performing risk-adjusted provider performance analysis, and facilitating service agreement and payment development for various integrated health entities. Kumar has done work specific to all three major market sectors of commercial, Medicare and Medicaid.

**Nick Massiello – Pittsburgh, PA**
Nick Massiello serves as the ambulatory services business development leader focused on supporting clients seeking to drive sustainable change through the deployment of hybrid analytic solutions. Nick is an experienced industry thought leader in the areas of ambulatory services optimization, population health, physician care pattern analysis, coordinated care model development, and compensation for value based outcomes.
Site of Service Shift & Provider Analytics
Industry Context: The Imperative for Site of Service Optimization

Industry changes and patient preferences for being cared at home are forcing providers to rethink their care model strategy and evaluate their ambulatory asset portfolio to prepare for accelerated site of service shifts.

Demographic Trends

- Population 65+ years will grow 5x the rate than the rest of the population until 2040

Preference for Home Care

- 90% of senior citizens would prefer to receive care in their homes

Lowest Cost Care Setting

- Increasing payment model pressures, both commercial and government, favor service delivery in lower cost settings

Financial Pressure

- Decreasing inpatient volumes and CMS reimbursement levels have resulted in a downward Medicare margin trend for Providers (-9.6% in 2016)

Ascendance of Managed Care

- Medicare Advantage penetration has increased substantially, with one in three Medicare beneficiaries being enrolled in a MA plan

Vertical Integration by Payers

- Vertical integration by payers are mostly focused around preventing inpatient visits through regular primary care check ups and home health care

Where are your patients going?
Inpatient volumes have declined nationally and the growth in outpatient and ambulatory services is expected to exponentially increase

- Med-tech advances allow more procedures previously done in the inpatient environment to be done in the outpatient/ambulatory environment
- Increasing payment model pressures, both commercial and government, favor service delivery in lower cost settings
- Physicians want greater control over the care they deliver which is offered by non-hospital settings (e.g., procedure room availability, supporting clinical staff, scheduling, convenience to patients and families, proximity to office and home)

*Non-hospital settings are almost always more comfortable for patients, and certainly more palatable.*

*It is almost always safer, on balance, to provide care in the least complex setting.*

*Care in less complex settings is invariably less costly ... thus benefits both individuals and society.*

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**Average Cost per Encounter by Site of Service (2012–2015):**

- Shifting from IP to ASC, from SNF to Home, or ER to Office/Telehealth produces significant cost savings assuming safety, quality, and outcomes hold

**Total Hip—CPT 27130—% of total in ASC/Outpatient Setting YoY:**

<table>
<thead>
<tr>
<th>Year</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>3.7%</td>
</tr>
<tr>
<td>2013</td>
<td>4.2%</td>
</tr>
<tr>
<td>2014</td>
<td>5.2%</td>
</tr>
<tr>
<td>2015</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

1 Truven Health Analytics, MarketScan 2012–2015
Table 1: Medicare inpatient discharges per beneficiary declined as outpatient visits per beneficiary continued to increase

Note: FFS (fee-for-service). Data include general and surgical, critical access, and children’s hospitals.

Source: MedPAC analysis of CMS’s inpatient and outpatient claims and enrollment data.

Excess Inpatient Capacity due to decreasing inpatient volumes. Between 2015 and 2016, aggregate occupancy rates for hospitals remained largely unchanged at 62%
Table 2: Medical discharges per beneficiary declined, despite a recent increase in surgical discharges

Increase in IP Surgery was driven by growth in Major Joint Replacements for Lower Extremities (MS-DRGs 469 and 470), Infectious and Parasitic Procedures (MS-DRGs 853 – 855) and Stomach and Esophageal Procedures (MS-DRGs 326 – 328)

Note: Data include general and surgical, critical access, and children’s hospitals.

