



New York State

Development of Recommended Actuarial Assumptions for Other
Post Employment Benefit Plan Actuarial Valuations

Participating Agency Version

August 2022

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Section 1 – Executive Summary

At the request of the New York State Department of Civil Service (DCS), Aon has developed actuarial assumptions for use by New York State, New York State Insurance Fund (NYSIF), and State University of New York System (SUNY) for the April 1, 2021 valuation of their obligation for postemployment benefits other than pension plans (OPEB) under Governmental Accounting Standard (GASB) Statement 74 and Statement 75. The basis for the development of these assumptions is outlined in our report to New York State Department of Civil Service (DCS), ***New York State, SUNY, and NYSIF Development of Recommended Actuarial Assumptions for April 1, 2021 Other Post Employment Benefit Plans Actuarial Valuation.***

Employers who are Participating Agencies (PAs) of the New York State Health Insurance Program (NYSHIP) need to value their OPEB obligation under GASB 75. In order to assist PAs with their valuation, and at the request of DCS, Aon has prepared this separate report, which presents the excerpts of our reports that may be relevant to the PAs. The assumptions in this report are a Statement of Actuarial Opinion, prepared by Wil Ocasio, Jessica Fenske, and Betsy Hanson. Mr. Ocasio is an Associate in the Society of Actuaries. Ms. Fenske is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Ms. Hanson is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. They collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

The Actuarial Assumptions Section presents assumptions that we and/or DCS believe may be relevant to the PAs along with some basic rationale for many of the selections. The rest of the report provides more detail and support for development of certain major assumptions.

This report is being provided to PAs solely as guidance. Because Aon prepared assumptions strictly for use by the State, NYSIF, and SUNY in valuing their OPEB obligation, the assumptions discussed herein may or may not be appropriate for an individual PA. Each agency should assess its own demographics and health care environment in order to develop the actuarial assumptions most appropriate for its own population, in consultation with its own actuarial and financial advisors. Furthermore, because some agencies provide their retirees or other former employees with other post-employment benefits not through NYSHIP, such as dental and life insurance, each PA will need to determine its own actuarial assumptions appropriate for valuing these benefits.

Highlights of Changes since 2020:

Notable assumption changes since the prior valuation include:

- Discount rate – tied to the yield on high quality municipal general obligation bonds. The rate as of March 31, 2022 is 2.73%
- Medical plan costs – rates shifted as actual usage by participants changed and members enrolled in different plans.
- Health care inflation (Trend) – the trend rates were updated to reflect the most recent information available as outlined in Section 4 of this report.
- Mortality Assumption – The mortality improvement scale was updated from MP-2020 to MP-2021.
- Withdrawal Rates – Rates updated for ERS, TRS, PFRS, Brooklyn Hospital, Stony Brook Hospital, Syracuse Hospital, Campus TIAA-CREF, and Campus (unknown retirement program) to reflect a study of experience from April 1, 2016 through March 31, 2021.
- Retirement Rates – Rates updated for ERS, PFRS, Brooklyn Hospital & Stony Brook Hospital, Syracuse Hospital, Campus TIAA-CREF, and Campus (unknown retirement program) to reflect a study of experience from April 1, 2016 through March 31, 2021. Rates for TRS were updated to

reflect the 2021 Experience study from the New York State Teachers' Retirement System (TRS).

- Disability Rates – Rates for TRS were updated to reflect the 2021 Experience study from the New York State Teachers' Retirement System (TRS).
- Salary Scale – Rates updated for all groups to reflect a study of experience from April 1, 2016 through March 31, 2021.
- Future Vestee Coverage – Rates for vested terminated participants maintaining active medical coverage at 100% premium cost prior to attaining full retirement age have been updated for all groups to reflect a study of experience from April 1, 2016 through March 31, 2021.

The 2021 valuation is being used to provide the basis for the accounting reporting under Government Accounting Standards Board Statement 74 and 75 (GASB 74 & 75).

Section 2 – Actuarial Assumptions

Actuarial assumptions are assumptions as to the occurrence of future events affecting OPEB costs. We performed the April 1, 2021 GASB 75 actuarial valuations for New York State, NYSIF, and SUNY based on the following Actuarial Assumptions:

ACTUARIAL METHOD: Entry Age Normal- Level Percentage of Payroll

VALUATION DATE: The valuation is performed as of April 1, 2021. All the cost information is as of this date.

MEASUREMENT DATE: GASB 75 provides that the expense and disclosure amounts can be computed as of a date no earlier than twelve months and one day before the fiscal year end. This approach is provided to allow employers to determine results in a timely fashion and to be prepared for the fiscal year end.

DISCOUNT RATE: Under GASB 75, the discount rate is determined as a blend of the long-term rate of return on assets set aside through a Trust fund to pay for future OPEB costs and, to the extent the long-term costs are not funded through a Trust, the current yield on high-quality municipal bonds. Since the plan is just starting to fund for NYS and SUNY Campus, and the other groups remain unfunded, this discount rate is tied to a high quality 20-year general obligation municipal bond rate. New York State has elected to use the value of the Bond Buyer 20-Bond GO index published the week (Monday – Sunday) of the measurement date. As of the March 31, 2022 measurement date, this rate is 2.73%.

ASSETS: The State started funding a Trust in March 2022 to be used for retirees in NYS and SUNY Campus. At this time, there are no assets set aside for NYSIF and SUNY Hospitals and the SUNY Construction Fund.

EXPECTED RETURN ON ASSETS: Since the Trust has just been established and the target asset allocation is still in development, we will be assuming an expected return on assets equal to the discount rate, 2.73%.

***Note for PAs:** Each individual PA should determine the appropriate assumption to use for its own valuation purposes based on its own target asset allocation.*

PER-CAPITA PLAN COSTS: GASB 75 indicates that per capita plan costs should be based upon claim costs or age adjusted premiums. State enrollees comprise over 50% of the overall Empire Plan enrollment. Changes in the demographics of State employees and retirees more immediately affect overall Empire Plan costs than other, smaller groups. Therefore, we believe it is more appropriate to establish per capita plan costs for the State's valuation of its liability based on the underlying Empire Plan claim costs of the retiree groups being valued.

For retirees in the Empire PPO Plan, the per capita costs were based on 2020 incurred claims adjusted to reflect the expected impact of COVID-19 (an increase of 10%), paid through June 30, 2021, for the hospital, medical, MH/SA, and prescription drug benefit programs for retired participants in the State plan (excluding Participating Agency (PA) and Participating Employer (PE) participants), along with enrollment, split between Medicare eligible and non-Medicare eligible participants. The experience was projected to the period April 1, 2021 – March 31, 2022 and adjusted as shown in the detail in Exhibit 3-1.

Certain individuals are enrolled in Medicare Part D Prescription Drug Plans (generally low-income individuals who qualify for various federal additional benefits). NYSHIP does not currently provide drug benefits for these individuals.

There continue to be many unknowns surrounding the impact of COVID-19 on claims costs for future years. We do expect the impact of COVID-19 to be short-term in nature, with claims costs returning to normal in 2022 and beyond. Therefore, we do not believe COVID-19 has a significant impact on long-

term claims costs projections and plan liabilities. Given the high level of short-term uncertainty and minimal long-term impact, we have adjusted the base experience period claims as noted but have not otherwise adjusted the claims costs or healthcare trend assumptions for COVID-19.

Note for PAs: *In the past, many PAs utilized community rated premium rates. Based on ASOP 6, this is no longer appropriate. Plans should value the age-related costs.*

AMORTIZATION OF LIABILITY GAINS AND LOSSES: Liability gains and losses will be amortized over a closed period based on the average Expected Remaining Service Life for actives and inactives combined.

RETIREE CONTRIBUTIONS: The State sets retiree contributions as a percentage of premiums. Premiums are established for active employees and retirees combined. Retirees contribute varying percentages of premiums. The most common percentage is 12% for coverage of the retiree and 27% for coverage of dependents. There are groups of retirees with other cost sharing percentages.

MEDICARE PART B PREMIUM: The State reimburses the Medicare Part B premium of Medicare eligible participants, the cost of which is socialized across all plan participants through plan premium rates. For Fiscal Year 2022, we project the average Medicare Part B premium to be 1,846.80 per Medicare eligible individual. This amount is based on the Part B premium rate for 2021 and 2022 for participants with income of less than \$85,000. Note that fewer than 5% of enrolled individuals are expected to exceed this threshold.

MEDICARE COORDINATION: Medicare is assumed to remain the primary payer for current and future retirees and spouses who are at least age 65. Medicare can also be the primary payer for individuals under age 65 who have been eligible to receive Social Security Disability benefits for 24 months, which in turn starts after a waiting period of 5 months of disability. For valuation purposes, Medicare is assumed to be the primary payer for current retirees and spouses under age 65 if the census data indicated that Medicare is currently the primary payer.

Certain retired individuals who are at least age 65 as of the valuation date are not indicated as being on Medicare in the census data. For valuation purposes, we will assume retired individuals who have attained age 66 as of the valuation date never go onto Medicare. Individuals who are age 65 but not coded as being on Medicare will be assumed to be affected by an administrative lag and thus are assumed to enroll in Medicare immediately.

We reviewed the census data for disability retirees who have been retired long enough to qualify for Medicare. Based on that data, we have assumed that Medicare will ultimately be the primary payer for 45% of future disabled PFRS participants, up from 40% last assumed last year and 80% of all other future disabled participants. In general, to become eligible for disability Medicare coverage, a person will need to wait the five-month qualifying period for Social Security Disability benefits and in most cases will be eligible for Medicare coverage 24 months later. We have assumed for valuation purposes that Medicare commences for disability retiree once they have met the required qualifying period. We have also assumed that Medicare will be the primary payer for the same proportions of those disability retirees who have been retired less than 24 months once they have been on disability retirement for 24 months. For the remaining participants who are currently disabled or who become disabled, we have assumed that Medicare is the primary payer at age 65.

