

Commonwealth of Kentucky

Kentucky Employees' Health Plan

**Actuarial Reserve Study
March 31, 2024**

**Three Alliance Center
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May 2024

Commonwealth of Kentucky

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EXECUTIVE SUMMARY

Aon has conducted an actuarial valuation of the incurred, but not paid, claims as of March 31, 2024, for the medical and prescription drug benefits provided by Kentucky Employees' Health Plan (KEHP) and administered through Humana and Express Scripts (ESI) prior to 2015. Beginning from 2015, medical and prescription drug benefits are administered through Anthem and Caremark.

The results show a projected total reserve of approximately \$128.9 million. This figure includes \$6.1 million as an explicit provision for adverse experience. Claims that have been processed and paid, and invoiced to KEHP but not yet paid are excluded from these actuarial estimates, though this may represent an additional liability outside the scope of this actuarial review. The estimates provided also exclude unallocated amounts, which are believed to be immaterial to the Plan.

The details of the Unpaid Claim Reserve are shown in separate exhibits for Medical, Pharmacy, CDHP Health Reimbursement Arrangement (HRA) and the Waiver Credit HRA.

The traditional actuarial loss developmental method and Bornhuetter-Ferguson method were the basis of our calculation. The loss development uses historical paid claims information by incurred date. This method is consistent with reserve calculations within the industry, and best reflects the impact on claim payment patterns and accounts for the cyclical nature of the Plan's claims.

In accordance with GASB 10, to the extent that future billed premiums for the 2024 plan year are not sufficient to cover future incurred claims and administrative fees for the 2024 plan year, a "premium deficiency reserve" (PDR) in the amount of the difference should be estimated. As of March 31, 2024, due to the estimated revenue (\$1,888.8 million) being insufficient to cover the estimated program expenses (\$1,930.8 million), there is an additional premium deficiency reserve of \$42.0 million.

Also included in this report are the actual Rx rebates paid from January 1, 2020 to September 2023 and the estimated Rx rebate from October 1, 2023 to March 31, 2024.

The results mentioned above are contingent upon future events. Consequently, actual results will differ from projected results. These deviations may be material. KEHP staff should monitor emerging experience and take appropriate actions as required.

**ACTUARIAL CERTIFICATION
STATEMENT OF OPINION**

Aon has been retained by the Commonwealth of Kentucky to study the actuarial reserves for incurred but not paid claims as of March 31, 2024, for the medical and prescription drug benefits provided by Kentucky Employees' Health Plan. I am employed by Aon. I am a Member of the Society of Actuaries and am qualified by education and experience to make the statements of actuarial opinion contained herein.

In performing our reserve study, we have relied upon reports and information provided by Merative, the carriers and The Commonwealth of Kentucky. We have not audited this data beyond general tests for reasonableness. The results are our best estimate of incurred but unpaid claims with explicit margins for adverse deviation. The techniques and methodology used are reasonable and in accordance with generally accepted actuarial principles and practice.



May 24, 2024

LinXia Xiong, FSA, MAAA
Vice President

Date



May 24, 2024

Colleen M. Huber, FSA, MAAA
Senior Vice President

Date

DATA AND ASSUMPTIONS

Commonwealth of Kentucky Medical and Pharmacy benefits are administered through Anthem and Caremark beginning from 2015. Below is all data source we have used:

- Monthly enrollment provided by Merative.
- Transactional and eligibility data was provided by KEHP.
- Medical and Pharmacy claims incurred and paid from April 1, 2021 to March 31, 2024 provided by Anthem and Caremark.

No adjustment for interest was used in this analysis. Anthem and Caremark don't charge administrative fees for processing run-out claims so no administrative fee reserve is required.

METHODOLOGY

The unpaid claim liability (UCL), also called the incurred but not reported (IBNR) reserve, at a specified date is essentially the estimated claims incurred up to that date less the claims that have been (incurred and) paid to that date. Since the incurred and paid claims are known, the UCL is easily determined once the incurred claims have been estimated.

The traditional loss development method uses historical claim payment patterns to develop completion factors that are used to estimate incurred claims. The claims incurred in a given month and paid by the end of the experience period are divided by the completion factor to estimate the incurred claims for that month. The UCL for that month is subsequently determined by subtracting the known incurred and paid claims from the estimated incurred claims. The total UCL is merely the sum of all the appropriate monthly UCL estimates.

