Blue Cross and Blue Shield of Vermont and The Vermont Health Plan
Q3 2020 Large Group Rating Program Filing
Actuarial Memorandum

1. Purpose

Blue Cross and Blue Shield of Vermont (BCBSVT) and The Vermont Health Plan (TVHP) perform large group rating on a case-by-case basis. We accomplish rating through a formulaic approach that blends recent group experience with a manual rate according to a credibility formula. We may adjust formula results for underwriting judgment and/or management decisions. This filing establishes the formula, manual rate, and accompanying factors that we will use for renewals beginning upon approval of this filing, most notably January 2021 renewals.

Once approved, we will use this filing for insured large group and grandfathered small group renewals (we will refer to them collectively as large groups for the remainder of the filing) until superseded by a subsequent filing. In the event that renewals require factors with effective dates or experience periods beyond those explicitly presented in this filing, we will calculate appropriate factors using the same base data and methodology used in this filing. This filing will apply beginning with rates communicated within seven business days after the date of its approval and continuing until at most seven business days after the date of approval of the next BCBSVT and TVHP Large Group Rating Program Filings. The term "communicated," for this purpose, means a written proposal delivered to a large group account.

2. Overview and Rate Impact

2.1. Overview

This filing includes a description of the renewal formula and the development of each of the factors used in it. We use this formula for insured products, including Cost Plus. BCBSVT projects that this filing will affect 9,015 members (5,252 subscribers) in 49 groups. These totals include members of both BCBSVT and TVHP, and we will refer to the combined population as BCBSVT throughout this memorandum.

We will describe in detail the formula used in the renewals. We will then detail the factors applicable to all insured large groups. The factors in the build-up of the projected claims cost include the trend factors, benefit relativities, manual rate, and large claims factors. In addition to the projected claims cost, we will explain the calculation of administrative charges, the net cost of reinsurance, contribution to reserve, and state and federal assessments, all of which are included in the rate development.

Finally, we will discuss factors applicable only to specific products. Cost Plus customers purchase Individual and Aggregate Stop Loss (ISL and ASL) from BCBSVT. We also offer an Experience Refund Eligible product for which risk charges and settlement administration charges apply. Cost Plus products are not available through TVHP.

2.2. Historical Financial Results

Below is the combined medical and pharmacy experience for the prior five calendar years. This includes BCBSVT and TVHP insured large group experience. Additionally, we show loss & expense ratios for Cost Plus groups.

Insured Large Group Experience						
Year	Incurred Claims	Administrative Charges	Earned Premium	Gain/(Loss)	Loss & Expense Ratio	Member Months
2014	$131,255,716	$16,985,281	$148,268,779	$27,782	100.0%	361,386
2015	$139,232,792	$19,861,232	$153,535,019	($5,559,005)	103.6%	352,678
2016	$86,034,897	$12,804,526	$95,541,735	($3,297,687)	103.5%	218,650
2017	$86,520,109	$10,424,245	$92,106,277	($4,838,077)	105.3%	197,954
2018	$81,698,684	$12,621,438	$86,961,470	($7,358,653)	108.5%	176,430
2019	$83,943,117	$10,154,503	$88,800,868	($5,296,752)	106.0%	166,597

Cost Plus Experience		
Year	Loss & Expense Ratio	Member Months
2014	94.7%	678,796
2015	94.4%	647,247
2016	95.0%	515,583
2017	95.4%	514,809
2018	99.8%	5,045
2019	89.2%	4,893

The incurred claims, administrative expenses, and earned premium are from BCBSVT's GAAP financials. The claims include capitations, fee-for-services claims, certain assessments, and other claims expenses.

The chart below shows the expected and actual contribution to reserves from the previous five years for Insured Large Groups. The expected contribution to reserves reflects ordered reductions to CTR as well as modifications to actuarial factors that were not recommended by the independent reviewing actuary.

Expected and Actual Contribution to Reserves			
Year	Filed	Expected	Actual
2015	2.0%	-0.0%	-3.6%
2016	2.0%	0.8%	-3.5%
2017	2.0%	2.0%	-5.3%
2018	2.0%	0.8%	-8.5%
2019	1.5%	-2.2%	-6.7%

2.3. Impact of Formula and Factor Changes

To compute the impact of changes to the rating formula and the various factors in this filing on large group premium rates, we compare two renewals for a hypothetical group with characteristics that are the average of the large groups we expect to renew in 2021. The first renewal applies the approved factors currently in force (BCBSVT-131835151 and BCVT-131835292) to an experience period ending April 30, 2019 with an effective date of January 1, 2020. The second renewal uses the factors and formulas detailed in this filing to an experience period ending April 30, 2020 with a January 1, 2021 effective date.

To calculate the impact of the formula and factor changes in this filing, we calculate the change in manual claims, the impact of the trend factors outlined in this filing on experience claims, the change in administrative charges, and changes in other rate items. This is the impact of formula and factor changes in this filing. The increase has two major causes: an increase in projected claims caused by higher pharmacy trends, and an increase in administrative charges. While this filing establishes the formula that will be used to experience rate large groups, actual increases experienced by groups will vary based on the underlying experience of each group.

Impact of Formula and Factor Change	
Component	**Impact on Premium Increase**
Manual Claims	1.4%
Experience Claims	1.6%
Administrative Charges	1.0%
Contribution to Reserve	0.1%
Federal Programs	-2.1%
Additional Items[(a)]	0.0%
Total	**1.9%**

(a) Additional Items include net cost of reinsurance, Cost Plus stop loss, broker commissions, state mandates and assessments, fees paid to outside vendors, the GMCB billback, projected rebates, and the Refund-Eligible margin & risk charge.

3. Formula Description

We develop rates for active and Medicare Primary subscribers separately based on their own experience. Both the formula and factors described in this filing are the same for both populations except where noted. Medicare Primary rate tiers are not offered on TVHP.

Benefit-Adjusted Projected Single Claims Rate

Exhibit 1A contains a sample calculation of the benefit-adjusted single claims rate. Page 1 of the exhibit applies to active members and page 2 applies to Medicare Primary members. For each case, we start the rating with a twelve-month experience period with at least two months of runout[1]. We determine a pooling point based on the size of the case at the end of the runout period and split the experience period claims (line A) into amounts above (line B) and below (referred to as capped claims, line C) the pooling point.

We apply completion factors (line D) developed from the monthly financial reporting process (best estimates before margin) to capped claims to produce completed capped claims (line E). We use the formula and factors described in Milliman's 2017 *Health Cost Guidelines* –

[1] For first year renewals, where twelve months of experience is not available, we typically use claims incurred in nine months with no runout.

Reinsurance to calculate expected claims above the pooling limit (line F). We add the expected claims above the pooling limit to the completed capped claims to produce large-claim-adjusted experience period claims. Medicare Primary members generally do not have claims near the group's pooling point, so we do not pool their claims. We then multiply the large-claim-adjusted experience claims by an adjustment factor (line G) to reflect structural changes between the experience period and the rating period. This adjustment modifies the experience to reflect such things as mandated benefit changes, contractual provision changes, etc., that, in the judgment of the underwriter, are necessary to make the experience appropriate for the estimation of the expected claims in the rating period. We divide the result (line H) by the number of member months during the experience period (line I) to produce the adjusted experience period claims per member per month (line J).

We then divide the adjusted experience period claims per member per month (PMPM) by a seasonally-adjusted benefit relativity value to neutralize any effect of seasonality and benefits on the paid claims. To determine this factor, we first determine a benefit relativity factor for each benefit plan (using the factors described in section 5) and contract tier type (single, 2-person, family, etc.). Based on the seasonal patterns observed as part of the reserving process for each calendar month, we determine seasonal factors for CDHPs and for non-CDHPs and normalize them so that they total to 12. We combine these factors to calculate seasonal benefit relativity factors for each combination of benefit plan, contract tier type, and month. We apply these factors to the number of contracts for each benefit plan, contract tier type, and month in the experience period. We total the results and divide the resultant sum by the number of member months in the experience period. We apply the seasonal factors regardless of the length of experience period, but if there is a 12-month experience period and there are no changes in benefits or enrollment, the normalization of the seasonality factors would cause the seasonal adjustment to be 1.000. This produces the average experience period seasonally-adjusted benefit relativity factor (line K).

We adjust for any change in the demographics of the group between the experience period and the rating period by calculating the average demographic factor for each period and applying the ratio of projection to experience (line L). We multiply the adjusted experience period claims PMPM (line J) by the demographic normalization factor and divide by the average experience period seasonally-adjusted benefit relativity factor (line K) to produce the benefit-adjusted experience period single claims rate (line M), which is the expected cost for a single contract in the experience, neutral of benefit and seasonality. We then multiply this by a trend factor (line P, as calculated in section 4) to project the claims from the experience period to the rating period. We also multiply by a factor (line Q) to account for differences in contracted pharmacy discounts between the experience period and the projection period.

We blend the projected single contract rate (line R) with the adjusted manual rate (line S, as described in section 6.1) using the credibility formula described below.

We calculate the credibility factor (line T) as follows:

$$Credibility = \sqrt{\frac{Member\ Months}{Upper\ Bound}}$$

The pooling point determines the upper bound. We base the pooling limit on the group's membership in the current month. Please see the abbreviated table below for details. The underwriter may apply discretion in the event the current month's membership is not appropriate for determining a pooling limit (e.g. a significant change in enrollment due to an acquisition or layoff).

