Building a healthier future for all Arkansans

Cholecystectomy Workbook

March 27, 2013
Agenda

- Episode design overview
  - APII program overview
  - Episode model overview
  - Cholecystectomy clinical background and facts
  - Cholecystectomy episode design summary and rationale
  - Thresholding
Agenda

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    - Thresholding
Today, we face major health care challenges in Arkansas

- **The health status of Arkansans is poor**: the state is ranked at or near the bottom of all states on national health indicators, such as heart disease and diabetes.

- **The health care system is hard for patients to navigate**, and it does not reward providers who work as a team to coordinate care for patients.

- **Health care spending is growing unsustainably:**
  - Insurance premiums doubled for employers and families in past 10 years (adding to uninsured population)
  - Large projected budget shortfalls for Medicaid
**Our vision to improve care for Arkansas is a comprehensive, patient-centered delivery system**

<table>
<thead>
<tr>
<th>Objectives</th>
<th>For patients</th>
<th>For providers</th>
</tr>
</thead>
</table>
|            | ▪ Improve the health of the population  
            | ▪ Enhance the patient experience of care  
            | ▪ Enable patients to take an active role in their care |
|            | ▪ Reward providers for high quality, efficient care  
            | ▪ Reduce or control the cost of care |

<table>
<thead>
<tr>
<th>How care is delivered</th>
<th>Population-based care</th>
<th>Episode-based care</th>
</tr>
</thead>
</table>
| ▪ Medical homes  
▪ Health homes | ▪ Acute, post-acute, or select chronic conditions |

<table>
<thead>
<tr>
<th>Four aspects of broader program</th>
<th></th>
</tr>
</thead>
</table>
| ▪ Results-based **payment and reporting**  
▪ Health care **workforce** development  
▪ **Health information technology** (HIT) adoption  
▪ Consumer engagement and **personal responsibility** |
Medicaid and private insurers believe paying for results, not just individual services, is the best option to improve quality and control costs

<table>
<thead>
<tr>
<th>This initiative aims to...</th>
<th>Transition to a payment system that <strong>rewards value and patient health outcomes</strong> by aligning financial incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>✓</strong> Reduce payment levels for all providers** regardless of their quality of care or efficiency in managing costs**</td>
<td></td>
</tr>
<tr>
<td><strong>✗</strong> <strong>Pass growing costs on to consumers</strong> through higher premiums, deductibles and co-pays (private payers), or higher taxes (Medicaid)</td>
<td></td>
</tr>
<tr>
<td><strong>✗</strong> <strong>Intensify payer intervention in decisions though managed care or elimination of</strong> expensive services (e.g. through prior authorizations) based on restrictive guidelines</td>
<td></td>
</tr>
<tr>
<td><strong>✗</strong> <strong>Eliminate coverage of</strong> expensive services or eligibility</td>
<td></td>
</tr>
</tbody>
</table>
Principles of payment design for Arkansas

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-centered</td>
<td>Focus on improving quality, patient experience and cost efficiency</td>
</tr>
<tr>
<td>Clinically appropriate</td>
<td>Design based on evidence, with close input from Arkansas patients and providers</td>
</tr>
<tr>
<td>Practical</td>
<td>Consider scope and complexity of implementation</td>
</tr>
<tr>
<td>Data-based</td>
<td>Make design decisions based on facts and data</td>
</tr>
</tbody>
</table>
We have worked closely with providers and patients across Arkansas to shape an approach and set of initiatives to achieve this goal.

- **500+** Providers, patients, family members, and other stakeholders who helped shape the new model in public workgroups.

- **21** Public workgroup meetings connected to 6-8 sites across the state through videoconference.

- **23** Months of research, data analysis, expert interviews and infrastructure development to design and launch episode-based payments.

- **Monthly** Updates with many Arkansas provider associations (e.g., AHA, AMS, Arkansas Waiver Association, Developmental Disabilities Provider Association).
Gain and risk sharing: a Principal Accountable Provider will fall into one of four categories, depending on the provider’s average cost per episode.

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A: Sub-par performance</strong></td>
<td>Providers underperforming the acceptable threshold subject to downside risk share of costs in excess of this level – shown by the red arrow.</td>
</tr>
<tr>
<td><strong>B: Acceptable performance</strong></td>
<td>The provider neither gains nor loses because costs are neither above the acceptable threshold nor below the commendable threshold.</td>
</tr>
<tr>
<td><strong>C: Commendable performance</strong></td>
<td><strong>Savings</strong> below the commendable threshold – shown by the green arrow – are shared between provider and payer, until the upper limit is reached.</td>
</tr>
<tr>
<td><strong>D: Beyond commendable performance</strong></td>
<td>Once the upper limit for savings is reached, the provider receives savings up to the upper limit, but not beyond.</td>
</tr>
</tbody>
</table>