This method is relatively easy to understand and is effective when the historical claim payment patterns are deemed to be stable enough to estimate current/future claim payment patterns and when several months of claim payments (run-out) after the incurred month are available. When the run-out for any month is limited, this month is called immature and the associated completion factor is significantly less than one. The resulting incurred claim estimate is unstable. Consequently, a secondary method has traditionally been used to estimate the immature months.

The secondary method for health claims is often an average of historical incurred claims adjusted for claim trend and enrollment between the historical period and the time of interest. One of the shortcomings of this secondary method is that the available claim payment information for the month being estimated is not used. Another problem is that the line of demarcation between mature months and immature months is as much art as science.

The Bornhuetter-Furgeson Method (BFM) addresses both of these issues by blending the loss development method and the secondary method. The BFM uses the available incurred and paid data and the expected UCL developed from the secondary method to estimate incurred claims. This method generally provides a more stable estimate than the pure loss development method, a more responsive estimate than the secondary method, and a reasonable technique for blending the results of both methods.

Using the BFM with claims paid through March 31, 2024, the resulting UCL for March 31, 2024 was approximately \$122.8 million. In addition, an explicit margin for adverse deviation of 5.0% of claims unpaid on March 31, 2024 has been used.

RESULTS

The result of our reserve analysis shows the following components of our March 31, 2024 reserve for the Kentucky Employees' Health Plan.

Exhibit 1

Kentucky Employees' Health Plan Terminal Liability Calculation as of March 31, 2024				
	Unpaid Claims Liability as of March 31, 2024	Margin (5%)	Administrative Fees for Processing Runout Claims	Total IBNR Reserve (Rounded to Nearest \$1,000)
Medical	\$113,929,979	\$5,696,499	\$0	\$119,626,000
Pharmacy	\$6,213,501	\$310,675	\$0	\$6,524,000
CDHP HRA	\$1,749,501	\$87,475	\$0	\$1,837,000
Waiver HRA	\$917,921	\$45,896	\$0	\$964,000
Grand Total	\$122,810,901	\$6,140,545	\$0	\$128,951,000

* Claims that have been processed and paid, and invoiced to KEHP but not yet paid are excluded from these actuarial estimates, though this may represent an additional liability outside the scope of this actuarial review. The estimates provided also exclude unallocated amounts, which are believed to be immaterial to the Plan.

**No administrative fees are required from Anthem or Caremark for processing runout claims.

Exhibit 2a

Kentucky Employees' Health Plan Medical and Pharmacy Terminal Liability Calculation as of March 31, 2024

Month	Enrollment	Estimated Incurred Claims	Completion Factor	Actual Paid	Total Unpaid Claim Reserve
Apr-21	139,665	\$139,406,907	1.000	\$139,406,907	\$0
May-21	139,369	\$137,327,777	1.000	\$137,327,777	\$0
Jun-21	139,022	\$155,971,468	1.000	\$155,971,468	\$0
Jul-21	138,284	\$152,981,708	1.000	\$152,981,708	\$0
Aug-21	137,179	\$157,118,355	1.000	\$157,118,355	\$0
Sep-21	136,596	\$151,388,801	1.000	\$151,388,801	\$0
Oct-21	138,675	\$158,247,358	1.000	\$158,247,358	\$0
Nov-21	138,498	\$164,093,183	1.000	\$164,093,183	\$0
Dec-21	138,422	\$182,797,280	1.000	\$182,797,280	\$0
Jan-22	139,271	\$119,867,644	1.000	\$119,867,644	\$0
Feb-22	138,919	\$120,283,607	1.000	\$120,283,607	\$0
Mar-22	138,935	\$145,291,547	1.000	\$145,291,547	\$0
Apr-22	138,732	\$138,155,853	1.000	\$138,155,853	\$0
May-22	138,533	\$145,038,488	1.000	\$145,020,238	\$18,250
Jun-22	138,120	\$155,740,304	1.000	\$155,706,287	\$34,017
Jul-22	137,350	\$147,107,955	1.000	\$147,082,265	\$25,690
Aug-22	136,362	\$157,657,747	1.000	\$157,597,964	\$59,783
Sep-22	135,557	\$153,454,252	0.999	\$153,336,923	\$117,329
Oct-22	137,962	\$158,523,051	0.999	\$158,350,450	\$172,601
Nov-22	138,038	\$166,913,436	0.999	\$166,699,559	\$213,876
Dec-22	138,200	\$176,344,805	0.998	\$175,962,927	\$381,878
Jan-23	138,657	\$129,116,200	0.998	\$128,883,495	\$232,705
Feb-23	138,390	\$133,335,341	0.999	\$133,162,019	\$173,321
Mar-23	138,646	\$160,538,099	0.999	\$160,349,647	\$188,452
Apr-23	138,642	\$151,552,938	0.999	\$151,335,642	\$217,296
May-23	138,525	\$164,539,551	0.998	\$164,225,699	\$313,852
Jun-23	138,392	\$174,859,880	0.996	\$174,167,593	\$692,287
Jul-23	138,166	\$168,203,058	0.995	\$167,278,206	\$924,852
Aug-23	137,374	\$179,711,246	0.992	\$178,285,458	\$1,425,789
Sep-23	136,796	\$164,604,070	0.989	\$162,818,279	\$1,785,791
Oct-23	139,327	\$182,911,397	0.986	\$180,309,803	\$2,601,594
Nov-23	139,556	\$188,307,522	0.978	\$184,213,948	\$4,093,574
Dec-23	139,704	\$199,053,677	0.967	\$192,394,976	\$6,658,701
Jan-24	140,879	\$140,802,029	0.946	\$133,209,893	\$7,592,136
Feb-24	140,692	\$149,707,344	0.855	\$128,046,046	\$21,661,297
Mar-24	140,964	\$174,070,985	0.595	\$103,512,578	\$70,558,408
Total		\$5,645,024,864		\$5,524,881,385	\$120,143,479

