# Partners HealthCare System, Inc. and Affiliates
## Consolidated Financial Statements
## September 30, 2018 and 2017

# Partners HealthCare System, Inc. and Affiliates
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## September 30, 2018 and 2017

## Report of Independent Auditors

To the Board of Directors of
Partners HealthCare System, Inc. and Affiliates

We have audited the accompanying consolidated financial statements of Partners HealthCare System, Inc. and Affiliates (Partners HealthCare), which comprise the consolidated balance sheets as of September 30, 2018 and 2017, and the related consolidated statements of operations, changes in net assets and cash flows for the years then ended.

### *Management's Responsibility for the Consolidated Financial Statements*

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditors' Responsibility*

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to Partners HealthCare's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Partners HealthCare's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

### *Opinion*

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Partners HealthCare System, Inc. and Affiliates as of September 30, 2018 and 2017, and the results of their operations, changes in net assets and their cash flows for the years then ended in accordance with accounting principles generally accepted in the United States of America.

Boston, Massachusetts
December 7, 2018

# Partners HealthCare System, Inc. and Affiliates
## Consolidated Balance Sheets
## September 30, 2018 and 2017

| *(in thousands of dollars)* | **2018** | **2017** |
|---|---|---|
| **Assets** | | |
| Current assets | | |
| Cash and equivalents | $ 398,413 | $ 739,117 |
| Investments | 1,942,117 | 1,506,524 |
| Current portion of investments limited as to use | 1,465,354 | 1,367,172 |
| Patient accounts receivable, net of allowance for bad debts (2018 - $119,602; 2017 - $114,680) | 1,078,086 | 977,294 |
| Research grants receivable | 154,449 | 127,868 |
| Other current assets | 517,812 | 436,037 |
| Receivable for settlements with third-party payers | 115,561 | 90,611 |
| Total current assets | 5,671,792 | 5,244,623 |
| Investments limited as to use, less current portion | 3,716,162 | 3,320,230 |
| Long-term investments | 1,628,972 | 1,266,697 |
| Net pledges and contributions receivable, less current portion | 246,951 | 199,730 |
| Property and equipment, net | 6,401,710 | 6,226,382 |
| Other assets | 637,944 | 614,096 |
| Total assets | $ 18,303,531 | $ 16,871,758 |
| **Liabilities and Net Assets** | | |
| Current liabilities | | |
| Current portion of long-term obligations | $ 459,390 | $ 615,151 |
| Accounts payable and accrued expenses | 696,890 | 716,040 |
| Accrued medical claims and related expenses | 64,398 | 196,037 |
| Accrued employee compensation and benefits | 854,375 | 805,624 |
| Accrual for settlements with third-party payers | 68,711 | 52,348 |
| Unexpended funds on research grants | 284,178 | 265,253 |
| Total current liabilities | 2,427,942 | 2,650,453 |
| Accrued professional liability | 512,516 | 476,083 |
| Accrued employee benefits | 958,275 | 1,294,357 |
| Interest rate swaps liability | 254,295 | 367,830 |
| Accrued other | 231,954 | 177,140 |
| Long-term obligations, less current portion | 4,945,968 | 4,441,786 |
| Total liabilities | 9,330,950 | 9,407,649 |
| Commitments and contingencies | | |
| Net assets | | |
| Unrestricted | 7,073,335 | 5,889,170 |
| Temporarily restricted | 1,050,461 | 887,531 |
| Permanently restricted | 848,785 | 687,408 |
| Total net assets | 8,972,581 | 7,464,109 |
| Total liabilities and net assets | $ 18,303,531 | $ 16,871,758 |

The accompanying notes are an integral part of these consolidated financial statements.

# Partners HealthCare System, Inc. and Affiliates
## Consolidated Statements of Operations
## Years Ended September 30, 2018 and 2017

| *(in thousands of dollars)* | **2018** | **2017** |
|---|---|---|
| **Operating revenue** | | |
| Net patient service revenue, net of provision for bad debts (2018 - $165,861; 2017 - $139,554) | $ 9,239,118 | $ 8,382,683 |
| Premium revenue | 1,420,489 | 2,487,100 |
| Direct academic and research revenue | 1,485,467 | 1,438,226 |
| Indirect academic and research revenue | 420,559 | 389,831 |
| Other revenue | 741,636 | 673,223 |
| Total operating revenue | 13,307,269 | 13,371,063 |
| **Operating expenses** | | |
| Employee compensation and benefit expenses | 6,635,581 | 6,391,589 |
| Supplies and other expenses | 3,027,832 | 2,789,579 |
| Medical claims and related expenses | 993,870 | 1,890,368 |
| Direct academic and research expenses | 1,485,467 | 1,438,226 |
| Depreciation and amortization expenses | 674,030 | 626,383 |
| Interest expense | 180,590 | 182,348 |
| Total operating expenses | 12,997,370 | 13,318,493 |
| Income from operations | 309,899 | 52,570 |
| **Nonoperating gains (expenses)** | | |
| Income from investments | 198,118 | 223,363 |
| Change in fair value of interest rate swaps | 131,182 | 144,860 |
| Gifts and other, net of fundraising and other expenses | (61,321) | (108,353) |
| Academic and research gifts, net of expenses | 91,415 | 25,268 |
| Contribution income - affiliates | 157,312 | 321,389 |
| Total nonoperating gains, net | 516,706 | 606,527 |
| Excess of revenues over expenses | 826,605 | 659,097 |
| **Other changes in net assets** | | |
| Change in net unrealized appreciation on marketable investments | (90,243) | 209,260 |
| Funds utilized for property and equipment | 39,052 | 44,384 |
| Change in funded status of defined benefit plans | 399,318 | 915,409 |
| Other | 9,433 | 735 |
| Increase in unrestricted net assets | $ 1,184,165 | $ 1,828,885 |

The accompanying notes are an integral part of these consolidated financial statements.

# Partners HealthCare System, Inc. and Affiliates
## Consolidated Statements of Changes in Net Assets
## Years Ended September 30, 2018 and 2017

| *(in thousands of dollars)* | Unrestricted | Temporarily Restricted | Permanently Restricted | Total |
|---|---|---|---|---|
| **Net assets at September 30, 2016** | $ 4,060,285 | $ 790,886 | $ 623,186 | $ 5,474,357 |
| Increases (decreases) | | | | |
| Income from operations | 52,570 | - | - | 52,570 |
| Income from investments | 223,363 | 20,245 | 39 | 243,647 |
| Change in fair value of interest rate swaps | 144,860 | - | - | 144,860 |
| Gifts and other | (108,353) | 31,539 | 60,496 | (16,318) |
| Academic and research gifts, net of expenses | 25,268 | - | - | 25,268 |
| Contribution income - affiliates | 321,389 | 2,120 | 2,399 | 325,908 |
| Change in net unrealized appreciation on marketable investments | 209,260 | 59,522 | 322 | 269,104 |
| Funds utilized for property and equipment | 44,384 | (16,781) | - | 27,603 |
| Change in funded status of defined benefit plans | 915,409 | - | - | 915,409 |
| Other | 735 | - | 966 | 1,701 |
| Change in net assets | 1,828,885 | 96,645 | 64,222 | 1,989,752 |
| **Net assets at September 30, 2017** | 5,889,170 | 887,531 | 687,408 | 7,464,109 |
| Increases (decreases) | | | | |
| Income from operations | 309,899 | - | - | 309,899 |
| Income from investments | 198,118 | 35,601 | 90 | 233,809 |
| Change in fair value of interest rate swaps | 131,182 | - | - | 131,182 |
| Gifts and other | (61,321) | 72,249 | 71,138 | 82,066 |
| Academic and research gifts, net of expenses | 91,415 | - | - | 91,415 |
| Contribution income - affiliates | 157,312 | 77,058 | 89,223 | 323,593 |
| Change in net unrealized appreciation on marketable investments | (90,243) | 8,364 | 85 | (81,794) |
| Funds utilized for property and equipment | 39,052 | (18,598) | - | 20,454 |
| Change in funded status of defined benefit plans | 399,318 | - | - | 399,318 |
| Other | 9,433 | (11,744) | 841 | (1,470) |
| Change in net assets | 1,184,165 | 162,930 | 161,377 | 1,508,472 |
| **Net assets at September 30, 2018** | $ 7,073,335 | $ 1,050,461 | $ 848,785 | $ 8,972,581 |

The accompanying notes are an integral part of these consolidated financial statements.

