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August 21, 2018

The Honorable S. Chris Jones, Chairman, House Appropriations Committee  
The Honorable Thomas K. Norment, Jr., Co-Chairman, Senate Finance Committee  
The Honorable Emmett W. Hanger, Jr., Co-Chairman, Senate Finance Committee

Subject: Review of Musculoskeletal Bundled Payment Pilot Program

The attached report is pursuant to Chapter 836, Item 475.G.7 of the 2017 Virginia Acts of Assembly.

Please contact me if there are any questions.

Sincerely,

A handwritten signature in cursive script that reads "Gene Raney".

Gene Raney  
Director, Office of Health Benefits

cc: The Honorable Keyanna Conner, Secretary of Administration  
Emily S. Elliott, Director, Department of Human Resource Management



# **Review of Musculoskeletal Bundled Payment Pilot Program**

# Introduction

- Pursuant to Chapter 836, Item 475, G.7. of the 2017 Virginia Acts of Assembly, this report provides results from a pilot program for a bundled payment for total knee and hip replacements. The pilot program began in July 2017.
- Four groups were studied: 1) Total Knee Replacement Patients in a Bundled Payment Program, 2) Total Hip Replacement Patients in a Bundled Payment Program, 3) Total Knee Replacement Patients in a Non-Bundled Payment Program, 4) Total Hip Replacements in a Non-Bundled Payment Program.
- Both Bundled Payment groups experienced lower costs than their corresponding study groups. However, sample sizes were small, and the cost data were minimally statistically valid for hips and statistically invalid for knees. Data on return to work metrics were statistically invalid.
- DHRM will continue the pilot program through FY 2019 with the expectation that additional data will provide much better results, from the standpoint of statistical validity. A comprehensive report of the total study will be provided in August 2019.



# **2017 Virginia Acts of Assembly, Chapter 836, Item 475, G.7.**

**"The Department of Human Resource Management shall develop and implement a pilot program beginning on July 1, 2017 for a single payment per episode for all services and costs spanning multiple providers across multiple settings for musculoskeletal injury claims to the maximum extent possible. The results of this pilot program, to include changes in return-to-work following injury times and costs of single payment per episode versus traditional payment per visit claim payments, shall be reported to the Governor, the Chairmen of the House Appropriations Committee and the Senate Finance Committee by August 1, 2018."**



# What are Bundled Payments?

- Single payments per episode for all services and costs spanning multiple providers across multiple settings are typically referred to as bundled payments.
- These entail a holistic approach to reimbursement for a member's care.
  - For this pilot, a specialist serves as the “Quarterback.”
  - Quality & Cost Focus - All the care related to a specific condition or procedure comes into play –this pilot includes knee and hip replacements.
  - Because the Quarterback has an incentive and the necessary line of sight to focus on key factors (e.g., comprehensive care plan; site of services; and high quality, low cost providers), bundled payments may provide a better approach to improve quality and lower costs.



# Bundles - Retrospective

- A bundle benchmark target price is established for the total episode cost. This pilot program's benchmark target price is proprietary to Anthem and cannot be disclosed in this report.
- An administrative provider is identified who agrees to the bundle benchmark target price.
- All providers are paid under their normal Fee For Service reimbursement arrangements; including date of procedure; follow up; and services related to complications, revisions and readmissions related to the bundle episode that begins on the procedure day and is 90 days in duration.
- Each measurement period is six (6) months. After the measurement period, a retrospective evaluation of cost and quality is performed to review actual costs compared to the benchmark target price.
- This pilot has an upside only risk methodology, which allows the administrative provider to receive a financial incentive if performance is favorable relative to benchmark target price.
  - Anthem and the Department of Human Resource Management will continue to evaluate opportunities to improve the pilot, including the potential of adding a downside risk arrangement if it appears to be warranted.
- Quality metrics must be met before any financial incentive is applied.