Exhibit 2b
Kentucky Employees' Health Plan
Medical
Terminal Liability Calculation as of March 31, 2024

Month	Enrollment	Estimated Incurred Claims	Completion Factor	Actual Paid	Total Unpaid Claim Reserve
Apr-21	139,665	\$93,359,178	1.000	\$93,359,178	\$0
May-21	139,369	\$92,654,094	1.000	\$92,654,094	\$0
Jun-21	139,022	\$108,238,047	1.000	\$108,238,047	\$0
Jul-21	138,284	\$106,814,490	1.000	\$106,814,490	\$0
Aug-21	137,179	\$109,754,161	1.000	\$109,754,161	\$0
Sep-21	136,596	\$104,443,333	1.000	\$104,443,333	\$0
Oct-21	138,675	\$110,209,954	1.000	\$110,209,954	\$0
Nov-21	138,498	\$113,844,677	1.000	\$113,844,677	\$0
Dec-21	138,422	\$127,961,793	1.000	\$127,961,793	\$0
Jan-22	139,271	\$79,637,660	1.000	\$79,637,660	\$0
Feb-22	138,919	\$80,862,720	1.000	\$80,862,720	\$0
Mar-22	138,935	\$98,119,035	1.000	\$98,119,035	\$0
Apr-22	138,732	\$93,814,778	1.000	\$93,814,778	\$0
May-22	138,533	\$98,200,757	1.000	\$98,186,908	\$13,849
Jun-22	138,120	\$106,964,337	1.000	\$106,939,499	\$24,838
Jul-22	137,350	\$100,308,245	1.000	\$100,297,179	\$11,066
Aug-22	136,362	\$107,196,476	1.000	\$107,159,175	\$37,301
Sep-22	135,557	\$104,178,223	0.999	\$104,089,532	\$88,691
Oct-22	137,962	\$109,317,098	0.999	\$109,185,329	\$131,770
Nov-22	138,038	\$116,600,426	0.999	\$116,440,861	\$159,565
Dec-22	138,200	\$123,545,130	0.997	\$123,231,806	\$313,324
Jan-23	138,657	\$81,844,346	0.998	\$81,682,442	\$161,904
Feb-23	138,390	\$86,040,147	0.999	\$85,945,413	\$94,734
Mar-23	138,646	\$104,259,512	0.999	\$104,169,093	\$90,419
Apr-23	138,642	\$97,222,113	0.999	\$97,104,237	\$117,876
May-23	138,525	\$104,126,183	0.998	\$103,927,575	\$198,608
Jun-23	138,392	\$113,576,598	0.995	\$113,010,839	\$565,758
Jul-23	138,166	\$108,959,543	0.993	\$108,165,194	\$794,349
Aug-23	137,374	\$115,332,030	0.989	\$114,063,390	\$1,268,641
Sep-23	136,796	\$105,566,254	0.985	\$103,940,412	\$1,625,842
Oct-23	139,327	\$117,003,447	0.979	\$114,587,269	\$2,416,178
Nov-23	139,556	\$124,353,732	0.969	\$120,444,058	\$3,909,674
Dec-23	139,704	\$132,870,481	0.951	\$126,421,111	\$6,449,371
Jan-24	140,879	\$87,398,286	0.915	\$79,992,884	\$7,405,402
Feb-24	140,692	\$95,570,068	0.776	\$74,117,826	\$21,452,242
Mar-24	140,964	\$111,364,264	0.402	\$44,765,689	\$66,598,576
Total		\$3,771,511,620		\$3,657,581,641	\$113,929,979