# Partners HealthCare System, Inc. and Affiliates
## Consolidated Statements of Cash Flows
## Years Ended September 30, 2018 and 2017

| *(in thousands of dollars)* | **2018** | **2017** |
|---|---|---|
| **Cash flows from operating activities** | | |
| Change in net assets | $ 1,508,472 | $ 1,989,752 |
| Adjustments to reconcile change in net assets to net cash provided by operating activities | | |
| Contribution income - affiliates | (323,593) | (325,908) |
| Change in funded status of defined benefit plans | (399,318) | (915,409) |
| Loss on refunding of debt | 50,638 | - |
| Change in fair value of interest rate swaps | (130,115) | (144,860) |
| Depreciation and amortization | 674,030 | 626,383 |
| Provision for bad debts | 165,861 | 139,554 |
| Amortization of bond discount, premium and issuance costs | (9,163) | (4,349) |
| Loss (gain) on disposal of property | 104 | (3,865) |
| Net realized and change in unrealized appreciation on investments | (270,254) | (641,801) |
| Restricted contributions and investment income | (106,734) | (132,714) |
| Cash premium upon issuance of bonds | 140,222 | - |
| Increases (decreases) in cash resulting from a change in | | |
| Patient accounts receivable | (238,003) | (200,945) |
| Other assets | (83,911) | 20,054 |
| Accounts payable and other accrued expenses | 42,430 | 43,239 |
| Accrued medical claims and related expenses | (131,639) | (93,829) |
| Settlements with third-party payers | 9,923 | (52,525) |
| Net cash provided by operating activities | 898,950 | 302,777 |
| **Cash flows from investing activities** | | |
| Purchases of property and equipment | (647,470) | (754,105) |
| Proceeds from sale of property | 69 | 7,104 |
| Purchase of investments | (3,630,869) | (2,418,133) |
| Proceeds from sales of investments | 2,891,874 | 2,669,588 |
| Cash acquired through affiliations, net | 5,955 | 39,244 |
| Net cash used for investing activities | (1,380,441) | (456,302) |
| **Cash flows from financing activities** | | |
| Borrowings under line of credit | 52,848 | - |
| Payments on long-term obligations | (76,740) | (67,755) |
| Proceeds from long-term obligations, net of financing costs | 1,350,741 | - |
| Deposits into refunding trusts | (1,292,796) | - |
| Restricted contributions and investment income | 106,734 | 132,714 |
| Net cash provided by financing activities | 140,787 | 64,959 |
| Net decrease in cash and equivalents | (340,704) | (88,566) |
| **Cash and equivalents** | | |
| Beginning of year | 739,117 | 827,683 |
| End of year | $ 398,413 | $ 739,117 |

The accompanying notes are an integral part of these consolidated financial statements.

*(in thousands of dollars)*

## 1. Organization and Community Benefit Commitments

Partners HealthCare System, Inc. (PHS) is the sole member of The Massachusetts General Hospital (MGH), Brigham Health, Inc. (BH), NSMC HealthCare, Inc. (NSMC), Newton-Wellesley Health Care System, Inc. (NWHCS), Foundation of the Massachusetts Eye and Ear Infirmary, Inc. (MEEI), Partners Continuing Care, Inc. (PCC), Partners HealthCare International, LLC (PHI) and Neighborhood Health Plan, Incorporated (NHP). The two physicians who serve as the President and Chief Executive Officer of PHS (PHS CEO) and the Chief Clinical Officer of PHS are the members of Partners Community Physicians Organization, Inc. (PCPO). PHS, together with all of its affiliates, is referred to as "Partners HealthCare."

Partners HealthCare currently operates academic medical centers, community acute care hospitals, facilities that provide both inpatient and outpatient mental health services and rehabilitation medicine and long-term care services. Partners HealthCare also operates physician organizations and practices, a home health agency, nursing homes and a graduate level program for health professions. Partners HealthCare provides services to patients primarily from the Greater Boston area as well as New England and beyond. In addition, Partners HealthCare is a nonuniversity-based non-profit private medical research enterprise and is a principal teaching affiliate of the medical and dental schools of Harvard University. Partners HealthCare also operates a licensed, not-for-profit managed care organization that provides health insurance products and administrative services to the Massachusetts Medicaid program (MassHealth), ConnectorCare (a state subsidized program for adults who meet income and immigration guidelines) and commercial populations.

PHS and substantially all of its affiliates are tax-exempt organizations under Section 501(c)(3) of the Internal Revenue Code (IRC) or disregarded entities for tax purposes. NHP is a tax-exempt organization under Section 501(c)(4) of the IRC.

In December 2017, the U.S. Government enacted comprehensive tax legislation commonly referred to as the Tax Cuts and Jobs Act (Tax Act). The Tax Act, which is effective in phases beginning in 2018, makes broad and complex changes to the U.S. tax code. Beginning in 2018, the Tax Act requires Partners HealthCare to consider certain transportation fringe benefits provided to employees as taxable unrelated business income. In addition, beginning in 2019, Partners HealthCare will be required to pay an excise tax on compensation paid to executives above an IRS established threshold and will be required to determine unrelated business income or loss on an activity-by-activity basis. Partners HealthCare has recognized tax expense of $14,856 as of September 30, 2018.

### Community Benefit

Partners HealthCare's community benefit programs include working with communities to address a number of public health issues including racial disparities, alcohol and substance abuse among young people, infant mortality, domestic violence and cancer. Partners HealthCare provides economic opportunity for low income Boston residents by helping people advance into nursing and other healthcare careers through its public-school partnerships and workforce development programs. In addition, twenty community health centers are licensed by or affiliated with Partners HealthCare entities and provide high quality, culturally competent primary care and access to Partners HealthCare's hospitals. Partners HealthCare invests in these health centers' infrastructure, programming and operation and also helps with relocation, renovation and other capital requirements.

*(in thousands of dollars)*

The Massachusetts Attorney General's Community Benefits Guidelines direct non-profit acute care hospitals and health maintenance organizations to prepare annual reports documenting the status and level of their community benefit programs and initiatives. These annual reports serve the important purpose of providing the public with access to useful information about these programs and initiatives. Partners HealthCare files its report annually with the Massachusetts Attorney General. The report summarizes community benefit activities on a system-wide basis. In addition, each of the acute care hospitals within Partners HealthCare has a community benefit planning and service delivery structure and files separate community benefit reports. NHP also files a community benefit report annually.

**Uncompensated Care**

Partners HealthCare provides care to all patients regardless of their ability to pay. The cost of providing that care is reflected in the statements of operations. The cost related to those patients for which Partners HealthCare receives either partial or no reimbursement for healthcare services provided is summarized below.

**State Programs**

***Massachusetts***

Massachusetts acute care hospitals are partially reimbursed for charity care services through the statewide Health Safety Net Trust Fund (HSN) established under Massachusetts law. A portion of the funding for the HSN is paid by an assessment on acute care hospitals charges for private sector payers. The statewide assessment was $165,308 in both 2018 and 2017 and the assessment expense on Partners HealthCare's acute care hospitals was $58,794 and $59,242 in 2018 and 2017, respectively.

Acute care hospitals are reimbursed for charity care based on claims for eligible patients and eligible services that are submitted to and adjudicated by the HSN. Payments are based on Medicare rates and payment policies. The HSN was under-funded by approximately $14,421 and $23,004 in 2018 and 2017, respectively. This shortfall is allocated to hospitals based on their share of total statewide patient care costs with approximately $3,686 and $5,695 in 2018 and 2017, respectively, allocated to Partners HealthCare's acute care hospitals. Each hospital's share of the overall state shortfall cannot exceed its total charity care reimbursement. Hospitals with a high proportion of charity care and government funding receive more favorable reimbursement, including limiting their shortfall allocation to no more than 15% of their payments for charity care. In aggregate, Partners HealthCare's acute care hospitals received charity care funding covering 72% and 79% of the estimated cost of charity care provided in 2018 and 2017, respectively.

The Commonwealth of Massachusetts (the Commonwealth) levies an additional assessment on hospitals that is redistributed to the hospitals based on certain pay-for-reporting (in 2017) and pay-for-performance (in 2018 and beyond) criteria. The total assessment was $257,500 in both 2018 and 2017 and the assessment expense on Partners HealthCare's hospitals was $93,041 and $92,172 in 2018 and 2017, respectively. The total amount redistributed to hospitals was $265,000 in both 2018 and 2017 of which Partners HealthCare's hospitals received $61,734 and $60,720 in 2018 and 2017, respectively.

Effective October 1, 2017, the Commonwealth implemented an assessment on post-acute hospitals. The assessment expense on Partners HealthCare's post-acute hospitals was $7,482 in 2018.

*(in thousands of dollars)*

***New Hampshire***

The State of New Hampshire (New Hampshire) imposes a Medicaid Enhancement Tax (MET) on hospital net patient service revenue. For New Hampshire's fiscal years ended June 30, 2018 and 2017, the MET imposed was 5.4% in both years. The amount of MET incurred by Wentworth-Douglass Hospital was $14,033 and $11,683 in 2018 and 2017, respectively.