Membership (Current Months)	Pooling Point	Upper Bound Member Months
Medicare Primary		8,325
0 to 299	$70,000	14,002
300 to 499	$90,000	16,127
500 to 999	$110,000	17,923

If member months are greater than the upper bound, the credibility factor will be 1. We pool Refund-Eligible and Cost Plus products at their attachment point. Exhibit 6C provides a complete list of upper bound member months by pooling point, while Exhibit 6D details pooling points by current month membership.

To blend the projected single contract rate with the adjusted manual rate, we use the following equation:

$$Benefit\text{-}Adjusted\ Projected\ Single\ Claims\ Rate = Projected\ Single\ Contract\ Rate \times (Credibility) + Adjusted\ Manual\ Rate \times (1 - Credibility)$$

Multiple Experience Periods

BCBSVT uses multiple experience periods (when available) to develop the benefit-adjusted projected single claims rate. Following the methodology described above, we calculate an experience rate for the first and second year preceding the experience period. We then apply the credibility formula recursively to the residual portion of the rate. We adjust the manual rate, as described in section 6.1, when more than one year of experience is used. The table below provides a demonstration of the application of the credibility formula for a group with 50 percent credibility in each experience year.

Experience Period	Proportion of Rate
YE 202006	50.0%
YE 201906	25.0%
YE 201806	12.5%
Manual Rate	12.5%

Three years of experience is the maximum that we will use. In the absence of extenuating circumstances, all renewals will use the maximum number of years available. In the event we do not consider historical experience appropriate or reliable for rating periods (e.g. a significant change in enrollment due to an acquisition or layoff), the underwriter will use fewer years of experience and document the rationale for such a change.

Exhibit 1B provides a detailed sample calculation of the benefit-adjusted projected single claims rate using three years of experience.

Required premium by Plan, Tier Type

Exhibit 1C provides a sample calculation of premium. For each plan and contract tier type anticipated in the rating period, we calculate projected claims (line B1) as the product of the benefit-adjusted projected single claims rate (S) and the benefit relativity factor (as described in section 5) for the plan and contract tier (line A).

We use the members per contract tier during the last month of the runout period as the basis for the projected members per tier in the rating period. The underwriter will adjust this ratio if, in their opinion, the result is not representative of the expected values in the rating period.[2]

The calculation for the total required premium by (plan, tier) is as follows:

{ Projected Claims by Plan and Tier (line B1)	+
Expected Net Cost of Reinsurance (line B2, as described in section 6.4)	-
Projected Pharmacy Rebates (line B3, as described in section 6.5)	+
Administrative Charges (line D, as described in section 6.3)	+
State Mandates and Federal Assessments (line C1 to C4, as described in sections 6.7 and 6.8)	/
{ 1 – Contribution to Reserve (line F, as described in section 6.6) – Broker Commissions (line E) - Federal Insurer Fee (line G, as described in section 6.8)}	=
Required Premium by Plan and Tier (line H)	

Underwriting Judgment Adjustments

If, in the underwriter's professional judgment, the standard formula would not produce appropriate rates for the case being rated, the underwriter will make such modifications as needed to produce appropriate rates. The underwriter will document in the case file the reason(s) for the adjustment(s) and the method of determining the appropriate adjustment(s).

Management Discretionary Adjustments

For marketing or other reasons, management may decide to modify the rates on a specific case or block of cases. The underwriter will document in the case file the adjustment(s) made, along with a description of the nature of the adjustment(s).

4. Trend Factors

The source of data for trend development is BCBSVT's data warehouse, except where noted below. To ensure the accuracy of claims information, we reconcile the data used against

[2] E.g., the number of contracts in a particular tier may be small (or even 0). In such instances, the underwriter should use appropriate values based on total block of business or other appropriate source.

internal reserving, enrollment, and other financial reports. The data includes claims from BCBSVT Cost Plus groups, BCBSVT ASO Groups of under 5,000 members, BCBSVT insured large groups, BCBSVT insured small groups, BCBSVT insured association health plans, and TVHP insured large groups. The above lines of business cover substantially similar populations under similar benefit packages. Combining these homogeneous populations creates greater consistency and credibility within the trend factor development.

We exclude large ASO groups and ASO groups with special pricing arrangements. BCBSVT recently experienced large membership movement out of the small group market. Due to significant changes in membership, we exclude all membership from small groups that were not continuously with BCBSVT throughout the trend experience period. We exclude claims from Medicare Primary members. Medicare Primary trend is discussed in section 4.5. We exclude compounds from the pharmacy trend development.

We use claims incurred from November 1, 2015 to October 31, 2019, paid through December 31, 2019. We apply completion factors to estimate the ultimate incurred claims for each period shown in the exhibits.

4.1. Medical Trend Development

Medical trend is composed of three pieces: cost, utilization, and intensity. In our analysis, we combine utilization and intensity within the utilization metric and analyze the unit cost separately. For fee-for-service claims, we combine plan payment with member cost sharing to calculate the allowed charges. For claims under a capitation arrangement, we combine a fee-for-service equivalent amount with the member cost sharing to calculate allowed charges. Similar to the previous Large Group Rating Program Filings, we remove all claims from members who exceeded $500,000 in paid medical claims in 12-month periods preceding October 31, 2019. As the utilization component includes intensity, high cost claimants can unduly impact the year-over-year, time series, and regression calculations. We exclude pharmaceuticals processed through the medical benefit from the unit cost and utilization trend and develop a pure premium trend for those claims.

4.1.1. Unit Cost

Observations of recent contracting and provider budgetary changes are the main source of unit cost trends. During the year ended October 2019, roughly 52 percent of total claims dollars were provided by Vermont facilities and providers directly affected by the hospital budget review process of the Green Mountain Care Board (GMCB). For hospitals under the jurisdiction of GMCB review, we start with the assumption that the GMCB will approve hospital budgets for October 1, 2020 and October 1, 2021 that support identical commercial increases as those approved for October 1, 2019. Inasmuch as expenses at Vermont hospitals exceeded budgeted amounts, we anticipate unit cost changes beginning in October 2020 will exceed those approved in 2019. To adjust for the anticipated increase in unit cost changes, we increase the unit cost change at each facility by 2.1 percentage points, which is the increase in operating expenses rebased for the overall change in net patient revenue for the total of all facilities subject to GMCB review. We assume increases effective October 1, 2021 will return to historical levels; that is, identical to the increases approved for October 1, 2019. Similarly, we assume for other providers within the BCBSVT service area that overall 2020 and 2021 budget increases will be identical to those implemented during calendar year

2019. In certain cases, we augment the most recent increase with market intelligence the provider contracting department has gathered relative to early indications as to potential variations in upcoming budgets.

The provider contracting and actuarial departments worked together to assess the impact these increases would have on contracts for BCBSVT Managed Care, BCBSVT Non-Managed Care, and TVHP Managed Care contracts. For marketing reasons, provider contracting negotiates different unit cost increases for each of the three contracts. To reflect this, we calculate three different cost trends, one for each contract. Finally, we derive unit cost increases for providers outside the BCBSVT service area from the Fall 2019 Blue Trend Survey, which is a proprietary and confidential dissemination of the BlueCross BlueShield Association.

We normalize claims to the October 2019 contract at each unique provider by applying a factor equal to the product of the impact of each contracting change from the experience month through October 2019. We assume that the derived trend for other claims increases monthly on a continuous basis. Exhibit 2A displays an illustration of this approach.

We use the expected increases to trend the contract-normalized claims to the projection period. The unit cost trend is the ratio of claims for the year ending December 2021 to claims for the year ending June 2020, converted to an annual factor.

The chart below summarizes the results of the analysis:

Medical Unit Cost Trend			
	BCBSVT Managed Care	BCBSVT Non-Managed Care	TVHP Managed Care
Vermont facilities and providers impacted by GMCB's Hospital Budget Review	5.3%	5.2%	5.4%
Other facilities and providers	3.6%	3.6%	3.6%
Total	4.4%	4.3%	4.4%

4.1.2. Utilization & Intensity

To examine historical utilization trend patterns, we first normalize claims for unit cost increases. We measure contract changes for the entirety of the experience period explicitly for each facility within our service area as well as the three largest physician groups.

We measure increases for fee schedules and other chargemasters by applying each schedule to a market basket of services. The market basket is defined by using Current Procedural Terminology (CPT) codes and CPT modifier combinations that are present in each of the effective periods the schedules covered. Using the same experience period data used throughout the trend analysis, we compare total allowed costs for the selected CPT and CPT modifier combinations under each schedule to estimate the percentage increase. For contracts under Diagnosis Related Group (DRG) arrangements, we compare the charge for the 1.000 DRG service for each period. Finally, for services under a discount-off-charge arrangement, we use the contracted chargemaster increase provided by our provider contracting department. Similarly, we normalize all local independent lab claims to the lab benefit manager fee schedule in effect on October 31, 2019.

This accounts for 82 percent of allowed claims dollars during the experience period. Costs for other claims are primarily for out-of-area services. We derive contracting changes for these claims from the Fall 2019 Blue Trend Survey, which is a proprietary and confidential dissemination of the BlueCross BlueShield Association.

We also normalize for changes in demographics and normalize each month to the average number of working days in the year ended October 2019, as defined by our reserving models. Exhibit 2B, Page 1 shows the resulting array of allowed PMPM claims costs, before and after normalization for contract changes. We perform regressions and time series on monthly PMPM costs. We also calculate a year-over-year rolling-12 PMPM utilization trend of 2.5 percent for the year ended October 2019. We provide the regression and time series calculations in Exhibit 2B, pages 2 to 10. We do not include certain time series methods, such as those assuming no trend or those for which there is not sufficient historical data[3], as these are inappropriate for use in trend development and/or for the data available.