Exhibit 2c
Kentucky Employees' Health Plan
Pharmacy
Terminal Liability Calculation as of March 31, 2024

Month	Enrollment	Estimated Incurred Claims	Completion Factor	Actual Paid	Total Unpaid Claim Reserve
Apr-21	139,665	\$46,047,728	1.000	\$46,047,728	\$0
May-21	139,369	\$44,673,683	1.000	\$44,673,683	\$0
Jun-21	139,022	\$47,733,421	1.000	\$47,733,421	\$0
Jul-21	138,284	\$46,167,219	1.000	\$46,167,219	\$0
Aug-21	137,179	\$47,364,194	1.000	\$47,364,194	\$0
Sep-21	136,596	\$46,945,469	1.000	\$46,945,469	\$0
Oct-21	138,675	\$48,037,404	1.000	\$48,037,404	\$0
Nov-21	138,498	\$50,248,506	1.000	\$50,248,506	\$0
Dec-21	138,422	\$54,835,487	1.000	\$54,835,487	\$0
Jan-22	139,271	\$40,229,984	1.000	\$40,229,984	\$0
Feb-22	138,919	\$39,420,888	1.000	\$39,420,888	\$0
Mar-22	138,935	\$47,172,512	1.000	\$47,172,512	\$0
Apr-22	138,732	\$44,341,076	1.000	\$44,341,076	\$0
May-22	138,533	\$46,837,732	1.000	\$46,833,331	\$4,401
Jun-22	138,120	\$48,775,967	1.000	\$48,766,788	\$9,179
Jul-22	137,350	\$46,799,710	1.000	\$46,785,086	\$14,624
Aug-22	136,362	\$50,461,271	1.000	\$50,438,789	\$22,482
Sep-22	135,557	\$49,276,028	0.999	\$49,247,390	\$28,638
Oct-22	137,962	\$49,205,953	0.999	\$49,165,121	\$40,832
Nov-22	138,038	\$50,313,010	0.999	\$50,258,698	\$54,311
Dec-22	138,200	\$52,799,675	0.999	\$52,731,122	\$68,554
Jan-23	138,657	\$47,271,854	0.999	\$47,201,053	\$70,800
Feb-23	138,390	\$47,295,193	0.998	\$47,216,606	\$78,587
Mar-23	138,646	\$56,278,587	0.998	\$56,180,554	\$98,033
Apr-23	138,642	\$54,330,825	0.998	\$54,231,405	\$99,419
May-23	138,525	\$60,413,368	0.998	\$60,298,124	\$115,244
Jun-23	138,392	\$61,283,282	0.998	\$61,156,754	\$126,528
Jul-23	138,166	\$59,243,515	0.998	\$59,113,012	\$130,503
Aug-23	137,374	\$64,379,216	0.998	\$64,222,068	\$157,148
Sep-23	136,796	\$59,037,815	0.997	\$58,877,867	\$159,949
Oct-23	139,327	\$65,907,950	0.997	\$65,722,534	\$185,416
Nov-23	139,556	\$63,953,790	0.997	\$63,769,890	\$183,900
Dec-23	139,704	\$66,183,196	0.997	\$65,973,866	\$209,330
Jan-24	140,879	\$53,403,742	0.997	\$53,217,008	\$186,734
Feb-24	140,692	\$54,137,276	0.996	\$53,928,220	\$209,056
Mar-24	140,964	\$62,706,721	0.937	\$58,746,889	\$3,959,832
Total		\$1,873,513,245		\$1,867,299,744	\$6,213,501

Exhibit 3

Kentucky Employees' Health Plan Terminal Liability Calculation as of March 31, 2024