New Hampshire acute care hospitals received disproportionate share payments based on a portion of their uncompensated care relative to other acute care hospitals. Wentworth-Douglass Hospital received $9,796 and $10,963 in 2018 and 2017, respectively.

***Medicaid***

Medicaid is a health insurance program jointly funded by the states and the federal government. Each state administers its own program and sets rules for eligibility, benefits and provider payments within broad federal guidelines and in some cases, including the Commonwealth, within a Waiver Agreement between the state and the federal government. The program provides health care coverage to low-income adults and children. Eligibility is determined by a variety of factors which include income relative to the federal poverty line, age, immigrant status and assets.

Medicaid payments to Partners HealthCare providers do not cover the full cost of services provided to Medicaid patients. In aggregate, reimbursement from Medicaid covered 67% and 65% of the estimated cost of services provided in 2018 and 2017, respectively.

In 2018, the Commonwealth revamped its Medicaid program by creating a number of Accountable Care Organizations (ACO) across the state to provide care for eligible Medicaid participants. As part of this redesign, Partners HealthCare created its own ACO to participate in the MassHealth ACO program with the goal of providing better coordination of care for MassHealth members. In addition, NHP is participating in the ACO program with a community health center (My Care Family) to provide coverage to certain MassHealth members in the Merrimack Valley region.

**Federal Program**

***Medicare***

Medicare is a federally sponsored health insurance program for people age 65 or older, under age 65 with certain disabilities and any age with End-Stage Renal Disease. Medicare's payments historically have not kept pace with increases in the cost of care provided at many hospitals. Additionally, payments to physicians have seen little or no increases over the past several years. Compounding this shortfall in payments is the continued shift of care from higher paying inpatient services to lower paying outpatient services.

Consequently, Medicare payments to Partners HealthCare providers do not cover the full cost of services provided. In aggregate, reimbursement from Medicare covered approximately 72% and 70% of the estimated cost of services provided in 2018 and 2017, respectively.

*(in thousands of dollars)*

**Summary**

For charity care, Medicaid and Medicare, the estimated cost of services provided is either obtained directly from a costing system or based on an entity specific ratio of cost to gross charges. In the latter case, cost is derived by applying this ratio to gross charges associated with providing care to charity care, Medicaid and Medicare patients. The following summarizes, by program, the cost of services provided, net reimbursement and cost of services in excess of reimbursement for each year:

| | Years Ended September 30, 2018 | 2017 |
|---|---|---|
| **Cost of services provided** | | |
| Charity care | $ 79,437 | $ 63,327 |
| Medicaid | 1,179,095 | 1,165,800 |
| Medicare | 3,604,603 | 3,362,075 |
| | $ 4,863,135 | $ 4,591,202 |
| **Net reimbursement** | | |
| Charity care | $ 45,840 | $ 40,726 |
| Medicaid | 789,822 | 754,043 |
| Medicare | 2,596,740 | 2,348,122 |
| | $ 3,432,402 | $ 3,142,891 |
| **Cost of services in excess of reimbursement** | | |
| Charity care | $ 33,597 | $ 22,601 |
| Medicaid | 389,273 | 411,757 |
| Medicare | 1,007,863 | 1,013,953 |
| | $ 1,430,733 | $ 1,448,311 |

**Bad Debts**

In addition to charity care and inadequate funding from the Medicaid and Medicare programs, there are significant losses related to self-pay patients who fail to make payment for services rendered or insured patients who fail to remit co-payments and deductibles as required under the applicable health insurance arrangement. The provision for bad debts represents charges for services provided that are deemed to be uncollectible and was $165,861 and $139,554 in 2018 and 2017, respectively. The estimated cost of providing these services was approximately $60,660 and $49,501 for 2018 and 2017, respectively.

*(in thousands of dollars)*

## 2. Summary of Significant Accounting Policies

### Basis of Accounting

The accompanying consolidated financial statements have been prepared on the accrual basis of accounting and include the accounts of PHS and its affiliates. Significant interaffiliate accounts and transactions have been eliminated.

### Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates. Significant estimates are made in the areas of patient accounts receivable, research grants receivable, investments, receivables and accruals for settlements with third-party payers, accrued medical claims and related expenses, accrued professional liability, accrued employee compensation and benefits, interest rate swaps and accrued other.

### Fair Value of Financial Instruments

The fair value of financial instruments approximates the carrying amount reported in the consolidated balance sheets for cash and equivalents, certain investments and investments limited as to use, patient accounts receivable, research grants receivable, accounts payable and accrued expenses and interest rate swaps. More information can be found in Note 6, Fair Value Measurements.

### Cash and Equivalents

Cash and equivalents represent cash, registered money market funds and highly liquid debt instruments with a maturity at the date of purchase of three months or less. Partners HealthCare's cash and equivalents are maintained with several national banks, and cash deposits typically exceed federal insurance limits. It is Partners HealthCare's policy to monitor these banks' financial strength on an ongoing basis, and no losses have been experienced to date.

### Investments

Investments in equity securities with readily determinable fair values and all investments in debt securities (marketable investments) are measured at fair value based on quoted market prices. The change in net unrealized appreciation on these marketable investments is excluded from excess of revenues over expenses. Investments in securities sold short or traded on a national securities exchange are valued based on quoted market prices.

Investments in securities that are not traded and restricted securities of public companies are valued based on amounts reported by the fund manager and evaluated by management. The reported value of these investments represents the amount Partners HealthCare would expect to receive if it liquidated its investments at the balance sheet date on a nondistressed basis. Investments in hedge funds, private equity, private debt and other private partnerships (collectively, private partnerships) for which Partners HealthCare owns more than 5% of the overall investment are generally recorded as equity method investments. The change in value of equity method investments is included in excess of revenues over expenses as a component of income from investments. All other investments, including alternative investments, are recorded at cost.

*(in thousands of dollars)*

Income from investments (including realized gains and losses, change in value of equity method investments, interest, dividends and endowment income distributions) is included in excess of revenues over expenses unless the income or loss is restricted by donor or law. Income from investments is reported net of investment-related expenses.

Investments whose cost exceeds fair value are reviewed each quarter to determine whether these investments are other-than-temporarily impaired. Externally managed marketable investments with fair value below cost are considered to be other-than-temporarily impaired and, accordingly, the unrealized depreciation is recognized as realized losses through a write-down in the cost basis of these investments. All other investments are subject to a further review, which considers factors including the anticipated holding period for the investment and the extent and duration of below cost valuation. A similar write-down is recorded when the impairment on these investments has been judged to be other-than-temporary.

Depending on any donor-imposed restrictions on the underlying investments, the amount of the write-down is reported as a realized loss in either temporarily restricted net assets or in excess of revenues over expenses as a component of income from investments, with no adjustment in the cost basis for subsequent recoveries.

Partners HealthCare has an endowment spending policy for pooled endowment funds. A fixed distribution rate for spending is determined each year which will come from either income and/or net accumulated appreciation.

**Investments Limited as to Use**
Investments limited as to use primarily includes assets whose use is contractually limited by external parties as well as assets set aside by the boards (or management) for identified purposes and over which the boards (or management) retain control such that the boards (or management) may, at their discretion, subsequently use such assets for other purposes. Certain investments corresponding to deferred compensation are accounted for such that all income and appreciation (depreciation) is recorded as a direct addition (reduction) to the asset and corresponding liability.

**Derivative Instruments**
Derivatives are recognized on the balance sheet at fair value with changes in the fair value recorded in excess of revenues over expenses.

**Patient Accounts Receivable**
Partners HealthCare receives payments for services rendered from federal and state agencies (under the Medicare and Medicaid programs), managed care payers, commercial insurance companies and patients. Patient accounts receivable are reported net of contractual allowances and reserves for denials, uncompensated care and doubtful accounts. The level of reserves is based upon management's assessment of historical and expected net collections, business and economic conditions, trends in federal and state governmental and private employer health care coverage and other collection indicators.

*(in thousands of dollars)*

**Research Grants Receivable**
Partners HealthCare receives research funding from departments and agencies of the U.S. Government, industry and other foundation sponsors. Research grants receivable include amounts due from these sponsors of externally funded research. These amounts have been billed or are billable to the sponsor, or in limited circumstances, represent accelerated spending in anticipation of future funding. Research grants receivable are reported net of reserves for uncollectible accounts.

**Other Current Assets**
Other current assets include prepaid expenses, inventory, nonpatient receivables, current portion of pledges receivable, premiums receivable and reinsurance recoveries.