Source: MedPAC analysis of CMS’s inpatient claims and enrollment data.
Table 3: Hospital outpatient departments (HOPDs) have had strong spending growth for observation care, ED visits, clinic visits, chemotherapy administration, and separately payable drugs

<table>
<thead>
<tr>
<th>Service or item</th>
<th>2011</th>
<th>2016</th>
<th>Percent change 2011 - 2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation care</td>
<td>$0.69</td>
<td>$3.11</td>
<td>349%*</td>
</tr>
<tr>
<td>ED visits</td>
<td>2.27</td>
<td>3.90</td>
<td>76%</td>
</tr>
<tr>
<td>Clinic visits</td>
<td>1.74</td>
<td>3.07</td>
<td>76%</td>
</tr>
<tr>
<td>Chemotherapy administration</td>
<td>0.33</td>
<td>0.66</td>
<td>102%</td>
</tr>
<tr>
<td>Drugs</td>
<td>5.15</td>
<td>10.18</td>
<td>98%</td>
</tr>
<tr>
<td>Total</td>
<td>39.78</td>
<td>60.01</td>
<td>51%</td>
</tr>
</tbody>
</table>

*Note: ED (emergency department). Spending amounts include both program outlays and beneficiary coinsurance amounts. "Drugs" are those that are separately payable under the outpatient prospective payment system, which includes pass-through drugs and drugs that are separately payable but do not have pass-through status. A large portion of the growth in observation spending is due to packaging more services into the observation stay.


**Shift from inpatient (high cost) to HOPD (low cost) setting**
Increase in ED/Observation visits could be driven by reactions to denials for short inpatient stays and the introduction of the two-midnight rule for IP stays.

**Shift from physician office (office cost) to HOPD (low cost) setting**
It is estimated that the Medicare program spent $1.8 billion more in 2016 than it would have if payment rates for evaluation and management (E&M) office visits in HOPDs were the same as freestanding office rates. 2/3 the increased spend on drugs are related to cancer treatment.
Table 4: Overall Medicare margin continued to trend downward after holding relatively steady between 2009 and 2014

Medicare currently represents 1/3 of All-Payer Revenues and is expected to continue to increase. Breaking even under Medicare FFS will be essential to maintain overall profitability.

Marginal Profit
Across hospital service lines was ~ 8% in 2016 providing financial incentives for hospitals with excess capacity to serve more Medicare beneficiaries.

Marginal profit = (payments for Medicare services – (total Medicare costs – fixed building and equipment costs)) / Medicare payments

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Note: A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. Analysis excludes critical access and Maryland hospitals. Medicare inpatient margins include services covered by the acute inpatient prospective payment system. “Overall Medicare margin” covers acute inpatient, outpatient, hospital-based skilled nursing facility (including swing beds), hospital-based home health, and inpatient psychiatric and rehabilitation services, plus graduate medical education and electronic health record incentive payments and payments for uncompensated care.

Source: MedPAC analysis of Medicare cost reports from CMS.
Table 5: Overall Medicare margins by Hospital Type

