Asthma and COPD episodes

Clinical Advisory Group Meeting 1

Meeting Date: 8/26

Source: Fee-for-Service and Managed Care encounter records for Pulmonary Episode Patients in CY2012-2013. Source: HCI3
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D. HCI3 - Understanding the HCI3 Grouper and Development of Care Episodes

Part II
A. Impressions of Data Available for Value-Based Contracting
Introductions
Tentative Meeting Schedule & Agenda

Depending on the number of issues addressed during each meeting, the meeting agenda for each CAG will likely consist of the following:

Meeting 1
- Introduction to Value Based Payment
- Clinical Advisory Group- Roles and Responsibilities
- Understanding the Approach: HCI3 Overview
- Pulmonary Episodes – Definition
- Pulmonary Episodes – Impressions of Data Available for Value Based Contracting

Meeting 2
- Pulmonary Episodes Definition Recap
- Pulmonary Episodes Outcome Measures - I

Meeting 3
- Pulmonary Episode Outcome Measures - II
Part I

A. Clinical Advisory Group (CAG) Roles & Responsibilities

Roles and Responsibilities Overview
Clinical Advisory Group Composition

Comprehensive Stakeholder Engagement

- Comprehensive stakeholder engagement has been a key component to the development of the Value Based Payment Roadmap.
- We will continue engaging stakeholders as we develop and define opportunities for value based payment arrangements.

Composition of the CAG includes:

- Clinical experience and knowledge focused on the specific care or condition being discussed (pulmonary)
- Industry knowledge and experience
- Geographic diversity
- Total care spectrum as it relates to the specific care or condition being discussed
CAG Objectives

- Understand the State’s visions for the Roadmap to Value Based Payment
- Understand the HCI3 grouper and underlying logic of the bundles
- Review clinical bundles that are relevant to NYS Medicaid
- Make recommendations to the State on:
  - outcome measures
  - data and other support required for providers to be successful
  - other implementation details related to each bundle

- The CAGs will be working with national standard bundles and are not asked to tailor definitions at this point, but focus on outcome measures and NYS implementation details. Working experience with bundles can lead to new insights and definition enhancements as with any reimbursement methodology.
- Definitions are standard, but financial arrangements between plans and providers around the bundles are not set by the State.
Pulmonary episodes represent $1.16B over two years

Cost Composition of Pulmonary Episodes
Total Pulmonary Costs: $1.16B in two years (2012-2013)

- **COPD**, $276M, 24%
- **ASTHMA**, $879M, 76%

Volume Makeup of Pulmonary Episodes
Total Pulmonary Episodes: 564K in two years (2012-2013)

- **COPD**, 120K, 21%
- **ASTHMA**, 443K, 79%

Costs Included:
- Fee-for-service and MCO payments (paid encounters);
- Caveat: add-on payments included in some cost data, not in others (GME/IME, HCRA, Capital). Data not yet standardized.

Source: 01/01/2012 – 12/31/2013 Medicaid claims. Dual population not included. 100k beneficiaries (2%) have been excluded due to data quality issues.
Part I

B. Introduction to Value Based Payment

Brief background and context
NYS Medicaid in 2010: the Crisis

- > 10% growth rate had become unsustainable, while quality outcomes were lagging
- Costs per recipient were double the national average
- NY ranked 50th in country for avoidable hospital use
- 21st for overall Health System Quality

<table>
<thead>
<tr>
<th>CARE MEASURE</th>
<th>NATIONAL RANKING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avoidable Hospital Use and Cost</td>
<td>50th</td>
</tr>
<tr>
<td>✔ Percent home health patients with a hospital admission</td>
<td>49th</td>
</tr>
<tr>
<td>✔ Percent nursing home residents with a hospital admission</td>
<td>34th</td>
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<tr>
<td>✔ Hospital admissions for pediatric asthma</td>
<td>35th</td>
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<tr>
<td>✔ Medicare ambulatory sensitive condition admissions</td>
<td>40th</td>
</tr>
<tr>
<td>✔ Medicare hospital length of stay</td>
<td>50th</td>
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</table>
Medicaid Redesign Initiatives Have Successfully Brought Back Medicaid Spending per Beneficiary to below 2003 Levels