**Property and Equipment**
Property and equipment is reported on the basis of cost less accumulated depreciation. Donated items are recorded at fair value at the date of contribution. All research grants received for capital are recorded in the year of expenditure as a change in unrestricted net assets. Property and equipment is reviewed for impairment whenever events or changes in circumstances indicate that its carrying amount may not be recoverable. Depreciation of property and equipment is calculated by use of the straight-line method at rates intended to depreciate the cost of assets over their estimated useful lives, which generally range from three to fifty years. Interest costs incurred on borrowed funds during the period of construction of capital assets are capitalized, net of any interest earned, as a component of the cost of acquiring those assets.

**Asset Retirement Obligations**
Asset retirement obligations, reported in accrued other, are legal obligations associated with the retirement of long-lived assets. These liabilities are initially recorded at fair value and the related asset retirement costs are capitalized by increasing the carrying amount of the related assets by the same amount as the liability. Asset retirement costs are subsequently depreciated over the useful lives of the related assets. Partners HealthCare records changes in the liability resulting from the passage of time and revisions to either the timing or the amount of the original liability estimate and reduces these liabilities when the related obligations are settled.

**Other Assets**
Other assets consist of long-term receivables, intangible assets, prepaid ground rent, malpractice insurance receivables (Note 14), receivable for settlements with third-party payers and investments in healthcare related limited partnerships. The carrying value of other assets is evaluated for impairment if the facts and circumstances suggest that the carrying value may not be recoverable.

**Compensated Absences**
In accordance with formal policies concerning vacation and other compensated absences, accruals of $298,910 and $291,243 were recorded as of September 30, 2018 and 2017, respectively.

**Unexpended Funds on Research Grants**
Research grants received in advance of corresponding grant expenditures are accounted for as a direct addition to investments limited as to use and unexpended funds on research grants.

*(in thousands of dollars)*

**Self-Insurance Reserves**
Partners HealthCare is generally self-insured for employee healthcare, disability, workers' compensation and certain other employee benefits. These costs are accounted for on an accrual basis to include estimates of future payments for claims incurred prior to year end.

**Net Assets**
Permanently restricted net assets include the historical dollar amounts of gifts and the income and gains on such gifts which are required by donors to be permanently retained. Temporarily restricted net assets include gifts and the income and gains on permanently restricted net assets which can be expended but for which restrictions have not yet been met. Such restrictions include purpose restrictions where donors have specified the purpose for which the net assets are to be spent, or time restrictions imposed by donors or implied by the nature of the gift (capital projects, pledges to be paid in the future, life income funds) or by interpretations of law (gains available for appropriation but not appropriated in the current period). Unrestricted net assets include all of the remaining net assets of Partners HealthCare. More information can be found in Note 16, Net Assets.

Realized gains and losses are classified as unrestricted net assets unless they are restricted by the donor or law. Unless permanently restricted by the donor, realized gains and net unrealized appreciation on permanently restricted gifts are classified as temporarily restricted until appropriated for spending by Partners HealthCare in accordance with policies established by Partners HealthCare and applicable Uniform Prudent Management of Institutional Funds Acts (UPMIFA). Net losses on permanently restricted endowment funds are classified as a reduction to unrestricted net assets until such time as the fair value of these funds exceeds historical dollar amount of the gift.

**Gifts**
Unconditional promises to give cash and other assets to Partners HealthCare are reported at fair value at the date the promise is received. Conditional promises to give are recognized when the conditions are substantially met. Gifts are reported as either temporarily or permanently restricted support if they are received with donor stipulations that limit the use of the donated assets. Donor-restricted contributions whose restrictions are met within the same year as received are reported as unrestricted gifts in the accompanying financial statements.

Gifts of long-lived assets with explicit restrictions that specify use of assets and gifts of cash or other assets that must be used to acquire long-lived assets are reported as additions to temporarily restricted net assets if the assets are not placed in service during the year.

**Grants**
Grants and contracts normally provide for the recovery of direct and indirect costs, subject to audit. Partners HealthCare recognizes revenue associated with direct and indirect costs as direct costs are incurred. The recovery of indirect costs is based on predetermined rates for U.S. Government grants and contracts and negotiated rates for other grants and contracts.

*(in thousands of dollars)*

**Contributed Securities**
Partners HealthCare's policy is to sell securities contributed by donors upon receipt, unless prevented from doing so by donor request. For the years ended September 30, 2018 and 2017, contributed securities of $64,080 and $52,361, respectively, were received and liquidated. Donors restricted $15,328 and $23,401 of the proceeds received from the sale of these contributed securities for long-term purpose for the years ended September 30, 2018 and 2017, respectively.

**Statement of Operations**
All activities of Partners HealthCare deemed by management to be ongoing, major and central to the provision of healthcare services, teaching, research activities and health insurance are reported as operating revenue and expenses. Other activities are deemed to be nonoperating and include unrestricted gifts (net of fundraising expenses), external community benefit program support, net change in unexpended academic and research gifts, change in fair value of interest rate swaps, substantially all income (loss) from investments and interest on advanced borrowings. Academic and research gifts largely consist of donor contributions (and the related investment income including realized gains and losses) designated to support the clinical, teaching or research efforts of a physician or department as directed by the donor. These gifts are reported as unrestricted, net of related support expenses, when donor restrictions are of a general nature that are inherent in the normal activities of the organization.

Effective October 1, 2007, the Centers for Medicare and Medicaid Services (CMS) adopted the MS-DRG patient classification system (MS-DRGs) for inpatient services to better recognize severity of illness in Medicare payment rates for acute care hospitals. The adoption of MS-DRGs resulted in the expansion of the number of diagnosis related groups (DRGs), a system of classifying patients for purposes of inpatient reimbursement. By increasing the number of DRGs and more fully taking into account patients' severity of illness in Medicare payment rates for acute care hospitals, the use of MS-DRGs encourages hospitals to improve their documentation and coding of patient diagnoses. CMS has determined that the adoption of the MS-DRGs increased aggregate payments to hospitals due to additional documentation and coding without a corresponding increase in actual patient severity of illness.

CMS is required by its enabling statute to maintain budget neutrality by prospectively adjusting the Medicare payment rate to eliminate the effect of changes in DRG classification that do not reflect real changes in case-mix. CMS requires Congressional authority, however, to recoup any overpayments made in prior years. Under the American Taxpayer Relief Act of 2012, Congress granted CMS the authority to recoup overpayments made to hospitals in 2010 through 2012 through rate reductions in 2014 through 2017.

In 2013, Partners HealthCare recorded the estimated overpayment amounts received in 2010 through 2012 of $79,020 as deferred revenue to be amortized into net patient service revenue in 2014 through 2017 to offset the rate reductions. Management believes this accounting treatment better reflects the financial impact of this rate methodology and more accurately presents the recognition of revenue. As planned, the final overpayment amount of $33,035 was amortized into net patient service revenue for the year ended September 30, 2017.

*(in thousands of dollars)*

The statement of operations includes excess of revenues over expenses. Changes in unrestricted net assets, which are excluded from excess of revenues over expenses, include change in net unrealized appreciation on marketable investments, contributions of long-lived assets (including assets acquired using contributions which by donor restriction were to be used for acquisition of such assets) and change in funded status of defined benefit plans.

**Net Patient Service Revenue**

Partners HealthCare maintains agreements with CMS under the Medicare program, the Commonwealth under the Medicaid program and various managed care payers that govern payment for services rendered to patients covered by these agreements. The agreements generally provide for per case or per diem rates or payments based on discounted charges for inpatient care and discounted charges or fee schedules for outpatient care. Certain contracts also provide for payments that are contingent upon meeting agreed upon quality and efficiency measures.

Partners HealthCare recognizes patient service revenue associated with services provided to patients who have third-party payer coverage on the basis of contractual rates for the services rendered. For uninsured patients that do not qualify for charity care, Partners HealthCare recognizes revenue on the basis of its standard rates (subject to discounts) for services provided. On the basis of historical experience, a significant portion of Partners HealthCare's uninsured patients are unable or fail to pay for the services provided. Consequently, Partners HealthCare records a provision for bad debts related to uninsured patients in the period the services are provided. For the years ended September 30, 2018 and 2017, patient service revenue net of contractual allowances and discounts (before the provision for bad debts) is as follows:

| | 2018 | 2017 |
|---|---|---|
| **Patient service revenue (net of contractual allowances and discounts)** | | |
| Third-party payers | $ 9,053,569 | $ 8,189,978 |
| Uninsured patients | 351,410 | 332,259 |
| Total all payers | $ 9,404,979 | $ 8,522,237 |

Net patient service revenue includes estimated retroactive revenue adjustments due to future audits, reviews and investigations. Retroactive adjustments are considered in the recognition of revenue on an estimated basis in the period the related services are rendered, and such amounts are adjusted in future periods as adjustments become known or as years are no longer subject to such audits, reviews and investigations. Contracts, laws and regulations governing the Medicare, Medicaid and charity care programs (Note 1) and managed care payer arrangements are complex and subject to interpretation. As a result, there is at least a reasonable possibility that recorded estimates will change by a material amount in the near term. A portion of the accrual for settlements with third-party payers has been classified as long-term because such amounts, by their nature or by virtue of regulation or legislation, will not be paid within one year.