Note: in the coming months, each participating payer will determine the level of upside and downside sharing for each episode.
Gain and risk sharing: a transition period will allow for a more relaxed “acceptable” threshold (fewer providers will be exposed to downside risk)

Transition period (first one to three years)

- Higher acceptable threshold (fewer providers exposed to downside risk)

End state

- Acceptable threshold will be brought closer to the commendable threshold

Guiding principle: give providers the time and resources to change practice patterns and improve performance before full risk and gain sharing is in effect
PAPs will be provided new tools to help measure and improve patient care

Reports provide performance information for PAP’s episode(s):

- Overview of **quality** across a PAP’s episodes
- Overview of **cost effectiveness** (how a PAP is doing relative to cost thresholds and relative to other providers)
- Overview of **utilization** and drivers of a PAP’s average episode cost

NOTE: Episode and health home model for adult DD population in development. Tools and reports still to be defined.
PAP performance reports have summary results and detailed analysis of episode costs, quality and utilization

Details on the reports

- First time PAPs receive detailed analysis on costs and quality for their patients increasing performance transparency
- Guide to Reading Your Reports available online and at this event
  - Valuable to both PAPs and non-PAPs to understand the reports
- Reports issued quarterly starting July 2012
  - July 2012 report is informational only
  - Gain/risk sharing results reflect claims data from Jan – Dec 2011
- Reports will be available online via the provider portal

NOTE: Episode and health home model for adult DD population in development. Tools and reports still to be defined.
The provider portal is a multi-payer tool that allows providers to enter quality metrics for certain episodes and access their PAP reports.

### Details on the provider portal

- **Accessible to all PAPs**
  - Login with existing username/password
  - New users follow enrollment process detailed online

- **Key components of the portal are to provide a way for providers to**
  - Enter additional quality metrics for select episodes (Hip, Knee, CHF and ADHD with potential for other episodes in the future)
  - Access current and past performance reports for all payers where designated the PAP

**NOTE:** Episode and health home model for adult DD population in development. Tools and reports still to be defined.
# Recap: Principal Accountable Providers – overview and criteria

<table>
<thead>
<tr>
<th>Two types of providers for an episode of care</th>
<th>Qualifications for a Principal Accountable Provider</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Principal Accountable Provider (PAP)</strong></td>
<td><strong>Decision-making responsibility</strong>: provider is principal (not exclusive) decision maker for most care during episode</td>
</tr>
<tr>
<td>- Provider with which payer directly shares upside/risk for cost relative to benchmark</td>
<td>- Selects tests/screenings</td>
</tr>
<tr>
<td>- Receives performance reports, organizes team to drive performance improvement</td>
<td>- Determines treatment approach</td>
</tr>
<tr>
<td>- May be physician practice, hospital, or other provider</td>
<td>- Carries out procedures</td>
</tr>
<tr>
<td><strong>Other participating provider(s)</strong></td>
<td><strong>Influence over other providers</strong>: provider is in best position to coordinate with, direct, or incent participating providers to improve performance</td>
</tr>
<tr>
<td>- Any provider that delivers services during an episode that is not a PAP</td>
<td>- Makes referral decisions</td>
</tr>
<tr>
<td>- Payers do not directly share in upside/risk for cost relative to benchmark</td>
<td>- Provides infrastructure</td>
</tr>
</tbody>
</table>

- **Payers will identify one (or two if necessary) Principal Accountable Provider(s) for each episode of care in order to:**
  - **Focus accountability**
  - **Ensure sufficient upside/downside to motivate behavior change**
  - **Simplify administration**
  - **Economic relevance**: provider bears a material portion of the episode cost or a significant case volume
Approach to quality: overview of cross-episode approach

### Types of quality metrics

- **Quality metrics linked to payment**
  - Limited to claims-based metrics where possible
  - If non-claims based, reported through a new, user-friendly, internet-based provider portal
  - Each metric linked to payment will have a quality threshold that providers must exceed

- **Reporting only quality metrics**

*Providers will receive reports on their performance across both types of quality metrics regularly*

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In order to be eligible to receive upside gain-sharing, providers must:

- Meet quality threshold on all performance metrics AND
- Fully report all required data for metrics that require reporting
Agenda

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  - **Episode model overview**
    - Cholecystectomy clinical background and facts
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The episode-based model is designed to reward coordinated, team-based high quality care for specific conditions or procedures.

**The goal**

- **Coordinated, team-based care** for all services related to a specific condition, procedure, or disability (e.g., pregnancy episode includes all care prenatal through delivery).

**Accountability**

- A provider ‘quarterback’, or **Principal Accountable Provider** (PAP) is designated as accountable for all pre-specified services across the episode (PAP is the provider in best position to influence quality and cost of care).