AGE RELATED MORBIDITY: To reflect the differences in covered healthcare expenses due to aging, the increase in the per-capita plan costs for each age is assumed to be as follows:

Age	Medical Costs	Rx
40-44	3.0%	4.8%
45-49	3.7%	4.7%
50-54	4.2%	4.7%
55-59	4.4%	4.6%
60-64	3.7%	4.6%
65-69	2.7%	3.8%
70-74	1.8%	2.5%
75-79	2.2%	0.8%
80-84	2.8%	0.2%
85-89	1.4%	0.1%
90+	0.0%	0.0%

The age-related morbidity factors are applied to the per-capita plan costs for the Empire Plan.

Note for PAs: In the past, many PAs utilized community rated premium rates. Based on ASOP 6, this is no longer appropriate. Plans should value the age-related costs.

HEALTH CARE COST TREND: Per-capita retiree plan costs and premiums used to establish retiree contribution rates are assumed to increase each year in accordance with the following schedule:

From year	To year	Medical		Rx	EGWP
		<65	65+		Revenue
2021/22 ==>	2022/23	5.75%	5.00%	7.00%	3.00%
2022/23 ==>	2023/24	5.60%	4.90%	6.00%	3.00%
2023/24 ==>	2024/25	5.50%	4.80%	5.50%	3.00%
2024/25 ==>	2025/26	5.25%	4.80%	5.25%	3.00%
2025/26 ==>	2026/27	5.00%	4.75%	5.00%	3.00%
2026/27==>	2027/28	5.00%	4.70%	5.00%	3.00%
2027/28==>	2028/29	4.75%	4.60%	4.75%	3.00%
2028/29 +		4.50%	4.50%	4.50%	3.00%

The drug trend shown above applies to the drug costs and premiums associated with the Empire Plan. We assume that average fiscal year Medicare Part B premiums will increase at the same underlying health care trends as for Medical benefits to Medicare retirees.

Note for PAs: The trend rates above may also be appropriate for PAs, however, PAs should reflect their own expectations of future medical plan costs.

MORTALITY: The Society of Actuaries published public sector specific mortality experience tables, PUB 2010. This valuation will continue to utilize the Headcount weighted version which is more applicable for a retiree medical valuation. The General table will apply for ERS employees, the Teachers table will apply for TRS employees, and the Safety table will apply for PFRS employees. SUNY Campus employees who are not clearly identifiable as PFRS or TRS members are valued using ERS assumptions.

In order to reflect future mortality improvement, the mortality is projected generationally using the most recently published projection scale, MP-2021.

WITHDRAWAL, DISABILITY, AND RETIREMENT: The rates of decrement are summarized in Exhibits 2-3 through 2-5. Disability refers to employees who separate from service by reason of disability. Withdrawal refers to employees who separate from service by reason of termination prior to retirement eligibility. Retirement refers to employees who separate from service by reason of termination once they attained retirement eligibility.

The Disability rates and TRS Retirement rates are based on the experience under the New York State & Local Retirement System (ERS & PFRS) and the New York State Teachers' Retirement System (TRS). These assumptions were last updated 2020 for ERS & PFRS and 2021 for TRS.

The Withdrawal and non-TRS Retirement rates were updated for the 2021 valuation and based on actual experience from April 1, 2016 through March 31, 2021. SUNY Campus employees who are not clearly identifiable as ERS, TRS, PFRS, or Teachers Insurance and Annuity Associate of America/College Retirement Equities Fund (TIAA/CREF) participants were studied as an isolated group, referred to as SUNY Campus (unknown retirement program), and had Retirement and Withdrawal rates set based on actual experience.

Note for PAs: Each individual PA should determine appropriate assumptions to use for its own valuation purposes. For more information on these assumptions, please see the discussion in the Demographic Assumptions Section.

PROJECTED SALARY INCREASE ASSUMPTION: Salary increase assumption was updated for the 2021 valuation based on actual experience from April 1, 2016 through March 31, 2021. Summarized in Exhibit 2-6.

Note for PAs: Each individual PA should determine appropriate assumptions to use for its own valuation purposes. For more information on these assumptions, please see the discussion in the Demographic Assumptions Section.

GENERAL INFLATION: 2.50% assumed long-term inflation.

VESTEE COVERAGE: Vestees pay 100% of premium prior to eligibility for retiree medical benefits. Beginning at age 55, we value all vestees – consistent with our valuation assumption for retirees.

For current vestees, we assume all will opt to switch from vestee status to retiree status at age 55.

For future vested terminations, we have assumed that the following percentage of terminated employees (excluding those terminated due to death, disability or retirement) will elect to remain in their current medical plan option as a vestee. This assumption was updated for the 2021 valuation, based on the actual experience from April 1, 2016 through March 31, 2021.

Age	Percent Electing
Under 35	0%
35-41	5%
42-	10%
46-47	15%
48-53	35%
54	75%

PLAN ELECTIONS: 100% of future retirees who are currently participating in NYSHIP coverage are assumed to participate in the retiree medical program at retirement. 100% of Active participants in the NYSHIP opt-out program are assumed to be covered under NYSHIP in retirement. We assume that all retirees (i.e., current actives and current non-Medicare eligible retirees) will participate in their current medical plan option prior to Medicare eligibility, with the exception of active participants in the NYSHIP opt-out program. Those participants are assumed to elect coverage in the Empire Plan at retirement.

Note for PAs: *The NYSHIP opt-out program may or may not be applicable to certain PAs.*

For current non-Medicare eligible retirees and future retirees, all who currently participate in the Empire Plan are assumed to remain in the Empire Plan upon becoming eligible for Medicare. In all instances, spouses are assumed to participate in the same medical plan option as the retiree. If the retiree is deceased, the spouse is assumed to participate in the same healthcare plan as the retiree would have been assumed to participate in if he or she were alive.

Note for PAs: *This assumption was based on the experience of the State, NYSIF, and SUNY retirees. Plan elections and enrollment may differ for a different population.*

DEPENDENTS: For current retirees, actual data is used regarding dependent coverage. For future retirees, we modeled the percentage of active participants married as well as the age difference between the enrollee and spouse, based on data for older actives and recent retirees. We assume 60% of males and 35% of females will be married at retirement, and all married spouses will be covered under NYSHIP. Female spouses are assumed to be 3 years younger than their husbands, and male spouses are assumed to be 2 years older than their wives.

Note for PAs: *This assumption was based on the experience of the State, NYSIF, and SUNY retirees. Each PA should consider the demographics of its own population when developing this assumption.*

CENSUS DATA: Census data was provided by New York State Department of Civil Service as of April 1, 2021. Reasonable assumptions were made if any data elements are unavailable or if any data elements are not within a reasonable range.

Note for PAs: *Individual agency census data will be provided by DCS upon request.*

SUBSEQUENT EVENTS: The assumptions in this report were developed in May 2022. We have not revised the assumptions to reflect updated Empire Plan claim experience, Empire Plan premiums, or Medicare Part B premiums, nor any other more recent event except as noted.

**EXHIBIT 2-1 Per Capita Gross Plan Costs
4/1/2021-3/31/2022**

Preferred Provider Organization (PPO) claim costs

<u>Age</u>	<u>Medical</u>	<u>Rx</u>	<u>EGWP Revenue</u>	<u>Total</u>
1	\$3,914	\$410	n/a	\$4,325
2	\$3,914	\$410	n/a	\$4,325
3	\$3,914	\$410	n/a	\$4,325
4	\$3,914	\$410	n/a	\$4,325
5	\$3,914	\$410	n/a	\$4,325
6	\$3,914	\$410	n/a	\$4,325
7	\$3,914	\$410	n/a	\$4,325
8	\$3,914	\$410	n/a	\$4,325
9	\$3,914	\$410	n/a	\$4,325
10	\$3,914	\$410	n/a	\$4,325
11	\$3,914	\$410	n/a	\$4,325
12	\$3,914	\$410	n/a	\$4,325
13	\$3,914	\$410	n/a	\$4,325
14	\$3,914	\$410	n/a	\$4,325
15	\$3,914	\$410	n/a	\$4,325
16	\$3,914	\$410	n/a	\$4,325
17	\$3,914	\$410	n/a	\$4,325
18	\$3,914	\$410	n/a	\$4,325
19	\$3,914	\$410	n/a	\$4,325
20	\$3,914	\$410	n/a	\$4,325
21	\$4,032	\$430	n/a	\$4,462
22	\$4,153	\$451	n/a	\$4,603
23	\$4,277	\$472	n/a	\$4,750
24	\$4,406	\$495	n/a	\$4,901
25	\$4,538	\$519	n/a	\$5,057
26	\$4,674	\$543	n/a	\$5,218
27	\$4,814	\$570	n/a	\$5,384
28	\$4,959	\$597	n/a	\$5,556
29	\$5,108	\$626	n/a	\$5,733
30	\$5,261	\$656	n/a	\$5,916
31	\$5,419	\$687	n/a	\$6,106
32	\$5,581	\$720	n/a	\$6,301
33	\$5,749	\$755	n/a	\$6,503
34	\$5,921	\$791	n/a	\$6,712
35	\$6,099	\$829	n/a	\$6,927
36	\$6,282	\$868	n/a	\$7,150
37	\$6,470	\$910	n/a	\$7,380
38	\$6,664	\$954	n/a	\$7,618
39	\$6,864	\$1,000	n/a	\$7,864
40	\$7,070	\$1,048	n/a	\$8,118

