

# **Commonwealth of Kentucky**

**Kentucky Employees' Health Plan**

**Actuarial Reserve Study  
September 30, 2024**

**Three Alliance Center  
3550 Lenox Road NE  
Suite 1700  
Atlanta, GA 30326**

**November 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 September 30, 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 \$133.1 million. This figure includes \$6.3 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.

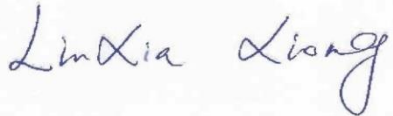
Also included in this report are the actual Rx rebates paid from January 1, 2020 to March 1, 2024 and the estimated Rx rebate from April 1, 2024 to September 30, 2024.

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 September 30, 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.



December 03, 2024

LinXia Xiong, FSA, MAAA  
Vice President

Date



December 03, 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 October 1, 2021 to September 30, 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 September 30, 2024, the resulting UCL for September 30, 2024 was approximately \$126.8 million. In addition, an explicit margin for adverse deviation of 5.0% of claims unpaid on September 30, 2024 has been used.

## RESULTS

The result of our reserve analysis shows the following components of our September 30, 2024 reserve for the Kentucky Employees' Health Plan.

### Exhibit 1

<b>Kentucky Employees' Health Plan</b>				
<b>Terminal Liability Calculation as of September 30, 2024</b>				
	Unpaid Claims Liability as of September 30, 2024	Margin (5%)	Administrative Fees for Processing Runout Claims	Total IBNR Reserve (Rounded to Nearest \$1,000)
<b>Medical</b>	\$123,372,360	\$6,168,618	\$0	\$129,541,000
<b>Pharmacy</b>	\$33,898	\$1,695	\$0	\$36,000
<b>CDHP HRA</b>	\$2,370,914	\$118,546	\$0	\$2,489,000
<b>Waiver HRA</b>	\$1,000,507	\$50,025	\$0	\$1,051,000
<b>Grand Total</b>	<b>\$126,777,678</b>	<b>\$6,338,884</b>	<b>\$0</b>	<b>\$133,117,000</b>

\* 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 September 30, 2024

Month	Enrollment	Estimated Incurred Claims	Completion Factor	Actual Paid	Total Unpaid Claim Reserve
Oct-21	138,675	\$158,296,604	1.000	\$158,296,604	\$0
Nov-21	138,498	\$164,133,460	1.000	\$164,133,460	\$0
Dec-21	138,422	\$182,809,261	1.000	\$182,809,261	\$0
Jan-22	139,271	\$120,059,156	1.000	\$120,059,156	\$0
Feb-22	138,919	\$120,636,396	1.000	\$120,636,396	\$0
Mar-22	138,935	\$145,890,621	1.000	\$145,890,621	\$0
Apr-22	138,732	\$139,513,644	1.000	\$139,513,644	\$0
May-22	138,533	\$145,970,741	1.000	\$145,970,741	\$0
Jun-22	138,120	\$156,714,918	1.000	\$156,714,918	\$0
Jul-22	137,350	\$148,711,495	1.000	\$148,711,495	\$0
Aug-22	136,362	\$159,329,478	1.000	\$159,329,478	\$0
Sep-22	135,557	\$155,278,339	1.000	\$155,278,339	\$0
Oct-22	137,962	\$160,362,079	1.000	\$160,362,079	\$0
Nov-22	138,038	\$168,665,365	1.000	\$168,662,599	\$2,766
Dec-22	138,200	\$178,968,636	1.000	\$178,965,726	\$2,911
Jan-23	138,657	\$130,009,963	1.000	\$130,011,221	(\$1,258)
Feb-23	138,390	\$133,955,095	1.000	\$133,947,723	\$7,372
Mar-23	138,646	\$161,971,181	1.000	\$161,918,749	\$52,432
Apr-23	138,642	\$153,871,872	0.999	\$153,763,116	\$108,756
May-23	138,525	\$167,451,670	0.999	\$167,265,741	\$185,929
Jun-23	138,392	\$176,536,710	0.999	\$176,290,379	\$246,331
Jul-23	138,166	\$172,173,300	0.999	\$171,928,165	\$245,135
Aug-23	137,374	\$181,330,904	0.998	\$181,028,645	\$302,258
Sep-23	136,796	\$166,157,744	0.998	\$165,861,180	\$296,564
Oct-23	139,327	\$183,916,685	0.998	\$183,459,144	\$457,541
Nov-23	139,556	\$188,809,373	0.997	\$188,191,496	\$617,877
Dec-23	139,704	\$200,136,698	0.995	\$199,209,844	\$926,854
Jan-24	140,879	\$145,015,555	0.994	\$144,210,262	\$805,293
Feb-24	140,692	\$155,913,056	0.993	\$154,791,164	\$1,121,892
Mar-24	140,964	\$167,221,075	0.990	\$165,588,138	\$1,632,937
Apr-24	140,951	\$176,271,329	0.987	\$173,942,494	\$2,328,836
May-24	140,811	\$183,025,420	0.980	\$179,348,605	\$3,676,816
Jun-24	140,567	\$181,990,355	0.967	\$175,978,652	\$6,011,703
Jul-24	140,025	\$206,380,694	0.939	\$193,846,855	\$12,533,839
Aug-24	139,110	\$195,606,663	0.866	\$169,336,131	\$26,270,533
Sep-24	138,863	\$197,280,997	0.668	\$131,708,054	\$65,572,943
<b>Total</b>		<b>\$5,930,366,531</b>		<b>\$5,806,960,274</b>	<b>\$123,406,258</b>