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>All hospitals (excluding CAHs)</td>
<td>-5.3%</td>
<td>-4.9%</td>
<td>-5.7%</td>
<td>-5.5%</td>
<td>-5.1%</td>
<td>-5.8%</td>
<td>-7.6%</td>
<td>-9.6%</td>
</tr>
<tr>
<td>Urban</td>
<td>-5.4</td>
<td>-5.1</td>
<td>-6.1</td>
<td>-5.9</td>
<td>-5.9</td>
<td>-6.0</td>
<td>-7.9</td>
<td>-9.8</td>
</tr>
<tr>
<td>Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Excluding CAHs</td>
<td>-4.0</td>
<td>-2.6</td>
<td>-2.6</td>
<td>-1.1</td>
<td>2.4</td>
<td>-3.6</td>
<td>-5.0</td>
<td>-7.4</td>
</tr>
<tr>
<td>Including CAHs</td>
<td>-2.8</td>
<td>-1.7</td>
<td>-1.4</td>
<td>0.3</td>
<td>2.5</td>
<td>-1.9</td>
<td>-3.2</td>
<td>-5.3</td>
</tr>
<tr>
<td>Nonprofit</td>
<td>-6.6</td>
<td>-6.3</td>
<td>-7.2</td>
<td>-7.1</td>
<td>-6.5</td>
<td>-7.4</td>
<td>-9.1</td>
<td>-11.0</td>
</tr>
<tr>
<td>For profit</td>
<td>-0.2</td>
<td>-0.1</td>
<td>-0.3</td>
<td>1.2</td>
<td>1.1</td>
<td>0.7</td>
<td>-1.4</td>
<td>-2.4</td>
</tr>
<tr>
<td>Major teaching</td>
<td>-1.1</td>
<td>-0.9</td>
<td>-2.3</td>
<td>-2.8</td>
<td>-3.6</td>
<td>-4.5</td>
<td>-6.4</td>
<td>-8.6</td>
</tr>
<tr>
<td>Other teaching</td>
<td>-5.0</td>
<td>-4.7</td>
<td>-5.5</td>
<td>-5.1</td>
<td>-4.8</td>
<td>-4.9</td>
<td>-6.3</td>
<td>-8.5</td>
</tr>
<tr>
<td>Nonteaching</td>
<td>-8.5</td>
<td>-8.0</td>
<td>-8.5</td>
<td>-7.8</td>
<td>-6.4</td>
<td>-7.6</td>
<td>-9.7</td>
<td>-11.3</td>
</tr>
<tr>
<td>High DSH</td>
<td>1.4</td>
<td>0.9</td>
<td>-0.5</td>
<td>-0.3</td>
<td>-0.4</td>
<td>-1.1</td>
<td>-3.2</td>
<td>-6.2</td>
</tr>
<tr>
<td>Moderate-to-low DSH</td>
<td>-7.7</td>
<td>-6.9</td>
<td>-7.4</td>
<td>-7.1</td>
<td>-6.4</td>
<td>-7.1</td>
<td>-8.6</td>
<td>-10.4</td>
</tr>
<tr>
<td>No DSH</td>
<td>-13.4</td>
<td>-12.4</td>
<td>-13.2</td>
<td>-13.2</td>
<td>-12.6</td>
<td>-13.5</td>
<td>-15.2</td>
<td>-15.5</td>
</tr>
</tbody>
</table>

Note: CAH (critical access hospital), DSH (disproportionate share). Data are for all hospitals covered by the Medicare acute inpatient prospective payment system in 2016 and for CAHs where indicated. A margin is calculated as payments minus costs, divided by payments; margins are based on Medicare-allowable costs. “Overall Medicare margins” covers acute inpatient, outpatient, hospital-based skilled nursing facility (including swing beds), hospital-based home health, and inpatient psychiatric and rehabilitation services, plus uncompensated care, graduate medical education, and electronic health record incentive payments. The rural margins are shown with and without 1,300 CAHs, which are paid 101 percent of costs for inpatient and outpatient services. The margins without CAHs illustrate the profitability of rural inpatient prospective payment system hospitals; the rural margins with CAHs give a fuller picture of rural hospital profitability. “High DSH” includes hospitals with the highest disproportionate share adjustments (top quartile). “Moderate-to-low DSH” includes hospitals with disproportionate share adjustments that exceed zero but are not included in the top quartile.

Source: MedPAC analysis of Medicare cost reports, Medicare Provider Analysis and Review files, and impact files from CMS.
Table 6: More hospital closures than openings from 2010 through 2016

<table>
<thead>
<tr>
<th>Year</th>
<th>Newly Opened Hospitals</th>
<th>Closed Hospitals</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>29</td>
<td>11</td>
</tr>
<tr>
<td>2011</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>2012</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>2013</td>
<td>14</td>
<td>22</td>
</tr>
<tr>
<td>2014</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>2015</td>
<td>9</td>
<td>24</td>
</tr>
<tr>
<td>2016</td>
<td>13</td>
<td>28</td>
</tr>
</tbody>
</table>

Source: MedPAC analysis of the CMS-Provider of Services file, Internet searches, and personal communication with the Department of Health and Human Services Office of Rural Health Policy.

Transitioning from Acute to Ambulatory Care

Hospitals that closed in 2016 were smaller than average and had low occupancy and poor profitability. The 21 closed hospitals had an average of 50 inpatient beds and an average occupancy rate of 32 percent.