**EXHIBIT 2-1 Per Capita Gross Plan Costs
4/1/2021-3/31/2022**

Age	PPO claim costs			Total
	Medical	Rx	EGWP Revenue	
41	\$7,282	\$1,098	n/a	\$8,380
42	\$7,501	\$1,151	n/a	\$8,651
43	\$7,726	\$1,206	n/a	\$8,931
44	\$7,957	\$1,264	n/a	\$9,221
45	\$8,196	\$1,324	n/a	\$9,520
46	\$8,499	\$1,387	n/a	\$9,886
47	\$8,814	\$1,452	n/a	\$10,266
48	\$9,140	\$1,520	n/a	\$10,660
49	\$9,478	\$1,591	n/a	\$11,070
50	\$9,829	\$1,666	n/a	\$11,495
51	\$10,242	\$1,745	n/a	\$11,986
52	\$10,672	\$1,827	n/a	\$12,498
53	\$11,120	\$1,912	n/a	\$13,032
54	\$11,587	\$2,002	n/a	\$13,589
55	\$12,074	\$2,096	n/a	\$14,170
56	\$12,605	\$2,193	n/a	\$14,798
57	\$13,159	\$2,294	n/a	\$15,453
58	\$13,738	\$2,399	n/a	\$16,138
59	\$14,343	\$2,510	n/a	\$16,853
60	\$14,974	\$2,625	n/a	\$17,599
61	\$15,528	\$2,746	n/a	\$18,274
62	\$16,103	\$2,872	n/a	\$18,975
63	\$16,698	\$3,004	n/a	\$19,703
64	\$17,316	\$3,142	n/a	\$20,459
65	\$1,416	\$3,287	(\$1,405)	\$3,298
66	\$1,454	\$3,412	(\$1,458)	\$3,408
67	\$1,493	\$3,542	(\$1,514)	\$3,521
68	\$1,534	\$3,676	(\$1,571)	\$3,639
69	\$1,575	\$3,816	(\$1,631)	\$3,760
70	\$1,618	\$3,961	(\$1,693)	\$3,886
71	\$1,647	\$4,060	(\$1,735)	\$3,971
72	\$1,677	\$4,161	(\$1,779)	\$4,059
73	\$1,707	\$4,265	(\$1,823)	\$4,149
74	\$1,737	\$4,372	(\$1,869)	\$4,241
75	\$1,769	\$4,481	(\$1,916)	\$4,335
76	\$1,808	\$4,517	(\$1,931)	\$4,394
77	\$1,847	\$4,553	(\$1,946)	\$4,454
78	\$1,888	\$4,590	(\$1,962)	\$4,516
79	\$1,930	\$4,626	(\$1,978)	\$4,578
80	\$1,972	\$4,663	(\$1,993)	\$4,642

**EXHIBIT 2-1 Per Capita Gross Plan Costs
4/1/2021-3/31/2022**

<u>Age</u>	<u>Medical</u>	<u>PPO claim costs</u>		<u>Total</u>
		<u>Rx</u>	<u>EGWP Revenue</u>	
81	\$2,027	\$4,673	(\$1,997)	\$4,703
82	\$2,084	\$4,682	(\$2,001)	\$4,765
83	\$2,142	\$4,691	(\$2,005)	\$4,828
84	\$2,202	\$4,701	(\$2,009)	\$4,894
85	\$2,264	\$4,710	(\$2,013)	\$4,961
86	\$2,296	\$4,715	(\$2,015)	\$4,995
87	\$2,328	\$4,720	(\$2,017)	\$5,030
88	\$2,360	\$4,724	(\$2,019)	\$5,065
89	\$2,393	\$4,729	(\$2,021)	\$5,101
90+	\$2,427	\$4,734	(\$2,023)	\$5,137

**Exhibit 2-2 Premium Used for Establishing Retiree Contributions
4/1/2021 - 3/31/2022**

<u>Name</u>	<u>Code</u>	<u>Non-Medicare Eligible</u>			<u>Medicare Eligible</u>		
		<u>NonRx</u>	<u>Rx</u>	<u>Total</u>	<u>NonRx</u>	<u>Rx</u>	<u>Total</u>
Empire PPO	Retiree/SS	\$8,212	\$2,096	\$10,308	\$8,212	\$2,096	\$10,308
	Spouse	\$12,855	\$2,325	\$15,179	\$12,855	\$2,325	\$15,179

Exhibit 2-3 Withdrawal Rates

ERS Tier 1-4

Age	Years of Service						
	≤ 1	1 - 1.99	2 - 4.99	5 - 6.99	7 - 7.99	8 - 9.99	≥ 10
20	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
21	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
22	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
23	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
24	22.00%	27.00%	16.00%	25.00%	25.00%	25.00%	12.50%
25	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
26	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
27	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
28	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
29	14.00%	17.50%	24.00%	20.00%	20.00%	20.00%	12.50%
30	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
31	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
32	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
33	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
34	12.00%	18.00%	24.00%	24.00%	18.00%	12.00%	12.00%
35	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
36	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
37	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
38	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
39	10.00%	12.00%	14.00%	10.00%	9.50%	9.50%	6.30%
40	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
41	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
42	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
43	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
44	10.00%	17.00%	10.00%	10.00%	8.00%	8.00%	4.20%
45	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
46	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
47	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
48	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
49	19.00%	19.00%	11.00%	10.00%	7.50%	7.50%	3.00%
50	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
51	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
52	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
53	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
54	10.00%	11.50%	10.00%	7.00%	6.00%	6.00%	3.00%
55	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
56	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
57	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
58	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
59	10.00%	6.50%	11.00%	7.00%	4.50%	4.50%	0.00%
60	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
61	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
62	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
63	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
64	10.00%	15.00%	10.00%	10.00%	7.25%	2.00%	0.00%
65	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
66	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
67	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
68	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
69	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%
70	10.00%	10.00%	12.00%	12.00%	9.75%	2.00%	0.00%

Exhibit 2-3 Withdrawal Rates

ERS Tier 5-6

Age	Years of Service							
	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 5.99	6 - 7.99	8 - 9.99	> = 10
20	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
21	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
22	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
23	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
24	31.00%	20.30%	15.80%	15.80%	14.90%	14.90%	14.90%	11.10%
25	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
26	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
27	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
28	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
29	17.80%	13.60%	11.10%	8.60%	8.70%	8.70%	8.70%	11.10%
30	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
31	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
32	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
33	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
34	15.00%	12.90%	9.30%	7.40%	6.10%	6.10%	6.10%	5.30%
35	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
36	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
37	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
38	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
39	14.30%	11.80%	7.50%	6.10%	5.40%	4.80%	4.30%	4.30%
40	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
41	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
42	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
43	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
44	16.00%	11.30%	7.50%	5.60%	5.40%	4.60%	3.40%	1.80%
45	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
46	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
47	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
48	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
49	16.00%	10.40%	7.50%	5.60%	5.40%	4.10%	2.70%	3.20%
50	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
51	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
52	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
53	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
54	18.00%	11.90%	7.20%	5.40%	4.10%	4.10%	4.10%	5.40%
55	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
56	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
57	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
58	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
59	16.40%	10.30%	5.80%	5.80%	4.10%	4.10%	4.10%	4.80%
60	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
61	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
62	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
63	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
64	18.00%	14.80%	7.60%	7.60%	6.80%	6.80%	4.70%	0.00%
65	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
66	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
67	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
68	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
69	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%
70	18.00%	18.00%	13.00%	11.70%	13.30%	13.30%	13.30%	0.00%

**Exhibit 2-3 Withdrawal Rates
Upstate (Syracuse) Medical Center**

Age	Years of Service							
	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 5.99	6 - 7.99	8 - 9.99	> = 10
20	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
21	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
22	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
23	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
24	25.00%	25.00%	21.00%	19.00%	19.00%	24.00%	14.00%	14.00%
25	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
26	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
27	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
28	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
29	25.00%	23.00%	18.00%	16.00%	19.00%	15.00%	14.00%	14.00%
30	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
31	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
32	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
33	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
34	20.00%	18.00%	17.00%	31.00%	15.00%	12.00%	9.00%	12.00%
35	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
36	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
37	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
38	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
39	20.00%	18.00%	17.00%	19.00%	15.00%	10.00%	8.00%	8.00%
40	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
41	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
42	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
43	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
44	20.00%	17.00%	16.00%	11.00%	9.00%	9.00%	8.00%	6.00%
45	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
46	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
47	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
48	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
49	20.00%	19.00%	19.00%	11.00%	7.00%	7.00%	5.00%	5.00%
50	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
51	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
52	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
53	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
54	20.00%	14.00%	7.00%	8.00%	6.00%	6.00%	5.00%	5.00%
55	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
56	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
57	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
58	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
59	8.00%	8.00%	10.00%	11.00%	4.00%	4.00%	5.00%	0.00%
60	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
61	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
62	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
63	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
64	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
65	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
66	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
67	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
68	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
69	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%
70	15.00%	15.00%	15.00%	15.00%	15.00%	15.00%	10.00%	0.00%