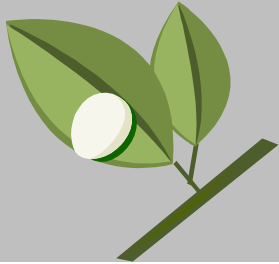
# Bundles - Prospective

- The administrative provider is identified and a bundle rate is determined based on historical costs for all providers for members who meet the established bundle criteria.
- Payment is made to the administrative provider when a claim is submitted.
- No other providers are paid directly by the plan. It is the administrative provider's responsibility to reimburse other providers for services they have performed on those members who meet the established bundle criteria.

Both retrospective and bundled models provide value by shifting from a volume-driven system to one where providers are focused on managing care in a holistic fashion and held accountable to delivering high quality, coordinated and patient centered care.

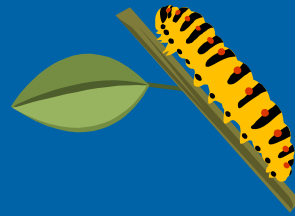


# Bundled Payment Evolution



## Fee for Service (FFS)

No incentive to optimize episodic cost of care – pay as you go with no holistic view of episodic costs



## Bundles – Retrospective

FFS with bundle cost targets and back-end reconciliation



## Bundles – Prospective

Upfront single payment for the entire bundle – FFS out of the picture



# State Employee Knee and Hip Replacement Bundled Payment Pilot

- The current pilot, effective July 1, 2017, is a **Retrospective** Episode Bundle Model where the desired outcome is to reduce cost and provide high quality services for members. It is expected that holding the administrative provider accountable to a benchmark will incent him or her to work with high quality low costs providers in the most appropriate settings to service members.
- This retrospective model is the optimal way to initially approach providers in order to gain trust and a sense of comfort surrounding this type of reimbursement. Based on results, prospective bundling will be considered as a long term strategy.
- Additional details:
  - The model includes a quality gate (a minimum quality threshold that must be met earn an incentive) based on the following metrics to ensure high quality care has been provided:
    - Readmissions Rate
    - Complications Rate
    - Revisions Rate
  - Performance is evaluated based on the Target Price benchmark and adjustments to an established case rate (the reimbursement rate that the Quarterback is paid for services).
    - The Target Price benchmark is the historical cost budgeted for covered bundled services, against which the administrative provider is measured for cost savings during a measurement period in order to receive a financial incentive.
    - This is based on all provider costs associated with those members who meet the bundle criteria.
    - The benchmark and case rates are determined by reviewing 24 months' worth of data.
  - Quarterly reporting is provided by Anthem to the administrative provider to include quality and financial data.