14 hospitals closed completely, 4 became stand-alone EDs, 2 became outpatient facilities without ED services, and 1 became a nursing home.
How do you get ahead of the shift?
Address these questions:

What services are shifting and when?
Leverage actuarial service analytics to understand and project site of care trends and pace of shift

Do I have the assets to service the shift?
Evaluate ambulatory asset portfolio to identify capacity and readiness for accelerated site of service shifts

What investments are required?
Determine investments and plan to address gaps in capacity and services as well as financial and market share impacts

It is necessary for Providers and Health Plans to anticipate the challenges and rewards with site of service optimization through:

- Market specific predictive modeling that identifies shifts in location of care—assists in determining what services are shifting, where they are going, and whether you have the right ambulatory services, in the right location to meet demand
- Clinical mindset to evaluate the strategic repositioning of care and services that can safely be performed at lower acuity settings
- Competitive landscape to see market share threats and opportunities relative to traditional and non-traditional players—it’s not just about what other health systems are doing—health plans, private equity investors, physician groups, and global organizations are eyeing US ambulatory markets for growth
- Insights for a phased implementation, at the appropriate speed, to minimize service disruption while protecting market share and prioritizing opportunities to gain value from limited resources

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Sensing the Shift: Where are they going and can I service it?

It is essential to understand the characteristics of the patient populations served and use a data-driven, leading practice approach to render the best outcomes and control costs of care delivery at the intersection of efficiency and consumer demand.
Opportunity Assessment Approach
Opportunity assessment analytics can be applied to identify potential opportunities to reduce medical and costs while maintaining quality of care.

### Medical Approach

#### Utilization Analysis

<table>
<thead>
<tr>
<th>MSA</th>
<th>Best-In Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Before</td>
<td>$</td>
</tr>
<tr>
<td>After</td>
<td>$</td>
</tr>
</tbody>
</table>

#### Care Standardization

Analyses based on identifying unusual variation within episodes inform condition specific targeting and opportunity quantification.

#### Site of Service

Opportunities are identified to shift services to a more cost effective setting, suggesting new ways to approach care.

### Background

Comparison against progressive market benchmarks where risk sharing is prevalent (i.e., Best-in-Class MSAs) to determine care management/ population health opportunities.
### Utilization Analysis

Claims analysis supported by clinical review can highlight service areas and types where savings can be achieved by reducing utilization.

#### Utilization analysis identifies service categories with the greatest opportunity for savings through utilization reduction

<table>
<thead>
<tr>
<th>Hospital IP Subcategory</th>
<th>Health Plan</th>
<th>Benchmark</th>
<th>Comparison</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Units/1000</td>
<td>Unit Cost</td>
<td>PMPM</td>
<td></td>
</tr>
<tr>
<td>Medical</td>
<td>25.31</td>
<td>$9,206</td>
<td>$19.42</td>
<td>14.84</td>
</tr>
<tr>
<td>Surgery</td>
<td>15.89</td>
<td>$24,034</td>
<td>$31.82</td>
<td>13.79</td>
</tr>
<tr>
<td>Maternity</td>
<td>12.05</td>
<td>$5,942</td>
<td>$5.97</td>
<td>11.95</td>
</tr>
<tr>
<td>Well Newborn</td>
<td>4.85</td>
<td>$3,261</td>
<td>$1.32</td>
<td>3.57</td>
</tr>
<tr>
<td>Newborn - NICU</td>
<td>2.49</td>
<td>$16,500</td>
<td>$3.42</td>
<td>1.71</td>
</tr>
<tr>
<td>Mental Health</td>
<td>4.23</td>
<td>$5,006</td>
<td>$1.76</td>
<td>2.32</td>
</tr>
<tr>
<td>Substance Abuse</td>
<td>1.28</td>
<td>$6,328</td>
<td>$0.68</td>
<td>1.21</td>
</tr>
</tbody>
</table>

