Building a healthier future for all Arkansans

Briefing on episode thresholds
June 13th, 2012

PRELIMINARY WORKING DRAFT, SUBJECT TO CHANGE
Aim for today: describe draft Medicaid episode thresholds for the first wave of the Payment Improvement Initiative

Average adjusted cost for an episode, for four Principal Accountable Providers

- Provider 1
- Provider 2
- Provider 3
- Provider 4

Acceptable
Commendable
Gain-sharing limit
By design, episode-based payment rewards high quality care

Example for a CHF\(^1\) patient admitted to the hospital

Episode-based payment rewards providers for reducing readmissions and therefore:

- Motivates the hospital to stabilize the patient quickly and effectively (fluid levels, medication titration)

- Rewards the hospital for providing effective patient education at discharge

- Rewards the outpatient physician and hospital for working together to ensure an effective handoff, e.g.,
  - Follow-up visit within 48 hours of discharge
  - Medication reconciliation

- Rewards effective coordination of care (home health, case management, other follow up)

Episodic payment inherently rewards quality care by holding providers accountable for downstream outcomes and costs

1 Congestive Heart Failure
Guiding principles that Medicaid uses to set cost thresholds

1. Reward high quality, efficient delivery of clinical care

2. Promote fairness by considering patient access, provider economics, and changes required for improvement

3. Acknowledge that poor performance is a reality and should not be rewarded

4. Set thresholds to improve the status quo and protect Arkansas from alternatives such as intrusive, managed care

5. Protect quality and access by setting a gain sharing limit at a reasonable level
Wave one episodes

- Ambulatory Upper Respiratory Infection (URI)
- Perinatal
- Attention deficit/hyperactivity disorder (ADHD)
Patient care journey for ambulatory Upper Respiratory Infection (URI)

General URI\(^1\) (colds); Sinusitis

1. **Patient observes symptoms**
2. **Patient contacts health professional**
3. **Consultation with health professional**
4. **Work-up**
5. **Antibiotics**

Pharyngitis

1. **Patient observes symptoms**
2. **Patient contacts health professional**
3. **Consultation with health professional**
4. **Strep test**
5. **Antibiotics**

**Opportunities**

1. Cost-effective utilization of care settings and providers
2. Appropriate use of diagnostics
3. Appropriate use of prescriptions

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1 Non-specific URIs
Overview of acute ambulatory upper respiratory infection (URI) episode

Episode definition and scope of services

- Episode begins with patient’s initial in-person visit and includes all in-person visits, labs, imaging, and antibiotics, antivirals, and corticosteroids commonly prescribed for URIs
- All episodes have a duration of 21 days
- The episode is divided into three subtypes: general (non-specific) URI, acute pharyngitis, and acute sinusitis

Principal Accountable Provider(s)

- PAP is first provider to diagnose a beneficiary with an acute ambulatory URI during an in-person visit

Adjustments and Exclusions

- Patients considered high risk are excluded
  - Patients younger than one year of age
  - Patients with select comorbidities (e.g. COPD\(^1\), asthma)
  - Patients with inpatient stays or surgical procedures
- Episode incorporates adjustments to the cost of individual episodes based upon the age of the patient
- For all patients, cost of initial visit is adjusted to ensure equivalency across all settings of care

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1 Chronic obstructive pulmonary disease (e.g. chronic bronchitis)
Antibiotic prescription rates in SFY2010

<table>
<thead>
<tr>
<th>Antibiotic prescription rate, Mediciad, SFY2010</th>
<th>Example national guidelines for antibiotics use (adults)²</th>
</tr>
</thead>
<tbody>
<tr>
<td>% of episodes resulting in filled antibiotic prescription</td>
<td></td>
</tr>
<tr>
<td><strong>All patients¹</strong></td>
<td><strong>Adults (&gt;18)</strong></td>
</tr>
<tr>
<td>General URIs</td>
<td>42</td>
</tr>
<tr>
<td>Pharyngitis¹</td>
<td>64</td>
</tr>
<tr>
<td>Sinusitis</td>
<td>78</td>
</tr>
</tbody>
</table>

1 All patients prior to exclusions; with all exclusions, General URIs = 42%, Pharyngitis = 73%, Sinusitis = 89%
2 From CDC, summarized in Gill et. al., “Use of Antibiotics for Adult Upper Respiratory Infections in Outpatient Settings: A National Ambulatory Network Study” (2006) (internal citations removed)

**Example national guidelines for antibiotics use (adults)²**

- “Antibiotics should not be used to treat **nonspecific upper respiratory tract infections** in adults, since antibiotics do not improve illness resolution

- “For **acute pharyngitis**, antibiotic use should be limited to patients who are most likely to have group a β-hemolytic streptococcus”