**Incentives**

- **High quality, cost-efficient care** is rewarded beyond current reimbursement, based on the PAP’s average cost and total quality of care across each episode.
How episodes work for patients and providers (1/2)

1. Patients receive and providers deliver care as they do today
2. Patients seek care and select providers as they do today
3. Providers submit claims as they do today

Payers reimburse for all services as they do today
How episodes work for patients and providers (2/2)

4 Calculate incentive payments based on outcomes after close of 12-month performance period

5 Review claims from the performance period to identify a ‘Principal Accountable Provider’ (PAP) for each episode

6 Based on results, providers will:
   - Share savings: if average costs are below commendable levels and quality targets are met
   - Pay part of excess cost: if average costs are above acceptable level
   - See no change in pay: if average costs are between commendable and acceptable levels

5 Payers calculate average cost per episode for each PAP

Compare average costs to predetermined ‘commendable’ and ‘acceptable’ levels

1 Outliers removed and adjusted for risk and hospital per diems
2 Appropriate cost and quality metrics based on latest clinical evidence, nationally recognized clinical guidelines and local considerations
Providers that meet quality standards and have average costs below the commendable threshold will share in savings up to a limit.
Illustrative examples of risk and gain sharing

Risk capped using stop-loss policy:
- Policies are payer-specific
- Medicaid to limit PAP loses to 10% of total reimbursement from Medicaid (i.e. provider guaranteed at least 90% of reimbursement)

Illustrative example:
- Average episode cost $200 below commendable threshold
- 50% ($100) gain shared with provider per episode
Ensuring high quality care for every Arkansan is at the heart of this initiative and is a requirement to receive performance incentives

<table>
<thead>
<tr>
<th>Two types of quality metrics for providers</th>
<th>Description</th>
</tr>
</thead>
</table>
| 1. Quality metric(s) “to pass” are linked to payment | ➢ **Core measures** indicating basic standard of care was met  
➢ **Quality requirements** set for these metrics; a provider must meet required level to be eligible for incentive payments  
➢ In select instances, quality metrics must be entered in **portal** (e.g., heart failure, ADHD) |
| 2. Quality metric(s) “to track” are not linked to payment | ➢ Used to understand overall quality of care and quality **improvement opportunities**  
➢ Shared with providers but **not linked to payment** |
Example: Performance summary – Perinatal episode

**Overview**

<table>
<thead>
<tr>
<th>Total episodes: 262</th>
<th>Total episodes included: 233</th>
<th>Total episodes excluded: 20</th>
</tr>
</thead>
</table>

**Cost of care compared to other providers**

- **Commendable**: $<3000
- **Acceptable**: $3000 to $4000
- **Not acceptable**: $>4000

**Gain/Risk share**

- You: $0

You are not eligible for gain sharing:
- Quality requirements: met
- Average episode cost: acceptable

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**Quality summary**

- **Quality metrics – linked to gain sharing**
  - HIV screening rate: 97%
  - Group B strep screening rate: 87%
  - Chlamydia screening rate: 90%

- **Quality metrics – not linked to gain sharing**
  - Gestational diabetes screening rate: 56%
  - Asymptomatic bacterial screening rate: 90%
  - Hepatitis B screening rate: 58%

**Cost summary**

- **Your total cost overview**: $1,230,987
  - Adjusted: $719,977
- **Average cost overview**: $3,500
  - You (adjusted): $4,000
  - All providers: $4,000

**Cost distribution**

- Episodes: 15, 23, 29, 45
- Costs: $<2500, $2500 to $3000, $3000 to $4000, $>4500

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*ILLUSTRATIVE EXAMPLE*
**Example: Cost detail – Perinatal episode**

Total episodes included = 233

<table>
<thead>
<tr>
<th>Care category</th>
<th># and % of episodes with claims in care category</th>
<th>Average cost per episode when care category utilized, $</th>
<th>Total cost in care category, $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inpatient professional</td>
<td>233 (100% 100%)</td>
<td>550 (500)</td>
<td>128,150 (116,500)</td>
</tr>
<tr>
<td>Inpatient facility</td>
<td>230 (99% 99%)</td>
<td>2,415 (2,400)</td>
<td>555,450 (552,000)</td>
</tr>
<tr>
<td>Outpatient professional</td>
<td>221 (95% 97%)</td>
<td>76 (76)</td>
<td>18,796 (15,796)</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>184 (79% 77%)</td>
<td>61 (61)</td>
<td>14,904 (14,904)</td>
</tr>
<tr>
<td>Outpatient lab</td>
<td>21 (75% 80%)</td>
<td>117 (95)</td>
<td>2,457 (1,995)</td>
</tr>
<tr>
<td>Outpatient Radiology / procedures</td>
<td>16 (78% 75%)</td>
<td>70 (75)</td>
<td>1,120 (1,200)</td>
</tr>
<tr>
<td>Emergency department</td>
<td>12 (5% 3%)</td>
<td>69 (62)</td>
<td>828 (744)</td>
</tr>
<tr>
<td>Outpatient surgery</td>
<td>1 (&lt;1% &lt;1%)</td>
<td>97 (84)</td>
<td>97 (84)</td>
</tr>
<tr>
<td>Other</td>
<td>7 (3% 4%)</td>
<td>25 (27)</td>
<td>175 (189)</td>
</tr>
</tbody>
</table>
# Five initial episodes launched in 2012