#### Hospital IP - Medical DRGs

<table>
<thead>
<tr>
<th>Hospital IP - Medical DRGs</th>
<th>Health Plan</th>
<th>Benchmark</th>
<th>Opportunity</th>
</tr>
</thead>
<tbody>
<tr>
<td>871 Septicemia with MCC</td>
<td>15.2</td>
<td>7.3</td>
<td>$4.6 M</td>
</tr>
<tr>
<td>872 Septicemia without MCC</td>
<td>3.8</td>
<td>2.5</td>
<td>$0.5 M</td>
</tr>
<tr>
<td>291 Heart failure/shock with MCC</td>
<td>5.3</td>
<td>2.6</td>
<td>$1.3 M</td>
</tr>
<tr>
<td>280 Heart attack, discharged alive with MCC</td>
<td>2.1</td>
<td>1.3</td>
<td>$0.4 M</td>
</tr>
<tr>
<td>378 GI Hemorrhage with CC</td>
<td>4.2</td>
<td>2.5</td>
<td>$0.5 M</td>
</tr>
<tr>
<td>064 Stroke or cerebral infarction</td>
<td>2.2</td>
<td>1.5</td>
<td>$0.4 M</td>
</tr>
<tr>
<td>308 Cardiac arrhythmia and conduction disorders</td>
<td>2.3</td>
<td>1.2</td>
<td>$0.4 M</td>
</tr>
<tr>
<td>189 Pulmonary edema and respiratory failure</td>
<td>3.1</td>
<td>2.1</td>
<td>$0.4 M</td>
</tr>
</tbody>
</table>

Further drilldowns enable identification of service areas with opportunity. Collaboration with clinical review helps in identifying actionable solutions.
Care Standardization

An episode based analysis can identify long term savings opportunities that bend the cost curve through care standardization and variation reduction.

Variation reduction efforts can help achieve overall cost reduction for the health plan.

Actionable efforts are identifiable through condition-specific opportunities where unexpected variation is greatest.

<table>
<thead>
<tr>
<th>Chronic Condition (Episode)</th>
<th>Health Plan Episode Costs</th>
<th>Benchmark</th>
<th>Marginal</th>
<th>Cost Reduction Opportunity</th>
<th>Priority</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Median</td>
<td>Variation</td>
<td>Variation</td>
<td>Variation</td>
</tr>
<tr>
<td>Osteoarthritis</td>
<td>$6,000</td>
<td>$2,000</td>
<td>300%</td>
<td>125%</td>
<td>175%</td>
</tr>
<tr>
<td>Renal Function Failure</td>
<td>$28,000</td>
<td>$14,000</td>
<td>200%</td>
<td>90%</td>
<td>110%</td>
</tr>
<tr>
<td>Cancer - Breast</td>
<td>$13,500</td>
<td>$6,000</td>
<td>225%</td>
<td>150%</td>
<td>75%</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>$10,000</td>
<td>$6,667</td>
<td>150%</td>
<td>175%</td>
<td>-</td>
</tr>
<tr>
<td>Diabetes</td>
<td>$3,000</td>
<td>$1,500</td>
<td>200%</td>
<td>160%</td>
<td>40%</td>
</tr>
<tr>
<td>Hypertension</td>
<td>$900</td>
<td>$600</td>
<td>150%</td>
<td>125%</td>
<td>25%</td>
</tr>
<tr>
<td>Coronary Artery Disease</td>
<td>$5,000</td>
<td>$4,000</td>
<td>125%</td>
<td>110%</td>
<td>15%</td>
</tr>
<tr>
<td>Asthma</td>
<td>$2,000</td>
<td>$1,200</td>
<td>167%</td>
<td>175%</td>
<td>-</td>
</tr>
<tr>
<td>Overweight /Obesity</td>
<td>$2,500</td>
<td>$2,000</td>
<td>125%</td>
<td>140%</td>
<td>-</td>
</tr>
<tr>
<td>Cancer - Prostate</td>
<td>$6,000</td>
<td>$4,000</td>
<td>150%</td>
<td>145%</td>
<td>5%</td>
</tr>
</tbody>
</table>

Step 1: Leverage health plan data to determine episodes with high variability.

Step 2: Incorporate benchmark data to distinguish expected versus excess variation.

Step 3: Apply clinical expertise to determine which opportunities are actionable.
Site of Service Optimization

Besides reducing the care required or provided, there is an opportunity to reduce costs by changing the setting in which care is delivered.

