

Payment Models Work Group Meeting Agenda 12-01-14

**VT Health Care Innovation Project
 Payment Models Work Group Meeting Agenda
 Monday, December 1, 2014 2:00 PM – 4:30 PM.
 DVHA Large Conference Room, 312 Hurricane Lane, Williston, VT
 Call in option: 1-877-273-4202
 Conference Room: 2252454**

Item #	Time Frame	Topic	Presenter	Decision Needed?	Relevant Attachments
1	2:00 – 2:10	Welcome and Introductions Approve meeting minutes	Don George	Y – Approve minutes	Attachment 1: Meeting Minutes
2	2:10-2:20	Medicaid Yr 2 Gate and Ladder Update	Alicia Cooper	N	Attachment 2: Comments (To be distributed later – comment deadline is Nov 28)
3	2:20-2:25	Commercial Yr 2 Gate and Ladder	Richard Slusky	N	
4	2:25-3:50	Episodes of Care (EOC) Analysis	Chris Tompkins	N	Attachment 4A: EOC Memo Attachment 4B: Brandeis Slides (To be distributed later)
5	3:50-4:15	EOC Next Steps	Kara Suter	N	Attachment 5: PMWG Next Steps Presentation (To be distributed later)
6	4:15-4:20	Public Comment		N	
7	4:20 – 4:30	Next Steps and Action Items		N	Next Meeting: Friday, January 16 (Williston)

Attachment 1 - Payment Models Work Group Minutes 11-03-14

**VT Health Care Innovation Project
Payment Models Work Group Meeting Minutes**

**Monday, November 3, 2014 2:00 PM – 3:15 PM.
EXE - 4th Floor Conf Room, Pavilion Building, Montpelier**

Topic	Notes	Next Steps
<p>Welcome and Introductions Approve meeting minutes</p>	<p>Steve Rauh called the meeting to order at 2pm. Paul Harrington made a motion to approve the minutes, Lila Richardson seconded. Motion passes.</p>	
<p>Presentation on Yr 2 Medicaid SSP Gate and Ladder Plan</p>	<p>Kara Suter and Alicia Cooper presented on attachments 2a, 2b and 2c – the following were comments or questions to the presentation:</p> <ul style="list-style-type: none"> • Paul Harrington asked if the GMCB policy of payment for improvement for the commercial Shared Savings Program will also apply to Medicaid. Kara Suter responded that Medicaid SSP is under a different contract, though it would be ideal to see alinement of programs. Invites comment from the workgroup. • Cecelia Wu asked in which WG would the gate and ladder option would be chosen. Kara Suter responded that the PMWG will be first to make discuss, then it will go to QPM for input. PMWG will be the group that makes formal recommendations to the Steering Committee. • Paul Harrington made a comment about the math for the Medicaid benchmarks and the problems that will arise when using percentages instead of whole numbers when calculating performance. Suggests using a whole number instead of percentage to avoid that issue. This suggestion was taken under consideration. • Lila Richardson asked who is making the decisions on updating benchmarks in Yr 2 for Commercial ACOs. Seeking clarification on 	

how the input of workgroups helps to guide this process. Kara Suter explained the process and the complications that arise with current contracts in place between State, Federal and ACOs.

- Pat Jones clarified that this group would weigh in on gate and ladder methodology and recommend to Steering and Core team while looking for input from other workgroups. As this is a payment issue, it is the charge of this workgroup to discuss first.
- Paul Harrington asked why 2013 data was included if it was prior to the implementation of the Medicaid SSP, and why scores were calculated for the 12 month period spanning the last 6 months of 2013 and the first 6 months of 2014--would have liked to see data for the first half of 2014 in isolation. Shawn Skaflestad asked about the utility of presenting scores for a 12 month period that was not the calendar year, and more discussion took place around the benefit of providing the most recent months in this Gate and Ladder scenario.
- Joyce Gallimore commented on her concern of raising the gate during this learning process. Concern for providers who are making an investment and their willingness to understand that change takes time
- Julie Wasserman asked for clarification on the initial performance percentages of the ACOs and the gate being substantially lower than ACO-specific baseline performance. Alicia Cooper commented that there was no ACO-specific performance information available when gate was originally set—statewide Medicaid performance was used as a proxy.
- Paul Harrington asked what the savings are. Kara Suter responded that they do not yet know, have started to run this calculation – predicts a couple more months before projected savings will be released.
- Ted Sirotta asked when downside risk starts. For Medicaid there is none in first three years.
- Shawn Skaflestad asked for clarification on the calendar year being used for shared savings program calculations. Performance year and calendar year are the same.
- Michael Bailit commented that the population being so small makes for less statistically significant changes over years. Feels

that the performance for both ACOs is significantly better than 2012 performance. Feels the gate and ladder is low, and that lifting the gate make sense to motivate improvement.