Exhibit 2-3 Withdrawal Rates

Brooklyn Hospital

Age	Years of Service				
	< 2	2 - 2.99	3 - 3.99	5 - 9.99	> = 10
20	33.00%	67.00%	36.00%	19.00%	31.00%
21	33.00%	67.00%	36.00%	19.00%	31.00%
22	33.00%	67.00%	36.00%	19.00%	31.00%
23	33.00%	67.00%	36.00%	19.00%	31.00%
24	33.00%	67.00%	36.00%	19.00%	31.00%
25	22.00%	20.00%	36.00%	19.00%	31.00%
26	22.00%	20.00%	36.00%	19.00%	31.00%
27	22.00%	20.00%	36.00%	19.00%	31.00%
28	22.00%	20.00%	36.00%	19.00%	31.00%
29	22.00%	20.00%	36.00%	19.00%	31.00%
30	22.00%	27.00%	52.00%	36.00%	30.00%
31	22.00%	27.00%	52.00%	36.00%	30.00%
32	22.00%	27.00%	52.00%	36.00%	30.00%
33	22.00%	27.00%	52.00%	36.00%	30.00%
34	22.00%	27.00%	52.00%	36.00%	30.00%
35	24.00%	27.00%	47.00%	20.00%	12.00%
36	24.00%	27.00%	47.00%	20.00%	12.00%
37	24.00%	27.00%	47.00%	20.00%	12.00%
38	24.00%	27.00%	47.00%	20.00%	12.00%
39	24.00%	27.00%	47.00%	20.00%	12.00%
40	15.00%	24.00%	36.00%	16.00%	8.00%
41	15.00%	24.00%	36.00%	16.00%	8.00%
42	15.00%	24.00%	36.00%	16.00%	8.00%
43	15.00%	24.00%	36.00%	16.00%	8.00%
44	15.00%	24.00%	36.00%	16.00%	8.00%
45	21.00%	17.00%	27.00%	8.00%	7.00%
46	21.00%	17.00%	27.00%	8.00%	7.00%
47	21.00%	17.00%	27.00%	8.00%	7.00%
48	21.00%	17.00%	27.00%	8.00%	7.00%
49	21.00%	17.00%	27.00%	8.00%	7.00%
50	8.00%	23.00%	20.00%	6.00%	5.00%
51	8.00%	23.00%	20.00%	6.00%	5.00%
52	8.00%	23.00%	20.00%	6.00%	5.00%
53	8.00%	23.00%	20.00%	6.00%	5.00%
54	8.00%	23.00%	20.00%	6.00%	5.00%
55	21.00%	22.00%	10.00%	9.00%	13.00%
56	21.00%	22.00%	10.00%	9.00%	13.00%
57	21.00%	22.00%	10.00%	9.00%	13.00%
58	21.00%	22.00%	10.00%	9.00%	13.00%
59	21.00%	22.00%	10.00%	9.00%	13.00%
60	24.00%	6.00%	17.00%	6.00%	33.00%
61	24.00%	6.00%	17.00%	6.00%	33.00%
62	24.00%	6.00%	17.00%	6.00%	33.00%
63	24.00%	6.00%	17.00%	6.00%	33.00%
64	24.00%	6.00%	17.00%	6.00%	33.00%
65	33.00%	33.00%	33.00%	15.00%	0.00%
66	33.00%	33.00%	33.00%	15.00%	0.00%
67	33.00%	33.00%	33.00%	15.00%	0.00%
68	33.00%	33.00%	33.00%	15.00%	0.00%
69	33.00%	33.00%	33.00%	15.00%	0.00%
70	50.00%	33.00%	33.00%	15.00%	0.00%

Exhibit 2-3 Withdrawal Rates

Stony Brook Hospital

Age	Years of Service				
	< 2	2 - 2.99	3 - 4.99	5 - 9.99	> = 10
20	22.00%	25.00%	17.00%	9.00%	13.00%
21	22.00%	25.00%	17.00%	9.00%	13.00%
22	22.00%	25.00%	17.00%	9.00%	13.00%
23	22.00%	25.00%	17.00%	9.00%	13.00%
24	22.00%	25.00%	17.00%	9.00%	13.00%
25	22.00%	20.00%	22.00%	18.00%	13.00%
26	22.00%	20.00%	22.00%	18.00%	13.00%
27	22.00%	20.00%	22.00%	18.00%	13.00%
28	22.00%	20.00%	22.00%	18.00%	13.00%
29	22.00%	20.00%	22.00%	18.00%	13.00%
30	22.00%	21.00%	38.00%	18.00%	16.00%
31	22.00%	21.00%	38.00%	18.00%	16.00%
32	22.00%	21.00%	38.00%	18.00%	16.00%
33	22.00%	21.00%	38.00%	18.00%	16.00%
34	22.00%	21.00%	38.00%	18.00%	16.00%
35	25.00%	21.00%	25.00%	11.00%	8.00%
36	25.00%	21.00%	25.00%	11.00%	8.00%
37	25.00%	21.00%	25.00%	11.00%	8.00%
38	25.00%	21.00%	25.00%	11.00%	8.00%
39	25.00%	21.00%	25.00%	11.00%	8.00%
40	19.00%	17.00%	14.00%	8.00%	5.00%
41	19.00%	17.00%	14.00%	8.00%	5.00%
42	19.00%	17.00%	14.00%	8.00%	5.00%
43	19.00%	17.00%	14.00%	8.00%	5.00%
44	19.00%	17.00%	14.00%	8.00%	5.00%
45	12.00%	20.00%	14.00%	7.00%	4.00%
46	12.00%	20.00%	14.00%	7.00%	4.00%
47	12.00%	20.00%	14.00%	7.00%	4.00%
48	12.00%	20.00%	14.00%	7.00%	4.00%
49	12.00%	20.00%	14.00%	7.00%	4.00%
50	18.00%	10.00%	11.00%	7.00%	4.00%
51	18.00%	10.00%	11.00%	7.00%	4.00%
52	18.00%	10.00%	11.00%	7.00%	4.00%
53	18.00%	10.00%	11.00%	7.00%	4.00%
54	18.00%	10.00%	11.00%	7.00%	4.00%
55	18.00%	10.00%	10.00%	4.00%	0.00%
56	18.00%	10.00%	10.00%	4.00%	0.00%
57	18.00%	10.00%	10.00%	4.00%	0.00%
58	18.00%	10.00%	10.00%	4.00%	0.00%
59	18.00%	10.00%	10.00%	4.00%	0.00%
60	4.00%	15.00%	9.00%	8.00%	0.00%
61	4.00%	15.00%	9.00%	8.00%	0.00%
62	4.00%	15.00%	9.00%	8.00%	0.00%
63	4.00%	15.00%	9.00%	8.00%	0.00%
64	4.00%	15.00%	9.00%	8.00%	0.00%
65	25.00%	10.00%	10.00%	5.00%	0.00%
66	25.00%	10.00%	10.00%	5.00%	0.00%
67	25.00%	10.00%	10.00%	5.00%	0.00%
68	25.00%	10.00%	10.00%	5.00%	0.00%
69	25.00%	10.00%	10.00%	5.00%	0.00%
70	0.00%	0.00%	0.00%	0.00%	0.00%

Exhibit 2-3 Withdrawal Rates

PFRS – All Tiers

Age	Years of Service						
	< 1	1 - 1.99	2 - 2.99	3 - 3.99	4 - 4.99	5 - 5.99	6 - 7.99
20-24	10.00%	2.00%	2.00%	5.00%	1.00%	2.00%	3.00%
25-29	7.00%	5.00%	2.00%	2.00%	1.00%	2.00%	3.00%
30-34	7.00%	5.00%	2.00%	2.00%	1.00%	2.00%	2.00%
35-39	7.00%	5.00%	2.00%	1.00%	1.00%	1.00%	2.00%
40-44	7.00%	1.00%	2.00%	1.00%	1.00%	1.00%	2.00%
45-49	7.00%	1.00%	2.00%	2.00%	1.00%	2.00%	8.00%
50-54	7.00%	10.00%	2.00%	7.00%	1.00%	1.00%	8.00%
55-59	7.00%	1.00%	1.00%	7.00%	1.00%	1.00%	1.00%
60-64	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
65-69	7.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
70+	7.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%

Age	Years of Service						
	8 - 9.99	10 - 10.99	11 - 15.99	16 - 17.99	18 - 18.99	19 - 19.99	≥ 20
20-24	1.00%	1.00%	3.00%	1.00%	1.00%	1.00%	5.00%
25-29	1.00%	1.00%	3.00%	1.00%	1.00%	1.00%	5.00%
30-34	1.00%	1.00%	2.00%	1.00%	1.00%	1.00%	5.00%
35-39	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	5.00%
40-44	1.00%	1.00%	1.00%	2.00%	2.00%	2.00%	5.00%
45-49	1.00%	1.00%	1.00%	2.00%	3.00%	5.00%	5.00%
50-54	1.00%	1.00%	3.00%	10.00%	10.00%	10.00%	5.00%
55-59	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	5.00%
60-64	10.00%	15.00%	15.00%	15.00%	15.00%	15.00%	5.00%
65-69	1.00%	1.00%	1.00%	15.00%	15.00%	15.00%	5.00%
70+	1.00%	1.00%	1.00%	15.00%	15.00%	15.00%	5.00%

**Exhibit 2-3 Withdrawal Rates
Campus TIAA-CREF**

Age	Years of Service						
	< 1	1 - 1.99	2 - 2.99	3 - 4.99	5 - 8.99	9 - 9.99	> = 10
20	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
21	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
22	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
23	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
24	20.00%	30.00%	15.00%	15.00%	50.00%	21.00%	13.00%
25	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
26	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
27	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
28	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	13.00%
29	15.00%	20.00%	23.00%	25.00%	20.00%	21.00%	12.00%
30	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
31	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
32	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
33	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
34	15.00%	20.00%	23.00%	23.00%	20.00%	15.00%	12.00%
35	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
36	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
37	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
38	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
39	10.00%	13.00%	13.00%	14.00%	10.00%	7.00%	6.00%
40	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
41	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
42	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
43	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
44	10.00%	20.00%	10.00%	10.00%	8.00%	7.00%	4.00%
45	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
46	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
47	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
48	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
49	30.00%	15.00%	10.00%	10.00%	8.00%	4.50%	3.00%
50	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
51	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
52	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
53	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
54	10.00%	15.00%	10.00%	10.00%	7.00%	4.50%	3.00%
55	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
56	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
57	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
58	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
59	10.00%	10.00%	10.00%	10.00%	5.00%	3.00%	0.00%
60	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
61	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
62	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
63	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
64	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
65	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
66	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
67	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
68	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
69	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%
70	15.00%	15.00%	10.00%	10.00%	8.00%	3.00%	0.00%

Exhibit 2-3 Withdrawal Rates
Campus (unknown retirement program)

Age	Years of Service							
	< 1	1 - 1.99	2 - 2.99	3 - 3.99	4 - 4.99	5 - 8.99	9 - 9.99	> = 10
20	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
21	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
22	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
23	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
24	30.00%	30.00%	30.00%	25.00%	20.00%	20.00%	20.00%	12.00%
25	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
26	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
27	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
28	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
29	25.00%	25.00%	25.00%	25.00%	20.00%	20.00%	20.00%	12.00%
30	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
31	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
32	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
33	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
34	20.00%	20.00%	25.00%	25.00%	25.00%	20.00%	20.00%	12.00%
35	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
36	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
37	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
38	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
39	15.00%	20.00%	20.00%	15.00%	20.00%	15.00%	15.00%	12.00%
40	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
41	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
42	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
43	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
44	15.00%	20.00%	20.00%	15.00%	15.00%	15.00%	15.00%	7.00%
45	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
46	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
47	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
48	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
49	20.00%	20.00%	15.00%	15.00%	15.00%	10.00%	10.00%	7.00%
50	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
51	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
52	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
53	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
54	15.00%	20.00%	15.00%	15.00%	10.00%	10.00%	5.00%	7.00%
55	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
56	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
57	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
58	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
59	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
60	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
61	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
62	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
63	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
64	15.00%	15.00%	20.00%	20.00%	10.00%	5.00%	5.00%	5.00%
65	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
66	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
67	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
68	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
69	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%
70	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%	20.00%