Since 2011, total Medicaid spending has stabilized while number of beneficiaries has grown > 12%

Medicaid spending per-beneficiary has continued to decrease
Delivery Reform and Payment Reform: Two Sides of the Same Coin

- A thorough transformation of the delivery system – DSRIP - can only become and remain successful when the payment system is transformed as well.
- Many of NYS system’s problems (fragmentation, high re-admission rates) are rooted in how the State pays for service.
  - FFS pays for inputs rather than outcome; an avoidable readmission is rewarded more than a successful transition to integrated home care.
  - Current payment systems do not adequately incentivize prevention, coordination, or integration.

Financial and regulatory incentives drive...

a delivery system which realizes...

cost efficiency and quality outcomes: value
Payment Reform: Moving Towards Value Based Payments

- A Five-Year Roadmap outlining NYS' plan for Medicaid Payment Reform was required by the MRT Waiver.

- By DSRIP Year 5 (2019), all Managed Care Organizations must employ non fee-for-service payment systems that reward value over volume for at least 80-90% of their provider payments (outlined in the Special Terms and Conditions of the waiver).

- Core Stakeholders (providers, MCOs, unions, patient organizations) have actively collaborated in the creation of the Roadmap.
Learning from Earlier Attempts: VBP as the Path to a Stronger System

VBP arrangements are not intended primarily to save money for the State, but to *allow providers to increase their margins by realizing value*

![Graph showing current and future states of value and margin](image)

**Current State**
*Increasing the value of care delivered more often than not threatens providers’ margins*

**Future State**
*When VBP is done well, providers’ margins go up when the value of care delivered increases*

Goal – Reward Value not Volume
The VBP Roadmap starts from DSRIP Vision on How an Integrated Delivery System should Function

Integrated Physical & Behavioral Primary Care
Includes social services interventions and community-based prevention activities

Maternity Care (including first month of baby)

Chronic care
(Diabetes, CHF, Hypertension, Asthma, Depression, Bipolar ...)

Chronic Kidney Disease

Hemophilia

AIDS/HIV

Multimorbid disabled / frail elderly (MLTC/FIDA population)
Severe BH/SUD conditions (HARP population)
Developmentally Disabled population

Episodic
Continuous

Population Health focus on overall Outcomes and total Costs of Care
Sub-population focus on Outcomes and Costs within sub-population/episode
The Path Towards Payment Reform: A Menu of Options

There is not one path towards Value Based Payments. Rather, there will be a variety of options that MCOs and PPSs/providers can jointly choose from.

PPSs and MCOs can opt for different shared savings/risk arrangements (often building on already existing MCO/provider initiatives):

- For the total care for the total attributed population of the PPS (or part thereof) – ACO model
- Per integrated service for specific condition (acute or chronic bundle): maternity care; diabetes care
- For integrated Advanced Primary Care (APC)
- For the total care for a subpopulation: HIV/AIDS care; care for patients with severe behavioral health needs and comorbidities

MCOs and PPSs can make shared savings arrangements for the latter types of services between MCOs and groups of providers within the PPS rather than between MCO and PPS.
MCOs and PPSs can choose different levels of Value Based Payments

In addition to choosing *what integrated services* to focus on, the MCOs and PPSs can choose different levels of Value Based Payments:

<table>
<thead>
<tr>
<th>Level 0 VBP</th>
<th>Level 1 VBP</th>
<th>Level 2 VBP</th>
<th>Level 3 VBP</th>
</tr>
</thead>
<tbody>
<tr>
<td>FFS with bonus and/or withhold based on quality scores</td>
<td>FFS with upside-only shared savings available when outcome scores are sufficient (For PCMH/APC, FFS may be complemented with PMPM subsidy)</td>
<td>FFS with risk sharing (upside available when outcome scores are sufficient)</td>
<td>Prospective capitation PMPM or Bundle (with outcome-based component)</td>
</tr>
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</table>