- Abe Berman asked what caused improvement from 2012-2013. Kara Suter responded that there could be a lot of things that affected this change. Michael Bailit brought up the difference in Medicaid populations attributed and not attributed to ACOs and the difference in care they could be receiving. Abe Berman asked the group to acknowledge the difference in population and payment measures between commercial and Medicaid ACOs. Michael Bailit confirmed that these groups cannot be compared perfectly.
- Shawn Skaflestad commented that the floor in PY 13 should be the gate for each ACO.
- Shawn Skaflestad asked for clarification about the inclusion of the two new Payment measures in Year 2 scenarios in Attachment 2c. They do not.
- Ted Sirotta asked about the different baselines for CHAC and OCVT – appearing to penalize OCVT for performing better. Kara Suter commented that the gate is not set higher for OCVT. Suggests providing input if he would not support setting different gate and ladders for different ACOs.
- Larry Goetschis asked if they are able to increase the money available to ACOs. Kara Suter responded that TCOC expansion in Yr 2 would provide the opportunity for more savings. Larry Goetschis suggests providing ACOs with more money if they significantly increase quality.
- Paul Harrington commented that Medicare SSP ACO measures were released for 2015, and the number of measures was frozen at 33. Kara Suter suggested that SIM staff do a summary of that news release and provide it to this WG and QPM WG for consideration when preparing comments.
- Larry Goetschis asked when the risk ‘sign up’ process takes place after Yr 3. Asks to keep lack of data in mind as this conversation takes place.
- Lila Richardson asked if this group will take a vote on this issue? Yes. Kara Suter responded that after comments are received, a

	<p>proposal will be put out to the workgroup.</p> <ul style="list-style-type: none"> Michael Bailit commented that DVHA is reviewing gate and ladder for the Medicaid SSP for Year 2 contract amendments, but that a similar provision may not be in the commercial program agreements. This group may want to suggest that the commercial program consider similar updates. 	
Public Comment	There was no public comment	
Next Steps and Action Items	Next meeting will focus on EOC data analytics. The December meeting will also be a webinar.	<p>Next Meeting: Monday, December 1, 2014 2:00 PM – 4:30 PM. DVHA Large Conference Room, 312 Hurricane Lane, Williston</p>

VHCIP Payment Models Work Group

Attendance List:

11/3/2014

C	Chair
IC	Interim Chair
M	Member
MA	Member Alternate
A	Assistant
S	Staff/Consultant
X	Interested Party

First Name	Last Name		Title	Organization	
April	Allen		Director of Policy and Planning	AHS - DCF	X
Carmone	Austin	✓		MVP Health Care	M
Ena	Backus			GMCB	X
Melissa	Bailey			Otter Creek Associates and Matrix Health	X
Michael	Bailit	✓		SOV Consultant - Bailit-Health Purchasing	X
Susan	Barrett		Executive Director	GMCB	X
Anna	Bassford			GMCB	A
Abe	Berman	✓	<i>Dir. of Finance</i>	OneCare Vermont	X MA
Susan	Besio		Senior Associate	SOV Consultant - Pacific Health Policy Gro	X
Martha	Buck			Vermont Association of Hospital and Hea	A
Heather	Bushey	✓	CFO	Planned Parenthood of Northern New En	M
Gisele	Carbonneau			HealthFirst	A
Amanda	Cecior	✓	Health Policy Analyst	AHS - DVHA	S
Lori	Collins			AHS - DVHA	X
Amy	Coonradt		Health Policy Analyst	AHS - DVHA	X
Alicia	Cooper	✓	Quality Oversight Analyst	AHS - DVHA	S
Michael	Counter		Sr. Director of Finance	Visiting Nurse Association & Hospice of V	X
Diane	Cummings	✓	Financial Manager II	AHS - Central Office	M
Michael	Curtis		Director of Child, Youth & Family Ser	Washington County Mental Health Servic	M
Danielle	DeLong			AHS - DVHA	X
Mike	DelTreceo			Vermont Association of Hospital and Hea	M
Michael	Donofrio		General Council	GMCB	X
Audrey	Fargo		Administrative Assistant	Vermont Program for Quality in Health C	A
Cyndy	Fischer			OneCare Vermont	A
Kathleen	Fish		Director actuarial Services	MVP Health Care	X

Katie	Fitzpatrick		VT Administrative Asst.	Bi-State Primary Care	A
Erin	Flynn	<i>Erin Flynn</i>	Health Policy Analyst	AHS - DVHA	S
Catherine	Fulton	<i>Catherine Fulton</i>	Executive Director	Vermont Program for Quality in Health C	M
Joyce	Gallimore	✓	Director, Community Health Payment	Bi-State Primary Care/CHAC	MA/M
Lucie	Garand		Senior Government Relations Special	Downs Rachlin Martin PLLC	X
Andrew	Garland	<i>Andrew Garland</i>		MVP Health Care	X
Christine	Geifer	<i>Christine Geifer</i>	Grant Manager & Stakeholder Coordi	GMCB	S
Don	George	✓	President and CEO	Blue Cross Blue Shield of Vermont	C
Carrie	Germaine	✓		AHS - DVHA	X
Jim	Giffin		CFO	AHS - Central Office	X
Al	Gobeille		Chair	GMCB	X
Bea	Grause		President	Vermont Association of Hospital and Hea	MA
Lynn	Guillett			OneCare Vermont	MA
Heidi	Hall		Financial Director	AHS - DMH	M
Janie	Hall		Corporate Assistant	OneCare Vermont	A
Thomas	Hall			Consumer Representative	M
Bryan	Hallett	✓		GMCB	X
Paul	Harrington	✓	President	Vermont Medical Society	M
Carrie	Hathaway		Financial Director III	AHS - DVHA	X
Carolynn	Hatin			AHS - Central Office - IFS	X
Erik	Hemmett			Vermont Chiropractic Association	X
Selina	Hickman		Policy Director	AHS - DVHA	X
Bard	Hill		Director - Policy, Planning & Data Uni	AHS - DAIL	M
Churchill	Hindes		COO	OneCare Vermont	X
Con	Hogan		Board Member	GMCB	X
Nancy	Hogue	✓	Director of Pharmacy Services	AHS - DVHA	X
Craig	Jones	<i>Craig Jones</i>	Director	AHS - DVHA - Blueprint	MA
Pat	Jones	✓		GMCB	MA
Joelle	Judge			UMASS	S
Kevin	Kelley		CEO	CHSLV	X
Melissa	Kelly			MVP Health Care	X
Sarah	King	✓	CFO	Rutland Area Visiting Nurse Association &	M
Kelly	Lange	✓	Director of Provider Contracting	Blue Cross Blue Shield of Vermont	M
Georgia	Maheras			AOA	S
Mike	Maslack				X