Exhibit 2-3 Withdrawal Rates

TRS

Age	Years of Service			
	<u>0 - 2.99</u>	<u>3 - 3.99</u>	<u>4 - 9.99</u>	<u>> = 10</u>
20	15.00%	20.00%	15.00%	15.00%
21	15.00%	20.00%	15.00%	15.00%
22	15.00%	20.00%	15.00%	15.00%
23	15.00%	20.00%	15.00%	15.00%
24	15.00%	20.00%	15.00%	15.00%
25	15.00%	25.00%	15.00%	15.00%
26	15.00%	25.00%	15.00%	15.00%
27	15.00%	25.00%	15.00%	15.00%
28	15.00%	25.00%	15.00%	15.00%
29	15.00%	25.00%	15.00%	15.00%
30	15.00%	15.00%	15.00%	3.00%
31	15.00%	15.00%	15.00%	3.00%
32	15.00%	15.00%	15.00%	3.00%
33	15.00%	15.00%	15.00%	3.00%
34	15.00%	15.00%	15.00%	3.00%
35	10.00%	12.00%	12.00%	10.00%
36	10.00%	12.00%	12.00%	10.00%
37	10.00%	12.00%	12.00%	10.00%
38	10.00%	12.00%	12.00%	10.00%
39	10.00%	12.00%	12.00%	10.00%
40	15.00%	12.00%	8.00%	8.00%
41	15.00%	12.00%	8.00%	8.00%
42	15.00%	12.00%	8.00%	8.00%
43	15.00%	12.00%	8.00%	8.00%
44	15.00%	12.00%	8.00%	8.00%
45	15.00%	15.00%	8.00%	8.00%
46	15.00%	15.00%	8.00%	8.00%
47	15.00%	15.00%	8.00%	8.00%
48	15.00%	15.00%	8.00%	8.00%
49	15.00%	15.00%	8.00%	8.00%
50	15.00%	15.00%	8.00%	8.00%
51	15.00%	15.00%	8.00%	8.00%
52	15.00%	15.00%	8.00%	8.00%
53	15.00%	15.00%	8.00%	8.00%
54	15.00%	15.00%	8.00%	8.00%
55	20.00%	10.00%	8.00%	0.00%
56	20.00%	10.00%	8.00%	0.00%
57	20.00%	10.00%	8.00%	0.00%
58	20.00%	10.00%	8.00%	0.00%
59	20.00%	10.00%	8.00%	0.00%
60	20.00%	10.00%	8.00%	0.00%
61	20.00%	10.00%	8.00%	0.00%
62	20.00%	10.00%	8.00%	0.00%
63	20.00%	10.00%	8.00%	0.00%
64	20.00%	10.00%	8.00%	0.00%
65	20.00%	10.00%	20.00%	0.00%
66	20.00%	10.00%	20.00%	0.00%
67	20.00%	10.00%	20.00%	0.00%
68	20.00%	10.00%	20.00%	0.00%
69	20.00%	10.00%	20.00%	0.00%
70	20.00%	10.00%	20.00%	0.00%

Exhibit 2-4 Disability Rates

	ERS			PFRS		TRS	
	Accidental Disability		All Other Disability	Accidental Disability*	All Other Disability	Male Disability**	Female Disability**
	Tiers 1 & 2	Tiers 3 - 6					
15	0.020%	0.001%	0.006%	0.040%	0.001%		
16	0.020%	0.001%	0.006%	0.040%	0.001%		
17	0.020%	0.001%	0.007%	0.040%	0.001%		
18	0.020%	0.001%	0.008%	0.040%	0.002%		
19	0.020%	0.001%	0.009%	0.040%	0.002%		
20	0.020%	0.001%	0.010%	0.040%	0.002%		
21	0.020%	0.001%	0.011%	0.040%	0.002%		
22	0.020%	0.001%	0.012%	0.040%	0.002%		
23	0.020%	0.001%	0.014%	0.040%	0.003%		
24	0.020%	0.001%	0.015%	0.040%	0.003%		
25	0.020%	0.001%	0.017%	0.040%	0.003%		
26	0.020%	0.001%	0.019%	0.040%	0.004%		
27	0.020%	0.001%	0.021%	0.040%	0.004%		
28	0.020%	0.001%	0.023%	0.040%	0.005%		
29	0.020%	0.001%	0.025%	0.040%	0.005%		
30	0.020%	0.001%	0.028%	0.040%	0.006%	0.0007%	0.0004%
31	0.020%	0.001%	0.031%	0.040%	0.006%	0.0031%	0.0018%
32	0.020%	0.001%	0.035%	0.040%	0.007%	0.0060%	0.0048%
33	0.020%	0.001%	0.039%	0.040%	0.008%	0.0100%	0.0140%
34	0.020%	0.001%	0.043%	0.040%	0.009%	0.0131%	0.0225%
35	0.020%	0.001%	0.048%	0.040%	0.010%	0.0156%	0.0242%
36	0.020%	0.001%	0.053%	0.100%	0.011%	0.0183%	0.0212%
37	0.020%	0.001%	0.059%	0.160%	0.012%	0.0220%	0.0191%
38	0.020%	0.001%	0.066%	0.220%	0.013%	0.0261%	0.0202%
39	0.020%	0.001%	0.073%	0.280%	0.015%	0.0297%	0.0252%
40	0.020%	0.001%	0.081%	0.340%	0.016%	0.0324%	0.0330%
41	0.020%	0.001%	0.090%	0.400%	0.018%	0.0353%	0.0415%
42	0.020%	0.001%	0.100%	0.460%	0.020%	0.0378%	0.0468%
43	0.020%	0.004%	0.111%	0.520%	0.022%	0.0439%	0.0566%
44	0.020%	0.004%	0.124%	0.580%	0.025%	0.0519%	0.0684%
45	0.020%	0.004%	0.137%	0.640%	0.027%	0.0610%	0.0758%
46	0.020%	0.004%	0.153%	0.640%	0.031%	0.0680%	0.0788%
47	0.020%	0.004%	0.170%	0.640%	0.034%	0.0724%	0.0841%
48	0.020%	0.004%	0.189%	0.640%	0.038%	0.0772%	0.0961%
49	0.020%	0.004%	0.210%	0.640%	0.042%	0.0878%	0.1145%
50	0.020%	0.004%	0.233%	0.640%	0.047%	0.1035%	0.1325%
51	0.020%	0.004%	0.259%	0.640%	0.052%	0.1225%	0.1528%
52	0.020%	0.004%	0.288%	0.640%	0.058%	0.1395%	0.1608%
53	0.020%	0.004%	0.320%	0.640%	0.064%	0.1480%	0.1611%
54	0.020%	0.004%	0.355%	0.640%	0.071%	0.1435%	0.1527%
55	0.015%	0.004%	0.395%	0.640%	0.079%	0.1287%	0.1454%
56	0.015%	0.004%	0.438%	0.640%	0.088%	0.1060%	0.1270%
57	0.015%	0.004%	0.487%	0.640%	0.097%	0.0845%	0.1121%
58	0.015%	0.004%	0.541%	0.640%	0.108%	0.0721%	0.1012%
59	0.015%	0.004%	0.602%	0.640%	0.120%	0.0655%	0.0956%
60	0.015%	0.004%	0.668%	0.640%	0.134%	0.0642%	0.0848%
61	0.015%	0.004%	0.743%	0.640%	0.149%	0.0617%	0.0749%
62	0.015%	0.004%	0.825%	0.640%	0.165%	0.0581%	0.0684%
63	0.015%	0.004%	0.917%	0.640%	0.183%	0.0536%	0.0591%
64	0.015%	0.004%	1.019%	0.640%	0.204%	0.0485%	0.0551%
65	0.015%	0.004%	1.121%	0.640%	0.224%	0.0430%	0.0476%

Exhibit 2-4 Disability Rates

	ERS			PFRS		TRS	
	<u>Accidental Disability</u>		<u>All Other Disability</u>	<u>Accidental Disability*</u>	<u>All Other Disability</u>	<u>Male Disability</u>	<u>Female Disability</u>
	<u>Tiers 1 & 2</u>	<u>Tiers 3 - 6</u>					
66	0.015%	0.004%	1.233%	0.640%	0.247%	0.0430%	0.0476%
67	0.015%	0.004%	1.356%	0.640%	0.271%	0.0373%	0.0258%
68	0.015%	0.004%	1.492%	0.640%	0.298%	0.0317%	0.0178%
69	0.015%	0.004%	1.641%	0.640%	0.328%	0.0264%	0.0169%
70	0.000%	0.000%	0.000%	0.000%	0.000%	0.0215%	0.0152%
71						0.0135%	0.0107%
72						0.0104%	0.0083%
73						0.0078%	0.0060%
74						0.0058%	0.0042%
75						0.0042%	0.0028%
76						0.0030%	0.0018%
77						0.0021%	0.0011%
78						0.0014%	0.0006%
79						0.0009%	0.0004%
80						0.0009%	0.0004%