**Exhibit 2b**  
**Kentucky Employees' Health Plan**  
**Medical**  
**Terminal Liability Calculation as of September 30, 2024**

<b>Month</b>	<b>Enrollment</b>	<b>Estimated Incurred Claims</b>	<b>Completion Factor</b>	<b>Actual Paid</b>	<b>Total Unpaid Claim Reserve</b>
<b>Oct-21</b>	138,675	\$110,257,337	1.000	\$110,257,337	\$0
<b>Nov-21</b>	138,498	\$113,884,942	1.000	\$113,884,942	\$0
<b>Dec-21</b>	138,422	\$127,973,180	1.000	\$127,973,180	\$0
<b>Jan-22</b>	139,271	\$79,678,743	1.000	\$79,678,743	\$0
<b>Feb-22</b>	138,919	\$80,910,907	1.000	\$80,910,907	\$0
<b>Mar-22</b>	138,935	\$98,155,761	1.000	\$98,155,761	\$0
<b>Apr-22</b>	138,732	\$94,574,226	1.000	\$94,574,226	\$0
<b>May-22</b>	138,533	\$98,142,830	1.000	\$98,142,830	\$0
<b>Jun-22</b>	138,120	\$106,608,404	1.000	\$106,608,404	\$0
<b>Jul-22</b>	137,350	\$100,489,758	1.000	\$100,489,758	\$0
<b>Aug-22</b>	136,362	\$107,078,744	1.000	\$107,078,744	\$0
<b>Sep-22</b>	135,557	\$104,110,246	1.000	\$104,110,246	\$0
<b>Oct-22</b>	137,962	\$109,265,004	1.000	\$109,265,004	\$0
<b>Nov-22</b>	138,038	\$116,471,833	1.000	\$116,470,273	\$1,560
<b>Dec-22</b>	138,200	\$123,926,660	1.000	\$123,923,749	\$2,911
<b>Jan-23</b>	138,657	\$82,321,193	1.000	\$82,322,451	(\$1,258)
<b>Feb-23</b>	138,390	\$86,196,486	1.000	\$86,189,114	\$7,372
<b>Mar-23</b>	138,646	\$104,786,067	0.999	\$104,733,635	\$52,432
<b>Apr-23</b>	138,642	\$98,104,808	0.999	\$97,996,053	\$108,756
<b>May-23</b>	138,525	\$105,223,757	0.998	\$105,037,828	\$185,929
<b>Jun-23</b>	138,392	\$113,245,011	0.998	\$112,998,681	\$246,331
<b>Jul-23</b>	138,166	\$110,886,547	0.998	\$110,641,411	\$245,135
<b>Aug-23</b>	137,374	\$114,624,249	0.997	\$114,321,990	\$302,258
<b>Sep-23</b>	136,796	\$104,991,865	0.997	\$104,695,301	\$296,564
<b>Oct-23</b>	139,327	\$115,531,241	0.996	\$115,073,700	\$457,541
<b>Nov-23</b>	139,556	\$122,498,004	0.995	\$121,880,127	\$617,877
<b>Dec-23</b>	139,704	\$131,444,180	0.993	\$130,517,326	\$926,854
<b>Jan-24</b>	140,879	\$89,893,995	0.991	\$89,088,702	\$805,293
<b>Feb-24</b>	140,692	\$98,972,328	0.989	\$97,854,696	\$1,117,633
<b>Mar-24</b>	140,964	\$106,663,552	0.985	\$105,035,382	\$1,628,170
<b>Apr-24</b>	140,951	\$111,440,812	0.979	\$109,111,976	\$2,328,836
<b>May-24</b>	140,811	\$116,653,143	0.968	\$112,976,328	\$3,676,816
<b>Jun-24</b>	140,567	\$117,001,137	0.949	\$110,989,434	\$6,011,703
<b>Jul-24</b>	140,025	\$131,564,585	0.905	\$119,030,746	\$12,533,839
<b>Aug-24</b>	139,110	\$121,697,066	0.784	\$95,450,200	\$26,246,866
<b>Sep-24</b>	138,863	\$120,211,215	0.455	\$54,638,272	\$65,572,943
<b>Total</b>		<b>\$3,875,479,816</b>		<b>\$3,752,107,456</b>	<b>\$123,372,360</b>