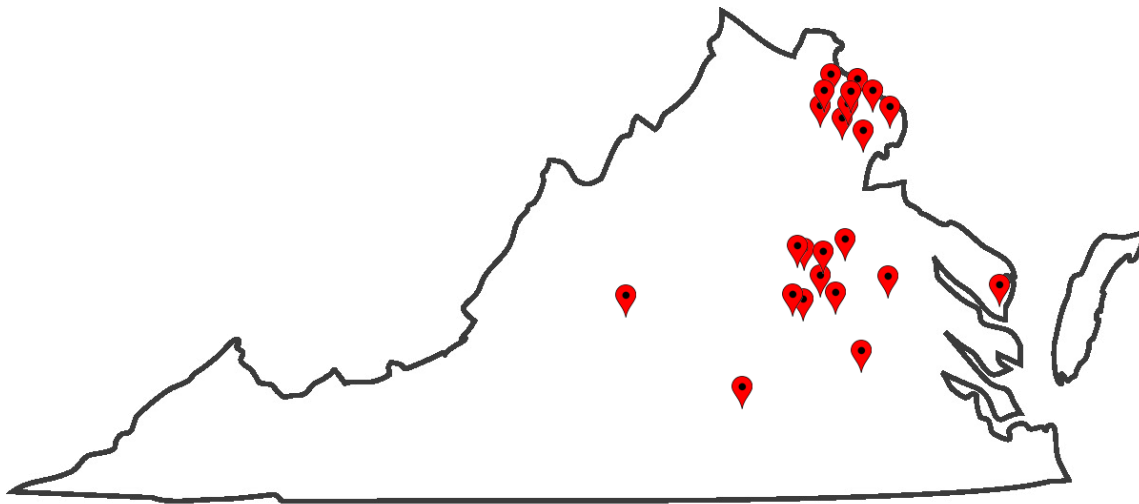
# Pilot Criteria

- **Episode Period:** The length of time that a patient falls within the bundle program. A total knee **or hip** replacement has an episode period of 90 days. These 90 days begin on the date of admission for an inpatient stay for the index procedure (the day surgery was performed) and continues until the 90 days are complete. This includes all services for this member that are related to the index procedure (the knee replacement).
- **Continuous Enrollment:** The patient must be covered for the entire Episode Period as an active enrollee with COVA Care or Cova HDHP.
- **Age Criteria:** The patient must be age eighteen (18) or older on the first day of the Episode Period.
- **Primary Coverage:** The patient's Health Benefit Plan cannot be a secondary plan under applicable Coordination of Benefit (COB) rules to another insurance carrier plan which provides primary coverage.
- **Diagnosis Criteria:** The patient must have a specific principal diagnosis (by ICD-10 designation) for an acute inpatient hospital admission to perform a knee or hip replacement.
- **Volume Criteria:** In order for the study results to be statistically valid, there must be a minimum of 30 qualifying Episode cases during a six (6) month Episode Period. Anthem's healthcare analytics team determined this threshold for the financial and quality metric values.



# Anthem Partnered with Orthopedic Group

- For this pilot, Anthem has partnered with a prominent orthopedic group that is an expert in orthopedic and therapy care.
- More than 100 physicians, 22 office locations, MRI facilities, outpatient surgery centers and physical therapy clinics are being utilized in this pilot program.
- The group is primarily located in Richmond, Lynchburg, and northern Virginia.
- Effective Date: July 1, 2017.



# Timeline

Contract Effective/Measurement Period Start	First Measurement Period Completed	Episode Period Run-Out Completed	Claims Run-Out Completed
7/1/2017	12/31/2017	3/31/2018	6/30/2018

**Measurement Period:** The six month measurement period for the bundle program.

**Episode Period Run-Out:** Beginning the first day the measurement period ends, this is the length of time by which an episode is defined. This was established in order to accommodate an episode that begins as late as the last day of the measurement period. For example, if an episode began December 31, a claim incurred on March 31 would be a part of that episode.

**90 Day Claims Run-Out:** Beginning the first day after the episode period ends, this is the lag period that occurs between a claims incurred date and paid date.

**Continued Evaluation of Measurement Periods:** Following the completion of the initial six month measurement period, additional measurement periods of six months will be evaluated by Anthem as the pilot program continues.





# Retrospective Bundle Pilot Program Commonwealth of Virginia Results

# COVA Members Only Bundle Contract vs. COVA Members Outside of Bundle Contract –Total Knee Replacement (TKR) Summary

COVA Members - Orthopedic Surgical Provider in Anthem Episode Bundle Payment (EBP) Program – TKR			
Time Period	*Actual Allowed	**Actual Avg Allowed	Case Count
07/01/2017- 12/31/2017	\$1,189,615	\$37,175	32

COVA Members - Orthopedic Surgical Provider NOT in Anthem EBP Program - TKR			
Time Period	*Actual Allowed	**Actual Avg Allowed	Case Count
07/01/2017- 12/31/2017	\$2,896,916	\$38,117	76

\*Actual Allowed: The allowed amount by Anthem that was paid to a doctor or hospital for health care services. This includes costs of any complications, revisions or readmissions.

\*\*Actual Avg Allowed: The average of the actual allowed charges per case.

The Average Cost Variance between EBP and Non-EBP groups was \$942 per Episode.



# COVA Members Only Bundle Contract vs. COVA Members Outside of Bundle Contract –Total Hip Replacement (THR) Summary

## COVA Members - Orthopedic Surgical Provider in Anthem EBP Program - THR

Time Period	Actual Allowed	Actual Avg Allowed	Case Count
07/01/2017- 12/31/2017	\$886,117	\$35,445	25

## COVA Members - Orthopedic Surgical Provider NOT in Anthem EBP Program - THR

Time Period	Actual Allowed	Actual Avg Allowed	Case Count
07/01/2017- 12/31/2017	\$2,078,700	\$36,468	57

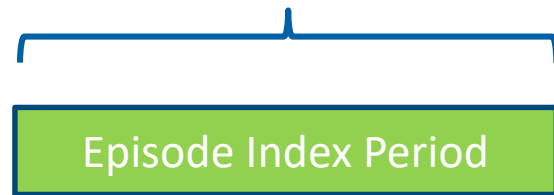
The average Cost Variance between EBP and Non-EBP groups was \$1,023 per Episode.