John	Matulis				X
James	Mauro			Blue Cross Blue Shield of Vermont	MA
Alexa	McGrath			Blue Cross Blue Shield of Vermont	A
Sandy	McGuire		CFO	HowardCenter for Mental Health	M
Todd	Moore		CEO	OneCare Vermont	M
Jessica	Oski			Vermont Chiropractic Association	MA
Annie	Paumgarten	<i>Annie Paumgarten</i>	Eveluation Director	GMCB	X
Tom	Pitts		CFO	Northern Counties Health Care	M
Luann	Poirer		Administrative Services Manager I	AHS - DVHA	X
Stephen	Rauh	✓		GMC Advisory Board	C/M
Paul	Reiss		Executive Director,	Accountable Care Coalition of the Green	M
Lila	Richardson	<i>Lila Richardson</i>	Attorney	VLA/Health Care Advocate Project	M
Howard	Schapiro		Interim President	University of Vermont Medical Group Pra	M
Ken	Schatz			AHS - DCF	X
Rachel	Seelig	✓	Attorney	VLA/Senior Citizens Law Project	MA
Julia	Shaw	<i>JSS</i>	Health Care Policy Analyst	VLA/Health Care Advocate Project	M
Tom	Simpatico			AHS - DVHA	X
Ted	Sirota	✓	CFO	Northwestern Medical Center	M
Richard	Slusky	✓	Payment Reform Director	GMCB	S/M
Jeremy	Ste. Marie		Treasurer	Vermont Chiropractic Association	M
Kara	Suter	✓	Reimbursement Director	AHS - DVHA	S/M
Beth	Tanzman		Assistant Director of Blueprint for He	AHS - DVHA - Blueprint	X
Anya	Wallack		Chair	SIM Core Team Chair	X
Marlys	Waller			Vermont Council of Developmental and I	X
Barbara	Walters		Chief Medical Director	OneCare Vermont	X
Julie	Wasserman	✓	VT Dual Eligible Project Director	AHS - Central Office	X
Spenser	Weppler	✓		GMCB	S
Kendall	West				X
Bradley	Wilhelm		Senior Policy Advisor	AHS - DVHA	X
Sharon	Winn	✓	Director, Vermont Public Policy	Bi-State Primary Care	M
Cecelia	Wu	✓	Healthcare Project Director	AHS - DVHA	X
Erin	Zink			MVP Health Care	X
Marie	Zura		Director of Developmental Services	HowardCenter for Mental Health	MA
<i>Monica Light</i>		✓			
<i>Lori Collins</i>		✓			

JAMES WESTRICH ✓
Shawn SKA Flestad ✓

AHS-DVHA X
AHS

VHCIP Payment Models Work Group

Member Roll Call: 11/3/2014

y = yes
n = no
a = abstain

C	Chair
IC	Interim Chair
M	Member
MA	Member Alternate
A	Assistant
S	Staff/Consultant
X	Interested Party

Member		Member Alternate			10/06/14 Minutes	10/24/14 Minutes	Organization
First Name	Last Name	First Name	Last Name				
Carmone	Austin				y	y	MVP Health Care
Heather	Bushey				y	y	Planned Parenthood of Northern New England
Diane	Cummings						AHS - Central Office
Michael	Curtis						Washington County Mental Health Services Inc.
Mike	DelTrecco	Bea	Grause				Vermont Association of Hospital and Health Systems
Catherine	Fulton				y	y	Vermont Program for Quality in Health Care
Heidi	Hall						AHS - DMH
Thomas	Hall						Consumer Representative
Paul	Harrington				y	y	Vermont Medical Society
Bard	Hill				y	y	AHS - DAIL
Sarah	King						Rutland Area Visiting Nurse Association & Hospice
Kelly	Lange	James	Mauro		y	y	Blue Cross Blue Shield of Vermont
Sandy	McGuire	Marie	Zura				HowardCenter for Mental Health
Todd	Moore	Lynn	Guillett				OneCare Vermont
Tom	Pitts						Northern Counties Health Care
Stephen	Rauh	Pat	Jones		y	y	GMC Advisory Board
Paul	Reiss						Accountable Care Coalition of the Green Mountains
Lila	Richardson				y	y	VLA/Health Care Advocate Project
Howard	Schapiro						University of Vermont Medical Group Practice
Julia	Shaw	Rachel	Seelig		a	y	VLA/Health Care Advocate Project
Ted	Sirota				y	y	Northwestern Medical Center
Richard	Slusky				y	y	GMCB
Jeremy	Ste. Marie	Jessica	Oski		y	y	Vermont Chiropractic Association
Kara	Suter	Craig	Jones		y	y	AHS - DVHA
Sharon	Winn	Joyce	Gallimore		y	a	Bi-State Primary Care
					y	y	CHAC

25 8 12 13

Attachment 4A - EOC Memo

Discussion Guide for Payment Models Work Group: Episodes Supporting Health Reform Goals

December 1, 2014

General Issue: Vermont is considering a number of ways to improve the overall efficiency and value of the healthcare system. In this project, Vermont specifically is considering using episodes of care, conceptually and empirically, to help achieve such improvements. This paper describes options and preliminary recommendations for using specific episodes and measures for various purposes (evaluation and monitoring, or as a basis for bundled payments), and highlights data findings that may inform those purposes.