- “For **acute sinusitis**, narrow-spectrum antibiotics should be given only to patients with persistent purulent nasal discharge and facial pain or tenderness who have not improved after 7 days or those with severe symptoms.”
## Estimation of URI episode cost

<table>
<thead>
<tr>
<th>Service type</th>
<th>Unit cost for AR Medicaid</th>
<th>Fact-based estimate of provision rate</th>
<th>Implied cost</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office visit</td>
<td>$36.30 (Level III visit)</td>
<td>100%</td>
<td>$36.30</td>
<td>▪ Level III visit most common in Medicaid today¹</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>$22.90²</td>
<td>20%</td>
<td>$4.58</td>
<td>▪ Literature suggests limited evidence for antibiotic use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>▪ Allowance provided for patient mix and proportion of cases with evidence-based need</td>
</tr>
<tr>
<td>Follow-up visit</td>
<td>$36.30</td>
<td>10%</td>
<td>$3.63</td>
<td>▪ Evidence suggests follow-up visits are very rarely required</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>▪ Allowance provided for patient-driven nature of follow-up visits</td>
</tr>
<tr>
<td>Labs &amp; imaging</td>
<td>$52.98³</td>
<td>10%</td>
<td>$5.29</td>
<td>▪ Clinical evidence suggests labs &amp; imaging are required in only a small percentage of cases</td>
</tr>
<tr>
<td>Total cost</td>
<td></td>
<td></td>
<td>$49.80</td>
<td></td>
</tr>
</tbody>
</table>

1 Visits are scaled 1 through 5. Current average level of office visit is 3.06 out of 5.  
2 Current average antibiotic cost, when used, is $22.90 across all URI sub-episodes. Uses gross cost of medication.  
3 Current average lab and imaging cost, when utilized, is $52.98 across all URI sub-episodes.

SOURCE: Arkansas Medicaid claims paid, SFY10
Draft thresholds for General URIs

Provider average costs for General URI episodes
Adjusted average episode cost per principal accountable provider\(^1\)

1 Each vertical bar represents the average cost and prescription rate for a group of 10 providers, sorted from highest to lowest average cost
2 Episode average antibiotic rate = 41.9%

SOURCE: Arkansas Medicaid claims paid, SFY10
Draft thresholds for Pharyngitis

Provider cost distribution for pharyngitis
Average episode cost per provider

1 Each vertical bar represents the average cost and prescription rate for a group of 10 providers, sorted from highest to lowest average cost
2 Episode average antibiotic rate = 72.8%

SOURCE: Arkansas Medicaid claims paid, SFY10
Draft thresholds for Sinusitis

Provider cost distribution for sinusitis
Average episode cost per provider¹

1 Each vertical bar represents the average cost and prescription rate for a group of 10 providers, sorted from highest to lowest average cost
2 Episode average antibiotic rate = 88.7%

SOURCE: Arkansas Medicaid claims paid, SFY10
Wave one episodes

- Ambulatory Upper Respiratory Infection (URI)
- Perinatal
- Attention deficit/hyperactivity disorder (ADHD)
Patient journey for the perinatal episode

Early pregnancy (1\textsuperscript{st}/2\textsuperscript{nd} trimester) → Late pregnancy (3\textsuperscript{rd} trimester) → Delivery

1. More effective prenatal care (low and high-risk pregnancies)
2. Decrease utilization of elective procedures
3. Ensure appropriate length of stay

Initial assessment

Prenatal care → Prenatal care → Vaginal delivery

Prenatal care → Prenatal care → C-section
Overview of perinatal episode

- Episode is triggered by a live birth
- Includes all pregnancy-related care provided during the course of a pregnancy
  - Includes care delivered from 40 weeks before delivery through 60 days post-delivery
- The episode excludes all services related to neonatal care

- PAP is the provider or provider group that performs the delivery

- Episodes will be adjusted to reflect risk factors that have historically been associated with significant variations in the cost of perinatal care, as determined by statistical regression.
- Episodes are excluded if they meet one or more of the following:
  - Less than 2 months of prenatal care prior to delivery
  - Delivery provider did not provide any prenatal services
  - Certain pregnancy-related conditions (e.g. placenta previa)
  - Specific comorbidities in the mother (e.g. cystic fibrosis)
Estimation of pregnancy episode cost for a standard, vaginal delivery with no risk factors

<table>
<thead>
<tr>
<th>Service description</th>
<th>Implied cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global OB bundle</td>
<td>$1,300</td>
</tr>
<tr>
<td>Inpatient stay</td>
<td>$1,700¹</td>
</tr>
<tr>
<td>Prescription medication</td>
<td>$100²</td>
</tr>
<tr>
<td>Labs, Imaging, &amp; other</td>
<td>$450³</td>
</tr>
<tr>
<td><strong>Total cost</strong></td>
<td><strong>$3,750</strong></td>
</tr>
</tbody>
</table>