- Goal of ≥80-90% of total MCO-provider payments (in terms of total dollars) to be captured in Level 1 VBPs at end of DY5

- 35% of total managed care payments (full capitation plans only) tied to Level 2 or higher. For Level 2 (risk-bearing VBP arrangements), the State excludes partial capitation plans such as MLTC plans from this minimum target.
Providers and MCOs will receive
- Cost and Quality performance overviews per VBP arrangement (whether these arrangements are contracted or not)
- Including Target Budgets and actual costs (both cost-standardized, and, for their own beneficiaries, real-priced)

Initially, PDF reports will be used, but providers and MCOs will get access to web-based analytical tools to dynamically interact with these data
- Including drill downs by geography and provider
- Including drill down possibilities to individual patients (for own beneficiaries)
Part I

C. Contracting Chronic Care: the Different Options
The Context: Strong Push to Strengthen Primary Care in NYS

- Strengthening Primary Care has long been a central piece of DOH policy
- DSRIP includes significant focus on Integrated Behavioral and Physical Care within the Primary Care context
- New York State Health Innovation Plan centers on the concept of Advanced Primary Care
The Context: Advanced Primary Care in NYS

The APC model will go beyond new structures and capabilities to specify and measure processes and outcomes associated with more integrated care, including prevention, effective management of chronic disease, integration with behavioral health, and coordination among the full range of providers working together to meet consumer needs. [...T]his is essential in moving away from a reactive health care system that patients largely have to navigate on their own, to a truly proactive system, in which patients are helped to actively manage and improve their health.

New York State Health Innovation Plan
**APC Model**

- **Closely aligned to DSRIP milestones**

### APC Stages of Transformation

<table>
<thead>
<tr>
<th>Tier</th>
<th>Pre-APC</th>
<th>Standard APC</th>
<th>Premium APC</th>
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<tbody>
<tr>
<td>Description</td>
<td>● Largely reactive approach to patient encounters of care</td>
<td>● Capabilities in place to more proactively manage a population of patients</td>
<td>● Processes in place to clinically integrate primary, behavioral, acute, post-acute care&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
</tbody>
</table>
| Capabilities required to enter tier | ● Limited pre-requisites  
● Willingness to exchange targeted clinical data | ● Certified EHR  
● Full medical home capabilities aligned with NCQA level 1-3, or equivalent | ● Certified EHR, Meaningful Use Stage 1-3<sup>3</sup>, HIE interoperability  
● Enhanced capabilities, aligned with expanded NCQA Level 3<sup>3</sup>, or equivalent |
| Validation    | None                                                                   | ● Required to maintain care coordination fees >12 months  
● To couple with practice transformation support |                                                                             |
| Care coordination skills | Limited or none                                                       | ● Care planning for 5-15% highest-risk patients  
● Track and follow up on ADT, other scalable data streams  
● Facilitate referrals to high-value providers | ● Plus, functional care agreements in medical neighborhood  
● Plus, community facing care coordination |
| Payment model mix | ● FFS + P4P  
● Potential EHR support | ● Shared savings or capitation  
● Care coordination fees  
● Transformation support | ● Shared savings or capitation |
| Metrics and reporting | ● Standard statewide scorecard of core measures  
● Consolidated reporting across payers, leveraging APD, portal |                                                                             |                                                                             |

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<sup>1</sup> Vision, LTC, home aids, rehabilitative & daycare are excluded from all advanced primary care models  
<sup>2</sup> Establishes, additional must pass NCQA requirements, that are not already mandatory in existing NCQA  
<sup>3</sup> Once available
### Vision on Chronic Care Contracting in NYS VBP