Partners HealthCare recognizes changes in third-party payer settlements and other estimates in the year of the change in estimate. For the years ended September 30, 2018 and 2017, adjustments to prior year estimates resulted in an increase to income from operations of $51,677 and $34,995, respectively.

*(in thousands of dollars)*

Partners HealthCare provides either full or partial charity care to patients who cannot afford to pay for their medical services based on income and family size. Charity care is generally available to qualifying patients for medically necessary services. Partners HealthCare reports certain bad debts related to emergency services as charity care. Charity care is reported at gross charges with an offsetting allowance, as there is no expectation of collection. Accordingly, there is no net patient service revenue related to charity care.

**Premium Revenue**
Premiums are due monthly and recorded as earned during the period in which members are eligible to receive services. Premiums received prior to the first day of the coverage period are recorded as unearned premiums in accounts payable and accrued expenses.

**Other Revenue**
Other revenue includes institutional revenue (for example, billing for services provided to other healthcare providers), parking, cafeteria sales, nonpatient pharmacy, tuition revenue, royalties, commercialization of intellectual property and administrative fees for self-insured health benefit plans.

**Medical Claims and Related Expenses**
NHP contracts with various community health centers, hospital-based primary care physician practices and other health care providers for the delivery of services to its members and compensates these providers on a capitated, fee-for-service, per diem or DRG basis.

The cost of contracted health care services is accrued in the period in which services are provided and include certain estimated amounts. The estimated liability for medical claims and related expenses is actuarially determined based on analysis of historical claims-paid experience, modified for changes in enrollment, inflation and benefit coverage. The liability for medical claims and related expenses represents the anticipated cost of claims incurred but unpaid at the balance sheet date. The estimates for claims expense may be more or less than the amounts ultimately paid when claims are settled. Such changes in estimates are reflected in the current period in the consolidated statements of operations.

In the normal course of business, NHP identifies and recoups overpayments through reductions in future payments made to providers and hospitals. Such overpayments are the result of, among other things, coordination of benefits and provider claim audits. For the years ended September 30, 2018 and 2017, NHP recorded a reduction in its medical claims expense of $37,061 and $62,932, respectively, for such overpayments. As of September 30, 2018 and 2017, approximately $2,519 and $1,774, respectively, are recorded as receivables related to such overpayments.

**Reinsurance**
Reinsurance premiums are reported in medical claims and related expenses and reinsurance recoveries are reported as reductions in medical claims and related expenses.

*(in thousands of dollars)*

**Settlements**
NHP contracts with certain providers at negotiated rates based on historical and anticipated experience. These methods of reimbursement result in settlements based on actual versus anticipated experience which could result in either payments due from (to) these providers. Settlements receivable of $798 and $10,559 were recorded in other current assets as of September 30, 2018 and 2017, respectively. Settlements payable of $6,259 and $2,058 were recorded in accrued medical claims and related expenses as of September 30, 2018 and 2017, respectively. The settlements are intended to include both reported and unreported incurred claims as of September 30, 2018 and 2017.

In 2014, the Affordable Care Act introduced new settlements related to a risk adjustment program, a risk corridor program and a reinsurance program designed to mitigate the transitional impact on insurers for new members. The risk corridor program and reinsurance program ended on December 31, 2016 in accordance with the provision of the Affordable Care Act. NHP's estimated net receivable due from the federal government for these programs was $72,526 and $7,784 at September 30, 2018 and 2017, respectively. Similar to the federal program, Executive Office of Health and Human Services of the Commonwealth (EOHHS) has a risk corridor program, and NHP's estimated net payable due to EOHHS was $388 at September 30, 2018 and NHP's estimated net receivable due from EOHHS was $46,312 at September 30, 2017.

**Premium Deficiency Reserve**
Premium deficiency reserves are assessed and recognized on a product line basis based upon expected premium revenue, medical expense and administrative expense levels, and remaining contractual obligations using historical experience. There is no premium deficiency reserve as of September 30, 2018 or 2017.

**Claims Adjustment Expenses**
Claims adjustment expenses (CAE) are those costs expected to be incurred in connection with the adjustment and recording of health claims. NHP has recorded an estimate of unpaid CAE associated with incurred but unpaid claims, which is included in medical claims and related expenses in the accompanying consolidated statements of operations. Management believes the amount of the liability for unpaid CAE as of September 30, 2018, is adequate to cover NHP's cost for the adjustment and recording of unpaid claims; however, actual expenses may differ from those established estimates. Adjustments to the estimates for unpaid CAE are reflected in operating results in the period in which the change in estimate is identified (Note 9).

**Recent Accounting Guidance**
In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606)*. This standard implements a single framework for recognition of all revenue earned from customers in exchange contracts. This framework ensures that entities appropriately reflect the consideration to which they expect to be entitled in exchange for goods and services by allocating transaction price to identified performance obligations and recognizing revenue as performance obligations are satisfied. Qualitative and quantitative disclosures are required to enable users of financial statements to understand the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. This standard is effective for Partners HealthCare in 2019.

*(in thousands of dollars)*

In January 2016, the FASB issued ASU 2016-01, *Financial Instruments-Overall: Recognition and Measurement of Financial Assets and Financial Liabilities*. This standard requires equity investments to be measured at fair value with changes in fair value recognized in excess of revenues over expenses and simplifies the impairment assessment of equity investments without readily determinable fair values. Partners HealthCare will early adopt this standard in 2019.

In February 2016, the FASB issued ASU 2016-02, *Leases (Topic 842),* which requires a lessee to recognize a right-of-use asset and a lease liability, initially measured at the present value of the lease payments, in its balance sheet. The guidance also expands the required quantitative and qualitative disclosures surrounding leases. The standard is effective for Partners HealthCare in 2020 and management is evaluating the impact of this standard on the consolidated financial statements by reviewing the key terms of all lease contracts and implementing new processes and procedures to comply with this standard.

In August 2016, the FASB issued ASU 2016-14, *Presentation of Financial Statements for Not-for-Profit Entities,* which makes targeted changes to the not-for-profit financial reporting model. Under this standard, net asset reporting will be condensed into two categories. The guidance also requires new disclosures about information useful for assessing liquidity and availability of resources. The standard is effective for Partners HealthCare in 2019 and will impact the presentation and disclosures in the consolidated financial statements.

In March 2017, the FASB issued ASU 2017-07, Compensation – Retirement Benefits (Topic 715), Improving the Presentation of Net Periodic Pension cost and Net Periodic Postretirement Benefit Cost. The standard requires that the service cost component be presented in the same line item(s) as other employee compensation costs and that the remaining components be presented separately from those line items and outside of operations. The standard is effective for Partners HealthCare in 2020 and management is evaluating the impact of the new standard on the consolidated financial statements.

In June 2018, the FASB issued ASU 2018-08, *Clarifying the Scope and the Accounting Guidance for Contributions Received and Contributions Made*, which clarifies the definition of an exchange and nonexchange transaction and provides guidance on determining whether a nonexchange transaction (contribution) is conditional or unconditional. The guidance may impact the timing of revenue recognized for contributions received. This standard is effective for Partners HealthCare in 2019.

*(in thousands of dollars)*

## 3. Acquisitions

Wentworth-Douglass Health System (Wentworth-Douglass) contributed their net assets to MGH on January 1, 2017, and MEEI contributed their net assets to PHS on April 1, 2018. As a result, contribution income recorded at the fair value of contributed assets on the transaction day is reflected in the consolidated statement of changes in net assets as follows:

| | MEEI | Wentworth-Douglass |
|---|---|---|
| | Years ended September 30, | |
| | 2018 | 2017 |
| Unrestricted net assets (in non-operating gains) | $ 157,312 | $ 321,389 |
| Temporarily restricted net assets | 77,058 | 2,120 |
| Permanently restricted net assets | 89,223 | 2,399 |
| | $ 323,593 | $ 325,908 |

Assets, liabilities, and net assets assumed as of the acquisition dates are as follows:

| | MEEI | Wentworth-Douglass |
|---|---|---|
| **Assets** | | |
| Cash and cash equivalents | $ 11,716 | $ 39,244 |
| Investments and investments limited as to use | 282,733 | 206,781 |
| Patient accounts receivable, net | 27,650 | 33,910 |
| Property and equipment, net | 190,854 | 214,261 |
| Other assets | 67,692 | 29,921 |
| Total assets acquired | $ 580,645 | $ 524,117 |
| **Liabilities** | | |
| Long-term obligations | $ 132,671 | $ 109,302 |
| Accounts payable and accrued expenses | 32,608 | 38,082 |
| Accrued compensation and benefits | 14,099 | 30,904 |
| Accrual for settlements with third-party payers | 4,936 | 17,405 |
| Other liabilities | 72,738 | 2,516 |
| Total liabilities assumed | 257,052 | 198,209 |
| Net assets | | |
| Unrestricted | 157,312 | 321,389 |
| Temporarily restricted | 77,058 | 2,120 |
| Permanently restricted | 89,223 | 2,399 |
| Total net assets | 323,593 | 325,908 |
| Total liabilities and net assets | $ 580,645 | $ 524,117 |