# COVA – Post Surgical Results

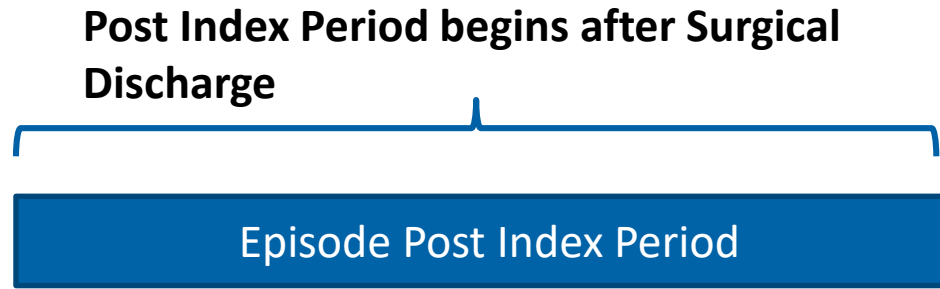
## Total Hip Replacement (THR), Total Knee Replacement (TKR) Episode Structure

The Episode Period begins on the date of admission for an inpatient stay for the index procedure (the day surgery was performed) and continues until the 90 days are complete.



### Episode Index Period Includes:

- Physician Costs for Surgery, Anesthesia, Radiology.
- Hospital Costs for Surgery and care administered during stay.



### Post Index Period begins after Surgical Discharge

### Episode Post Index Period Includes:

- Physician and Hospital costs for relevant care - Expected Physical Therapy, Radiology, Rehabilitation, Specialist/Primary Care Physician follow-up visits.
- Complications, Revisions and Readmissions in the post-surgical (Index) period could potentially impact return to work.