We select a utilization trend of 2.5 percent for facility claims and 1.0 percent for professional claims. The total trend produced from these components is in line with the trends from measures that combine all medical services and informs our selection of an overall utilization trend of 2.0 percent.

Analysis that was performed subsequent to the assembly of this filing suggests that our 2020 to 2021 professional utilization trend may be understated. We will continue to assess the impact of this new analysis on the large group market, but in the interest of timely having approved factors for January 1, 2021 renewals we felt compelled to submit this filing as-is. In the event that we believe that a material change is warranted, we will discuss appropriate steps with the GMCB.

These selections represent an adequate, yet not excessive, estimation of future utilization trend for this population.

4.1.3. Pharmaceuticals

The recent acceleration in cost for pharmaceuticals processed through the medical benefit warrants a separate analysis for these claims. The accelerating cost for these drugs may unduly affect utilization trend, so we consider it more appropriate to develop a discrete trend for these claims. Exhibit 2B, page 11 shows the historical allowed claims for this category. We select an 11.3 percent trend, the year-over-year pure premium trend, on pharmacy claims processed through the medical benefit.

4.1.4. Induced Utilization

Given that the impact of induced utilization has been minimal over the past few years, we continue to not make an adjustment to utilization trend. Exhibit 2C shows the historical paid-to-allowed ratio of claims in the trend experience base.

[3] The seasonal additive, seasonal multiplicative, single moving average, and single exponential smoothing methods are not used since they assume no trend. The double moving average method is not used due to insufficient historical data.

We discuss the concept of induced utilization further in section 5.1.

4.1.5. Total Medical Trend

The total medical trend factors are the product of the utilization trend and the unit cost trend factors.

Medical Trend – BCBSVT Managed Care				
Category	Facility	Professional	Pharmaceuticals	Total
Unit Cost	5.2%	2.6%	11.3%	
Utilization	2.5%	1.0%		
Total Medical Trend	7.8%	3.6%	11.3%	7.0%

Component	BCBSVT Managed Care	BCBSVT Non-Managed Care	TVHP Managed Care
Total Medical Trend	7.0%	6.9%	7.0%

To calculate the overall medical total trend to be applied in the renewal formula, we trend the manual rate (see section 6.1) experience medical claims based on the network to calendar year 2021. We then divide the projected claims cost by the experience claims cost to calculate the overall medical trend.

Total Allowed Medical Trend				
Network	BCBSVT Managed Care	BCBSVT Non-Managed Care	TVHP Managed Care	Total
Experience Allowed Claims (Medical Only)	$6,155,595	$38,473,963	$8,879,757	$53,509,314
Trend Factors for 24 months	1.145844	1.143715	1.145379	
Trended Claims	$7,053,349	$44,003,232	$10,170,685	$61,227,266
Annual Trend				7.0%

4.2. Retail Pharmacy Trend

ESI has been the pharmacy benefits manager for BCBSVT and TVHP since July 2009. The initial ESI contract was for a period of three years; new contracts became effective July 2012, July 2015, and January 2018. Similar to previous Large Group Rating Program Filings, we base our cost trend calculation on Average Wholesale Price (AWP) and apply a factor in the rating formula to account for the contracting changes. We analyze the components of trend (cost and utilization) separately for brand and generic drugs. We estimate the impact of brand drugs going generic based on the brand drugs that are scheduled to lose patent in the projection period. Specialty drugs are very high cost drugs with low utilization. Because of their relative infrequency, we consider it more appropriate to look at the overall PMPM trends for these drugs rather than separate cost and utilization components. We calculate the overall pharmacy trend by combining the separate projections.

Non-Specialty Drug Utilization

Exhibit 2D provides the monthly and the 12-month rolling data, along with the corresponding year-over-year and exponential regression trends, for non-specialty drugs. There are separate developments for the generic cost, brand cost, and overall non-specialty utilization categories. We use the number of days supply in the utilization development, rather than the number of scripts, to normalize for changes in the days supply per script (e.g. increased use of 90-day fills). Because there are several popular brand drugs that have become generic during the experience period, or will become generic during the projection period, we combine the data for generic and brand drugs for the purpose of analyzing utilization patterns. We exclude vaccines from the non-specialty utilization calculation.

The regressions use 24 data points to best capture an adequate amount of the most recent history of drug costs. Though the regressions calculate positive trends, non-specialty drug utilization has oscillated around a single 30-day supply per member for a number of years, so we select a 0.0 percent non-specialty utilization trend.

Generic Cost Trend

To ensure that the generic cost trend is not skewed by the arrival of new generic drugs, we perform regressions on monthly Average Wholesale Price (AWP) per days supply on only those generic drugs that have been in the market for more than 36 months.

Brands that are going generic will be subject to the generic discounts. We do not expect that the AWP for these drugs will significantly change from the experience period due to the lack of generic competition for the main drugs in this category. We adjust the price to reflect the different experienced effective discounts between brands and generics.

Exhibit 2D, page 1, shows monthly cost per day supply and the 24-month regressions.

We select an annual trend of 0.0 percent for generic cost trend. Though the AWP trend has increased in recent months, we consider a 0.0 percent to be a reasonable long-term outlook for generic cost trend. This selection is consistent with the previous large group filing.

Brand Cost Trend

We perform a 24-month regression on monthly AWP cost per day supply for brand drugs and select the 24-month regression result of 8.6 percent for the brand cost trend. This result is consistent with recent filings, and we consider it to be an adequate, yet not excessive, outlook of future trends.

Specialty Drugs

In previous filings, the introduction of certain new specialty drugs required an adjustment to the specialty drug trend calculation. The impact of excluding certain specialty drugs has had an increasingly small impact on specialty trend. Therefore, we combine all specialty drugs to develop trend. We will continue to monitor new specialty drugs and adjust our methodology as necessary.

Exhibit 2E shows the calculation of specialty trend for all specialty drugs. We select a 19.0 percent specialty trend, which is the trend produced by a 24-month regression on monthly cost. For our regressions, we chose 24 points of monthly data to best capture the most recent history of drug costs.

Total Pharmacy Trend

Instead of explicitly projecting a generic dispensing rate, we separate the drugs into six categories:

- Generics: Drugs that have been generic since at least October 2016
- New generics: Generic drugs that have been on the market for fewer than 36 months (November 2016 to October 2019)
- Brands going Generic: brands that we expect to become available in generic form in the projection period, based on a list from our pharmacy benefit manager
- Vaccines
- Over the Counter (OTC)
- Compounds
- All other Brands

As shown in Exhibit 2F, we trend each category days supply forward at the same rate of 0.0 percent. Exhibit 2F summarizes the trends for non-specialty drugs and calculates the total non-specialty allowed drug trend as 2.8 percent.

Using the PMPM claims as weights between non-specialty and specialty claims for the 12 months ended October 2019, we apply the annual trends for 26 months and calculate the following:

Allowed Pharmacy Trend	
Category	Annual Trend
Generic	0.0%
Brand	8.6%
Brands Going Generic	-51.0%
Specialty	19.0%
[redacted]	[redacted]

Please note that we apply contract changes separately from trend in order to accurately capture the timing for each renewal.

Contract Adjustment Factors

For drug claims in the year ended October 31, 2019, we use the AWP of the claims and apply the contracted discounts and dispensing fees, as applicable, for each potential renewal experience period and rating period to calculate adjusted allowed charges. The contract adjustment factor for each experience and rating period combination is the ratio of the adjusted allowed charges.

Applying the discount adjustment from the experience used to develop trend to a 12-month rating period beginning January 2021, we calculate a 10.5 percent effective annual trend.

Exhibit 3J contains the contract adjustment factors that we will apply to the drug claims in a group's renewal. These factors assume that both the experience period and rating period are 12 months. For cases where this is not true, or for periods not provided in the exhibit, we will calculate an appropriate factor using an analogous methodology.

4.3. Overall Total Trend

Using the year ended October 2019 claims experience for the groups included in the manual rate (see section 6.1), we calculate the overall allowed trend as follows:

Category	Allowed PMPM	Allowed Trend
Medical	$ 492.53	7.0%
Pharmacy	$ 111.65	[redacted]
Total	$ 604.18	[redacted][4]

4.4. Leveraged Trends

We will continue to use the leverage formulas from the Q3 2019 Large Group Filing. The formulas for leverage are below:

Leverage Formulas	
Medical	-0.0385 x (AV) + 1.0389
Drug Card	-0.0680 x (AV) + 1.0691
Drug - CDHP 100% Wellness	-0.0559 x (AV) + 1.0564
Drug - All Other CDHP	-0.0723 x (AV) + 1.0722

Exhibits 3H and 3I provide examples of leverage factors.

Applying the leverage factors for benefits present in the year ended October 2019 for the groups included in the manual rate, we calculate the following paid trends:

Category	Paid PMPM	Paid Trend
Medical	$ 389.32	7.8%
Pharmacy	$ 100.12	[redacted]
Total	$ 489.44	[redacted][5]

4.5. Medicare Secondary Trends

Medicare Secondary plans cover two categories of services: Medicare-covered services which are subject to member cost share (deductible/coinsurance) and services which are not covered by Medicare. We do not adjust services subject to Medicare cost sharing for network, as Medicare sets the allowed charges, whereas we do adjust the services not covered by Medicare using the contract factors described above to bring all charges to a single network.