**Exhibit 2c**  
**Kentucky Employees' Health Plan**  
**Pharmacy**  
**Terminal Liability Calculation as of September 30, 2024**

<b>Month</b>	<b>Enrollment</b>	<b>Estimated Incurred Claims</b>	<b>Completion Factor</b>	<b>Actual Paid</b>	<b>Total Unpaid Claim Reserve</b>
Oct-21	138,675	\$48,039,266	1.000	\$48,039,266	\$0
Nov-21	138,498	\$50,248,518	1.000	\$50,248,518	\$0
Dec-21	138,422	\$54,836,081	1.000	\$54,836,081	\$0
Jan-22	139,271	\$40,380,413	1.000	\$40,380,413	\$0
Feb-22	138,919	\$39,725,489	1.000	\$39,725,489	\$0
Mar-22	138,935	\$47,734,860	1.000	\$47,734,860	\$0
Apr-22	138,732	\$44,939,417	1.000	\$44,939,417	\$0
May-22	138,533	\$47,827,910	1.000	\$47,827,910	\$0
Jun-22	138,120	\$50,106,514	1.000	\$50,106,514	\$0
Jul-22	137,350	\$48,221,737	1.000	\$48,221,737	\$0
Aug-22	136,362	\$52,250,735	1.000	\$52,250,735	\$0
Sep-22	135,557	\$51,168,093	1.000	\$51,168,093	\$0
Oct-22	137,962	\$51,097,076	1.000	\$51,097,076	\$0
Nov-22	138,038	\$52,193,532	1.000	\$52,192,327	\$1,206
Dec-22	138,200	\$55,041,976	1.000	\$55,041,976	\$0
Jan-23	138,657	\$47,688,769	1.000	\$47,688,769	\$0
Feb-23	138,390	\$47,758,609	1.000	\$47,758,609	\$0
Mar-23	138,646	\$57,185,114	1.000	\$57,185,114	\$0
Apr-23	138,642	\$55,767,064	1.000	\$55,767,064	\$0
May-23	138,525	\$62,227,913	1.000	\$62,227,913	\$0
Jun-23	138,392	\$63,291,699	1.000	\$63,291,699	\$0
Jul-23	138,166	\$61,286,753	1.000	\$61,286,753	\$0
Aug-23	137,374	\$66,706,655	1.000	\$66,706,655	\$0
Sep-23	136,796	\$61,165,878	1.000	\$61,165,878	\$0
Oct-23	139,327	\$68,385,444	1.000	\$68,385,444	\$0
Nov-23	139,556	\$66,311,369	1.000	\$66,311,369	\$0
Dec-23	139,704	\$68,692,518	1.000	\$68,692,518	\$0
Jan-24	140,879	\$55,121,560	1.000	\$55,121,560	\$0
Feb-24	140,692	\$56,940,727	1.000	\$56,936,468	\$4,259
Mar-24	140,964	\$60,557,523	1.000	\$60,552,756	\$4,767
Apr-24	140,951	\$64,830,518	1.000	\$64,830,518	\$0
May-24	140,811	\$66,372,277	1.000	\$66,372,277	\$0
Jun-24	140,567	\$64,989,218	1.000	\$64,989,218	\$0
Jul-24	140,025	\$74,816,108	1.000	\$74,816,108	\$0
Aug-24	139,110	\$73,909,597	1.000	\$73,885,931	\$23,666
Sep-24	138,863	\$77,069,782	1.000	\$77,069,782	\$0
<b>Total</b>		<b>\$2,054,886,715</b>		<b>\$2,054,852,817</b>	<b>\$33,898</b>