*(in thousands of dollars)*

A summary of the financial results of Wentworth-Douglass and MEEI during the respective year of acquisition is included in the consolidated statements of operations and changes in net assets is as follows:

| | MEEI Financial Results April 1, 2018 to September 30, 2018 Included in the 2018 Consolidated Financial Statements | Wentworth-Douglass Financial Results January 1, 2017 to September 30, 2017 Included in the 2017 Consolidated Financial Statements |
|---|---|---|
| Total operating revenue | $ 220,061 | $ 272,451 |
| Total operating expenses | 217,011 | 266,213 |
| Income from operations | 3,050 | 6,238 |
| Nonoperating gains, net | 5,096 | 17,349 |
| Excess of revenues over expenses | 8,146 | 23,587 |
| Other changes | 159,180 | 321,389 |
| Increase in unrestricted net assets | $ 167,326 | $ 344,976 |

A summary of the consolidated financial results of Partners HealthCare for the year ended September 30, 2018 and 2017, as if the transactions had occurred on October 1, 2016 is as follows (unaudited):

| | 2018 | 2017 |
|---|---|---|
| Total operating revenue | $ 13,518,035 | $ 13,878,150 |
| Total operating expenses | 13,210,836 | 13,822,714 |
| Income from operations | 307,199 | 55,436 |
| Nonoperating gains, net | 520,708 | 610,406 |
| Excess of revenues over expenses | 827,907 | 665,842 |
| Pension related changes | 399,318 | 920,078 |
| Other changes | (40,406) | 257,539 |
| Increase in unrestricted net assets | $ 1,186,819 | $ 1,843,459 |

For the year ended September 30, 2018, Partners HealthCare made multiple smaller acquisitions for a combined purchase price of $5,761, net of cash acquired. In accordance with accounting standards, the purchase price was allocated first to tangible assets and then intangible assets.

*(in thousands of dollars)*

## 4. Levels of Capital and Surplus

Risk-based capital (RBC) is a methodology adopted by the National Association of Insurance Commissioners (NAIC) for determining the minimum level of capital and surplus deemed necessary for an insurer based upon the types of assets held and business written. Pursuant to a guaranty entered into by PHS when it acquired NHP in 2012 (the RBC Guaranty), PHS has committed to maintain NHP's capital and surplus at a specified minimum level, measured quarterly in accordance with an RBC methodology permitted by the Massachusetts Division of Insurance (DOI). The RBC Guaranty may be enforced by the DOI. PHS provided capital to NHP of $4,000 and $57,200 in 2018 and 2017, respectively. NHP's current contract with EOHHS requires NHP to maintain a minimum net worth and/or financial insolvency insurance in an amount equal to the Minimum Net Worth calculation as defined in Massachusetts General Law 176G, Section 25. At December 31, 2017 and 2016 (NHP's fiscal and statutory year end), the minimum net worth requirement, as determined in accordance with EOHHS guidelines, was $143,774 and $150,000, respectively. NHP's statutory net worth was $337,126 and $192,400 at December 31, 2017 and 2016, respectively, and thus exceeded the EOHHS requirements by $193,352 and $42,400, respectively.

## 5. Investments and Investments Limited as to Use

Investments are either invested in the Partners HealthCare pooled investment accounts (Investment Pools) or separately managed. The Investment Pools are composed of three investment funds with differing investment objectives. Substantially all of the affiliates, along with PHS, participate in the Investment pools. Their respective ownership interests are tracked and updated monthly and are accounted for using the fair value method. Income (including realized gains and losses) from the Investment Pools is allocated to each participant on a monthly basis based on its proportionate interest in the Investment Pools.

Oversight of the management of Partners HealthCare's investable assets, including the Investment Pools and the Master Trust (Note13), is provided by the Investment Committee of PHS Board of Directors which seeks to achieve incremental returns by manager selection and asset allocation (increasing/decreasing allocations within allowable ranges based on current and projected valuations). The Committee is supported by a professional staff, an outside investment consultant and a pension actuarial consultant.

Partners HealthCare utilizes a target allocation policy and balances projected returns, correlation and volatility of various asset classes within the overall risk tolerance. Asset allocations are managed based on relative valuations among and within asset classes and the perceived ability of managers to outperform passive benchmarks. Exposure by asset class is the sum of allocation to those mangers whose mandates most closely fit the listed asset classes. Asset allocation can and will deviate from target exposures and is regularly monitored for rebalancing.

The Investment Pools invest in a variety of assets which include private partnerships whose assets include equity, fixed income and other investments. As of September 30, 2018, the Investment Pools have unfunded commitments of approximately $977,369 which will be drawn down by the various general partners over the next several years. The maximum annual drawdown is expected to be less than 2% of investments and investments limited as to use.

*(in thousands of dollars)*

Investments and investments limited as to use are recorded in the balance sheet as follows:

| | September 30, 2018 | September 30, 2017 |
|---|---|---|
| **Current assets** | | |
| Investments | $ 1,942,117 | $ 1,506,524 |
| Current portion of investments limited as to use | 1,465,354 | 1,367,172 |
| | 3,407,471 | 2,873,696 |
| **Long-term assets** | | |
| Investments limited as to use, less current portion | 3,716,162 | 3,320,230 |
| Long-term investments | 1,628,972 | 1,266,697 |
| | $ 8,752,605 | $ 7,460,623 |

Investments limited as to use consist of the following:

| | September 30, 2018 | | September 30, 2017 | |
|---|---|---|---|---|
| | Current Portion | Long-Term Portion | Current Portion | Long-Term Portion |
| **Internally designated funds** | | | | |
| Reserved for capital expenditures | $ 885,548 | $ - | $ 852,813 | $ - |
| Unexpended academic and research gifts | - | 2,951,821 | - | 2,660,599 |
| Deferred compensation | - | 355,294 | - | 306,940 |
| Other | 253,006 | 377,477 | 129,697 | 315,730 |
| | 1,138,554 | 3,684,592 | 982,510 | 3,283,269 |
| **Externally limited funds** | | | | |
| Unexpended funds on research | 284,178 | - | 265,253 | - |
| Contributions held for others | 1,610 | - | 1,379 | - |
| Professional liability trust fund | - | 31,570 | - | 36,961 |
| Held by trustees under debt and other agreements | 41,012 | - | 118,030 | - |
| | 326,800 | 31,570 | 384,662 | 36,961 |
| | $ 1,465,354 | $ 3,716,162 | $ 1,367,172 | $ 3,320,230 |

*(in thousands of dollars)*

Investments and investments limited as to use are reported at either fair value or on the equity or cost methods of accounting. The composition of these investments, segregated between pooled investments and those that are separately invested, is as follows:

| | September 30, 2018 | | | |
|---|---|---|---|---|
| | **At Fair Value** | **On Equity Method** | **On Cost Method** | **Total** |
| **Pooled investments** | | | | |
| Invested cash equivalents | $ 47,324 | $ - | $ - | $ 47,324 |
| Separately managed investments | 1,647,937 | - | - | 1,647,937 |
| Mutual funds | 63,370 | - | - | 63,370 |
| Commingled funds | 1,524,184 | - | - | 1,524,184 |
| Private partnerships | - | 1,889,786 | 2,702,139 | 4,591,925 |
| | 3,282,815 | 1,889,786 | 2,702,139 | 7,874,740 |
| **Separately invested** | | | | |
| Invested cash equivalents | 128,063 | - | 55 | 128,118 |
| Equities | 6,397 | - | 49,163 | 55,560 |
| Fixed income securities | 24,176 | - | - | 24,176 |
| Mutual funds | 559,945 | - | 6 | 559,951 |
| Other | 32,186 | - | 77,874 | 110,060 |
| | 750,767 | - | 127,098 | 877,865 |
| | $ 4,033,582 | $ 1,889,786 | $ 2,829,237 | $ 8,752,605 |

Separately managed investments include cash and equivalents of $174,368, equities of $915,935 and fixed income securities of $557,634 as of September 30, 2018.

| | September 30, 2017 | | | |
|---|---|---|---|---|
| | **At Fair Value** | **On Equity Method** | **On Cost Method** | **Total** |
| **Pooled investments** | | | | |
| Invested cash equivalents | $ 46,459 | $ - | $ - | $ 46,459 |
| Separately managed investments | 1,502,489 | - | - | 1,502,489 |
| Mutual funds | 137,942 | - | - | 137,942 |
| Commingled funds | 1,227,012 | - | - | 1,227,012 |
| Private partnerships | - | 1,391,784 | 2,337,517 | 3,729,301 |
| | 2,913,902 | 1,391,784 | 2,337,517 | 6,643,203 |
| **Separately invested** | | | | |
| Invested cash equivalents | 111,237 | - | 18 | 111,255 |
| Equities | 5,783 | - | 47,934 | 53,717 |
| Fixed income securities | 26,059 | - | - | 26,059 |
| Mutual funds | 501,152 | - | 1 | 501,153 |
| Other | 26,980 | 22,306 | 75,950 | 125,236 |
| | 671,211 | 22,306 | 123,903 | 817,420 |
| | $ 3,585,113 | $ 1,414,090 | $ 2,461,420 | $ 7,460,623 |

*(in thousands of dollars)*

Separately managed investments include cash and equivalents of $172,055, equities of $669,466 and fixed income securities of $660,968 as of September 30, 2017.