* Includes performance of duty

** Assumes all disabilities are non-coincidental

Exhibit 2-5 Retirement Rates

ERS – Tier 1		ERS Tiers 2, 3 & 4			
<u>Years of Service</u>		<u>Years of Service</u>			
<u>Age</u>	<u>> = 30</u>	<u>Age</u>	<u><20</u>	<u>20-29.99</u>	<u>> = 30</u>
60	21.00%	55	5.00%	10.00%	35.00%
61	24.00%	56	5.00%	8.00%	22.00%
62	35.00%	57	5.00%	8.00%	22.00%
63	5.00%	58	5.00%	8.00%	22.00%
64	5.00%	59	5.00%	8.00%	22.00%
65	26.00%	60	6.00%	10.00%	22.00%
66	26.00%	61	10.00%	17.00%	26.00%
67	22.00%	62	18.00%	33.00%	37.00%
68	21.00%	63	15.00%	20.00%	25.00%
69-79	20.00%	64	15.00%	20.00%	25.00%
80+	100.00%	65	17.00%	25.00%	25.00%
		66	20.00%	25.00%	30.00%
		67	20.00%	25.00%	30.00%
		68	17.00%	25.00%	20.00%
		69	17.00%	25.00%	20.00%
		70	25.00%	25.00%	30.00%
		71	20.00%	25.00%	25.00%
		72	20.00%	25.00%	25.00%
		73	20.00%	25.00%	20.00%
		74	20.00%	25.00%	20.00%
		75	20.00%	25.00%	20.00%
		76	20.00%	25.00%	30.00%
		77	25.00%	25.00%	20.00%
		78	15.00%	25.00%	20.00%
		79	15.00%	25.00%	33.00%
		80	100.00%	100.00%	100.00%

ERS – Tier 5 & 6	
<u>Years of Service</u>	
<u>Age</u>	<u>>=10</u>
55	2.00%
56	5.00%
57	5.00%
58	10.00%
59	10.00%
60	10.00%
61	20.00%
62	20.00%
63	15.00%
64	25.00%
65	26.00%
66	15.00%
67	40.00%
68	40.00%
69	40.00%
70+	100.00%

Exhibit 2-5 Retirement Rates

Age	PFRS – All Tiers		
	Years of Service		
	<20	20-29.99	>= 30
42	5.00%	5.00%	10.00%
43	5.00%	5.00%	10.00%
44	8.00%	8.00%	10.00%
45	8.00%	8.00%	10.00%
46	8.00%	8.00%	10.00%
47	10.00%	10.00%	10.00%
48	10.00%	10.00%	10.00%
49	10.00%	10.00%	10.00%
50	10.00%	10.00%	25.00%
51	15.00%	15.00%	25.00%
52	15.00%	15.00%	25.00%
53	20.00%	20.00%	25.00%
54	20.00%	20.00%	30.00%
55	25.00%	20.00%	30.00%
56	20.00%	20.00%	30.00%
57	20.00%	20.00%	30.00%
58	20.00%	20.00%	30.00%
59	30.00%	30.00%	40.00%
60	30.00%	30.00%	65.00%
61	15.00%	15.00%	33.00%
62	40.00%	40.00%	50.00%
63	30.00%	30.00%	40.00%
64	30.00%	30.00%	40.00%
65	30.00%	30.00%	65.00%
66	30.00%	30.00%	65.00%
67	30.00%	30.00%	100.00%
68	30.00%	30.00%	100.00%
69	30.00%	30.00%	100.00%
70+	100.00%	100.00%	100.00%

Exhibit 2-5 Retirement Rates

<u>Age</u>	<u>Campus TIAA-CREF</u>	
	<u>Gender</u>	
	<u>Male</u>	<u>Female</u>
55	3.00%	4.00%
56	3.00%	4.00%
57	3.00%	4.00%
58	3.00%	4.00%
59	3.00%	5.00%
60	3.00%	5.00%
61	3.00%	5.00%
62	3.00%	7.00%
63	3.00%	7.00%
64	3.00%	7.00%
65	5.00%	7.00%
66	10.00%	10.00%
67	10.00%	10.00%
68	10.00%	10.00%
69	10.00%	10.00%
70	10.00%	15.00%
71	8.00%	15.00%
72	8.00%	15.00%
73	8.00%	8.00%
74	8.00%	8.00%
75	8.00%	8.00%
76	10.00%	8.00%
77	10.00%	10.00%
78	10.00%	20.00%
79	10.00%	20.00%
80+	100.00%	100.00%

Exhibit 2-5 Retirement Rates

Age	<u>Years of Service</u>				
	<u>10</u>	<u>11-19.99</u>	<u>20-20.99</u>	<u>21-29.99</u>	<u>>=30</u>
55	20.0%	16.0%	15.0%	15.0%	23.0%
56	20.0%	13.0%	13.0%	13.0%	21.0%
57	20.0%	10.0%	15.0%	15.0%	19.0%
58	20.0%	10.0%	19.0%	19.0%	18.0%
59	20.0%	12.0%	11.0%	11.0%	12.0%
60	35.0%	12.0%	12.0%	12.0%	17.0%
61	35.0%	20.0%	21.0%	21.0%	16.0%
62	35.0%	28.0%	35.0%	25.0%	32.0%
63	35.0%	28.0%	35.0%	22.0%	27.0%
64	35.0%	28.0%	35.0%	25.0%	21.0%
65	45.0%	31.0%	35.0%	32.0%	30.0%
66	45.0%	35.0%	35.0%	30.0%	30.0%
67	35.0%	35.0%	35.0%	27.0%	25.0%
68	35.0%	35.0%	35.0%	27.0%	25.0%
69	35.0%	35.0%	35.0%	33.0%	25.0%
70	35.0%	35.0%	35.0%	30.0%	35.0%
71	35.0%	35.0%	35.0%	30.0%	35.0%
72	35.0%	35.0%	35.0%	30.0%	35.0%
73	35.0%	35.0%	35.0%	30.0%	35.0%
74	35.0%	35.0%	50.0%	50.0%	35.0%
75-79	35.0%	35.0%	50.0%	50.0%	35.0%
80-84	35.0%	35.0%	50.0%	50.0%	35.0%
85+	100.0%	100.0%	100.0%	100.0%	100.0%

Exhibit 2-5 Retirement Rates

Stony Brook Hospital and Brooklyn Hospital				Syracuse Hospital			
<u>Age</u>	<u>Years of Service</u>			<u>Age</u>	<u>Years of Service</u>		
	<u><20</u>	<u>20-29.99</u>	<u>> = 30</u>		<u><20</u>	<u>20-29.99</u>	<u>> = 30</u>
55	10.00%	10.00%	15.00%	55	5.00%	10.00%	20.00%
56	5.00%	5.00%	12.00%	56	5.00%	6.00%	20.00%
57	5.00%	5.00%	12.00%	57	5.00%	10.00%	10.00%
58	5.00%	7.00%	15.00%	58	10.00%	10.00%	20.00%
59	8.00%	7.00%	10.00%	59	10.00%	10.00%	20.00%
60	5.00%	10.00%	20.00%	60	5.00%	10.00%	20.00%
61	5.00%	12.00%	15.00%	61	15.00%	15.00%	20.00%
62	10.00%	27.00%	20.00%	62	30.00%	35.00%	30.00%
63	10.00%	17.00%	20.00%	63	25.00%	20.00%	35.00%
64	16.00%	17.00%	15.00%	64	15.00%	35.00%	35.00%
65	25.00%	17.00%	20.00%	65	30.00%	35.00%	35.00%
66	25.00%	30.00%	20.00%	66	30.00%	35.00%	30.00%
67	13.00%	30.00%	20.00%	67	30.00%	35.00%	30.00%
68	13.00%	30.00%	20.00%	68	30.00%	35.00%	30.00%
69	25.00%	30.00%	20.00%	69	30.00%	35.00%	30.00%
70+	100.00%	100.00%	100.00%	70+	100.00%	100.00%	100.00%

ERS (Corrections)

<u>Age</u>	<u>All Tiers</u>
45-54	25.00%
55	30.00%
56	30.00%
57	30.00%
58	30.00%
59	25.00%
60	35.00%
61	50.00%
62	67.00%
63	45.00%
64	55.00%
65	50.00%
66	50.00%
67	50.00%
68	50.00%
69	50.00%
70+	100.00%

Exhibit 2-5 Retirement Rates

Age	TRS – All Tiers					
	Males			Females		
	Years of Service			Years of Service		
	<20	20-29.99	≥ = 30	<20	20-29.99	≥ = 30
55	1.69%	3.69%	35.74%	2.20%	4.89%	36.05%
56	1.81%	3.87%	30.81%	2.09%	4.89%	32.89%
57	1.89%	4.25%	27.07%	2.16%	5.03%	28.50%
58	2.04%	4.57%	27.53%	2.42%	5.60%	28.12%
59	2.39%	5.38%	29.63%	2.87%	6.68%	30.34%
60	3.25%	7.49%	31.11%	3.67%	8.58%	32.94%
61	5.36%	13.73%	31.06%	4.99%	12.48%	35.82%
62	7.66%	31.73%	31.95%	9.87%	34.46%	38.36%
63	8.63%	29.12%	31.90%	9.95%	32.04%	36.10%
64	10.14%	26.45%	29.72%	10.82%	27.02%	33.66%
65	13.52%	28.48%	31.11%	13.46%	30.66%	34.52%
66	16.54%	32.66%	34.03%	15.72%	34.36%	36.17%
67	17.13%	32.37%	32.54%	15.77%	33.52%	33.97%
68	16.25%	28.70%	29.14%	14.93%	31.22%	28.97%
69	16.85%	31.69%	27.43%	15.70%	29.47%	27.07%
70	17.84%	34.58%	25.91%	16.93%	27.62%	26.82%
71	16.86%	27.44%	23.84%	16.62%	25.84%	26.94%
72	17.52%	24.41%	22.34%	14.99%	24.90%	25.54%
73	20.45%	31.63%	22.48%	13.06%	23.14%	22.01%
74	20.58%	31.43%	26.21%	13.18%	20.28%	20.44%
75	20.10%	22.22%	29.49%	17.09%	23.28%	18.28%
76	22.37%	20.00%	25.49%	20.86%	28.34%	15.72%
77	25.00%	20.69%	20.00%	17.87%	29.17%	17.53%
78	25.93%	21.43%	17.86%	10.60%	24.36%	22.30%
79	24.32%	14.81%	18.46%	11.54%	17.07%	25.30%
80+	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Exhibit 2-6 Salary Scale