¹ Includes two inpatient hospital days at normalized cost / day of $850.
² Average historical prescription medication cost for low risk patients and vaginal delivery = $100. Uses gross cost of medication.
³ Average historical labs and imaging cost for low risk patients and vaginal delivery = $443

SOURCE: Episodes ending January 1, 2009 – January 1, 2010; data includes Arkansas Medicaid claims paid SFY09 - SFY10
Draft thresholds for perinatal

Perinatal provider cost distribution
Risk-adjusted average episode cost per provider

Average cost / episode
Dollars ($)

Acceptable
3,906
Commendable
3,394
Gain sharing limit
2,000

SOURCE: Episodes with live births May 1, 2009 – April 30, 2010; data includes Arkansas Medicaid claims paid SFY09 - SFY10
Wave one episodes

- Ambulatory Upper Respiratory Infection (URI)
- Perinatal
  - Attention deficit/hyperactivity disorder (ADHD)
## Clinical foundation for the ADHD episode

<table>
<thead>
<tr>
<th>untreated ADHD</th>
<th>Treatment recommended in AAP/AACAP&lt;sup&gt;1&lt;/sup&gt; guidelines</th>
<th>Not indicated by evidence-based guidelines</th>
</tr>
</thead>
</table>
| ADHD with no other conditions and positive response to medication | ▪ 4 - 6 physician visits / year  
▪ Medication management  
▪ Parent / Teacher administered behavioral support<sup>2</sup> | ▪ Psychosocial therapy  
   - In-office psychotherapy  
   - Group psychotherapy |
| ADHD with no other conditions, but sub-optimal response to medication | ▪ 6 physician visits / year  
▪ Medication management  
▪ Parent / Teacher administered behavioral support<sup>1</sup>  
▪ Psychosocial therapy, if needed | Included in ADHD episode |
| ADHD with other Behavioral Health condition(s) | ▪ Varies by other condition(s)  
▪ Significant psychiatric involvement necessary | |

<sup>1</sup> American Academy of Pediatrics, American Academy of Child and Adolescent Psychiatry  
<sup>2</sup> Defined as education via books, videos, or a one-time series of in-person training sessions  

## Overview of ADHD episode

<table>
<thead>
<tr>
<th>Episode definition and scope of services</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Episode includes all ADHD-related services and medications used to treat ADHD, with exception of initial assessment</td>
</tr>
<tr>
<td>▪ Two levels (corresponding to types on previous page)</td>
</tr>
<tr>
<td>▪ Episode duration is 12 months</td>
</tr>
<tr>
<td>▪ If patient continues treatment after end of initial twelve months, a new episode is triggered</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Principal Accountable Provider(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ The Principal Accountable Provider is the provider that delivers the majority of care – determined by number of visits in an episode</td>
</tr>
<tr>
<td>▪ Only physicians and RSPMI provider organizations are eligible to serve as the sole PAP(^1)</td>
</tr>
<tr>
<td>– Licensed clinical psychologists in private practice would require a co-PAP with the ability to write scripts</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Adjustments and Exclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ All patients with other behavioral health conditions are excluded</td>
</tr>
<tr>
<td>▪ All patients younger than 6 or 18 and older are excluded</td>
</tr>
</tbody>
</table>

\(^1\) RSPMI = Rehabilitative Services for Persons with Mental Illness
Estimation of clinically recommended services described by guidelines and Arkansas provider workgroups

<table>
<thead>
<tr>
<th>Service</th>
<th>Level I</th>
<th>Level II</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Unit cost for AR Medicaid</strong></td>
<td>Fact-based estimate of provision rate</td>
<td>Implied cost</td>
</tr>
<tr>
<td><strong>Physician visits</strong></td>
<td>$182&lt;sup&gt;1&lt;/sup&gt; 100%</td>
<td>$182</td>
</tr>
<tr>
<td><strong>Rx medication</strong></td>
<td>$1,750&lt;sup&gt;3&lt;/sup&gt; 100%</td>
<td>$1,750</td>
</tr>
<tr>
<td><strong>Parent / teacher training</strong></td>
<td>$250 100%</td>
<td>$250</td>
</tr>
<tr>
<td><strong>Psychosocial therapy</strong></td>
<td></td>
<td>$2,182</td>
</tr>
</tbody>
</table>

1 Estimation includes 5 Level III office visits
2 Estimation includes 6 Level III office visits.
3 Estimation includes 12 30-day prescriptions of a preferred long-acting psychostimulant ($140 / 30 days x 12 months) and a short-acting generic psychostimulant ($8 / 30 pills x 12 months). Uses gross cost of medication.
4 Estimation includes level I plus provision for further titration and utilization of a non-stimulant (incremental increase of $30 per month).
5 Estimation price includes 25 hours of psychosocial therapy with a mental health professional and 15.3 hours of services provided by a paraprofessional.
Draft thresholds for ADHD

ADHD provider cost distribution
Average episode cost per provider

Each vertical bar represents the average cost and prescription rate for a group of 3 providers, sorted from highest to lowest average cost.