<table>
<thead>
<tr>
<th>Details</th>
<th>Principal Accountable Provider for most episodes</th>
</tr>
</thead>
</table>
| **Total Hip/Knee replacement**  
- Care from 30 days before to 90 days after the surgical procedure  
- Prenatal care, delivery, and postnatal care for the mother  
- 40 weeks before to 60 days after delivery  
- Excludes neonatal care |  
- Orthopedic surgeon |
| **Perinatal (non-NICU)**  
- Prenatal care, delivery, and postnatal care for the mother  
- 40 weeks before to 60 days after delivery  
- Excludes neonatal care |  
- Primary physician (e.g., OB/GYN, family practice physician) that performs prenatal care |
| **Ambulatory URI**  
- Includes colds, sore throats, sinusitis  
- Care from initial consult to 21 days after  
- Excludes inpatient hospitalizations and surgical procedures |  
- Provider for the in-person URI consultation(s) |
| **Acute-, post-acute heart failure**  
- Care from hospital admission for heart failure to 30 days after discharge |  
- Hospital |
| **ADHD**  
- Care over 12-month period, including all ADHD services and pharmacy costs (with exception of initial assessment of patient) |  
- PCP, psychiatrist, or PhD clinical psychologist  
- If care provided under RSPMI, the RSPMI billing organization is the PAP |

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1 Neonatal intensive care unit
Agenda

- Episode design overview
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  - Cholecystectomy episode design summary and rationale
  - Thresholding
Cholecystectomy: Patient journey

Pre-procedure entry into medical setting (30 days)

- Patient presents to ED
- Patient presents to non-acute setting

Emergency Department services

- Determine timing, type and setting of operation

PCP office

Procedure

Inpatient procedure

Open cholecystectomy at hospital

Care and recovery (inpatient or outpatient)

Post-procedure (90 days)

Laparoscopic cholecystectomy

COMPLICATIONS AND POST-PROCEDURE ADMISSIONS

Follow-up clinician visits

SOURCE: Society of American Gastrointestinal and Endoscopic Surgeons, expert/clinician interviews
Cholecystectomy: Sources of value

Pre-procedure entry into medical setting (30 days)

Patient presents to non-acute setting

Patient presents to ED

Emergency Department services

PCP office

Determine timing, type and setting of operation

Comlications and readmissions

Care and recovery (inpatient or outpatient)

Laparoscopic cholecystectomy

Open cholecystectomy at hospital

Inpatient procedure

Open cholecystectomy (including conversions) only when necessary

Outpatient procedure

Appropriate care setting (inpatient, outpatient hospital, or ambulatory surgery center) for cholecystectomies

Follow-up clinician visits

Efficient facility operations, reflected in facility price

Appropriate length of stay for inpatient cholecystectomy procedures

Appropriate indications for cholecystectomy

Reduction of complications and post-procedure admissions

Appropriate indications for cholecystectomy

Appropriate care setting (inpatient, outpatient hospital, or ambulatory surgery center) for cholecystectomies

Efficient facility operations, reflected in facility price

Appropriate length of stay for inpatient cholecystectomy procedures

Appropriate indications for cholecystectomy

Appropriate care setting (inpatient, outpatient hospital, or ambulatory surgery center) for cholecystectomies

Efficient facility operations, reflected in facility price
## Episode summary: Annual cholecystectomy episodes for AR Medicaid and BCBS

<table>
<thead>
<tr>
<th></th>
<th>AR Medicaid</th>
<th>AR BCBS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of laparoscopic surgery episodes¹</td>
<td>707</td>
<td>2,227</td>
</tr>
<tr>
<td>Inpatient</td>
<td>159</td>
<td>238</td>
</tr>
<tr>
<td>Outpatient</td>
<td>548</td>
<td>1,989</td>
</tr>
<tr>
<td>Number of open cholecystectomy surgeries¹</td>
<td>41</td>
<td>34</td>
</tr>
<tr>
<td>Inpatient</td>
<td>37</td>
<td>31</td>
</tr>
<tr>
<td>Outpatient</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Total number of primary surgeons</td>
<td>117</td>
<td>180</td>
</tr>
</tbody>
</table>

¹ All Medicaid figures in this document are for episodes in 2010, defined by the start date of service on the claim with the cholecystectomy procedure. All BCBS figures are for episodes with surgeries between July 1, 2011, and June 30, 2012.