<table>
<thead>
<tr>
<th>Type of Population / Condition</th>
<th>Population / Condition</th>
<th>Type of Contracting</th>
</tr>
</thead>
</table>
| For specific subpopulations: intensive and interdependent chronic care needs, best coordinated by specialized provider | • HIV/AIDS  
• HARP  
• MLTC | Total Care for Subpopulation (capitation); i.e., a condition-specific ACO model |
| For highly specialized chronic conditions: intensive chronic care needs, best provided by specialized providers | • Chronic Kidney Disease  
• Hemophilia | Bundle |
| For more common chronic conditions: integrated approach is part and parcel of APC vision        | • Asthma  
• COPD  
• Chronic Depression  
• Bipolar Disorder  
• Substance Use Disorder  
• Coronary Artery Disease  
• Hypertension  
• CHF  
• Arrhythmia / Heart Block  
• Gastro-Esophageal Reflux Disease | The default is that the individual chronic bundles are contracted together by integrated care providers (guideline) |
Advanced Primary Care

*Default* is that these are contracted together...

... but not all bundles need to be included...

... and some bundles may be contracted by other providers.

Finally, a Total Care for the Total Population (ACO) model includes the care included in these chronic care bundles:

- Maternity Care (including first month of baby)
- Chronic care (Diabetes, CHF, Hypertension, Asthma, Depression, Bipolar...)
- Chronic Kidney Disease
- AIDS/HIV
- Multimorbid disabled / frail elderly (MLTC/FIDA population)
- Severe BH/SUD conditions (HARP population)
- Developmentally Disabled population
Part I

D. HCI3 Understanding the Grouper & Development of Care Episodes
Why HCI3?

- One of two nationally used bundled payment programs
- Specifically built for use in value based payment
- Not-for-profit and independent
- Open source
- Clinically validated
- National standard which evolves based on new guidelines as well as lessons learned
Evidence Informed Case Rates (ECRs)

Evidence Informed Case Rates (ECRs) are the HCI3 episode definitions

- ECRs are patient centered, time-limited, episodes of treatment
- Include all covered services related to the specific condition
  - E.g.: surgery, procedures, management, ancillary, lab, pharmacy services
- Distinguish between “typical” services from “potentially avoidable” complications
- Are based on clinical logic: Clinically vetted and developed based on evidence-informed practice guidelines or expert opinions

Source: HCI3 Presentation: [http://216.70.89.98/onlinecourses/Module201prt1.htm](http://216.70.89.98/onlinecourses/Module201prt1.htm)
Initial doctor visit, during which a diagnosis of asthma is given.

Doctor visit for a broken bone (e.g. a sports injury) unrelated to asthma.

ER Visits and inpatient admissions related to asthma episode conditions.

Prescription medicine to treat asthma condition.

Inpatient admission caused by acute exacerbation.

A Pulmonary Episode (Asthma as an Example)
Episode Component: Triggers

- A trigger signals the opening of an episode, e.g:
  - Inpatient Facility Claim
  - Outpatient Facility Claim
  - Professional Claim

- More than one trigger can be used for an episode
  - Often a confirming claim is used to reduce false positives

- Trigger codes are unique to each episode—no overlaps
Episode Components: PACs

- Costs are separated by “typical” care from costs associated with Potentially Avoidable Complications (PACs)
- Can stem from poor coordination, failure to implement evidence-based practices or medical error
- PACs for chronic conditions and some acute conditions have been endorsed by the NQF as comprehensive outcome measures¹
- Expected costs of PACs are built in as an incentive towards a shared savings
- Only events that are generally considered to be (potentially) avoidable by the caregivers that manage and co-manage the patient are labeled as ‘PACs’
- Examples: exacerbations, ambulatory-care sensitive admissions, and inpatient-based patient safety features

Episode Components: Leveling

The grouper uses the concept of leveling (1-5), in which individual associated episodes may get grouped together into a “bundles” as you move higher in the levels.

As you move higher up in levels, associated episodes get grouped together into a bundle, in our example, pneumonia and upper respiratory infection roll up under Asthma or COPD.