Health Reimbursement Arrangements

CDHP HRA				
Period	Paid To Date	Completion Factor	Total Incurred	Unpaid Claim Reserve
Jan-Mar 2021	\$16,396,316	100.0%	\$16,396,316	\$0
Apr-Jun 2021	\$15,461,459	100.0%	\$15,461,459	\$0
Jul-Sep 2021	\$12,036,974	100.0%	\$12,036,974	\$0
Oct-Dec 2021	\$11,002,378	100.0%	\$11,002,378	\$0
Jan-Mar 2022	\$17,814,542	100.0%	\$17,814,553	\$12
Apr-Jun 2022	\$16,172,790	100.0%	\$16,172,801	\$11
Jul-Sep 2022	\$11,828,422	100.0%	\$11,828,417	(\$5)
Oct-Dec 2022	\$10,843,582	100.0%	\$10,843,565	(\$17)
Jan-Mar 2023	\$19,153,286	100.0%	\$19,162,374	\$9,088
Apr-Jun 2023	\$15,807,561	99.7%	\$15,861,539	\$53,978
Jul-Sep 2023	\$11,844,780	99.1%	\$11,948,713	\$103,933
Oct-Dec 2023	\$11,407,873	98.0%	\$11,635,153	\$227,280
Jan-Mar 2024	\$18,416,251	93.1%	\$19,771,473	\$1,355,222
Total	\$188,186,214		\$189,935,715	\$1,749,501

Waiver HRA				
Plan Year	Paid To Date	Completion	Total Incurred	Unpaid Claim
2021	\$35,919,270	100.0%	\$35,919,270	\$0
2022	\$35,205,013	100.0%	\$35,205,013	\$0
2023	\$36,328,043	99.2%	\$36,632,180	\$304,138
2024	\$8,956,340	93.6%	\$9,570,124	\$613,784
Total	\$116,408,666		\$117,326,587	\$917,921

Exhibit 4

Kentucky Employees' Health Plan Rx Rebates as of March 31, 2024

Plan Year	Rebate Amount		
	Accounting	Incurred	
Q1 2020	\$35,062,495	\$44,376,478	Actual/Estimate
Q2 2020	\$41,193,865	\$45,265,406	Actual/Estimate
Q3 2020	\$38,937,487	\$45,828,808	Actual/Estimate
Q4 2020	\$59,866,034	\$47,401,948	Actual/Estimate
Q1 2021	\$43,236,360	\$42,095,184	Actual/Estimate
Q2 2021	\$43,485,834	\$45,618,330	Actual/Estimate
Q3 2021	\$46,018,808	\$46,173,678	Actual/Estimate
Q4 2021	\$53,905,366	\$48,944,902	Actual/Estimate
Q1 2022	\$46,693,187	\$53,068,027	Actual/Estimate
Q2 2022	\$52,280,271	\$56,170,250	Actual/Estimate
Q3 2022	\$56,253,088	\$58,885,161	Actual/Estimate
Q4 2022	\$65,138,414	\$59,179,180	Actual/Estimate
Q1 2023	\$57,552,152	\$65,211,924	Actual/Estimate
Q2 2023	\$65,764,561	\$74,849,133	Actual/Estimate
Q3 2023	\$69,736,334	\$80,069,614	Actual/Estimate
Q4 2023	\$98,137,491	\$82,044,551	Estimate/Estimate
Q1 2024	\$64,450,363	\$81,288,703	Estimate/Estimate

Exhibit 5

Kentucky Employees' Health Plan Premium Deficiency Reserve as of March 31, 2024

Calculation of the Premium Deficiency Reserve (figures in \$millions)	
Revenue	
Medical and Pharmacy Premiums	\$1,602.4
HRA Waiver Premiums	\$38.5
Interest Income	\$3.3
Pharmacy Rebates	\$244.6
Total Revenue (a)	\$1,888.8
Expenses	
Medical and Pharmacy Claims	\$1,790.8
Administrative Fees (Medical & Pharmacy)	\$64.2
Operating Expenses/ERRP	\$7.5
HRA (waiver & select) Claims	\$68.3
Total Expenses (b)	\$1,930.8
Net Gain/(Loss) (a) - (b)	(\$42.0)

* As of March 31, 2024, due to the estimated revenue (\$1,888.8 million) being insufficient to cover the estimated program expenses (\$1,930.8 million), there is an additional premium deficiency reserve of \$42.0 million.