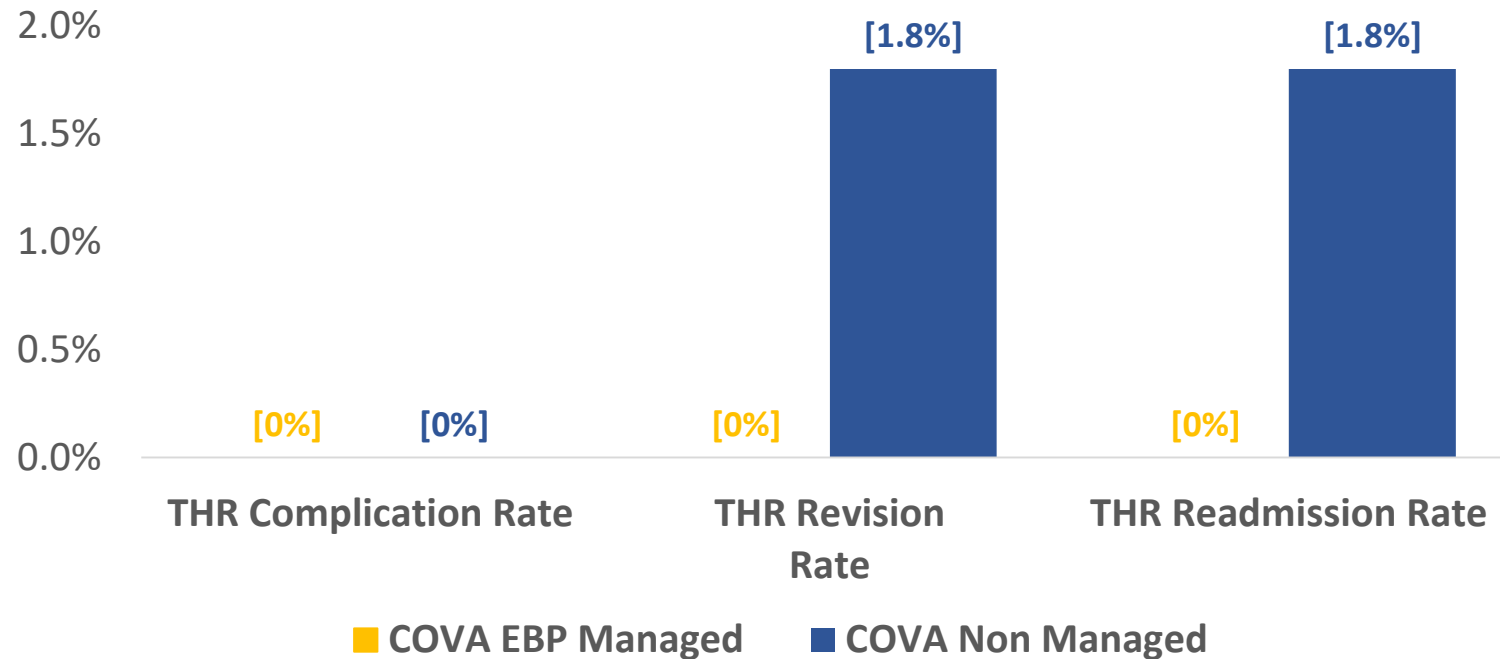


## COVA – Post Surgical Definitions

- **Complication:** An undesirable and unexpected result of surgery. For example, postoperative fever or wound infection.
- **Revision:** A subsequent surgery performed to replace or compensate for a failed implant of a previous surgery.
- **Readmission:** An episode when a patient who has been discharged from a hospital is admitted again within a specified time interval. For this program, the readmission has to be related to the index procedure to be included in the episode period.



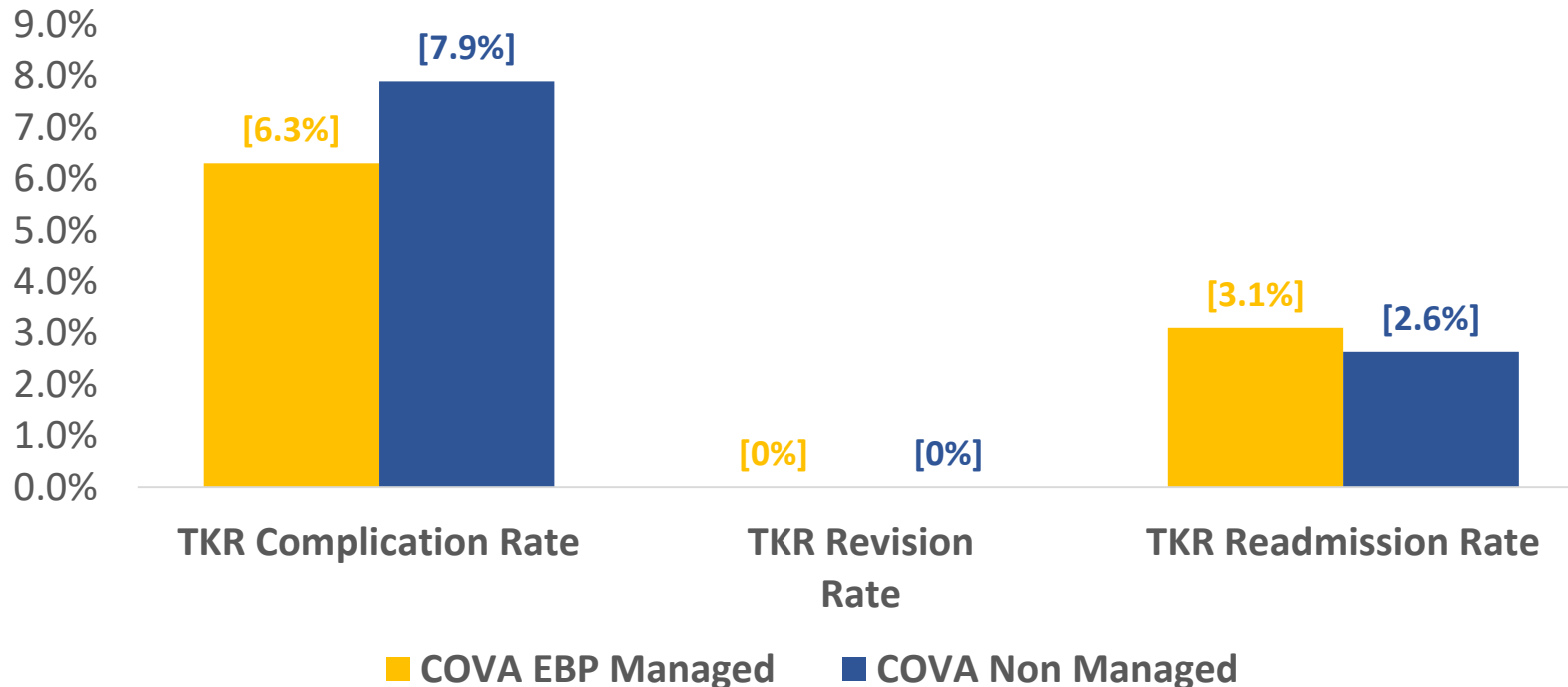
## COVA – Post Surgical Results Total Hip Replacement (THR)