[4] The allowed trend with the pharmacy contract adjustment is 7.6%.
[5] The paid trend with the pharmacy contract adjustment is 8.5%.

For Medicare claims, we develop cost trends for the different types of service using trends from CMS[6]. We assume increases for 2021 will be the same as the 2020 increases. Consistent with previous filings, we assume a 0.0 percent utilization trend for Medicare claims.

Category	Allowed Trend
Inpatient	4.1%
Outpatient	3.3%
Professional	0.0%

The trends used for services not covered by Medicare are the same as the trends developed for use with active benefits. We use the same pharmacy trends for Medicare Secondary plans as we use for active plans.

5. Benefit Factors

To determine standardized claims rate relationships, also called relativities, BCBSVT creates models that simulate the impact of member benefits for all types of plans. The models determine the allowed charges for the 12 months of claims included in the study and "re-adjudicate" the claims, thereby simulating the impact of member cost sharing for a given benefit plan.

The claims data used in the models is from BCBSVT's data warehouse. To ensure accuracy, the claims data has been reconciled against internal reserving, enrollment and other financial reports. The starting point of the analysis is allowed charges as determined by the BCBSVT claims adjudication system. The claims data includes benefit codes that enable us to identify the services and benefit structures (copays, deductibles, and coinsurance) for each claim.

The models use incurred allowed charges from January 2018 to December 2018, paid through December 2019. We trend the allowed charges 36 months to the 12-month period that begins January 1, 2021. The majority of the business that will be renewed using these relativity factors has a January 1 renewal date; the rating formula adjusts the trend for non-January renewals (see section 6.1).

The data includes claims from BCBSVT Cost Plus groups, BCBSVT ASO groups, BCBSVT insured large groups, BCBSVT insured small groups, and TVHP insured large groups. Combining these homogeneous populations creates greater consistency and credibility within the relativity factor development. We combine CDHP and non-CDHP claims. We exclude claims from certain large ASO groups, as the rich benefits offered by those groups are not in line with the leaner offerings of most insured large groups. We also exclude groups that have special benefits. This predominantly refers to groups that have specific reimbursement with particular providers outside of BCBSVT's contracts and/or claims processing function. We exclude claims from groups that do not have pharmacy coverage through BCBSVT. We create separate models for active members and Medicare Primary members.

For each benefit plan, the models produce the simulated PMPM values of the benefits. We divide the PMPM for each plan by the average trended paid claims rate from the BRV

[6] https://www.cms.gov/Medicare/Health-Plans/MedicareAdvtgSpecRateStats/Downloads/FFS-Trends-2018-2020.pdf

experience period to produce its benefit relativity (BRV). We calculate relativities for medical only plans, Rx only plans, and integrated CDHP plans for both active employees and Medicare Primary employees.

5.1. Models for Active Employees

Benefit Relativity Model: Medical

We use the total medical trend by type of service to project to the rating period. We calculate cost trends for each type of service using the discrete unit cost trend method above, while applying the separate utilization trends developed for facility and professional services (see section 4.1.2).

Using the contracted reimbursement schedules, we calculate network factors that represent the different network contracts. Using these factors, we can include all claims in each of the three networks by adjusting each claim to the basis of a single network. This enables us to combine all the experience for each plan design.

We categorize claims according to how benefits are paid and generate one record for each member, date of service, and type of service. We assign each record a cost share (deductible/coinsurance, copay, covered in full) for each plan modeled. For all products, we assign claims for preventive mandated benefits a "covered in full" cost share independently of the product that is being modeled.

The model tests one benefit design at a time. It determines the member portion of the allowed charges, and from this, a total simulated paid PMPM for each benefit design. The model considers the impact of copay, deductible, coinsurance, out-of-pocket maximum, and preventive mandated benefits. If the average allowed cost of a category is less than the assigned copay, we assume that the member paid the full cost of the service.

BCBSVT offers products on several different networks based on the three provider contracts (BCBSVT Managed Care, BCBSVT Non-Managed Care, and TVHP Managed Care). Depending on the network, there may be more than one tier of coverage (generally referred to as in-network and out-of-network) and different networks may have different providers in each tier. Below is a chart showing which providers are in which tiers on many of BCBSVT's common networks. Providers who accept the indicated provider contract are considered to be in-network. For providers in the BlueCard® network and non-participating providers, 'In' indicates coverage for these providers on the in-network tier of coverage, and 'Out' indicates coverage for these providers on the out-of-network tier of coverage.

Network Name	Provider Contract	BlueCard Providers	Non-Participating Providers
HMO	TVHP Managed Care	N/A	N/A
POS	TVHP Managed Care	Out	Out
VHP Select	BCBSVT Managed Care	N/A	N/A
VHP	BCBSVT Managed Care	Out	Out
EPO PCP	BCBSVT Managed Care	In	N/A
VHP Open Access	BCBSVT Managed Care	In	Out
EPO	BCBSVT Non-Managed Care	In	N/A
PPO	BCBSVT Non-Managed Care	In	Out
Indemnity	BCBSVT Non-Managed Care	In	In

If BCBSVT were to quote a product not on one of the networks listed above, or one featuring different provider networks for selected services, we would modify the base data in the BRV models to correspond to the desired changes (for example, excluding certain providers or modifying allowed amounts) before simulating the benefit impact.

We use BRVs in two places in the rating formula described in Section 3. We calculate the average experience period seasonally-adjusted benefit relativity factor (line K in Exhibit 1A) using BRVs for the benefits in the experience period and the projected claims for the rating period (line B1 in Exhibit 1C) using BRVs for the benefits in the rating period.

Exhibits 3A and 3B display the relativities for active employees for some medical products currently in our book of business.

Benefit Induced Utilization: Medical

We use factors for the impact of induced utilization (IU) developed by the federal Department of Health and Human Services (HHS) for use with Qualified Health Plans, to which we found the curve of best fit IU = AV^2 – AV + 1.24, where AV is the actuarial value of the benefit plan. HHS created their IU factors for combined medical/pharmacy AV, but as we develop BRVs separately for medical and pharmacy plans, we will apply the formula to medical-only AVs. We normalize the curve such that the average AV underlying the base BRV experience period returns a utilization adjustment of 1.00. In other words, if a simulated benefit has an AV less than the average AV, then utilization will be reduced (i.e. factor < 1.00). If a simulated benefit has an AV greater than the average AV, then the benefit will have induced utilization (i.e. factor > 1.00).

Benefit Relativity Model: Pharmacy

We use the total trend, by type of drug, for brand, generic, and specialty drugs as described above (section 4.2) to project to the rating period.

Within the model, we assign all pharmacy scripts, including specialty, to one of six categories: retail generic, retail preferred brand, retail non-preferred brand, mail generic, mail preferred brand, and mail non-preferred brand. We apply flags to identify several categories of drugs that are either required to be covered in full (ACA contraceptives and vaccines) or for which a group may purchase a rider to offer additional coverage (some fertility drugs) or exclusion (lifestyle drugs). We also flag drugs for which a group may offer special cost-sharing arrangements, such a diabetic medications and wellness drugs. We assign these flags by National Drug Codes as reported to us by ESI.

We adjust the experience period data to reflect the major brands that are expected to become generic between 2018 and 2021. The list comes from a report provided by ESI.

For these brands, in the first six months (the exclusivity period), we reduce the Average Wholesale Price (AWP) by 10 percent and keep the brand discount. For the months after the exclusivity period, we reduce the AWP by 10 percent and change the discount to the generic discount. The 10 percent reduction in AWP is based on industry standard assumptions, supported by our own analysis of AWP changes for drugs that have moved from brand to generic over the past several years.

We generate one record for each member and date of service combination. One record can have more than one script category. The model tests one benefit design at a time. It determines the member portion of the allowed charges and a total simulated paid PMPM for each benefit design. The model considers the impact of the deductible, coinsurance, copays and out-of-pocket maximum (OOPM. Following the ACA, the model excludes contraceptives and vaccines from the cost sharing. If the average allowed cost of a category is less than the applied copay, we assume that the member pays only the full cost of the script. With Vermont Act 171, all pharmacy benefits effective January 1, 2020 or later will have an OOPM of $1,400. It is possible that this limit will increase effective January 1, 2021, following the IRS rules for Health Savings Accounts and High Deductible Health Plans. The exhibits include the $1,400 OOPM on pharmacy benefits.

Exhibit 3D displays the relativities for active employees for some pharmacy products currently in our book of business.

Benefit Induced Utilization: Pharmacy

We performed an independent analysis to measure the correlation between the benefit design and the quantity of pharmacy prescriptions consumed. We adjust the pharmacy benefits in two ways. First, the generic utilization varies with the benefit design. We use claims and membership data from January 2016 through September 2019 to create a table to adjust the base generic utilization up or down depending on the difference in the generic and brand copays of the member's drug plan.

Second, we perform a separate analysis to adjust for the overall pharmacy benefit. We assign a modeled actuarial value to every benefit in the experience period. The correlation uses the actuarial value as the independent variable and days supply as the dependent variable. A linear equation best fits the data. We normalize the curve such that the actuarial value underlying the base BRV benefit returns a utilization adjustment of 1.00. The resulting formula is [redacted]

Although we use two steps to calculate the induced utilization, we are not adjusting the data twice. The adjustment for difference in generic/brand copays changes the mixture of scripts (i.e. generic dispensing rate) without adjusting the overall frequency of scripts. The richness or leanness of the plan, as measured by the actuarial value, drives an adjustment to the overall frequency of scripts without changing the mixture of scripts.