In Level 1, claims are grouped into defined episodes, for example pneumonia and upper respiratory infection, exist as separate episodes at level 1.
Leveling for Asthma and COPD

- At level 1, both pneumonia and upper respiratory infection are separate episodes
- At level 5, they become PACs for the respiratory episodes
Risk Adjustment for Episodes

Make “apples-to-apples” comparisons between providers by accounting for differences in their patient populations.

Takes the patient factors (co-morbidity, severity of condition at outset, etc) out of the equation.

Separate risk adjustment models are created for ‘typical’ services and for ‘potentially avoidable complications’.

More information can be found at http://www.hci3.org/sites/default/files/files/Reliability%20of%20Prometheus%20Measures_0.pdf
Inclusion and Identification of Risk Factors

Risk Factors

- Patient demographics – Age, gender, etc
- Co-morbidities
- Subtypes - Markers of clinical severity within an episode

Patient related risk factors

Episode related risk factors

Identification of Risk Factors

- Risk factors come from historic claims (prior to start of an episode) and same list is applied across all episode types
- Subtypes identified from claims at start of the episode and specific to episode type
Inclusion and Identification of Risk Factors

Risk Factors
- Patient demographics – Age, gender, etc
- Co-morbidities
- Subtypes - Markers of clinical severity within an episode

Identification of Risk Factors
- Risk factors come from historic claims (prior to start of an episode) and applied across all episode types
- Subtypes identified from claims at start of the episode and specific to episode type

Examples of SubTypes
- ASTHMA Subtypes: None
- COPD Subtypes: Emphysema, Obstructive Chronic Bronchitis
Description of Asthma Episode

Look back (30 days)  
Trigger  
(Confirming for IP)  
Confirming  
Trigger  
Episode cost captured through one year time period

**Trigger**
1. Inpatient claim with asthma as principal diagnosis  
OR  
2. Outpatient or professional billing claim (office visit) with asthma as diagnosis AND another of the same at least 30 days after first trigger.

**Included in bundle:**
- All typical and PAC services for asthma during the duration of the bundle
- PACs include, but are not limited to:  
  - Acute exacerbations  
  - Upper respiratory infection  
  - Pneumonia  
  - Respiratory failure / insufficiency  
  - Sepsis
Description of COPD Episode

Trigger
1. Inpatient claim with COPD as principal diagnosis
   OR
2. Outpatient or professional billing claim (office visit) with COPD as diagnosis AND another of the same at least 30 days after first trigger.

Included in bundle:
- All typical and PAC services for COPD during the duration of the bundle
- PACs include, but are not limited to:
  - Acute exacerbations
  - Upper respiratory infection
  - Pneumonia
  - Respiratory failure / insufficiency
  - Sepsis
Part II

A. Asthma and COPD episodes – Impressions of data available for value-based contracting
Asthma episodes account for nearly $335M in Annual Medicaid Spend

**Annual Episode Volume**
- **222K Episodes**

**Total Annual Cost of Asthma (to the State)**
- **$355M**

**Average Costs per Episode for Beneficiaries with an asthma episode**
- **$1,200**

Costs Included:
- Fee-for-service and MCO payments (paid encounters);
- Caveat: add-on payments included in some cost data, not in others (GME/IME, HCRA, Capital). Data not yet standardized.

Source: 01/01/2012 – 12/31/2013 Medicaid claims

### Annual Age Distribution of Beneficiaries with an Asthma Episode

- **Male**
- **Female**

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6</td>
<td>27</td>
<td>1</td>
</tr>
<tr>
<td>6 - 11</td>
<td>23</td>
<td>16</td>
</tr>
<tr>
<td>12 - 17</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>18 - 44</td>
<td>21</td>
<td>49</td>
</tr>
<tr>
<td>45 - 64</td>
<td>12</td>
<td>28</td>
</tr>
<tr>
<td>&gt;= 65</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Thousands

Source: New York Department of Health
COPD episodes account for nearly $114M in Annual Medicaid Spend

Annual Episode Volume
60K Episodes

Total Annual Cost of COPD
(to the State)
$114M

Average Costs per Episode
for Beneficiaries with a COPD episode
$1,478

Costs Included:
- Fee-for-service and MCO payments (paid encounters);
- Caveat: add-on payments included in some cost data, not in others (GME/IME, HCRA, Capital). Data not yet standardized.