For the private partnerships reflected in the balance sheet at cost, the difference (unrecorded net unrealized appreciation) between the value reported by the investment managers and the cost for these investments was $1,297,264 and $1,127,814 as of September 30, 2018 and 2017, respectively.

The fair value and gross unrealized depreciation of investments and investments limited as to use, with a fair value less than cost, that are not deemed to be other-than-temporarily impaired as of September 30, 2018 are as follows:

| | Less Than 12 Months | | 12 Months or Greater | |
|---|---|---|---|---|
| | **Fair Value** | **Gross Unrealized Depreciation** | **Fair Value** | **Gross Unrealized Depreciation** |
| **Pooled investments** | | | | |
| Separately managed investments | $ 991 | $ (29) | $ - | $ - |
| Mutual funds | - | - | 63,370 | (2,243) |
| | 991 | (29) | 63,370 | (2,243) |
| **Separately invested** | | | | |
| Equities | - | - | 14 | (1) |
| Fixed income securities | 25,123 | (297) | 941 | (17) |
| Mutual funds | 43,170 | (1,000) | 12,749 | (8) |
| | 68,293 | (1,297) | 13,704 | (26) |
| | $ 69,284 | $ (1,326) | $ 77,074 | $ (2,269) |

In addition, for certain private partnerships recorded at cost, gross unrealized depreciation amounted to $46,335 as of September 30, 2018, with $18,087 of that amount unrealized for 12 months or greater.

Based on management's quantitative and qualitative assessment, investments whose cost exceeds fair value are not considered to be other-than-temporarily impaired as of September 30, 2018. Management believes these investments will recover their values and there is no intention to liquidate these positions.

*(in thousands of dollars)*

Investment income and gains (losses) from cash and equivalents, investments, investments limited as to use and beneficial interests in perpetual trusts comprise the following:

| | Years Ended September 30, 2018 | 2017 |
|---|---|---|
| **Unrestricted** | | |
| Dividends, interest and other income | $ 51,491 | $ 35,521 |
| Endowment income distributions, net of reinvested gains | 46,234 | 42,458 |
| Net realized gains (losses) on investments | | |
| Realized gains | 273,583 | 205,263 |
| Other-than-temporary impairment | (58,845) | (34,813) |
| Change in value of equity method investments | 66,002 | 121,336 |
| Recovery (losses) on endowment funds | (109) | 7,025 |
| Total investment activity included in excess of revenues over expenses | 378,356 | 376,790 |
| Change in net unrealized appreciation on marketable investments | (90,243) | 209,260 |
| Total unrestricted investment activity | 288,113 | 586,050 |
| **Temporarily restricted** | | |
| Dividends and interest income | 24,804 | 179 |
| Endowment income distributions | (60,520) | (53,768) |
| Net realized gains (losses) on investments | | |
| Realized gains | 58,844 | 42,295 |
| Other-than-temporary impairment | (8,750) | (5,643) |
| | 14,378 | (16,937) |
| Change in value of equity method investments | 21,223 | 37,182 |
| Change in net unrealized appreciation on marketable investments | 8,255 | 66,547 |
| (Recovery) losses on endowment funds | 109 | (7,025) |
| | 29,587 | 96,704 |
| Total temporarily restricted investment activity | 43,965 | 79,767 |
| **Permanently restricted** | | |
| Dividends and interest income (investment expense) | (10) | (13) |
| Net realized gains on investments | 100 | 52 |
| Change in net unrealized appreciation on marketable investments | 85 | 322 |
| Change in value of beneficial interests in perpetual trusts | 841 | 966 |
| Total permanently restricted investment activity | 1,016 | 1,327 |
| | $ 333,094 | $ 667,144 |

*(in thousands of dollars)*

Investment income included in operating results and excess of revenues over expenses comprise the following:

| | Years Ended September 30, 2018 | 2017 |
|---|---|---|
| Investment income included in operations and reported in other revenue | $ 13,712 | $ 13,100 |
| Investment income included in nonoperating gains and reported in | | |
| Income from investments | 198,118 | 223,363 |
| Academic and research gifts, net of expenses | 166,526 | 140,327 |
| Total investment activity included in excess of revenues over expenses | $ 378,356 | $ 376,790 |

## 6. Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (also referred to as exit price). Therefore, a fair value measurement should be determined based on the assumptions that market participants would use in pricing the asset or liability. In determining fair value, the use of various valuation approaches, including market, income and cost approaches, is permitted.

**Fair Value Hierarchy**

A fair value hierarchy has been established based on whether the inputs to valuation techniques are observable or unobservable. Observable inputs reflect market data obtained from independent sources, while unobservable inputs reflect the reporting entity's assumptions about the inputs market participants would use. The fair value hierarchy requires the reporting entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value. In addition, for hierarchy classification purposes, the reporting entity should not look through the form of an investment to the nature of the underlying securities held by an investee.

The hierarchy is described below.

Level 1 — Valuations using quoted prices in active markets for identical assets or liabilities. Valuations of these products do not require a significant degree of judgment. Level 1 assets and liabilities primarily include debt and equity securities that are traded in an active exchange market.

Level 2 — Valuations using observable inputs other than Level 1 prices such as quoted prices in active markets for similar assets or liabilities; quoted prices for identical or similar assets or liabilities in markets that are not active; broker or dealer quotations; or other inputs that are observable or can be corroborated by observable market data for substantially the full term of the assets or liabilities. Level 2 assets and liabilities primarily include debt securities with quoted prices that are traded less frequently than exchange-traded instruments as well as debt securities and derivative contracts whose value is determined using a pricing model with inputs that are observable in the market or can be derived principally from or corroborated by observable market data.

*(in thousands of dollars)*

Level 3 Valuations using unobservable inputs that are supported by little or no market activity and are significant to the fair value of the assets or liabilities. Level 3 includes assets and liabilities whose value is determined using pricing models, discounted cash flow methodologies, or similar techniques reflecting the reporting entity's assumptions about the assumptions market participants would use as well as those requiring significant management judgment.

**Valuation Techniques**
Pooled investments (except for private partnerships, which are reported on either the equity or cost method of accounting), separately invested cash equivalents and debt and equity securities are classified within Level 1 or Level 2 of the fair value hierarchy as they are valued using quoted market prices, broker or dealer quotations, or other observable pricing sources. Certain types of investments are classified within Level 3 of the fair value hierarchy because they have little or no market activity and therefore have little or no observable inputs with which to measure fair value.

The valuation of interest rate swaps is determined using widely accepted valuation techniques, including discounted cash flow analysis on the expected cash flows of each derivative. This analysis reflects the contractual terms of the derivatives, including the period to maturity, and uses observable market-based inputs, including interest rate curves and implied volatilities.