As the model includes claims from both CDHPs and drug cards, we also adjust for the type of benefit being modeled. Claims incurred on a CDHP have a lower cost per script than claims incurred on a drug card. We calculate a factor for each benefit type by taking the ratio of the cost per script for that type and the cost per script from all claims in the model. For CDHPs, [redacted]

Benefit Relativity Model: Integrated (CDHP)

The CDHP model combines both the medical and pharmacy models described above. There is one record for each member, date of service and type of service combination. The model calculates separate medical and pharmacy actuarial values and makes the appropriate utilization adjustment for each.

Exhibit 3C displays the relativities for active employees for some CDHP products currently in our book of business.

5.2. Tier Factors

Each BRV model generates a BRV for different contract tiers as well as the overall PMPM described in the sections above. The models perform this calculation by readjudicating claims across families in addition to member-based readjudication. We use the tiered BRVs to calculate the average BRV for both experience and rating benefits.

We use the same tier factors developed in the previous filing to spread the required premium across tiers. Exhibit 3K displays these factors.

5.3. Models For Age 65+ Medicare Secondary Plans

Benefit Relativity Model: Medical

Medicare Primary rate tiers are only available on the BCBSVT Non-Managed Care network. To develop benefit relativity values for Medicare Secondary plans, we use the same method as we do for the active factors. For the claims base, we use allowed charges incurred between January 2018 and December 2018, paid through December 2019, for members whose primary insurance is Medicare. Given the scarcity of Medicare Primary members in the BRV experience (fewer than 1,000 member months), we also include Medicare Primary members from groups who we exclude from the development of the active BRVs (large ASO groups).

Medicare Secondary plans cover two categories of services: Medicare-covered services which are subject to member cost share (deductible/coinsurance) and services which are not covered by Medicare. We do not adjust services subject to Medicare cost sharing for network, as Medicare determines the allowed charges, whereas we adjust the services not covered by Medicare using the contract factors described above to bring all charges to a single network.

We trend the allowed charges to the 12-month period that begins January 1, 2021. We use the total medical trend by type of service as described in section 4.5.

As with the active benefits, the model simulates the effects of a benefit design on the trended allowed charges and calculates a simulated paid PMPM. The model divides this paid PMPM by the Medicare Primary manual rate (without the adjustment for changes to the pharmacy contract) to produce the benefit relativity value. Unlike the active benefits, we do not make an adjustment for induced utilization due to the richness of the benefit. As Medicare is the primary insurance for these plans and Medicare-covered claims make up 85 percent of the trended allowed charges, we do not believe that the richness of the secondary insurance will have any influence on utilization.

Exhibit 3E displays the relativities for some Medicare Secondary medical products currently in our book of business.

Benefit Relativity Model: Pharmacy

To calculate relativities for pharmacy benefits for plans that are secondary to Medicare, we use allowed charges incurred between January 2018 and December 2018, paid through December 2019, for members whose primary insurance is Medicare (including members in

large ASO groups, as with the medical experience). We trend the allowed charges to the 12-month period that begins January 1, 2021 using the same trends as used for active members. We assign pharmacy scripts to the same categories as for the active members and adjust allowed charges for brands going generic between the experience period and the rating period. The model produces a simulated paid PMPM for each benefit design and adjusts for the impact of induced utilization on the mixture and frequency of scripts as described for the active relativities above. We divide the adjusted paid PMPM by the Medicare Primary manual rate (without the adjustment for changes to the pharmacy contract) to produce the relativity.

Exhibit 3G displays the relativities for some Medicare Secondary pharmacy products currently in our book of business.

Benefit Relativity Model: Integrated (CDHP)

The Medicare Secondary CDHP model combines both the medical and pharmacy Medicare Secondary models described above. We create one record for each member, date of service, and type of service combination. The model calculates separate medical and pharmacy actuarial values and makes the appropriate utilization adjustments for each.

Exhibit 3F displays the relativities for some Medicare Secondary CDHP products currently in our book of business.

5.4. Formulary & Pharmacy Options

BCBSVT and TVHP offer groups a selection of formularies. Groups can select either the BCBSVT Open Formulary or the National Performance Formulary. Groups electing the National Performance Formulary receive greater rebates than those on the BCBSVT Open Formulary. To calculate the impact of the change, we identify rebate-eligible claims for the large groups impacted by this filing. We calculate rebate totals under the contracted terms of each formulary. For groups changing formularies, we apply the below factors to projected rebates. We adjust the factors proportionately if the experience period includes a mix of formularies.

Experience Formulary	Rating Formulary	Rebate Multiplier
BCBSVT Open Formulary	National Performance Formulary	[redacted]
National Performance Formulary	BCBSVT Open Formulary	[redacted]

BCBSVT and TVHP offer groups an Active Choice pharmacy program. This program requires an active choice regarding the way members obtain their maintenance prescription drugs. For groups electing this program, we decrease simulated paid pharmacy claims in the BRV calculation [redacted].

BCBSVT and TVHP offer groups an Express Scripts Specialty Pharmacy Exclusive option. Groups electing this option receive greater discounts and rebates on specialty drugs. We calculate pharmacy contract factors for this option using an analogous method to the standard contract factors, as described in Section 4.2. Exhibit 3J Page 2 provides the discount factors for the Express Scripts Specialty Pharmacy Exclusive option. The factors below apply to the projected rebates. We develop the factors assuming the entirety of the experience period is on the non-

exclusive specialty option and the entirety of the rating period is Express Scripts Specialty Pharmacy Exclusive option. For groups with a mix of specialty options in their experience period, we adjust the factors using an analogous methodology proportionately to the programs in effect.

Formulary	Specialty	Rebate Multiplier
BCBSVT Open Formulary	Express Scripts Specialty Pharmacy Exclusive	[redacted]
National Performance Formulary	Express Scripts Specialty Pharmacy Exclusive	[redacted]

5.5. Riders

BCBSVT and TVHP file riders with the Vermont Department of Financial Regulation (DFR) that allow large groups to add or modify covered services. These riders include, but are not limited to, the Benefit Enhancement Rider, Acupuncture Benefits Rider, and Wellness Drug Rider. For riders that modify covered services, we use the benefit relativity model to price the rider. For riders that cover an optional service, we develop allowed charges from groups offering that coverage and adjust to the group's benefit, or use a reasonable approximation of allowed charges if no experience data exists. If, in the underwriter's professional judgment, the election of a rider will create material anti-selection, the underwriter will modify the rate as necessary using underwriting judgment, as described in section 3.

6. Other Factors Applicable to All Large Groups

6.1. Manual Rate

The manual rate for active members is the paid claims PMPM incurred between January 1, 2019 and December 31, 2019 and paid through February 29, 2020 from the groups impacted by this filing, trended to calendar year 2021 using the trends and pharmacy contract adjustments described in section 4. We cap claims at $350,000[7] and add expected claims between $350,000 and $1,000,000 (the expected corporate reinsurance attachment point). We calculate the expected large claims using the method described in section 6.2.

We calculate a separate manual rate for Medicare Primary members using the paid claims PMPM from the BRV experience period, trended to calendar year 2021 using the Medicare Primary trends described in section 4.5 and the pharmacy contract adjustments described in section 4.2. We make no adjustments to the Medicare Primary manual rate for large claims.

[7] Selected using the current membership and the table in Exhibit 6D.

Calculation of the Manual Rate (Actives)		
Incurred and Paid Experience Paid Claims, capped at $350,000	A	$53,035,577
Estimated IBNR	B	$399,235
Expected Claims between $350,000 and $1,000,000	C	$1,620,270
Overall Paid Trend factor (8.6% for 24 months)[8]	D	1.17845
Projected Total Paid Claims	E = (A + B + C) x D	$64,879,639
Total Member Months	F	108,619
Manual Rate	**G = E / F**	$597.31

Calculation of the Manual Rate (Medicare Primary)		
BRV Experience Paid Claims	A	$ 34,070,146
Overall Paid Trend factor (5.9% for 36 months)	B_1	1.1869
Pharmacy Contract Adjustment[9]	B_2	0.9939
Projected Total Paid Claims	C = A x B_1 x B_2	$ 40,191,294
Total Member Months	D	94,703
Manual Rate	**E = C / D**	**$ 424.39**

Changes in the experience base, an additional year of trend, and an update to the trends detailed in this filing cause the change in the active manual rate. Starting with the 2020 manual rate, we apply each change below to show the impact on the 2021 manual rate.

Manual Rate Development	PMPM	PMPM Change	Impact
2020 Manual Rate	$548.01		
Update Experience Base		$1.13	0.2%
Trend to 2021		$45.65	8.3%
Update Trend		$2.53	0.4%
2021 Manual Rate	$597.31		

The Medicare Primary manual rate of $424.39 is 17.9 percent higher than the manual rate of $360.11 from the previous filing. The calculation in the previous filing unintentionally excluded claims from a group whose member months were included in the denominator. The calculation in this filing includes both the claims and member months for the group.

As noted in section 5.3 above, we use a version of the Medicare Primary manual rate without the pharmacy contract adjustment as the denominator of the relativity calculation. Per the above calculation, this value is $426.98. We multiply the benefit relativity by the manual rate to calculate projected manual claims. If both the denominator of the relativity and the manual rate were to include the pharmacy contract adjustment, they would cancel in the multiplication and the projected claims would not reflect the discounts in the new pharmacy contract.