SOURCE: Arkansas Medicaid claims for patients with cholecystectomies between January 1, 2010 – December 31, 2010; Arkansas Blue Cross Blue Shield claims for patients with cholecystectomies between July 1, 2011 and June 30, 2012
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  - **Cholecystectomy episode design summary and rationale**
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Cholecystectomy episode design (1/2)

1. Episode definition / scope of services
   - Episode is triggered by open or laparoscopic cholecystectomy procedure, including:
     - Laparoscopic or open cholecystectomy surgery and
     - Primary or second diagnosis (Dx_1 or Dx_2) indicating conditions related to cholecystectomy (e.g., cholelithiasis, cholecystitis)
   - Episode time frame:
     - Cholecystectomy surgery and related services during procedure (i.e., inpatient and outpatient facility services, professional services, related medications, treatment for complications)
     - Related services within 90 days post procedure
     - Post-procedure admissions within 30 days post-procedure as defined by BPCI

2. Exclusion criteria
   - Certain patients are excluded from this episode design:
     - Select co-morbid conditions or past procedures within 365 days or 90 days after cholecystectomy (e.g., HIV, cancer, sickle cell anemia, transplants)
     - Pregnancy 30 days prior to 90 days after cholecystectomy procedure
     - ICU care within 30 days prior to cholecystectomy procedure
     - Acute pancreatitis, cirrhosis, or cholangitis concurrent with procedure
     - Open cholecystectomy procedure (includes laparoscopic converted to open and surgeries initiated open)
     - Death in hospital during episode
     - Patient status of “left against medical advice” during episode
     - Age equal to or less than 1 or greater than or equal to 65
     - Dual coverage of primary medical services
     - Inconsistent enrollment (i.e., not continuously enrolled) during the episode

1. Specific parameters of these design elements may vary by payer
2. Open cholecystectomies included as triggers since they should be captured for tracking purposes, although open episodes will be excluded
3. 30 day all-cause post-procedure admission, excluding irrelevant procedures as determined by BPCI (Bundled Payments for Care Improvement, a CMS initiative)
4. Does not include ICU care during inpatient stay of cholecystectomy procedure
Cholecystectomy episode design (2/2)\(^1\)

### Episode adjustments

- Episode cost is adjusted based on
  - Patient co-morbidities, including indirectly related health conditions (e.g. hypotension, ventilator dependence) and patient presentation prior to cholecystectomy surgery (e.g. acute cholecystitis, common bile duct stones)\(^2\)
  - ED admittance prior to procedure for episodes with inpatient cholecystectomy\(^3\)
  - High cost or low cost outliers, applied after other cost adjustments\(^4\)
- Only providers with at least 5 episodes per year will be eligible for gain sharing/risk sharing\(^5\)

### Quality metrics

- Quality metrics for reporting only:
  - Rate of major complications that occur in episode, either during procedure or in post-procedure window: common bile duct injury, abdominal blood vessel injury, bowel injury
  - Number of laparoscopic cholecystectomies converted to open surgeries
  - Number of cholecystectomies initiated via open surgery
- Quality metrics required for gain sharing payment:
  - Percent of episodes with CT scan prior to cholecystectomy (must be below threshold rate to qualify for gain sharing)

### Principal Accountable Provider

- For Medicaid, the Principal Accountable Provider (PAP) will be the primary surgeon performing the cholecystectomy. Other payers independently determine the PAP by considering the following factors:
  - Decision making responsibilities
  - Influence over other providers
  - Portion of episode cost

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1 Specific parameters of these design elements may vary by payer
2 Risk adjustment methodology applied to determine whether and to what extent co-morbidities are associated with increased episode cost
3 Adjustment is for episodes with inpatient cholecystectomy and ED visit prior to surgery, and will adjust for the per diem cost of one inpatient day
4 High cost outlier defined statistically; low cost outlier defined by adding cost of minimum services possible for episode
5 Episode minimum determined by each payer separately and applied to volume for payers separately
# Design rationale: Episode definition / scope of services (1/2)

**Episode design decisions**

- **Trigger identification:**
  - Laparoscopic or open cholecystectomies can be potential trigger
  - Episode is triggered by cholecystectomy procedure *and* appropriate primary or secondary diagnosis

- **Pre-procedure window:**
  - Pre-procedure cost excluded from episode cost

- **Post-procedure window:**
  - Related services within 90 days after procedure (i.e., inpatient and outpatient facility services, professional services, related medications, treatment for post-procedure complications)
  - Inpatient post-procedure admissions within 30 days after procedure as defined by BPCI

**Rationale**

- Although open cholecystectomies will be excluded, they can trigger an episode, which will be used for tracking purposes only
- Requiring an appropriate diagnosis code (Dx fields 1 and 2) excludes episodes with conditions that lead to highly variable patient conditions, outcomes, and costs (e.g. cancer)
- A list of CPT and ICD-9 Px codes for laparoscopic cholecystectomies identified as triggers for an episode