- There were no complications, revisions, or readmissions for the COVA EBP managed population.
- There were revisions and readmissions for the COVA Non Managed population.



## COVA – Post Surgical Results Total Knee Replacement (TKR)



TKR had mixed results. The COVA EBP managed population had a lower complication rate, while neither managed nor non managed populations had revisions, and the COVA EBP managed population had a higher readmission rate.



# Return to Work Metrics

- Due to multiple and often inaccessible personnel management systems, privacy concerns, and the abbreviated time span of the study, leave data is only accessible for a small subset of total EBP and non-EBP group participants. Consequently, this data is statistically invalid, which limits the ability to evaluate whether the retrospective bundling model has an impact on return to work time.
- Regardless of a member's participation in the bundle payment program, there is no benefit change impacting the member, such as a reduction in cost sharing. Therefore, there is no incentive for a member's behavior change.
- The primary purpose of bundle programs is to control costs, not shorten the time for a member returning to normal activity or work.



# Conclusions

- Initial cost and quality findings are promising, although due to small sample size, they range from not credible to minimally credible.
- COVA members within a bundle arrangement showed on average a savings of \$942 per episode for total knee replacements.
- COVA members within a bundle arrangement showed on average a savings of \$1,023 per episode for total hip replacements.
- COVA members within a bundle arrangement for both total knees and total hip replacements showed an improvement in quality metrics for revisions and complications vs those that are not part of a bundle arrangement. Those that were not part of the bundle arrangement did not show an improvement in revisions and complications. One factor that could be attributed to these results is that, generally, members in the bundled population experience better care coordination between providers for the overall treatment of services than those in the non-bundled population. The non-bundled members showed a slightly better outcome in readmissions for total knee replacements compared to those members in the bundled program.
- This pilot program needs to be studied for a longer period of time. Ongoing evaluation will be needed due to:
  - Low volume specific to state employees (25 THR and 32 TKR, with a minimum of 30 being considered minimally credible).
  - Immaturity of claims data after the initial 6 month review and claim run out period. An additional length of review period is needed to include run-in of paid claims for which the date of service was the prior review period.
  - Provider learning curve. This model is in the early stages of implementation and execution, whereas the providers are learning to navigate through a new model.



# Next Steps

- Continue to evaluate during FY 2019 whether the bundle payment pilot yields positive results. This will allow for review of two additional six-month measurement periods. A comprehensive report will be submitted in August 2019 detailing the aggregate findings of all three measurement periods.
- Work with bundle provider to identify other areas of opportunity to reduce costs
  - Example: Referring patients to lower cost providers with same or better quality
  - Example: Introducing a downside risk arrangement if it is deemed to have merit.
- Work with bundle provider to see if there is a site of service opportunity
  - Example: performing services in an outpatient setting vs. inpatient setting for those cases that are appropriate to do in that site of service
- Explore other specialties and procedures, should results for this program continue to show a positive trend.