## Exhibit 3

### Kentucky Employees' Health Plan Terminal Liability Calculation as of September 30, 2024

#### Health Reimbursement Arrangements

<b>CDHP HRA</b>				
<b>Period</b>	<b>Paid To Date</b>	<b>Completion Factor</b>	<b>Total Incurred</b>	<b>Unpaid Claim Reserve</b>
<b>Jan-Mar 2021</b>	\$16,397,399	100.0%	\$16,397,399	\$0
<b>Apr-Jun 2021</b>	\$15,462,480	100.0%	\$15,462,480	\$0
<b>Jul-Sep 2021</b>	\$12,042,850	100.0%	\$12,042,850	\$0
<b>Oct-Dec 2021</b>	\$11,003,105	100.0%	\$11,003,105	\$0
<b>Jan-Mar 2022</b>	\$17,812,668	100.0%	\$17,812,668	\$0
<b>Apr-Jun 2022</b>	\$16,171,089	100.0%	\$16,171,089	\$0
<b>Jul-Sep 2022</b>	\$11,827,178	100.0%	\$11,827,178	\$0
<b>Oct-Dec 2022</b>	\$10,842,442	100.0%	\$10,842,442	\$0
<b>Jan-Mar 2023</b>	\$19,189,681	100.0%	\$19,189,683	\$2
<b>Apr-Jun 2023</b>	\$15,830,507	100.0%	\$15,830,509	\$2
<b>Jul-Sep 2023</b>	\$11,865,884	99.9%	\$11,872,318	\$6,434
<b>Oct-Dec 2023</b>	\$11,448,222	99.6%	\$11,492,801	\$44,580
<b>Jan-Mar 2024</b>	\$20,227,953	99.1%	\$20,412,869	\$184,915
<b>Apr-Jun 2024</b>	\$18,415,986	98.0%	\$18,792,908	\$376,922
<b>Jul-Sep 2024</b>	\$12,592,463	87.7%	\$14,350,522	\$1,758,059
<b>Total</b>	<b>\$221,129,907</b>		<b>\$223,500,821</b>	<b>\$2,370,914</b>

<b>Waiver HRA</b>				
<b>Plan Year</b>	<b>Paid To Date</b>	<b>Completion</b>	<b>Total Incurred</b>	<b>Unpaid Claim</b>
<b>2021</b>	\$35,913,321	100.0%	\$35,913,321	\$0
<b>2022</b>	\$35,207,260	100.0%	\$35,207,260	\$0
<b>2023</b>	\$36,399,284	99.9%	\$36,440,475	\$41,191
<b>2024</b>	\$27,275,422	96.6%	\$28,234,738	\$959,316
<b>Total</b>	<b>\$134,795,287</b>		<b>\$135,795,794</b>	<b>\$1,000,507</b>

## Exhibit 4

### Kentucky Employees' Health Plan Rx Rebates as of September 30, 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	\$61,425,437	\$47,401,948	Actual/Estimate
Q1 2021	\$43,236,360	\$41,785,088	Actual/Estimate
Q2 2021	\$43,485,834	\$45,065,250	Actual/Estimate
Q3 2021	\$46,018,808	\$45,815,130	Actual/Estimate
Q4 2021	\$55,228,565	\$48,831,564	Actual/Estimate
Q1 2022	\$46,693,187	\$52,781,320	Actual/Estimate
Q2 2022	\$52,280,271	\$55,950,370	Actual/Estimate
Q3 2022	\$56,253,088	\$58,625,963	Actual/Estimate
Q4 2022	\$65,636,965	\$58,830,484	Actual/Estimate
Q1 2023	\$57,552,152	\$65,199,835	Actual/Estimate
Q2 2023	\$65,764,561	\$74,848,428	Actual/Estimate
Q3 2023	\$69,736,334	\$80,138,081	Actual/Estimate
Q4 2023	\$77,124,227	\$82,054,098	Actual/Estimate
Q1 2024	\$75,303,265	\$81,444,285	Actual/Estimate
Q2 2024	\$78,914,442	\$83,310,263	Estimate/Estimate
Q3 2024	\$83,680,387	\$91,173,877	Estimate/Estimate