- Pre-procedure costs often due to behavior of upstream providers who surgeon may have little influence on (e.g. primary care physician, GI specialist)

- 90 day period for follow-up care related to cholecystectomy procedure because this care may occur over a long period of time, particularly in cases with complications
- Related services defined by specific set of CPT and ICD-9 Px/Dx codes
- Post procedure admissions due to complications, etc. are included in episode cost calculations since reducing complications and treating them effectively and efficiently is an identified value driver
- CMS BPCI provides a list of procedure codes which are not relevant to cholecystectomies or similar acute episodes; these procedures will not be included in episode costs (i.e., if a patient is treated for a condition that is not a complication or relevant to the cholecystectomy procedure within 30 days after the procedure, it will not be included in the episode cost calculation)
Design rationale: Episode definition / scope of services (2/2)

Episode definition:
- All related services during cholecystectomy procedure and 90 days after procedure, including inpatient and outpatient facility services, professional services, related medications
- Related complications and post-procedure admissions

The episode includes the following services:

- Labs, imaging, and diagnostic tests during procedure
- Professional claims
- Inpatient or outpatient facility care
- Medications
- 30-day post-procedure admissions
- All claims with a diagnosis or procedure code related to preparation, delivery, recovery, or complications of cholecystectomy
- All medications prescribed in outpatient setting related to preparation, recovery and complications from procedure
- Inpatient admissions within 30 days post-procedure as defined by BPCI, and admissions 31-90 days post-procedure if related to cholecystectomy
## Design rationale: Quality metrics

<table>
<thead>
<tr>
<th>Reporting only</th>
<th>Required for gain sharing payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ Rate of major surgical complications that occur in episode, identified during procedure or post-procedure window:</td>
<td>▪ Percent of episodes with CT scan prior to cholecystectomy (below threshold rate to qualify for gain sharing)</td>
</tr>
<tr>
<td>- Common bile duct injury</td>
<td></td>
</tr>
<tr>
<td>- Abdominal blood vessel injury</td>
<td></td>
</tr>
<tr>
<td>- GI tract perforation</td>
<td></td>
</tr>
<tr>
<td>▪ Number of laparoscopic cholecystectomies converted to open surgeries</td>
<td></td>
</tr>
<tr>
<td>▪ Number of cholecystectomies initiated via open surgery</td>
<td></td>
</tr>
</tbody>
</table>
Preliminary note about data presented in the following pages

- Data presented in this document is based on:
  - Arkansas Medicaid claims data for patients with cholecystectomies between 1/1/10 and 12/31/10
  - Arkansas Blue Cross Blue Shield claims data for patients with cholecystectomies between 7/1/11 and 6/30/12
- All data presented is preliminary and intended to facilitate today’s discussion
Basic cost structure of an AR Medicaid cholecystectomy episode

Average unadjusted cost per AR Medicaid episode
Medicaid episodes in 2010, % of total cost by episode type

<table>
<thead>
<tr>
<th>Outpatient laparoscopic cholecystectomies</th>
<th>Inpatient laparoscopic cholecystectomies</th>
</tr>
</thead>
<tbody>
<tr>
<td>100% = $1,823</td>
<td>100% = $5,250</td>
</tr>
<tr>
<td>Inpatient</td>
<td>Inpatient</td>
</tr>
<tr>
<td>1 Includes inpatient cost throughout entire episode (including cholecystectomy procedure and post-procedure admissions)</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: Arkansas Medicaid claims for patients with valid cholecystectomies between January 1, 2010 – December 31, 2010
Basic cost structure of an AR BCBS cholecystectomy episode

### Average cost per AR BCBS episode
BCBS episodes in 07/11-06/12, % of total cost by episode type

<table>
<thead>
<tr>
<th></th>
<th>Outpatient laparoscopic cholecystectomies</th>
<th>Inpatient laparoscopic cholecystectomies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional</td>
<td>47%</td>
<td>18%</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Inpatient</td>
<td>6%</td>
<td>80%</td>
</tr>
<tr>
<td>Outpatient</td>
<td>46%</td>
<td></td>
</tr>
</tbody>
</table>

1 Includes inpatient cost throughout entire episode (including cholecystectomy procedure and post-procedure admissions)

SOURCE: Arkansas Blue Cross Blue Shield claims for patients with cholecystectomies between July 1, 2011 and June 30, 2012
Cost variation across Arkansas Medicaid primary surgeons

Average unadjusted cost by primary surgeon in 2010, $

<table>
<thead>
<tr>
<th>Number of surgeons</th>
<th>117</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of surgeons with at least 5 AR Medicaid episodes</td>
<td>57</td>
</tr>
</tbody>
</table>