Specific Issue 1: Potential purposes for using episodes

Episodes constitute clinically and economically meaningful units of service, such as all services and total costs associated with treating a particular condition, or providing a particular type of service, such as a surgical procedure and its aftermath. Interpretation can be applied in many ways, and summarized for a variety of units of analysis, depending on ultimate use.

By organizing claims information into episodes of care, Vermont can proceed with monitoring and selected reforms with answers to basic questions such as:

- For what conditions are services provided and costs incurred?
- Do utilization patterns for specific conditions suggest excessively high or variable rates of particular services?
- How do cost and utilization patterns differ across providers serving patients for clinically-similar conditions?
- How much duplication of service occurs for patients seen by different providers in different settings over time?

In addition, episodes could support various payment systems:

1. **Premiums, global payments PMPY.** An episode system that can account for large majority of total spend also can provide a descriptive framework for interpreting how funds are being used in relation to specific clinical contexts. In turn, such a system can be used to determine average expected costs per patient and per condition, permitting a summation of expected costs across episodes at the patient level. In effect, an episode can provide risk-adjusted expected costs, which can be used to adjust or interpret premiums or global payments.
2. **Value-based purchasing.** By organizing services and costs into clinical contexts, an episode system can facilitate alignment between measures of quality and resource use, which is necessary in order to infer relative value. This is the heart

of the NQF patient-focused episode framework.

3. **Reference Pricing.** There is a strong trend in the healthcare field toward providing patients with information in advance about the price associated with particular treatment options. Moreover, insurance benefit design may cover the costs for one or more providers offering the treatment of choice, for example the median price among local providers, leaving patients responsible for paying higher prices associated with choosing some providers. An episode system can be used to calculate the expected average or distribution of costs for conditions or possible treatment options indicated for those conditions, which can produce reference prices for patients that are meaningful, given their clinical interpretation and anticipation of all costs for a given condition or treatment.
4. **Bundled payment.** Similarly, a selected point on the distribution of expected costs for condition or treatment option can be translated into contractual terms in order to convert fee-for-service payments into a larger aggregation or bundled payment.
 - a. **Prospective bundled payment.** The total dollar amount associated with the larger unit can be converted directly into a single payment administered prospectively to the provider under contract. This approach may seem simple administratively, but in effect, would require new software for claims administrators, and cause the provider to be responsible for distributing those funds to all other providers may provide care during the period of the bundle. Many field experiments have found this approach difficult to implement in practice.
 - b. **Retrospective bundled payment.** The total dollar amount associated with a large unit can be converted instead into a form of reference price for the provider. Covered services can be provided and reimbursed using prevailing payment systems. The sum of the cost of those services can be compared to the target or reference price comprising the bundle, a contractual terms can specify the risk arrangements applying to excessive costs (actual cost exceeds the bundle price) or to cost savings (actual cost is lower than the bundle price).

Episodes could support network management:

5. **Tiers.** Ranking providers into categories based on performance related to quality and resource use.
6. **Report cards.** Monitoring and providing feedback to providers on absolute and relative performance.

Episodes could support regulatory monitoring:

7. **State.** Following trends over time, and watching for opportunities and improvement.
8. **Regions.** Providing information on relative performance, target opportunities, and trends over time in support of regional collaboratives.

The breadth or comprehensiveness of an episode system determines the extent to which it can support certain options. The more comprehensive a grouper, the more lines of service, the larger percentage of total spending it can explain, and the better it can determine why a given dollar was spent.¹ Comprehensive episode groupers include commercial products (Optum Health’s Episode Treatment Groups, or ETG); Truven Health Analytics’ Medical Episode Grouper, or MEG), and the upcoming CMS public domain grouper (Episode Grouper for Medicare, or EGM). This project has produced empirical analyses using a product with more limited scope (25 versus hundreds in comprehensive systems), namely Evidence-informed Case Rates, or ECR, distributed by the Health Care Incentives Improvement Institute, or HCI3.

Specific Issue 2: Investigating and Selecting Episodes

Vermont wants to understand and monitor the healthcare sector on behalf of all residents and in light of fiscal stewardship for all dollars spent on healthcare. Thus, a “top-down” approach is feasible in which spending is categorized: by spending on primary conditions (illnesses or injuries), and spending on complications arising from primary conditions. Spending for primary conditions and complications can be broken down further into incidence / prevalence rates; the volume of services (units of care) for each respective condition, and the cost per unit of care (e.g., individual services or bundled services).

Appendix 1 illustrates how statewide, regional, or ACO/ health plan spending could be organized into these clinically-meaningful categories. The context enables accurate description as well as inferences about high versus low performance, and eventually high versus low value spending.

- In a comprehensive approach, providers’ lines of service are largely covered by the multiplicity of episodes, allowing individual and composite measures of performance based on single or multiple episodes of care.
- In the selective approach, major episodes are identified and attributed to providers representing varying portions of their full book of business. For example, an orthopedic surgeon who concentrates on hip and knee replacements would have most activities captured by relatively few (perhaps two) episodes. Whereas a general surgeon may do occasional hips or knees, along with gall bladders and an assortment of other procedures as needed by patients locally.