**OP Surgery Utilization between ASC and Non-ASC**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Employee Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>58.8%</td>
<td>61.3%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average MSA ASC Usage</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Non-ASC Units Shifting to ASC if Portion of ASC increased to: 410</td>
</tr>
<tr>
<td>Savings Opportunities (PMPM)</td>
</tr>
<tr>
<td>Savings (% of Allowed)</td>
</tr>
</tbody>
</table>

**Reimbursement Differential**

- Non-ASC (Allowed per Unit) $5,231
- ASC (Allowed per Unit) $1,959
- Cost Differential $3,272

**Sample opportunities for site of service optimization**

<table>
<thead>
<tr>
<th>Category</th>
<th>Current Site/Service</th>
<th>Target Site/Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical short stay</td>
<td>1-day IP medical stay</td>
<td>Observation day</td>
</tr>
<tr>
<td>Surgical short stay</td>
<td>1-day IP surgical stay</td>
<td>OP surgery</td>
</tr>
<tr>
<td>ASC (depicted above)</td>
<td>OP surgery</td>
<td>ASC surgery</td>
</tr>
<tr>
<td>Injections (J-codes)</td>
<td>Facility setting</td>
<td>Physician office or home</td>
</tr>
<tr>
<td>Post-acute care</td>
<td>Nursing home</td>
<td>Home care</td>
</tr>
</tbody>
</table>

Altering patient behavior is a longer term opportunity and requires (1) a well developed care management program and (2) a structural change in how providers deliver care.
Solving for Network Adequacy: An algorithmic approach

An algorithmic approach to provide a data driven basis for evaluating network adequacy and efficient asset usage delivers a repeatable process to create tailored solutions that address shifting services across the health care delivery eco-system.

Who should we include?

Where are my assets distributed?

What are my current market pressures?

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An algorithm for every perspective

**Case Study:** Conducting a state-wide Healthcare Workforce Capacity Study for the Commonwealth of Kentucky's Health Benefit Exchange

- Existing state-wide gaps for many healthcare workforce groups, a substantial disparity between urban and rural healthcare access, Lack of visibility into and consistency in how clinical workforce data is collected and reported. Responsibility for addressing workforce gaps split across diverse state agencies with differing levels of analytical competencies

*Study results are available to the public online here: [http://healthbenefitexchange.ky.gov/Pages/Kentucky-Health-Care-Workforce-Capacity-Report.aspx](http://healthbenefitexchange.ky.gov/Pages/Kentucky-Health-Care-Workforce-Capacity-Report.aspx)*

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**Network Design**

**The Regulatory Perspective...**

**Network Development**

**The Provider Perspective...**

**Network Optimization**

**The Health Plan Perspective...**

**Case Study:** As part of a broader integration planning effort, Deloitte worked with the Provider’s team to understand post-merger market coverage, specifically for its physician network. As part of the planned integration, leadership committed to the expansion of that network which included faculty physicians, employed physicians, and affiliated community based groups.

- Together, we explored the market characteristics as well as physician supply and demand by specialty in aggregate for the entire service area and for three client defined “micro territories.”

**Case Study:** Deloitte assisted the Health Plan’s “Get Better” mission by analyzing the adequacy of its provider network to meet member access needs based on the size and location of member lives by LOB and market.

- Combing client data and external performance measures, Deloitte was able to create quick insights into the Health Plan’s ability to meet its aggressive membership growth objective
- We were able to analyze the scalability of the Health Plan’s network and where necessary, identify recruitment targets by specialty
- Health Plan leadership found additional utility in the visualization of its Cardiology network to establish and test hypotheses on utilization and cost trends within one of its state markets

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Network Insight™ Use Case #1: Ambulatory Asset Reconfiguration

After first leveraging actuarial service analytics to understand and project site of care trends and pace of shift, you can visualize current assets and their market placement.

1. Where do I currently have ambulatory assets in the markets I serve?
2. Do my current ambulatory locations match up with the populations I am trying to serve?

1. Do I have ambulatory assets in the right locations to meet future demand?
2. Will I need to expand or change my existing ambulatory footprint?
3. How does the complement of clinical services offered in my ambulatory facilities compare to future needs?

1. What actions could I/should I take regarding my current ambulatory assets?
2. Which assets should I continue to invest in, and which assets should I look to liquidate moving forward?

1. How will the decisions I make relative to my existing ambulatory assets impact financial performance over time?
2. How can I maximize the positive financial impact of my ambulatory asset decisions?