<u>Service:</u>	<u>NYSIF</u>	<u>Police & Military</u>	<u>State all others</u>	<u>SUNY Campus</u>	<u>SUNY Construction</u>	<u>SUNY Hospitals</u>
0	7.00%	9.00%	7.25%	4.00%	4.50%	6.75%
1	6.75%	8.00%	7.00%	4.00%	4.25%	6.25%
2	6.25%	7.00%	6.75%	4.00%	4.25%	5.75%
3	6.00%	6.50%	6.50%	4.00%	4.25%	5.50%
4	5.75%	5.75%	6.00%	4.00%	4.00%	5.00%
5	5.25%	5.00%	5.75%	3.75%	4.00%	4.65%
6	5.00%	4.00%	5.50%	3.75%	4.00%	2.25%
7	4.75%	3.25%	5.25%	3.75%	4.00%	3.75%
8	4.25%	3.25%	5.00%	3.50%	3.75%	3.50%
9	4.00%	3.25%	4.50%	3.50%	3.75%	3.50%
10	3.75%	3.00%	4.25%	3.50%	3.75%	3.25%
11	3.25%	3.00%	5.00%	3.50%	3.50%	3.25%
12	3.00%	3.00%	3.75%	3.25%	3.50%	3.25%
13	2.75%	3.00%	3.75%	3.25%	3.50%	3.25%
14	2.25%	3.00%	3.50%	3.25%	3.50%	3.25%
15	2.00%	3.00%	3.50%	3.25%	3.25%	3.25%
16	2.00%	3.00%	3.50%	3.00%	3.25%	3.25%
17	2.00%	3.00%	3.50%	3.00%	3.25%	3.00%
18	2.00%	3.00%	3.25%	3.00%	3.00%	3.00%
19	2.00%	3.00%	3.25%	3.00%	3.00%	3.00%
20	1.75%	2.75%	3.25%	2.75%	3.00%	3.00%
21	1.75%	2.75%	3.25%	2.75%	3.00%	3.00%
22	1.75%	2.75%	3.00%	2.75%	3.00%	3.00%
23	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
24	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
25	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
26	1.75%	2.75%	3.00%	2.50%	3.00%	2.75%
27	1.75%	2.75%	2.75%	2.50%	3.00%	2.75%
28	1.75%	2.75%	2.75%	2.25%	3.00%	2.75%
29	1.50%	2.75%	2.75%	2.25%	3.00%	2.75%
30	1.50%	2.50%	2.75%	2.25%	3.25%	2.50%
31	1.50%	2.50%	2.50%	2.25%	3.25%	2.50%
32	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
33	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
34	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%
35+	1.50%	2.50%	2.50%	2.00%	3.25%	2.50%

Section 3 – Per Capita Plan Costs

Exhibit 3-1 provides support for the development of the recommended Empire Plan per capita plan costs. We developed the FY2022 costs by:

- Calculating claims incurred for 2020 separately by program and for non-Medicare vs. Medicare eligible retirees for State retirees by completing the 2020 claim lag triangles provided with claims incurred in 2020 and paid through June 30, 2021. Because the incurred claims in the experience claims were lower than expected due to COVID-19, we adjusted claims by month for an overall increase of the experience period claims by 10%.
- In the case of Medical Program claims, adjusting claims for the impact of credits (primarily claims paid outside the claim system) and Basic Medical network access fees;
- Increasing the claim costs for administrative expenses and risk charges;
- Increasing the claim costs for New York State indigent care and GME surcharges;
- Lowering the drug claim costs for manufacturer rebates; and
- Trending the results 15 months - from 7/1/2020 (midpoint of experience period) to 9/1/2021 (midpoint of projection period)

Using the aging factors, we adjusted the resulting costs to age 65 for valuation purposes. Drug costs for non-Medicare and Medicare eligibles were blended for age adjustment to keep values consistent.

Models are used to estimate underlying per capita medical and prescription drug claim costs, and EGWP revenues, subsequently utilized as assumption inputs for valuation models used to develop the liabilities for the FY2022 and future valuations. The Aon consulting team leveraged expertise of Health experts within Aon as it relates to reviewing the models used for development of the per capita claims costs and EGWP revenues.

**Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost
States -- 4/1/2021 - 3/31/2022**

Step			<u>Non-Medicare Eligible (NME)</u>	<u>Medicare Eligible (ME)</u>	<u>Total</u>
1.	2020 Claims Incurred Before Adjustments TOTAL <i>(adj. for COVID-19)</i>				
	DATA FROM VENDOR LAG TRIANGLES	Hospital	\$310,916,350	\$83,915,330	\$394,831,681
		Medical	276,501,992	111,096,257	387,598,249
		MH/SA	20,312,811	3,691,547	24,004,358
		Total Medical	\$607,731,153	\$198,703,134	\$806,434,287
		Rx	183,962,025	753,212,141	937,174,166
		Total Medical & Rx	\$791,693,178	\$951,915,276	\$1,743,608,454
2.	Basic Medical Fee BASED ON ACTIVE/NME/ME PROJECTIONS ¹	Medical	\$2,235,218	\$0	\$2,235,218
3.	2020 Claims Incurred After Adjustments TOTAL <i>Step 1. + Step 2. (Medical Only)</i>				
	CALCULATED	Hospital	\$310,916,350	\$83,915,330	\$394,831,681
		Medical	278,737,210	111,096,257	389,833,467
		MH/SA	20,312,811	3,691,547	24,004,358
		Total Medical	\$609,966,371	\$198,703,134	\$808,669,505
		Rx	183,962,025	753,212,141	937,174,166
		Total Medical & Rx	\$793,928,396	\$951,915,276	\$1,745,843,672
4.	2020 Average Enrollment DATA FROM VENDOR ENROLLMENT	Hospital	46,886	151,613	198,499
		Medical	45,811	151,951	197,762
		MH/SA	46,777	145,118	191,894
		Rx	47,234	150,452	197,686
5.	2020 Claims PMPM AT AVERAGE AGE <i>Step 3. / Step 4.</i>				
	CALCULATED	Hospital	\$552.61	\$46.12	\$165.76
		Medical	507.04	60.93	164.27
		MH/SA	36.19	2.12	10.42
		Total Medical	\$1,095.84	\$109.17	\$340.45
		Rx	324.56	417.19	395.06
		Total Medical & Rx	\$1,420.40	\$526.36	\$735.51
6.		Annual Trend ¹			
	4/1/2021 - 3/31/2022	6.44%	6.44%		
	PMPM	4.64%	4.64%		
	<i>Step 5. x (1 + 15 Mos. Trend)</i>	9.40%	9.40%		
	<i>Converts experience period per capita to valuation year 1</i>	7.00%	7.00%		
	REFLECTS 12-MONTH PERIOD				
	BASED ON ACTIVE/NME/ME PROJECTIONS ¹				
		Hospital	\$597.42	\$49.86	\$179.20
		Medical	536.63	64.49	173.86
		MH/SA	40.49	2.37	11.66
		Total Medical	\$1,174.54	\$116.72	\$364.72
		Rx	353.20	454.01	429.92
		Total Medical & Rx	\$1,527.74	\$570.73	\$794.64
7.		Adjustment %			
	4/1/2021 - 3/31/2022	0.00%	0.00%		
	PMPM After Plan Changes	-0.01%	-0.01%		
	<i>Step 6. x (1 + Plan Change)</i>	0.00%	0.00%		
		0.00%	0.00%		
	PLAN CHANGES REFLECT OOP MAX CHANGES AS NOTED IN EXHIBIT 3-2				
		Hospital	\$597.42	\$49.86	\$179.20
		Medical	536.59	64.48	173.84
		MH/SA	40.49	2.37	11.66
		Total Medical	\$1,174.50	\$116.71	\$364.70
		Rx	353.20	454.01	429.92
		Total Medical & Rx	\$1,527.70	\$570.72	\$794.62

¹ Based on "8-31-21 NYS 2022 Initial Rate Renewal Report (Final).pdf" report dated 8/31/2021

**Exhibit 3-1 Development of Empire Plan Retiree Gross Per Capita Plan Cost
4/1/2021 – 3/31/2022 NYS**

		<u>Non-Medicare Eligible (NME)</u>	<u>Medicare Eligible (ME)</u>	<u>Total</u>
8.	Retention BASED ON ACTIVE/NME/ME PROJECTIONS ¹			
	Hospital	\$6.06	\$9.62	\$8.78
	Medical	14.27	22.66	20.72
	MH/SA	<u>1.02</u>	<u>1.62</u>	<u>1.47</u>
	Total Medical	\$21.35	\$33.90	\$30.97
	Rx	<u>1.22</u>	4.28	<u>3.55</u>
	Total Medical & Rx	\$22.56	\$38.18	\$34.52
9.	Indigent Care Surcharge BASED ON ACTIVE/NME/ME PROJECTIONS ¹			
	Hospital	\$27.89	\$0.00	\$6.59
	Medical	2.63	0.00	0.61
	MH/SA	<u>0.47</u>	<u>0.00</u>	<u>0.12</u>
	Total Medical	\$30.99	\$0.00	\$7.31
	Rx	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
	Total Medical & Rx	\$30.99	\$0.00	\$7.31
10.	Graduate Medical Expense Assessment BASED ON ACTIVE/NME/ME PROJECTIONS ¹			
	Hospital	\$5.59	\$0.00	\$1.32
	Medical	0.00	0.00	0.00
	MH/SA	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
	Total Medical	\$5.59	\$0.00	\$1.32
	Rx	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
	Total Medical & Rx	\$5.59	\$0.00	\$1.32
11.	Rx Rebates EGWP Revenue BASED ON ACTIVE/NME/ME PROJECTIONS ¹			
	Rx	(\$82.21)	(\$123.91)	(\$113.95)
	Rx	n/a	(\$150.58)	(\$114.60)
12.	4/1/2021 - 3/31/2022 Gross Cost PMPM Before NYBEAS AT AVG AGE <i>Sum of Steps 7. - 11.</i> CALCULATED			
	Hospital	\$636.96	\$59.48	\$195.88
	Medical	553.49	87.14	195.17
	MH/SA	<u>41.98</u>	<u>3.99</u>	<u>13.25</u>
	Total Medical	\$1,232.43	\$150.61	\$404.30
	Rx	<u>272.20</u>	<u>334.38</u>	<u>319.53</u>
	Total Medical & Rx	\$1,504.63	\$485.00	\$723.83
	EGWP Revenue	n/a	<u>(150.58)</u>	<u>(114.60)</u>
	Total Medical / Rx / EGWP	\$1,504.63	\$334.41	\$609.23
13.	NYBEAS Admin Fee (Civil Service Admin) BASED ON EMAIL FROM PAUL McKINNEY			
	Total Medical	\$0.02	\$0.02	\$0.02
14.	4/1/2021 - 3/31/2022 Gross <i>Step 12. + Step 13.</i> Cost PMPM After NYBEAS AT AVG AGE CALCULATED			
	Total Medical	\$1,232.45	\$150.64	\$404.33
	Rx	<u>272.20</u>	<u>334.38</u>	<u>319.53</u>
	Total Medical & Rx	\$1,504.65	\$485.02	\$723.85
	EGWP Revenue	n/a	<u>(150.58)</u>	<u>(114.60)</u>
	Total Medical / Rx / EGWP	\$1,504.65	\$334.43	\$609.25
15.	Aging Factor (to age 65) Medical - applied separately NME and ME Rx - applied on combined NME & ME basis Rx - applied to EGWP ME only			
		0.8236	1.2764	n/a
		n/a	n/a	1.1664
		n/a	1.2863	n/a
16.	4/1/2021 - 3/31/2022 Gross <i>Step 14. / Step 15.</i> Cost PMPM AT AGE 65			
	Total Medical	\$1,496.41	\$118.02	n/a
	Rx	n/a	n/a	\$273.95
	Total Medical & Rx	n/a	n/a	n/a
	EGWP Revenue	n/a	(\$117.07)	n/a
	Total Medical / Rx / EGWP	n/a	n/a	n/a