[8] Includes the impact of the pharmacy contract adjustment.
[9] This adjustment is applied proportionately based on Medicare Primary membership with pharmacy coverage

We use a different method of calculating the manual rate for active and Medicare Primary members. We develop the active manual rate from the experience of active members in the large groups covered by this filing. There are not enough Medicare Primary members in large groups to develop a credible manual rate with only large group experience, so we base the Medicare Primary manual rate on the larger set of claims in the BRV experience, which includes Medicare Primary members from ASO groups as well as large groups.

We adjust the manual rate to reflect a group's particular characteristics, as demonstrated in Exhibit 4A. We make an adjustment for the average age/gender factor (line B) of the group. For active and Medicare primary members, we use factors from the SOA's report *Health Care Costs – From Birth to Death*[10]. We normalize the factors such that the membership in the manual rate experience period has an age/gender factor of one. We assign an industry factor (line C) to each group based on the Standard Industrial Classification code. See Exhibit 4B for the schedule of industry factors. We normalize the industry factors such that the manual rate has a factor of one. We do not apply an industry adjustment to the manual rate for Medicare Primary members. We then multiply the manual rate by an adjustment factor to reflect structural changes between the experience period to the rating period. This adjustment modifies the manual claims to reflect such things as mandated benefit changes, contractual provision changes, etc., that, in the judgment of the underwriter, are necessary to make the manual rate appropriate for the estimation of the expected claims in the rating period.

For groups with a projection period other than calendar year 2021, we adjust the manual rate for trend to reflect the group's projection period (line D) and the additional impact of pharmacy contract changes (line E). Finally, we calculate a contract conversion factor (line F) based on member distribution and tier factors in order to convert from a PMPM to a single rate basis. This factor is necessary because the rating formula blends the adjusted manual rate (line S of Exhibit 1A) with the projected single contract rate (line R of Exhibit 1A), which is not on a PMPM basis.

Multiple Experience Periods

When using multiple experience periods, we apply an adjustment factor to the manual rate. We develop the manual rate using aggregate large group experience, so it is necessary to normalize the manual rate because the additional experience retained under the multiple year method is disproportionate to the average experience of each group. We develop the factors on a premium neutral basis, so the amount of premium collected in aggregate under a multiple experience period methodology does not vary from the premium collected in aggregate using a single experience period. We apply the factors depending on the number of years of experience used to develop the projected claims rate.

Exhibits 4C and 4D show the development of the factors. We begin with the total projected claims for the groups, split by the contribution from each group's credibility-adjusted manual and experience rates. We then recursively apply the credibility formula to the experience rate of the preceding year and apply the credibility residual to the manual claims. We

[10] https://www.soa.org/Research/Research-Projects/Health/research-health-care-birth-death.aspx
The factors for the age curve are in Chart 1 (for actives) and Chart 21 (for Medicare Primary) of the databook linked on the page.

develop a multiplicative factor to apply to the manual claims to ensure that the sum of the projected claims from the experience rate, preceding year experience rate, and the adjusted manual rate sum to the total projected claims calculated using a single experience period. We repeat the process with an additional experience period to calculate the three-period adjustment factor.

Manual Rate Adjustment Factor	
Two Experience Periods	0.9623
Three Experience Periods	0.9269

The normalization factor is necessary due to the disparate experience of the groups underlying the block. When we add additional years of experience, the experience retained is not proportional to the average experience in the block, since credibility levels and experience vary across groups. The decreasing weight placed on the manual rate impacts the magnitude of the factor. As the percentage of the rate developed from preceding years increases, the amount that is manually rated decreases, which amplifies the normalization factor.

6.2. Large Claims Factors

BCBSVT and TVHP use the formula and factors in Milliman's 2017 *Health Cost Guidelines – Reinsurance* to calculate expected claims above the pooling limit. The contents of the *Guidelines* are proprietary and confidential. This filing provides a general description of the formula but will not include any of the factors.

The formula develops expected claim costs above a particular pooling point separately for children and adults on a PMPM basis. The basis for each rate is a starting claim cost that varies with the pooling point and the out-of-pocket limit for the benefit. Milliman calculates the starting claim costs using national data and the formula applies factors to adjust to our Vermont service area and the details of our contracts with local providers. The formula applies an adjustment for demographics and a trend factor to adjust the starting claim costs for the experience period of the renewal. There are also adjustments to the starting claim costs for the network of the benefit to account for claims from out-of-network providers, if appropriate for the benefit.

We multiply the adjusted adult and child claims rates by benefit by the number of adult and child member months in the experience for that benefit to develop the total expected claims above the pooling level.

6.3. Administrative Charges

The sources of administrative expense data in this filing are BCBSVT's data warehouse and accounting records. The experience period for this filing is January 2019 to November 2019. We use actual BCBSVT and TVHP administrative expenses for the experience period on a GAAP reporting basis. Exhibit 5A provides a reconciliation of the experience period to restated GAAP financial report data.

Experience Base of Actual Expenses

BCBSVT's cost accounting system allocates administrative expenses to lines of business. We use BCBSVT insured large group and TVHP insured large group information for the base administrative charges.

We allocate the cost accounting data by cost center into cost categories for purposes of determining administrative charges for each specific group account, given that account's characteristics.[11] The group cost categories align with the rules used in the cost allocation model. The group cost categories include:

Account – those expenses that the system allocates to specific group accounts on a per group account basis.
Member – those expenses that the system allocates on a per member basis.
Contract – those expenses that the system allocates on a per contract (subscriber) basis.
Medical Claims – those expenses that the system allocates on a per medical claim basis.
Invoice - those expenses that the system allocates on a per invoice basis.
Total Projected Claims – overhead expenses that we allocate using experience paid claims.

For each of the group cost categories described above, we tabulate the respective number of unit months during the experience period for BCBSVT and TVHP insured large groups. We combine these segments in this filing for marketing considerations. The unit months include the number of account months, number of member months, number of contract months, and number of medical claims and invoices by month. For overhead expenses, we divide the experience administrative charges by experience paid claims to calculate a percent of claims factor.

Exhibit 5A reflects reclassifications of the base data, including the removal of federal fees (we add these to premium rates separately; see section 6.8), GMCB billback (we add these to premium rates separately; see section 6.7), and fees paid to our vendor Health Equity for the administration of Health Savings Accounts and Health Reimbursement Accounts linked to our insurance products (participation in this service is optional and we assign these fees to groups who select the service). We also remove any expenses incurred due to one-time, non-recurring events, as these fees are not expected to continue to occur in the projection period. These include transitional costs associated with the conversion to a new technology platform. Decreasing membership has reduced total variable costs, but BCBSVT has delayed reducing its administrative budget in order to support transition activities. This transition will be complete by the end of 2019, so we have reflected a transitional savings of $0.53 PMPM in 2021 for the large group line of business.

We calculate per unit per month (PUPM) values using the adjusted experience period administrative expenses and unit counts. For the group segments included in this filing, there are five such PUPM values and one percent of claims value – one for each of the cost categories indicated above.

Exhibit 5B, line C shows the experience period administrative expenses PUPM.

[11] Per unit per month costs for Cost Plus members with Medicare Supplement plans are set equal to the corresponding values for conventionally funded Medicare Supplement members.

Projection Factors

We project actual administrative costs PUPM from the experience period to each of the rating periods based on a 2.2 percent annual trend. These projection factors make a reasonable but modest provision for increases in overall operating costs PUPM. There are no known extraordinary or mandate-related costs at this time which require a separate provision for the rating periods involved in this filing.

We assume that personnel costs (wages and benefits) will increase by three percent, the budgeted wage increase for 2020, over the projection period. We assume other operating costs will remain flat. Based on year-to-date November 2019 information, we calculate that 73.9 percent of our administrative costs are for salaries and benefits. We therefore increase our total projected administrative expenses by the weighted average of 2.2 percent per annum.

Development of Administrative Charges Trend		
		Percent of Total
Employee costs	A	56.7%
Purchased services	B	23.3%
Other operating costs	C	20.0%
Subtotal administrative expenses	D = A + B + C	**100.0%**
Total personnel costs	E = A / (A + C)	73.9%
Trend for personnel costs	F	3.0%
Total administrative charges trend	**G =** {(1+F) x E + (1.00) x (1-E)} - 1	**2.2%**

For 2020, we project total BCBSVT membership will decrease, resulting in an increase in admin charges PMPM. We calculate PMPM admin charges with experience period enrollment and projected 2020 enrollment. Using the lower 2020 enrollment increases the PMPM by 6.0 percent. Cost accounting exercises suggest that variable costs represent approximately half of total administrative expenses. BCBSVT is committed to providing insurance coverage for our members at the most affordable rates possible; as a result, even though it is impractical to react to enrollment shifts by immediately right-sizing staff, we nonetheless remove from our projection the entirety of variable costs associated with the reduced enrollment. We therefore apply a net increase of 3.0 percent to the base PUPM charges to account for the reduction in membership. The table below shows the calculation.

Development of Enterprise Membership Adjustment			
	Enterprise Admin Expenses	Member Months	Admin PMPM
Experience Period	$68,691,905	2,502,754	$27.45
Projected 2020 Enrollment		2,631,991	$29.08
Elimination of 100% of variable costs for reduced enrollment			$28.26
Adjustment for Enterprise Membership		$28.26 / $27.45 = 1.030	

Charges for Group Accounts

Exhibit 5B shows the administrative charge PUPM values used by the rating formula to produce account-specific administrative charges. The formula applies these values to a group

account's corresponding unit counts and expresses the resulting charges as an equivalent PMPM.