¹ Often services are provided to patients jointly for multiple conditions, or for services indicated for symptoms that could be attributed to various conditions. The logic of an episode grouper weighs the evidence within the clinical context of the patient to determine what is relevant to one episode or another.

The ECRs (episodes) from HCI3 used in this study are shown below separately for chronic conditions, acute conditions, and selected procedures.

1. What types of improvements are expected from delivery system reforms?
 - a. Making efficient substitutions among treatment options (e.g., setting, surgery)
 - b. Avoiding complications
 - c. Managing chronic conditions
 - i. Coronary artery disease - CAD
 - ii. Congestive heart failure – CHF
 - iii. Chronic obstructive pulmonary disease - COPD
 - iv. Asthma – ASTHMA
 - v. Diabetes – DIABETES
 - vi. Gastro-esophageal reflux disease – GERD
 - vii. Hypertension - HTN
 - d. Managing acute conditions
 - i. Acute myocardial infarction - AMI
 - ii. Pneumonia – PNE
 - iii. Stroke – STR
 - iv. Low risk and high risk pregnancy – PREGN
 - e. Providing a particular form of treatment or test
 - i. Complex coronary artery bypass graft - CxCABG
 - ii. Percutaneous coronary intervention (Angioplasty) – PCI
 - iii. Knee replacement and knee revision - KNRPL
 - iv. Knee arthroscopy – KNARTH
 - v. Hip replacement and hip revision – HIPRPL
 - vi. Esophagogastroduodenoscopy upper GI (Endoscopy) - EGD
 - vii. Colon resection - COLON
 - viii. Colonoscopy - COLOS
 - ix. Gall bladder surgery - GBSURG
 - x. Hysterectomy – HYST
 - xi. Vaginal delivery - VAGDEL
 - xii. Cesarean section - CSECT

2. How might financial risk affect providers?
 - a. Upside risk could help to provide positive motivation for saving money and improving care.
 - b. Downside risk also may motivate providers to perform better, but subject them to financial risks for losses which are not customary or typical under fee-for-service.
 - c. Magnitude of risk, if excessive, may lead to exaggerated responses and effects.
 - d. Mitigation of risk

- i. **Outlier effects.** In healthcare, is nearly universal that majority of patients have spending that is lower than average for a category, whereas a minority of patients have spending that can be considerably greater than average. This skewness can cause average costs vary substantially depending on the proportion of patients who want to the outlier class. The episodes discussed in this paper have had this effect curtailed to some degree by removing very high dollar amounts from the calculations of episode costs.
 - ii. **Case-mix risk adjustment.** Severity of illness, burden of comorbidities, and other factors attributable to patients can affect their costs for any given episode. All of the episodes discussed in this paper have accompanying risk-adjustment models that are intended to limit provider risk associated with differences in case mix.
- e. **Acceptable risk parameters.** As discussed in a later section, implementing episodes for accountability or bundled payment should include considerations about acceptable levels of risk for provider. This is quantified as the amount of variation that might be expected in the calculation of observed cost outcomes for providers, which is partly dependent on case volume. Similarly, financial risk exposure to providers would be a function of the amount of variability that may occur in performance calculations, as well as the average cost per episode, and the number of cases a given provider may attributed for any type of episode.

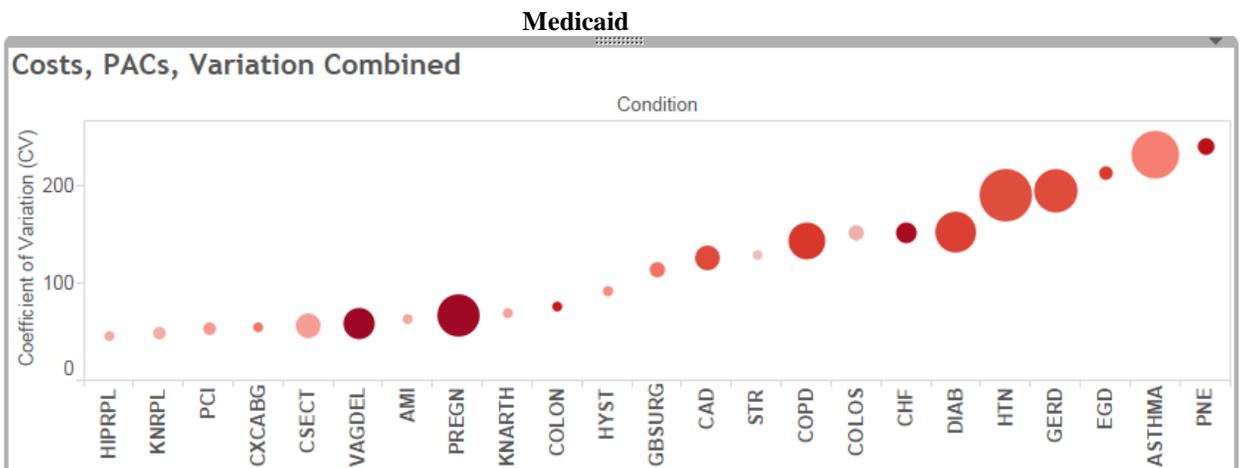
Minimum case volumes may be part of important specifications for episode-based measures and contracts. For some episodes, there may be providers with sufficient case volumes already, whereas for other episodes, the state may need to issue guidelines and requirements for providers to ensure capacity and sufficient case volumes to be measured and performed satisfactorily in an episode-based system.