¹ Based on "8-31-21 NYS 2022 Initial Rate Renewal Report (Final).pdf" report dated 8/31/2021

Exhibit 3-2 Empire Plan Changes effective 1/1/2022

	2022	2021	2020
In-Network Out-of-Pocket Limit	\$8,700/\$17,400	\$8,550/\$17,100	\$8,150/\$16,300
Hospital, Medical/Surgical and MH/SA	\$5,650/\$11,300	\$5,550/\$11,100	\$5,300/\$10,600
Prescription Drugs	\$3,050/\$6,100	\$3,000/\$6,000	\$2,850/\$5,700

2021 Empire Plan Advanced Flexible Formulary Drug List – The 2021 Advanced Flexible Formulary lists the most commonly prescribed generic and brand-name drugs along with any newly excluded drugs with formulary alternatives.

Expanded National Network – Effective January 1, 2021, Empire Plan enrollees and covered dependents will have access to UnitedHealthcare’s nationwide network of participating providers. The expanded network includes over 1.2 million physicians, laboratories and other providers such as physical therapists, occupational therapists and chiropractors located throughout the United States.

Telehealth Coverage – The Empire Plan covers telehealth visits with participating providers in the Medical/Surgical Program and the Mental Health and Substance Abuse (MHSA) Program. Enrollees and covered dependents can access care through a video visit with their own doctor or therapist on a smartphone, tablet or personal computer. Telehealth visits are subject to the same enrollee cost sharing as in-person visits.

Virtual Health Care Access with LiveHealth Online (LHO) – With Empire BlueCross’ partnership with LiveHealth Online, enrollees can stay home and have a telephone or video visit with a board-certified doctor or licensed therapist via smartphone, tablet, or personal computer.

Section 4 – Health Care Trend

The Health Care Cost Trend assumption is used to project the current year per capita plan costs, premium rates, and Medicare Part B premiums into the future. These costs are applied to the surviving covered population to determine the stream of future payments.

Increases in medical costs can be volatile, as a result, this assumption is subject to wide variation and there can be a wide range of acceptable assumptions. In addition, our experience has shown that past cost increases are not necessarily indicative of future cost increases. Therefore, judgment is required in developing this assumption.

Based on a detailed analysis of the trend assumption, which considered the Actuarial Standard of Practice No. 6 (ASOP #6) - *Measuring Retiree Group Benefit Obligations*, research published by the Society of Actuaries entitled *Modeling Long Term Healthcare Cost Trends*, and other publications by actuaries and health care professionals regarding short-term medical cost increases and expected long-term health care spending, we believe that an appropriate trend assumption for valuing retiree health care liabilities should:

- Consider separate short-term trend rates for major cost components such as medical and prescription drug services;
- Be based primarily on the “core” trend components - medical inflation, utilization, and intensity of services, and exclude the impact of the aging of the covered population;
- Include short-term rates established with an emphasis towards the influences of the health care marketplace as a whole, while also considering the cost characteristics of the plan;
- Assume that over the long-term, health care costs ultimately will be constrained by the public’s ability and willingness to pay the higher cost of medical services; and
- Reflect the effect of future technology improvements on the long-term health care costs.

A typical retiree medical valuation uses health care trend rates that initially reflect recent experience in conjunction with the overall health care marketplace. Estimated marketplace trends are developed using a consistent series of market-wide data including: S&P Healthcare Economic Index, Carrier Surveys, CMS National Health Expenditures, Client Experience Monitoring Reports, CMS Trustees Report, Healthcare Components of CPI-W, and Pharmacy Benefit Manager Trend Reports. A separate trend assumption has been added to estimate the growth in expected EGWP revenue.

Initial trend rates are then assumed to grade down to an ultimate level that implies the National Health Expenditure (NHE) stabilizes as a percentage of Gross Domestic Product (GDP). In other words, the ultimate trend rate is equal to price inflation plus real GDP growth plus any allowances for leveraging of plan design variables, Medicare integration, and other cost drivers. The length of the select period — the period of time before the ultimate trend rate is reached — and the trend rate pattern during the select period have been developed by taking into account reasonable expectations for the ultimate portion of GDP consumed by the Health Care sector.

Section 5 – Demographic Assumptions

Demographic assumptions are rates of mortality, disability, withdrawal, and retirement.

At the request of the State of New York, for the 2021 valuation, the plan performed a comprehensive study of the withdrawal and retirement rates for all groups under New York State, SUNY and NYSIF. This study refreshes the previous SUNY specific study from 2016, and studies non-SUNY groups previously using demographic assumptions adopted for use by the New York State & Local Retirement System. The study reflects experience from April 1, 2016 through March 31, 2021.

We reviewed the demographic assumptions adopted for use by the New York State & Local Retirement System to value participants in ERS, TRS and PFRS and concluded that updating assumptions based on actual experience for the OPEB population represents a better estimate, with one exception. We determined the New York State & Local Retirement System TRS retirement rates adopted in 2021 reasonably represents actual OPEB experience and adopted those retirement rates.

For groups that did not have enough credible termination or retirement experience, to develop separate tables at each tier, were aggregated for multiple or all tiers. For the SUNY hospitals retirement rates were aggregated for Brooklyn and Stony Brook Hospital. Retirement experience for Syracuse Hospital remains separate since they differ sufficiently from the other hospitals to be material. Withdrawal and retirement and tables can be found in Exhibit 2-3.

Many SUNY campus employees are in ERS or TIAA-CREF. The plan studied withdrawal and retirement rates for SUNY Campus-ORP members who participate in TIAA/CREF and developed separate tables for this population for the 2021 valuation. These group specific tables will be used for participants who are specifically noted as TIAA/CREF in the data. SUNY Campus employees who are not clearly identified were also studied separately and have specific tables for Campus (unknown retirement program) employees.

Note for PAs: *These assumptions were specifically studied based on the experience for the participants covered under New York State, SUNY, and NYSIF and may not be representative of the experience of any other particular PA. Each PA should consider the demographics of its own population when setting this assumption.*

The New York State & Local Retirement System developed disability rates for ERS and PFRS in 2020 and TRS in 2021. Since, we do not have credible experience to study these assumptions and they are not material to the overall liability we relied on the System's tables.

Note for PAs: *New York State applied mortality improvement by projecting the rates using Scale MP 2021 generationally for the mortality of current retirees. Each individual PA should determine the assumption about mortality improvement after consulting with their actuary.*

Section 6 – Health Care Reform Considerations

The Patient Protection and Affordable Care Act (PPACA), was signed March 23, 2010, with further changes enacted by the Health Care and Education Reconciliation Act (HCERA), signed March 30, 2010. This report has discussed various assumptions that were modified based on considerations under health care reform legislation. This section discusses particular legislative changes that were reflected in our assumptions. We have not identified any other specific provision of healthcare reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

Expansion of Child Coverage to Age 26 — Health reform mandates that coverage be offered to any child, dependent or not, through age 26, consistent with coverage for any other dependent. New York State insurance law mandates coverage to age 29, but on a fully contributory basis. We have assumed that the impact of this increase is reflected in the underlying rates and the claims experience.

High Cost Plan Excise Tax — The Excise Tax was repealed for all plan years beginning after December 31, 2019.

Section 7 – Qualifications

Aon has developed these recommended actuarial assumptions solely for the purpose of enabling New York State to value its obligation under GASB 74 and 75. Use of this report for any other purpose may not be appropriate and may result in mistaken conclusions due to failure to understand applicable assumptions, methodologies, or inapplicability of the report for that purpose. No one may make any representations or warranties based on any statements or conclusions contained in this report without the written consent of Aon.

Our projections are based on plan provisions, premium, claim and enrollment data provided to us by the Department of Civil Service and the four Empire Plan insurers. In selecting the demographic assumptions, we relied upon analyses of historic experience and recommendations for assumptions under the New York State Employees Retirement System and the New York State Teachers' Retirement System prepared by the actuaries for those Systems, as well as census information provided to us by SUNY.

The recommendations in this report are a Statement of Actuarial Opinion, prepared by Wil Ocasio, Jessica Fenske, and Betsy Hanson. Mr. Ocasio is an Associate in the Society of Actuaries. Ms. Fenske is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. Ms. Hanson is a Fellow of the Society of Actuaries and a Member of the American Academy of Actuaries. They collectively meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.