Source: 01/01/2012 – 12/31/2013 Medicaid claims
Four Important Costs Drivers for Pulmonary Episodes are Price, Volume, PACs and Service Mix

- **Price**: The price of a service can vary based on providers’ own costs (e.g. wages). In NYS, we will in the beginning only use price-standardized data.

- **Volume**: The volume of services rendered (e.g. doing 1 lung volume test vs. 3 in the first 2 months).

- **PACs**: Potentially avoidable complications (e.g. exacerbations).

- **Service Mix**: The mix of services and intensity of care received during the episode (e.g. inpatient vs. outpatient point of care).
PAC Costs Represent $528M of All Asthma and COPD Costs

% Potentially Avoidable Complication Costs Relative to Total Costs of ASTHMA Episodes
Total ASTHMA spend: over 2012-2013: $879M

- PAC Costs, $361.2M, 41%
- Typical Costs, $517.9, 59%

% Potentially Avoidable Complication Costs Relative to Total Costs of COPD Episodes
Total COPD spend over 2012-2013: $276M

- PAC Costs, $166.7M, 60%
- Typical Costs, $109.6M, 40%

Costs Included:
- Fee-for-service and MCO payments (paid encounters);
- Caveat: add-on payments included in some cost data, not in others (GME/IME, HCRA, Capital). Data not yet standardized.
Source: Fee-for-Service and Managed Care encounter records for Pulmonary Bundle Patients in CY2012-2013. Source: HCI3
The Top 10 Asthma PACs Incur 93% of the Total Costs for Asthma’s Potentially Avoidable Complications

- **Acute exacerbation of copd, asthma**: $174.7M
- **Upper Respiratory Infection**: $63.1M
- **Pneumonia**: $41.9M
- **Respiratory Failure**: $16.4M
- **Sepsis**: $15.6M
- **Respiratory Insufficiency**: $5.2M
- **Fluid Electrolyte Acid Base Problems**: $5.2M
- **Acute esophagitis, acute gastritis, duodenitis**: $4.5M
- **Hypotension / Syncope**: $3.9M
- **Coma, persistent vegetative state**: $3.5M

Total PAC Cost: $10.2M

# PAC Occurrence: 43

Thousands: 43
The Top 10 COPD PACs Incur 41% of the Total Costs for COPD Potentially Avoidable Complications

- **Acute exacerbation of copd, asthma**: $62.9M
- **Upper Respiratory Infection**: $24.7M
- **Pneumonia**: $17.7M
- **Respiratory Failure**: $17.5M
- **Sepsis**: $16.0M
- **Fluid Electrolyte Acid Base Problems**: $2.6M
- **Respiratory Insufficiency**: $2.5M
- **Acute esophagitis, acute gastritis, duodenitis**: $2.1M
- **Hypotension / Syncope**: $1.7M
- **GI Bleed**: $1.6M
The Average Cost per Asthma Episode is Between $517 and $1,258

Brighter red means higher costs
The Actual Minus Expected Cost per Asthma Episode is Between -$424 and $119

Brighter red means actual costs are much higher than expected
The Average Cost per COPD Episode is Between $821 and $2,512

Brighter red means higher costs.
The Actual Minus Expected Cost per COPD Episode is Between -$217 and $770

Brighter red means actual costs are much higher than expected
Example Drilldown: Asthma in the Bronx

Actual Minus Expected Cost/Episode

Lighter Blue = Better Cost Performance
Example Drilldown: Asthma in the Bronx
The 2nd CAG Meeting will be on October 7, 2015 in New York City

Meeting 2
- Pulmonary Episodes Definition Recap
- Pulmonary Episodes Outcome Measures - I