The administrative charges do not include amounts for special items or unique services not part of BCBSVT or TVHP's standard scope of administrative services (e.g., special booklets, certificates, or reports). Charges for such services will be determined and applied separately on an account-specific basis. The filed charges also do not include commissions based on the commission scale applicable to the account. The rating formula calculates and applies commissions separately.

Reasons for Increase

As noted in section 2, changes to the administrative charges for the 47 large groups in the renewal comparison increase the expected premium by 1.0 percent. Below is a table showing the reasons for this increase:

Administrative Charges – Reasons for Increase				
		Admin Charges PMPM	Change PMPM	Percent Change
1	Approved January 2021 admin from Q3 2019 filing	$50.20		
2	Rebasing to actual costs	$51.57	$1.37	2.7%
3	Update experience and allocation	$52.90	$1.33	2.6%
4	Remove transitional costs	$52.36	-$0.54	-1.0%
5	Update trend	$52.35	-$0.01	0.0%
6	Net enterprise membership adjustment	$53.91	$1.56	3.0%

6.4. Net Cost of Reinsurance

BCBSVT and TVHP purchased reinsurance for claims in excess of $1,000,000 for 2020, and expect to purchase similar reinsurance in future years with limits approximately equal to the 2020 limit. We estimate that the target loss ratio for the reinsurance is approximately 75 percent, which implies a cost of reinsurance of approximately 33 percent of claims above the reinsurance limit. For each pricing period starting quarter, we use the total paid trend of 8.5 percent and a leverage factor for the $1,000,000 reinsurance limit from Milliman's 2017 *Health Cost Guidelines – Reinsurance* to calculate the expected annual claim cost above the reinsurance limit, then multiply the cost by 33 percent to determine the annual cost of reinsurance. We divide this by 12 to produce the PMPM cost of reinsurance. The table below shows these PMPM's based on pricing period starting quarter. If a renewal requires a factor for a pricing period not in the table, identical data, assumptions, and methodology as described above will be used to calculate the net cost of reinsurance.

Pricing Period Starting Quarter						
Q3 2020	Q4 2020	Q1 2021	Q2 2021	Q3 2021	Q4 2021	Q1 2022
$1.46	$1.54	$1.62	$1.71	$1.80	$1.89	$1.99

6.5. Pharmacy Rebates

We calculate pharmacy rebates by taking the experience period rebates and trending them using the brand cost trend (from Exhibit 2F). We pay pharmacy rebates with an average seven-month delay from the time of the original claims. For months in the experience for which we do not have detailed rebate information, we include an estimated rebate amount in the calculation.

6.6. OneCare Coordination Fee

BCBSVT and TVHP pay OneCare VT a care coordination fee for attributed members to directly support ACO providers, including community providers, as they deploy new care models. This model mirrors the investment Medicaid has made in the ACO provider network and supports the comprehensive care models being tested within the ACO program. The monthly charge for members attributed to OneCare is $3.25.

6.7. Contribution to Reserve

As directed by management, we include the following contribution to reserve factors in the rate calculation:

Contribution to Reserve	
BCBSVT & TVHP Insured Groups	1.5% of premium
BCBSVT Cost Plus Groups	0.375% of equivalent premium

6.8. State Mandates and Assessments

Vermont Vaccine Purchasing Program Payments
The Vermont Vaccine Purchasing Program[12] offers health care providers state-supplied vaccines at no charge by collecting payments from Health plans, insurers, and other payers. This assessment is a PMPM charge applied to members residing in Vermont who are ages 0 to 64. On May 1, 2019, the Vermont Vaccine Purchasing Program released a memo that included the anticipated rates for April 1, 2020 – March 31, 2021: *"For planning purposes, the best estimate at this time for the SFY2021 assessment rate is $10.07 per child covered life per month and $1.02 per adult covered life per month. The SFY2021 assessment rate will be reviewed for final determination in April 2020."* We will update these rates once the actual rates are known.

New Hampshire Purchasing Program Payments
The New Hampshire Purchasing Program[13] offers health care providers state-supplied vaccines at no charge by collecting payments from health plans, insurers, and other payers. The assessment for 2020 is $6.80 for each child that is a New Hampshire resident. The current best estimate of the 2021 rate is $7.00 per assessable life per month. We will use the new rate once it is approved.

[12] http://www.vtvaccine.org/
[13] https://nhvaccine.org/

New York State Health Care Reform Act
BCBSVT and TVHP pay the New York GME Covered Lives Assessment[14] for all members who are New York residents as part of the New York State Health Care Reform Act. The assessment varies based on the county of residence. We will use the new rates once they are approved.

Maine Guaranteed Access Reinsurance Association
BCBSVT and TVHP pay the Maine Guaranteed Access Reinsurance Association Assessment[15]. The 2019 assessment is $4.00 per member per month for each member that is a Maine resident. We will use the new rates once they are approved.

Health Care Claims Tax
The Health Care Claims Tax of 0.999 percent applies to all claims or capitations incurred by members with Vermont zip codes. We use the percentage of current members with Vermont zip codes to estimate the percentage of rating period claims expected to be incurred by Vermont members. Act 73 of 2013 sunset the 0.199 percent assessment for the Health IT-Fund. Given this fee has regularly been extended close to its sunset date, we will include it in the calculation and update the charge if new information becomes available.

Blueprint
BCBSVT and TVHP participate in the Vermont Blueprint for Health program. The current assessments for this program, applied to members who are attributed to a Blueprint provider as of the month the renewal is produced, are $2.77 PMPM for the Community Health Team and $3.00 PMPM for the Patient Centered Medical Homes (PCMH). PCMH are eligible for up to $0.50 for performance. We project that our total PMPM for PCMH will be $3.22. We base the projected performance payment on the average payment for large groups in the experience period used to develop the average rate increase. We will incorporate any updates made to the Blueprint Manual[16] in renewals.

Green Mountain Care Board Billback
The Green Mountain Care Board assesses BCBSVT and TVHP a billback. We apply billback amounts from the administrative charges experience period described in section 6.3 to projected member months to develop the charge of $2.09 PMPM.

Other Assessments
We include other state mandates and assessments in the calculation as applicable.

6.9. Federal Assessments

Federal Insurer Fee
The Federal Insurer Fee helps pay for some provisions in the Affordable Care Act. This fee only applies to Fully Insured & Refund Eligible Groups. H.R.1865 eliminated this fee beginning in 2021. For 2020, we project the free to be 2.2% of premium. We will apply the fee proportionally to the applicable fee by months in the rating period.

Patient-Centered Outcomes Research Institute Fee:

[14] https://www.health.ny.gov/regulations/hcra/gmecl.htm
[15] http://www.mgara.org/
[16] http://blueprintforhealth.vermont.gov/

This fee is part of the Affordable Care Act and applies to all plan years ended after September 30, 2012 and before October 1, 2029. We provide the estimated fees in the table below. We will update this estimate if we receive additional information.

PCORI	
Plan Year Ending Between	Fee Amount
October 2020 - September 2021	$2.82 PMPY
October 2021 - September 2022	$2.91 PMPY
October 2022 - September 2023	$3.09 PMPY

Other Assessments
We include other federal mandates and assessments in the calculation as applicable.

7. Factors applicable only to specific Products

7.1. Stop Loss Coverage for Cost Plus products

Cost Plus groups assume the risk for the claims incurred by their members. To protect themselves from high claims, they must purchase both Individual Stop Loss (ISL) and Aggregate Stop Loss (ASL) from BCBSVT[17].

7.1.1. Individual Stop Loss

We develop ISL charges using the same formula and factors as described in section 6.2. We develop the charges for the rating period, rather than the experience period. They include a load for a 70 percent loss ratio. We use stacked tier factors to spread the charges across the different contract tiers, even when the benefit itself is aggregate, as the accumulation of the family cost sharing for the benefit does not have a meaningful impact on claims above the ISL attachment point.

7.1.2. Aggregate Stop Loss

Distribution of Individual Claims by Amount

We stochastically model the distribution of individual claims by amount by using the membership and claims used to develop medical and pharmacy trend. We sum allowed charges and paid claim amounts for each member. We then sort into categories by the amount of allowed charges. The categories used are:
- $0 up to $50
- $50 up to $100
- $100 up to $200 … $1,900 up to $2,000
- $2,000 up to $2,500 … $9,500 up to $10,000
- $10,000 up to $15,000 … $995,000 up to $1,000,000

We calculate paid-to-allowed ratios for each category. We average each year's ratios for each category and smooth the resulting ratios at allowed amounts greater than $1,000. We trend

[17] With the exception that with the approval of BCBSVT's Executive staff, Cost Plus groups can shop their stop loss in accordance with strict guidelines set forth by BCBSVT.

allowed claims to 2021 and apply the paid-to-allowed benefit factor to create a simulated paid claims amount, which we use in the stochastic modeling.

For each number of members (N) 5,10, 15, 20, 25, 50, 100, 150, 200 to 1000 (by increments of 100), 1,500, 2,000 to 5,000 (by increments of 1,000) and 10,000 to 20,000, we run 20,000 simulations. Each simulation assigns a random number to every member and selects the (N) lowest members. For each specific stop loss level, we calculate the expected claims amount and standard deviation of the distribution of claims less than the specific stop loss level.