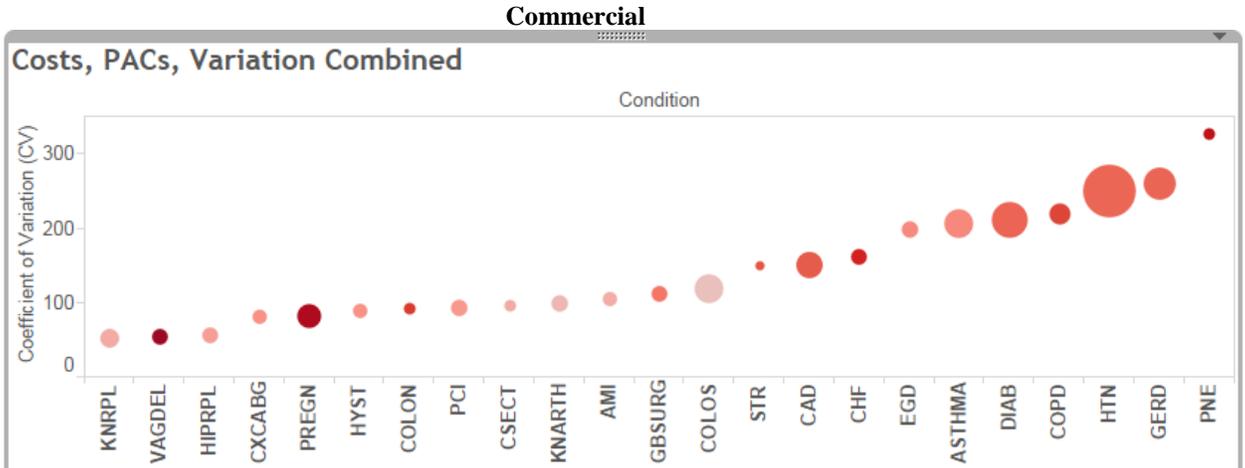
- f. **Delivery system organization and reforms.** Moving to risk arrangements and sufficient case volumes may imply modifications to the structure and governance of delivery systems. Often considered under bundled payment are the necessity of gainsharing among providers who share accountability, and in turn, may share financial rewards and penalties. Also, providers ordinarily working independently may enter appropriate teaming arrangements in order to collaborate under common objectives and protocols.

Issue 2: Statewide priorities

This section examines summary outputs from analytics generated using the Vermont all payer database (commercial and Medicaid separately). The focus here is on identifying spending patterns by episode of care at the state level, which could help to target opportunities for statewide or regional interventions. There are three main criteria addressed for examining and comparing spending patterns by episode:

1. The **portion of dollars in total spend** that are attributable to the particular episode. In the charts shown below, this dimension is represented by the size of the circle corresponding to each episode.
2. A portion of dollars spent within an episode that are attributable to **potentially avoidable complications**. This dimension is represented by the darkness of the circle corresponding to each episode.
3. The amount of observed **variation in spending patterns at the patient level** for each episode. This dimension is represented on the vertical axis. The episodes are rank ordered from left to right on the charts in accordance with this dimension, which is defined by the statistical measure, coefficient of variation (CV), which is the standard deviation (wideness of the spending distribution) divided by the mean spending level for each episode.





Examining the results shown above suggests the following episodes may represent priorities and opportunities for improvement. Generally, many of the larger (and darker) circles are on the right half of the chart, where most of the conditions and especially chronic conditions are shown. In contrast, most of the events or discrete procedures are on the left, accounting for smaller portions of total spend and lower amounts of dollars categorized as complications.

1. Larger percentage of cost (bigger circles)

- a. Medicaid
 - i. HTN
 - ii. Asthma
 - iii. Pregnancy
 - iv. GERD
 - v. Diabetes
 - vi. Vaginal delivery
- b. Commercial
 - i. HTN
 - ii. Diabetes
 - iii. GERD
 - iv. Colonoscopy
 - v. Pregnancy
 - vi. Asthma
- c. Overlap
 - i. HTN
 - ii. Pregnancy
 - iii. GERD
 - iv. Diabetes
 - v. Asthma

2. Larger percentage complication cost (darker color)

- a. Medicaid
 - i. Pregnancy
 - ii. VAGDEL
 - iii. PNE
 - iv. CHF
 - v. Diabetes
 - b. Commercial
 - i. Pregnancy
 - ii. VAGDEL
 - iii. PNE
 - iv. CHF
 - c. Overlap
 - i. Pregnancy
 - ii. VAGDEL
 - iii. PNE
 - iv. CHF
3. Greater cost variation among patients (larger CV)
- a. Medicaid
 - i. PNE
 - ii. Asthma
 - iii. EGD
 - iv. GERD
 - v. HTN
 - b. Commercial
 - i. PNE
 - ii. GERD
 - iii. HTN
 - iv. COPD
 - v. Diabetes
 - c. Overlap
 - i. PNE
 - ii. GERD
 - iii. HTN

The episodes that are assessed to be higher priority based on the three criteria described above, are taken to represent candidates for statewide priorities in the selection of episodes. In the following section, these episodes are highlighted to illustrate their implementation for providers based on the attribution of episodes and patients to providers in the Vermont all-payer database.

Option B: Individual providers / hospitals and physicians

Given the choices that Vermont may make about the selection of episodes reflecting priorities, questions can arise about the implementation potential for various selected episodes. An important dimension of that could be the interest or readiness of providers and delivery systems to enact care redesign. A potentially related dimension could be the case volumes that individual

providers may see under prevailing fee-for-service conditions, or the case volumes that Vermont might require for providers to operate under alternative payment models based on episodes of care. This section explores the risk exposure and accompanying minimum case volumes necessary to enact reasonable incentive structures linked to episodic measures or payments.