SOURCE: Episodes ending in SFY10, data includes Arkansas Medicaid claims paid SFY09 - SFY10
## Rationale for draft URI thresholds

<table>
<thead>
<tr>
<th>Approach</th>
<th>Rationale</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commendable</strong></td>
<td>1 Median episode cost is consistent with a clinically reasonable ‘bottom-up’ estimation of the cost of evidence-based care</td>
</tr>
<tr>
<td></td>
<td>2 Median episode cost is a feasible target for providers</td>
</tr>
<tr>
<td></td>
<td>3 Commendable threshold should be consistent over some years to give a meaningful incentive to providers to improve performance; over a longer time period, adjustments may need to be made to reflect inflation and/or practice changes</td>
</tr>
<tr>
<td></td>
<td>The commendable threshold was established at the historical median episode cost for each sub-episode</td>
</tr>
<tr>
<td></td>
<td>The commendable threshold will remain constant for year 1 and year 2</td>
</tr>
<tr>
<td><strong>Acceptable</strong></td>
<td>1 In URI, practice pattern changes required to achieve acceptable average costs are within the sphere of control of the PAP</td>
</tr>
<tr>
<td></td>
<td>2 First year threshold attempts to identify practices with substantial variation from typical Arkansas performance</td>
</tr>
<tr>
<td></td>
<td>3 Second year threshold may also acknowledge system-wide variance from accepted clinical requirements for antibiotic utilization</td>
</tr>
<tr>
<td></td>
<td>Acceptable threshold was established using historical provider average cost quartiles for each sub-episode</td>
</tr>
<tr>
<td></td>
<td>– For year 1, acceptable threshold was set at 75th percentile of provider average costs</td>
</tr>
<tr>
<td></td>
<td>– For year 2, acceptable threshold was set at the median of provider average costs</td>
</tr>
<tr>
<td><strong>Gain sharing limit</strong></td>
<td>1 Intended to represent the minimum level of clinically justifiable care in an episode</td>
</tr>
<tr>
<td></td>
<td>2 Baseline level of care in URI episode is one visit with no prescription, test or follow-up in-person visit</td>
</tr>
<tr>
<td></td>
<td>Gain sharing limit was established as the cost of a level I office visit</td>
</tr>
</tbody>
</table>
Rationale for draft perinatal thresholds

### Rationale

- Risk-adjustment reduces but does not eliminate all variation in provider average cost per episode
- Establishing a wide band between thresholds acknowledges many providers are currently performing acceptably
- Thresholds are consistent with a clinically reasonable ‘bottom-up’ estimation of cost for a standard vaginal delivery

### Initial approach

- All thresholds were established using provider historical average cost percentiles
- Commendable threshold is set at the historical 20th percentile of providers, ensuring that the most cost-effective performers are rewarded through gain sharing
- Acceptable threshold is set at the historical 85th percentile of providers, ensuring that only the least cost-effective providers (on average across their cases and after risk adjustments) are at risk
Rationale for draft ADHD thresholds

<table>
<thead>
<tr>
<th>Rationale</th>
</tr>
</thead>
</table>
| • Assume a patient mix distribution among providers  
  – Current physician patients are assumed to be level I  
  – Current RSPMI patients are assumed to be level II |
| • Set Level I and Level II acceptable consistent with a ‘bottom-up’ estimation of costs |
| • Set Level I commendable threshold based on historical performance, working on the basis that current standard of care is appropriate |
| • Acknowledge limited information regarding level II care by employing a larger absolute $ gap between commendable and acceptable for first version of episode |

<table>
<thead>
<tr>
<th>Initial approach</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All thresholds were established in relation to provider historical average cost</td>
</tr>
</tbody>
</table>
| • Level I thresholds  
  – Commendable threshold set at 50\textsuperscript{th} percentile of physician average costs  
  – Acceptable threshold set at 95\textsuperscript{th} percentile of physician average costs  
  – Gain sharing limit set using minimum care standards\textsuperscript{1} |
| • Level II thresholds  
  – Commendable threshold set at 50\textsuperscript{th} percentile of RSPMI average costs  
  – Acceptable threshold set at 75\textsuperscript{th} percentile of RSPMI average costs  
  – Gain sharing limit set as the Level I acceptable threshold |
| • ADHD thresholds will be reviewed as soon as complete provider-submitted severity data is available (e.g. in one year) |

\textsuperscript{1} Minimum care defined as four level III office visits, parent / teacher training, and 12 months of short-acting medication.