Expected Claims Factors

For each number of members (N) noted above and for each ISL limit, we calculate a preliminary expected fraction of aggregate claims in excess of 110%, 115%, 120%, 125%, 130%, 140% and 150% of expected aggregate claims. We then adjust for uncertainty in the projection of expected claims as described in the table below:

Expected to projected expected	>107.5%	107.5% - 102.5%	102.5% - 97.5%	97.5% - 92.5%	< 92.5%
Fraction of projections	F_1*	F_2*	F_3*	F_4*	F_5*

* Estimated for distribution

We then divide the factors developed by 0.7 to produce an expected loss ratio (net of the provision for default) of 70 percent.

To protect BCBSVT against potential default situations (i.e. to cover the risk of the group failing to fund claims), the proposed ASL rates include an additional fixed risk charge of 0.5 percent of expected claims under the ISL limit for groups with fewer than 20,000 members, and a reduced fixed risk charge of 0.4 percent of expected claims under the ISL limit for groups of 20,000 members or more.

The final factors are applicable to total expected claims under ISL.

To ensure that the factors on each line are strictly decreasing with increasing stop loss percentage, in cases where the ratio for a 150% stop loss percentage is less than 0.0001:

- we increase the calculated value for 150% by 0.00001
- we increase the calculated value for 140% by 0.00002
- we increase the calculated value for 130% by 0.00003
- we increase the calculated value for 125% by 0.00004
- we increase the calculated value for 120% by 0.00005
- we increase the calculated value for 115% by 0.00006
- we increase the calculated value for 110% by 0.00007.

Exhibit 6A provides the tables of factors.

If the expected number of members (N) in the rating period is not one of the values in either table, we determine the value by interpolating linearly between the entries in the table for the numbers of members immediately below and above N.

If a group requests an ISL limit that is not in the exhibit, an aggregate attachment point that is not in the exhibit, if there are more than 20,000 members, or if the contract period is not 12 months, we will use identical data, assumptions, and methodology as described above to calculate the appropriate Aggregate Stop Loss Rating Factor for the required attachment point.

7.2. Risk and Administrative Charges for Experience Refund Eligible products

Risk Charges for Experience Refund Eligible Plans

The BCBSVT and TVHP Experience Refund Eligible products involve pricing margins of 10 percent or 5 percent (i.e. we increase expected claims below the pooling limit by 10 percent or 5 percent in the determination of the premium). We develop the risk charge in the same way as the ASL factors described in the previous section, except that the loadings for the 70 percent expected loss ratio and for default (the charges of either 0.5 percent or 0.4 percent of expected claims) do not apply. We apply these factors to total expected claims under pooling (before adjustment for pricing margin) and increase the retention by the risk charge (both in the prospective pricing and in the refund calculation).

Exhibit 6B provides the table of factors. If the expected number of members (N) in the rating period is not one of the values in either table, we determine the value by interpolating linearly between the entries in the table for the numbers of members immediately below and above N.

If a group requests a pooling limit that is not in the exhibit, if there are more than 20,000 members, or if the contract period is not 12 months, we will use identical data, assumptions, and methodology as described above to calculate the appropriate risk charge for the required attachment point.

Settlement Administration Charge

We add a settlement administration charge, offset by an investment income credit, to the group's administrative charges (described in section 6.3).

1. Settlement Administration Charge**:** We include an additional administrative charge of $1,880 to offset the costs of administering the retrospective arrangement. We determine this amount by trending the 2020 settlement administration charge of $1,825 increased by 3.0 percent to reflect the assumed increase for the direct staff cost.

2. Investment Income Adjustment: We will apply a credit of 0.2 percent of the margin at 5 percent and 0.4 percent of the margin at 10 percent to the settlement administrative charge to reflect investment income earned on the margin.

8. Medical Loss Ratio Projection

We use the factors and formula in this filing to project a Medical Loss Ratio (MLR) for 2021. Using the manual rate as a proxy for projected claims, we project a 2021 MLR of 90.1 percent for BCBSVT and 89.1 percent for TVHP. The BCBSVT credibility-adjusted MLR for Large Group was 96.6 percent in 2017 and 99.0 percent in 2018. The TVHP credibility-adjusted MLR for Large group was 100.9 percent in 2017 and 104.3 percent in 2018.

BCBSVT MLR			
(A)	Manual Rate	$597.31	Exhibit 4A
(B)	Rebates	$14.57	2018 MLR Filing, untrended
(C)	Estimated HCQ	$3.04	2018 MLR Filing, untrended
(D)	State Mandates and Assessments	$13.16	Calculation as described on Exhibit 1C, using latest actual PMPM as needed
(E)	**MLR Numerator**	**$598.95**	**= (A) - (B) + (C) + (D)**
(F)	Projected Claims	$595.91	= (A) – (B) + (D)
(G)	Net Cost of Reinsurance	$1.62	Actuarial Memorandum, Section 6.4
(H)	Administrative Charge	$49.67	Calculation as of January 2021, from Exhibit 5B
(I)	GMCB Billback	$2.09	Calculation using 2019 Charges
(J)	Subtotal	$649.30	= (F) + (G) + (H) + (I)
(K)	Total Premium	$664.91	= (J) / (1 - 0.008 - 0.015)
(L)	Federal Insurer Fee	$0.00	= (K) x 0.0% (from Actuarial Memorandum, Section 6.8)
(M)	Commissions	$5.64	= (K) x 0.8% (from 2018 MLR filing)
(N)	Contribution to Reserve	$9.97	= (K) x 1.5% (from Actuarial Memorandum, Section 6.6)
(O)	**MLR Denominator**	**$664.91**	**= (K) - (L)**
(P)	**MLR**	**90.1%**	**= (E) / (O)**

TVHP MLR			
(A)	Manual Rate	$597.31	Exhibit 4A
(B)	Rebates	$10.20	2018 MLR Filing, untrended
(C)	Estimated HCQ	$4.81	2018 MLR Filing, untrended
(D)	State Mandates and Assessments	$13.16	Calculation as described on Exhibit 1C, using latest actual PMPM as needed
(E)	**MLR Numerator**	**$605.09**	**= (A) - (B) + (C) + (D)**
(F)	Projected Claims	$600.28	= (A) – (B) + (D)
(G)	Net Cost of Reinsurance	$1.62	Actuarial Memorandum, Section 6.4
(H)	Administrative Charge	$49.67	Calculation as of January 2021, from Exhibit 5B
(I)	GMCB Billback	$2.09	Calculation using 2019 Charges
(J)	Subtotal	$653.66	= (F) + (G) + (H) + (I)
(K)	Total Premium	$678.78	= (J) / (1 - 0.022 – 0.015)
(L)	Federal Insurer Fee	$0.00	= (K) x 0.0% (from Actuarial Memorandum, Section 6.8)
(M)	Commissions	$14.93	= (K) x 2.2% (from 2018 MLR filing)
(N)	Contribution to Reserve	$10.18	= (K) x 1.5% (from Actuarial Memorandum, Section 6.6)
(O)	**MLR Denominator**	**$678.78**	**= (K) - (L)**
(P)	**MLR**	**89.1%**	**= (E) / (O)**

The above calculations represent estimates assuming that all pricing assumptions hold true, and assuming no change from 2018 values for various quantities (e.g. rebates, commissions).

9. Act 193 Information

The table below shows the year-over-year increase in plan spending and the percentage of the 2021 manual rate for generic, brand, and specialty drugs. We calculate the percent of 2021 manual rate as the experience drug claims (January 2019 – December 2019, paid through February 2020), trended to 2021 and adjusted to the pharmacy contract in force for 2021, divided by the 2021 manual rate of $597.31 (from section 6.1). We calculate the year-over-year increase as the increase in drug spending from the experience period used in the 2020 renewals for the 2019Q3 filing (October 2017 – September 2018, paid through November 2018) to the experience period used for the 2021 renewals in this filing.

Drugs Processed Under the Pharmacy Benefit		
Type	Percent of 2021 Manual Rate	Increase in Plan Spending
Generic	1.8%	-5.8%
Brand	7.0%	-4.8%
Specialty	12.6%	30.2%

The increase in drug spending compared to other premium components is below:

Premium Increases	
Component	Increase
Rx Claims	11.0%
Medical Claims	4.7%
Non-Claims Components	-11.4%

The 11.4 percent decrease on non-claims components includes the repeal of the Federal Insurer Fee in 2021. Without this repeal, the non-claims components increase 5.6 percent.

Please see Addendum A for the specialty formulary as of 1/1/2020.

Drugs administered in an outpatient setting and covered by the medical benefit represent 8.7 percent of the 2021 manual rate. We trended drug claims covered by the medical benefit from the renewal experience period to 2021 and divided by the 2021 manual rate of $597.31.

Express Scripts (ESI) administers BCBSVT's pharmacy benefits. ESI will manage claims processed through the pharmacy benefit but not claims processed through the medical benefit for use in a facility.

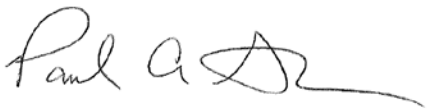
10. Actuarial Opinion

The purpose of this filing is to establish the formula, manual rate, and accompanying factors that will be used for renewals of Blue Cross and Blue Shield of Vermont and The Vermont Health Plan large group plans. This filing is not intended to be used for other purposes.

The data used in this analysis has been reviewed for reasonableness and consistency; however, it has not been audited.

It is my opinion that the rating formula and factors presented in this filing are reasonable, and have been prepared in accordance with applicable Actuarial Standards of Practice. The formula and factors will produce premium rates that are reasonable in relation to the benefits provided, and will not be excessive, deficient or unfairly discriminatory.

I am a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries, and I meet the Academy's Qualification Standards to render this opinion.



Paul A Schultz, F.S.A., M.A.A.A.

April 23, 2020