Consider the distribution of dollars that are assigned to a given episode, starting with an example of asthma cases covered by commercial insurance. In Vermont, there were 30,716 individuals with commercial insurance who were identified as having asthma, i.e., an episode triggered for the condition asthma. The average dollar amount allocated to asthma episodes was \$2866. The actual costs allocated for individuals varied substantially as reflected in a standard deviation of \$5933. Dividing the standard deviation by the mean value results in the statistical measure known as the coefficient of variation (CV); for commercial asthma patients, the CV is equal to 2.07. In other words, the standard deviation is a little more than twice the mean value. Although not uncommon in healthcare, a CV around two reflects a fairly wide distribution of spending across the individual patients for asthma.

The practical result of a wide distribution is unpredictability associated with stochastic or random variation that is particularly problematic with small sample sizes, i.e., low case volumes. For example, at the extreme, a statewide average cost per episode may be valid, but not useful or practical for predicting or measuring the performance of a provider based on just a handful of cases. Accordingly, it is appropriate to consider constraints in the form of minimum sample sizes, or case volumes, necessary to measure performance or to support payment contracts.

As a rule of thumb, it is posited in this paper that performance metrics or episodic payments should be applied only if the effects of stochastic variation are limited to affecting observed performance within plus or minus 10% of the target or mean value. For example, setting aside any behavioral response associated with incentives, a given provider's expected cost performance would be equal to the cost performance for the whole population from which that provider's patients were drawn. Thus, a given provider might be expected to have an average cost for asthma equal to the population average of \$2866 regardless of the actual number of patients cared for. Again, we posit that the stochastic variability should be limited to affecting the provider's observed performance not more than from \$2798 to \$2934, or as stated, the mean value plus or minus a 10% margin of error.

The analytics provided for the study limited provider-specific cost results to those providers with at least 50 individual patients attributed. That is an important concept because it reflects the lack of meaningful information about providers for whom only small numbers of patients are attributed. But is a minimum case volume of 50 also effective and advisable for accountability metrics or payment contracts? For commercial asthma patients, the answer is "no." A provider seeing only 50 asthma patients could have measured costs varying from the true underlying mean value by as much as plus or minus 58%. Clearly, that does not conform to the proposed guideline of limiting risk or stochastic variation to plus or minus 10%. Actually, the minimum case volume that does meet the 10% criterion is 1,646 asthma episodes among the commercially insured population. An analysis of the Vermont commercial insurance data suggest that there were only 50 providers in the state with as many as 50 asthma episodes attributed, and no providers in the state meeting the minimum case volume of 1,646 asthma patients.

This finding is observed for many of the episodes that could be selected based on statewide priorities reflecting total spend, complication dollars, and variability. In fact, among those episodes identified in the previous section as reflecting best the three main criteria of total cost, complication cost, and greater variation, there were only three types of episodes in the commercial population for which there is at least one provider in the state with case volumes equal to or greater than the minimum case volume for achieving the criterion of limiting stochastic variation to plus or minus 10% of the mean value.

The three types of episodes are:

- **Pregnancy.** The minimum commercial case volume is 252. There were seven (7) providers with at least that many patients attributed, with the highest being hospitals with 1,967; 818; and 784 patients, respectively.
 - Using similar logic for the **Medicaid** population, the minimum case volume is 167. There were eighteen (18) providers with at least that many patients attributed, with the highest being hospitals with 969; 586; and 492 patients, respectively.
- **Gall bladder surgery.** The minimum commercial case volume is 473. There was one (1) provider with at least that many patients attributed, with the highest being hospitals with 508; 228; and 191 patients, respectively.
 - Using similar logic for the **Medicaid** population, the minimum case volume is 491. There were zero (0) providers with at least that many patients attributed, with the highest being hospitals with 147; 105; and 95 patients, respectively.
- **Colonoscopy.** The minimum commercial case volume is 544. There were thirty-two (32) providers with at least that many patients attributed, with the highest being hospitals with 3,373; 3,161; and 2,860 patients, respectively.
 - Using similar logic for the **Medicaid** population, the minimum case volume is 222. There were eight (8) providers with at least that many patients attributed, with the highest being hospitals with 1,072; 469; and 461 patients, respectively.

Conclusions

It is conceptually appealing to organize services and costs into conditions and treatments that have clinical meaning, and can be used for accountability and contractual purposes. Episode systems vary in terms of how comprehensively they can account for spending. The system used to illustrate these concepts provided 25 episodes, which were analyzed using the Vermont all payer database.

In order to implement measures or bundled payments based on episodes, Vermont will need to restrict implementation to settings or providers that meet minimum requirements for case volume. Actually, there are only a handful of episodes for which there are providers in the state with fee-for-service case volumes that meet such minimum requirements. Vermont may choose to proceed with episode-based payment demonstrations for those episodes corresponding to sufficient case volumes for providers under fee-for-service. If so, it appears the best candidates would be episode-based pregnancy services, gallbladder surgery, and colonoscopies. Alternatively, Vermont may choose to consider reorganizing delivery systems to include centers of excellence that meet quality standards and that provide episode-based care insufficient volume to justify accountability metrics and payment contracting. A third alternative would be to embrace a more comprehensive episode system that could measure multiple episodes simultaneously for any given provider, and produce composite measures of performance that pulled all cases into summary cost measures, which could be compared to benchmarks under performance-based contracting.