A recommendation engine can provide suggested actions concerning each ambulatory asset along with the financial implications, focusing on whether investments should be made to grow an asset, whether it should continue under the status quo, or whether alternative measures should be taken based on market characteristics, designated strategy, and current/projected demand.
Network Insight™ Use Case #2: Network Adequacy Evaluation

Powered by detailed physician supply and demand data you can compare your physician market share to age/sex adjusted visit volume projections by specialty and geography to understand where you may have physician shortages or over supply.

**Adequacy - Current Market Share**

Allows organizations to see whether they have sufficient providers to cover current demand (based on current market share) while also allowing for provider growth projections (based on target future market share).

**Scalability - Projected Market Share**

1. Do I have the right mix of primary care and specialty physicians to meet current demand based upon my existing market share?

2. How should my complement change in order to meet future demand and market growth projections?

**Market Placement**

Provides geospatial visualization of existing physician practices in designated MSA set against a multitude of pre-loaded and customizable geographic characteristics.

1. Where do I currently have provider practices and what are my vulnerabilities?

2. Are these practices located in areas that match the geographic characteristics of my target populations?

3. How do my current providers overlap with competitor in the market?
Network Insight™ Use Case #2: Network Adequacy Evaluation

Using an optimization algorithm and client defined value metrics, preferred physician practices can be targeted for recruitment that address both complement and market coverage gaps as well as a view into assumption driven revenue lift implications

**Network Adequacy – Closing the Gaps**

Visualize optimal market placement across entire catchment area or “micro-territories” that align favorably to strategic growth objectives. Some factors to consider would be:

- Density of total population
- Density of low/upper income households
- Proximity to existing patient or member population

1. Who could I target, based upon my desired provider and market characteristics, for inclusion in my existing network?
2. What are the network value and financial implications of the targeted physicians and/or groups?

What does this tell me?
Case Study: Presbyterian Health Services

**Issue & Initiative**

To improve coordination of services for patients with advanced illness, Presbyterian Health Services developed the **Hospital@Home** program to fit within home-based primary care, home health, hospice, and **CompleteCare** (a care management program).

**Approach**

Treated patients who met hospitalization criteria per InterQual and within a certain geography area under the H@H program.

Providers addressed both **acute** conditions and external issues such as medication management and diet, as this model allowed for more **face-to-face** time with clinicians.

**Outcomes**

- Mean length of stay was **0.91 day shorter** with **no SNF utilization** following discharge.
- Readmission rate within 30 days of discharge was **reduced to 5.6%**.
- **Mortality** during the admission was **lower** (0.93% vs. 3.4%).

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**Patient Vignette**

My name is Felimon Bailon and I showed up in an emergency department in Albuquerque, New Mexico, with a large and painful abscess on my leg.

Doctors recommended admitting me to the hospital so I could receive antibiotics but I refused insisting the infection would go away on its own if I simply took medication.

The doctors recommended home visits with no hospital stay, which helped me overcome my reluctance to have visitors at my home.

After several daily visits and I.V. antibiotics, I fully recovered, with home visits at a lower cost than hospital care!

Case Study: Wishard Health Services Inc.

### Issue & Initiative
To provide services off-site from a hospital with frequent interaction with primary care practitioners, Wishard Health in Indiana developed the Geriatric Resources for Assessment and Care of Elders (GRACE) Program.

### Approach
A nurse practitioner and social worker assess patients in their homes and develop plans. Plans are then presented to the care management team, whose members prioritize interventions and generate reports for patients’ primary care physicians, who review them and provide feedback.

### Outcomes
- **Decreased admissions rates by 40%**
- **Decrease readmissions by 74% (7 day), 45% (30 day)**
- **Decrease ED utilization rates (35% year 2, 21% year 3)**
- **Average total cost of care decreased** ($7.5K vs. $9K in year 2 & $5.1K vs. $6.6K in year 3)

### Complex Care Manager Vignette
- The program enabled me to target “high need, high cost” elderly patients with multiple or complex conditions.
- I performed comprehensive health assessments to identify problems that if addressed can improve care.
- I could build trusting relationships with patients and caregivers.
- Both care managers and physicians were satisfied as more resources were available to patients in GRACE vs. usual care.

Questions?