SOURCE: Arkansas Medicaid claims for patients with valid cholecystectomies between January 1, 2010 – December 31, 2010
Cost variation across Arkansas BCBS primary surgeons

Average episode cost by primary surgeon in 07/11-06/12, % of highest cost provider

- Total cost / episode
- % of highest cost provider

Number of surgeons: 180
Number of surgeons with at least 5 AR BCBS episodes: 126

SOURCE: Arkansas Blue Cross Blue Shield claims for patients with cholecystectomies between July 1, 2011 and June 30, 2012
Distribution of volume across AR Medicaid primary surgeons

Variation in primary surgeons’ Medicaid episode volume, valid cholecystectomy episodes
Percent of episodes contributed by surgeons with certain volume thresholds

N = 707 episodes, 117 surgeons

81% of episodes contributed by surgeons who met minimum case volume of 5+ Medicaid episodes per year

<table>
<thead>
<tr>
<th># episodes per surgeon</th>
<th>Total</th>
<th>&lt;5</th>
<th>&gt;=5</th>
<th>5-9</th>
<th>10-14</th>
<th>15-19</th>
<th>20-24</th>
<th>25-29</th>
<th>30-34</th>
<th>35-39</th>
<th>40+</th>
</tr>
</thead>
<tbody>
<tr>
<td># of surgeons</td>
<td>117</td>
<td>60</td>
<td>57</td>
<td>40</td>
<td>8</td>
<td>5</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

SOURCE: Arkansas Medicaid claims for patients with valid cholecystectomies between January 1, 2010 – December 31, 2010
Distribution of volume across AR BCBS primary surgeons

Variation in primary surgeons’ AR BCBS episode volume
Percent of episodes contributed by surgeons with certain volume thresholds

N = 2,261 episodes, 180 surgeons

94% of episodes contributed by surgeons who met minimum case volume of 5+ AR BCBS episodes per year

SOURCE: Arkansas Blue Cross Blue Shield claims for patients with cholecystectomies between July 1, 2011 and June 30, 2012
Inpatient vs. outpatient cholecystectomy variation across AR Medicaid primary surgeons

Average Inpatient Rates
- Surgeons with less than 5 AR Medicaid episodes = 33%
- Surgeons with at least 5 AR Medicaid episodes = 20%
- Overall = 22%

Number of AR Medicaid primary surgeons by rate of valid inpatient cholecystectomies

# of primary surgeons, 2010

Percentage of total cholecystectomies that were inpatient

SOURCE: Arkansas Medicaid claims for patients with valid cholecystectomies between January 1, 2010 – December 31, 2010
Inpatient vs. outpatient cholecystectomy variation across AR BCBS primary surgeons

Number of AR BCBS primary surgeons by rate of inpatient cholecystectomies
# of primary surgeons, 07/11-06/12

Total number of primary surgeons= 180

Surgeons with <5 AR BCBS episodes
Surgeons with 5+ AR BCBS episodes

Average Inpatient Rates

- Surgeons with less than 5 AR BCBS episodes = 22%
- Surgeons with at least 5 AR BCBS episodes = 11%
- Overall = 12%

SOURCE: Arkansas Blue Cross Blue Shield claims for patients with cholecystectomies between July 1, 2011 and June 30, 2012
Contents

- Episode design overview
- APII program overview
- Episode model overview
- Cholecystectomy clinical background and facts
- Cholecystectomy episode design summary and rationale
- **Thresholding**
  - Diagnostic analyses
  - Scenario analyses
Episode summary: Cholecystectomy (SFY 2011)

Cholecystectomy episode cost distribution

Episode summary data

- Episode count: 718
- Outliers¹: 31
  - Percentage: 4.32%
- Average cost, unadjusted: $2,261
- Average cost, adjusted²: $1,782
- Adjusted quartiles³:
  - 25th percentile: $1,275
  - 50th percentile: $1,475
  - 75th percentile: $1,766
- Utilization:
  - CT scan: 16.0%
  - Inpatient %: 19.7%
  - LOS: 3.15

¹ Outliers defined as an episode greater than 3 times the standard deviation above the mean. Outlier threshold exclusions: above risk adj. $8,364
² Total cost adjustment based upon the following risk factors: Age, Acute Cholecystitis, Jaundice, Bile duct stones, Hypotension, one day IP per diem
³ Quartiles, adj. average cost, and unadj. average cost calculated after removing outliers

SOURCE: Arkansas Medicaid claims paid, July 2010 – June 2011
Episode summary: Cholecystectomy (SFY 2009 – 2011)