Appendices:

1. Example of Comprehensive Episode System Analysis; and
2. Availability of Quality Measures

Illustration: Medicare Top 30 Condition Roll-Up Categories – Condition Summary - Condition Plus Complication Costs - XYZ Region											
Condition Roll-Up Category	Episodes per 1000			Cost per Episode			Cost PMPY			% of Total	% of Total Δ
	Actual	AE Ratio	PMPYΔ	Actual	AE Ratio	PMPYΔ	Actual	AE Ratio	PMPYΔ		
Cancer - colorectal - new onset	1.4	1.08	\$3	\$35,709	1.19	\$8	\$50	1.28	\$11	1%	1%
Cancer - colorectal – ongoing	2.0	1.08	\$2	\$14,212	1.11	\$3	\$28	1.20	\$5	1%	1%
Cancer - breast - new onset	2.4	1.08	\$4	\$20,300	1.08	\$4	\$49	1.17	\$7	1%	1%
Cancer - breast – ongoing	3.3	0.92	-\$3	\$12,127	1.20	\$7	\$40	1.10	\$4	1%	1%
Cancer - prostate - new onset	2.7	1.07	\$4	\$20,163	1.00	\$0	\$54	1.07	\$3	1%	0%
Cancer - prostate – ongoing	9.8	1.13	\$5	\$4,771	1.00	\$0	\$47	1.13	\$5	1%	1%
Endo – diabetes	190.7	1.07	\$17	\$1,721	1.18	\$49	\$328	1.26	\$67	6%	9%
Immunity - rheumatoid arthritis/related	16.4	0.94	-\$2	\$2,246	1.03	\$1	\$37	0.97	-\$1	1%	0%
BH - organic mental ds	20.5	1.00	\$0	\$4,714	1.60	\$36	\$96	1.60	\$36	2%	5%
BH - depression/affective ds	55.8	0.93	-\$14	\$6,422	1.89	\$169	\$358	1.77	\$155	7%	21%
BH - psychotic ds	16.1	0.71	-\$46	\$13,337	1.91	\$103	\$215	1.36	\$56	4%	8%
NS – Parkinson’s	7.5	0.88	-\$3	\$4,506	1.59	\$12	\$34	1.40	\$10	1%	1%
NS - cerebral art occlusion - new onset	2.9	1.07	\$4	\$19,289	1.04	\$2	\$57	1.11	\$6	1%	1%
NS - sleep apnea	46.9	1.24	\$9	\$973	1.01	\$0	\$46	1.25	\$9	1%	1%
CV – hypertension	446.8	1.10	\$20	\$606	1.22	\$48	\$271	1.34	\$68	5%	9%
CV - coronary artery disease - new onset	14.7	1.13	\$22	\$11,962	0.95	-\$10	\$176	1.07	\$12	3%	2%
CV - coronary artery disease – ongoing	87.6	1.24	\$74	\$4,262	0.98	-\$8	\$373	1.21	\$66	7%	9%
CV - mitral valve ds	9.1	1.54	\$16	\$4,693	0.93	-\$3	\$43	1.43	\$13	1%	2%
CV - aortic valve ds	9.6	1.33	\$13	\$5,276	0.92	-\$4	\$50	1.23	\$9	1%	1%
CV - heart failure	45.6	1.10	\$19	\$4,704	1.03	\$7	\$214	1.14	\$26	4%	3%
CV - peripheral vascular ds - new onset	8.7	1.37	\$13	\$6,914	1.21	\$10	\$60	1.65	\$24	1%	3%
CV - syncope / hypotension / shock	35.7	1.08	\$3	\$964	0.78	-\$10	\$34	0.84	-\$6	1%	-1%
Resp – pneumonia	23.3	1.17	\$22	\$7,860	1.18	\$28	\$183	1.38	\$51	4%	7%
Resp – COPD	87.0	1.02	\$3	\$2,018	1.00	\$0	\$176	1.02	\$3	3%	0%
GI - cholecystitis/stones	8.5	1.19	\$10	\$7,036	0.98	-\$1	\$60	1.17	\$9	1%	1%
GU - chronic renal failure	6.6	1.04	\$9	\$39,362	1.04	\$9	\$259	1.08	\$19	5%	2%
GU - kidney/urinary infections	42.7	1.10	\$5	\$1,157	0.99	-\$1	\$49	1.09	\$4	1%	1%
Skin – cellulitis	37.1	1.11	\$3	\$934	1.07	\$2	\$35	1.19	\$5	1%	1%
MS – hip – fx	2.7	1.00	\$0	\$34,944	1.14	\$12	\$95	1.14	\$12	2%	2%
MS - knee – osteoarthritis	21.7	1.06	\$4	\$3,023	0.98	-\$1	\$66	1.04	\$2	1%	0%
<i>Subtotal of top 30 roll-up categories</i>	1,265.6	1.08	\$217	\$2,831	1.12	\$473	\$3,582	1.24	\$689	69%	93%
<i>Other 551 roll-up categories</i>	1,635.0	1.01	-\$4	\$985	1.03	\$59	\$1,612	1.04	\$55	31%	7%
All 581 roll-up categories	2,900.6	1.04	\$213	\$1,790	1.04	\$531	\$5,194	1.17	\$744	100%	100%

In the movement from volume and value, it becomes important to examine the availability of quality measures corresponding to units of inference or payment. The chart below appeared in a recent Discern Consulting report. Linking cost and quality enables the assessment of value, which is anticipated and captured in the NQF patient-focused episode framework.