Cholecystectomy episode cost distribution

Adjusted average cost per episode

<table>
<thead>
<tr>
<th></th>
<th>SFY 2009</th>
<th>SFY 2010</th>
<th>SFY 2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. cost</td>
<td>1,991</td>
<td>1,811</td>
<td>1,782</td>
</tr>
<tr>
<td>25th Percentile</td>
<td>1,234</td>
<td>1,276</td>
<td>1,275</td>
</tr>
<tr>
<td>50th Percentile</td>
<td>1,496</td>
<td>1,512</td>
<td>1,475</td>
</tr>
<tr>
<td>75th Percentile</td>
<td>2,052</td>
<td>1,951</td>
<td>1,766</td>
</tr>
<tr>
<td>CT scan %</td>
<td>16.1</td>
<td>17.2</td>
<td>15.7</td>
</tr>
<tr>
<td>Inpatient %</td>
<td>23.5</td>
<td>20.8</td>
<td>19.7</td>
</tr>
<tr>
<td>Avg. LOS</td>
<td>3.29</td>
<td>2.99</td>
<td>3.15</td>
</tr>
</tbody>
</table>

Source: Arkansas Medicaid claims paid, July 2008 – June 2011
Provider summary: Cholecystectomy
All PAPs (SFY 2011)

Cholecystectomy provider cost distribution
Adjusted average cost per provider

<table>
<thead>
<tr>
<th>Adj. average cost/episode (Adjusted average cost per provider)</th>
</tr>
</thead>
<tbody>
<tr>
<td>$ 4,000</td>
</tr>
<tr>
<td>$ 3,500</td>
</tr>
<tr>
<td>$ 3,000</td>
</tr>
<tr>
<td>$ 2,500</td>
</tr>
<tr>
<td>$ 2,000</td>
</tr>
<tr>
<td>$ 1,500</td>
</tr>
<tr>
<td>$ 1,000</td>
</tr>
<tr>
<td>$ 500</td>
</tr>
<tr>
<td>$ 0</td>
</tr>
</tbody>
</table>

PAP volume and cost analysis

<table>
<thead>
<tr>
<th>Yearly episode volume</th>
<th>Average cost per episode</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of PAPs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>1,776</td>
</tr>
<tr>
<td>54</td>
<td>1,689</td>
</tr>
</tbody>
</table>

1 Each vertical bar represents the adjusted average cost an individual PAP, sorted from highest to lowest average cost; 112 total PAPs

Source: Arkansas Medicaid claims paid, July 2010 - June 2011
Provider summary: Cholecystectomy PAPs with >= 5 episodes (SFY 2011)

Cholecystectomy provider cost distribution; >= 5 episodes per year
Average episode cost per provider$1

Adj. average cost/episode

1 Each vertical bar represents the adjusted average cost an individual PAP, with 5 or more yearly episodes, sorted from highest to lowest average cost; 54 total PAPs

Source: Arkansas Medicaid claims paid, July 2010 - June 2011
Contents

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PRELIMINARY DRAFT: Threshold scenario

Cholecystectomy PAP average episode cost distribution

**Adj. average cost/episode**

- **70th percentile: Acceptable**
- **40th percentile: Commendable**
- **Bottom-up analysis: Gain limit**

![Diagram showing cost distribution with thresholds]

**Gain sharing data**

- **# PAPs**: 22
- **Percentage**: 40.7%

**Pay-out ranges:**
- **Average / PAP**: $0 - $122
- **Total / PAP**: $1 - $1,589

**Gain as a % of pro fee**:
- **Average**: 12%
- **Total / PAP range**: 0% - 17%

**Risk sharing data**

- **# PAPs**: 16
- **Percentage**: 29.6%

**Recovery ranges:**
- **Average / PAP**: ($344)-($12)
- **Total / PAP**: ($3,461)-($86)

**Risk as a % of pro fee**:  
- **Average**: (13%)
- **Total / PAP range**: (49%) – (2%)

1. Acceptable, commendable, and gain limit have been set at 70th, 40th, and bottom-up threshold, respectively.
2. Only PAPs with >=5 episodes included – 54 PAPs.
3. Medicaid reimburses 708.73 to perform a cholecystectomy.

**SOURCE:** Arkansas Medicaid claims paid, July 2011 – June 2012
PRELIMINARY DRAFT: PAP gain and risk sharing

ILLUSTRATIVE; FOR DISCUSSION

Cholecystectomy PAP Gain and Risk Sharing\(^1,2\)

$ USD

Gain

Risk

Principal Account Provider

Gain & risk sharing

Total gain-sharing paid by Medicaid $14,087

Total risk-sharing paid to Medicaid ($16,755)

1 Acceptable, commendable, and gain limit have been set at 70\(^{th}\), 40\(^{th}\), and bottom-up threshold, respectively
2 Only PAPs with >=5 episodes included – 54 PAPs; Gain sharing: 22 PAPs; Risk sharing: 16 PAPs

SOURCE: Arkansas Medicaid claims paid, July 2010 – June 2011