The following tables summarize fair value measurements as of September 30, 2018 and 2017 for financial assets and liabilities measured at fair value on a recurring basis:

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| | **Quoted Prices in Active Markets for Identical Items (Level 1)** | **Significant Other Observable Inputs (Level 2)** | **Significant Unobservable Inputs (Level 3)** | **Fair Value at September 30, 2018** |
| **Assets** | | | | |
| Pooled investments | | | | |
| Invested cash equivalents | $ 14,626 | $ 32,698 | $ - | $ 47,324 |
| Separately managed investments | 1,379,248 | 268,689 | - | 1,647,937 |
| Mutual funds | 63,370 | - | - | 63,370 |
| Commingled funds | - | 1,524,184 | - | 1,524,184 |
| | 1,457,244 | 1,825,571 | - | 3,282,815 |
| Separately invested | | | | |
| Invested cash equivalents | 128,063 | - | - | 128,063 |
| Equities | 6,397 | - | - | 6,397 |
| U.S. Government and domestic fixed income securities | 24,176 | - | - | 24,176 |
| Mutual funds | 559,945 | - | - | 559,945 |
| Beneficial interests in perpetual assets | - | - | 32,186 | 32,186 |
| | 718,581 | - | 32,186 | 750,767 |
| | $ 2,175,825 | $ 1,825,571 | $ 32,186 | $ 4,033,582 |
| **Interest rate swaps** | | | | |
| Assets | | $ 15,243 | | $ 15,243 |
| Liabilities | | (254,295) | | (254,295) |
| Net | | $ (239,052) | | $ (239,052) |

*(in thousands of dollars)*

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| | **Quoted Prices in Active Markets for Identical Items (Level 1)** | **Significant Other Observable Inputs (Level 2)** | **Significant Unobservable Inputs (Level 3)** | **Fair Value at September 30, 2017** |
| **Assets** | | | | |
| Pooled investments | | | | |
| Invested cash equivalents | $ 32,800 | $ 13,659 | $ - | $ 46,459 |
| Separately managed investments | 1,330,419 | 172,070 | - | 1,502,489 |
| Mutual funds | 137,942 | - | - | 137,942 |
| Commingled funds | - | 1,227,012 | - | 1,227,012 |
| | 1,501,161 | 1,412,741 | - | 2,913,902 |
| Separately invested | | | | |
| Invested cash equivalents | 111,237 | - | - | 111,237 |
| Equities | 5,783 | - | - | 5,783 |
| U.S. Government and domestic fixed income securities | 26,059 | - | - | 26,059 |
| Mutual funds | 501,152 | - | - | 501,152 |
| Beneficial interests in perpetual assets | - | - | 26,980 | 26,980 |
| | 644,231 | - | 26,980 | 671,211 |
| | $ 2,145,392 | $ 1,412,741 | $ 26,980 | $ 3,585,113 |
| **Interest rate swaps** | | | | |
| Liabilities | | $ 367,830 | | $ 367,830 |

*(in thousands of dollars)*

## 7. Pledges and Contributions Receivable

Pledges receivable represent unconditional promises to give and are net of allowances for uncollectible amounts. Pledges are recorded at the present value of their estimated future cash flows. Pledges collectible within one year are classified as other current assets, net of allowances, and total $95,292 and $94,527 as of September 30, 2018 and 2017, respectively. Estimated cash flows due after one year are discounted using published treasury bond and note yields that are commensurate with estimated collection risks. The blended discount rate was 2.9% and 1.7% for 2018 and 2017, respectively. Pledges are expected to be collected as follows:

| | September 30, 2018 | September 30, 2017 |
|---|---|---|
| Amounts due | | |
| Within one year | $ 111,277 | $ 108,506 |
| In one to five years | 160,865 | 134,782 |
| In more than five years | 67,349 | 46,878 |
| Total pledges receivable | 339,491 | 290,166 |
| Less: Unamortized discount | 20,955 | 9,882 |
| | 318,536 | 280,284 |
| Less: Allowance for uncollectibles | 20,937 | 17,607 |
| Net pledges receivable | 297,599 | 262,677 |
| Contributions receivable from trusts | 44,644 | 31,580 |
| | $ 342,243 | $ 294,257 |

## 8. Property and Equipment

Property and equipment consists of the following:

| | September 30, 2018 | September 30, 2017 |
|---|---|---|
| Land and land improvements | $ 269,280 | $ 227,952 |
| Buildings and building improvements | 7,961,709 | 7,507,549 |
| Equipment | 2,996,429 | 2,757,263 |
| Construction in progress | 519,291 | 377,225 |
| | 11,746,709 | 10,869,989 |
| Less: Accumulated depreciation | 5,344,999 | 4,643,607 |
| Property and equipment, net | $ 6,401,710 | $ 6,226,382 |

*(in thousands of dollars)*

Depreciation expense for the years ended September 30, 2018 and 2017 was $670,132 and $620,672, respectively. Interest costs, net of interest earned, aggregating $5,032 and $8,727 were capitalized in 2018 and 2017, respectively.

For the years ended September 30, 2018 and 2017, fully depreciated assets with an original cost of $295,348 and $357,837, respectively, were written off.

## 9. Accrued Medical Claims and Related Expenses

Accrued medical claims and related expenses include estimates of expected trends in claims severity, frequency, and other factors, which could vary as the claims are ultimately settled and are based principally upon historical experience. For the years ended September 30, 2018 and 2017, changes in estimates resulted in a decrease of accrued medical claims and related expense of $7,658 and $49,440, respectively. Increases (decreases) of this nature occur as the result of claim settlements and recoveries during the current year and as additional information is received regarding individual claims, causing changes from the original estimates of the cost of these claims. Ongoing analysis of the recent loss development trends is also taken into account in evaluating the overall adequacy of the reserves.

Changes in accrued medical claims and related expenses are as follows:

| | 2018 | 2017 |
|---|---|---|
| **Balance at beginning of year** | $ 196,037 | $ 289,866 |
| Less: | | |
| Premium deficiency reserve | - | (51,735) |
| Accrual for claims adjustment expenses | (3,523) | (6,192) |
| Accrued medical payables - other | (7,197) | (14,577) |
| Plus: Settlements payable, net | 18,286 | 16,652 |
| **Net balance at beginning of year** | 203,603 | 234,014 |
| Incurred related to | | |
| Current year | 1,274,209 | 2,393,818 |
| Prior years | (7,658) | (49,440) |
| Total incurred | 1,266,551 | 2,344,378 |
| Paid related to | | |
| Current year | 1,208,420 | 2,187,269 |
| Prior years | 177,698 | 187,520 |
| Total paid | 1,386,118 | 2,374,789 |
| **Net balance at end of year** | 84,036 | 203,603 |
| Plus: | | |
| Accrual for claims adjustment expenses | 994 | 3,523 |
| Accrued medical payables - other | 9,874 | 7,197 |
| Less: Settlements payable, net | (30,506) | (18,286) |
| **Balance at end of year** | $ 64,398 | $ 196,037 |

*(in thousands of dollars)*

Medical claims and related expenses in the accompanying consolidated statements of operations include these amounts along with other nonclaims related costs. These nonclaims related expenses were for directly delivered services and medical cost risk sharing and incentives.

## 10. Long-Term Obligations

Long-term obligations issued by PHS and its affiliates consist of the following:

| | September 30, 2018 | September 30, 2017 |
|---|---|---|
| Massachusetts Health and Educational Facilities Authority (Authority) Revenue Bonds | | |
| Series F*, variable interest rate of 1.57% and 1.01%, final maturity in 2040 | $ 232,850 | $ 235,150 |
| Series G*, variable interest rate of 1.61% and 0.87%, final maturity in 2042 | 75,000 | 283,250 |
| Series H*, variable interest rate of 1.59% and 0.78%, final maturity in 2042 | 170,005 | 170,510 |
| Series I*, average fixed interest rate of 4.71%, variable interest rate of n/a and 0.93%, final maturity in 2022 | 29,480 | 148,130 |
| Series J*, average fixed interest rate of 4.99%, final maturity in 2024 | 70,370 | 403,650 |
| Series P*, variable interest rate of 1.52% and 0.92%, final maturity in 2027 | 150,000 | 150,000 |
| Massachusetts Development Finance Agency (Agency) Revenue Bonds | | |
| Series K*, average fixed interest rate of 4.74%, variable interest rate of 1.53% and 0.93%, final maturity in 2046 | 136,360 | 234,760 |
| Series L, average fixed interest rate of 4.91%, final maturity in 2041 | 95,065 | 307,505 |
| Series M*, average fixed interest rate of 4.96%, variable interest rate of 1.59% and 1.26%, final maturity in 2048 | 347,500 | 491,920 |
| Series N*, variable interest rate of 2.07% and 1.35%, final maturity in 2044 | 132,850 | 135,150 |
| Series O*, average fixed interest rate of 4.59%, variable interest rate of 2.04% and 1.42%, final maturity in 2050 | 312,040 | 314,870 |
| Series Q*, average fixed interest rate of 4.79%, final maturity in 2047 | 422,695 | 423,600 |
| Series R*, variable interest rate of 1.99% and 1.40%, final maturity in 2052 | 100,000 | 100,000 |
| Series S*, average fixed interest rate of 4.64%, variable interest rate of 2.03%, final maturity in 2047 | 948,105 | - |
| MEEI Series D*, variable rate of 3.31%, final maturity in 2038 | 54,703 | - |
| New Hampshire Health and Education Facilities Authority Revenue Bonds | | |
| Series 2011A, average fixed interest rate of 6.47%, final maturity in 2041 | - | 87,065 |
| Series 2016*, variable interest rate of 1.53%, final maturity in 2031 | - | 20,680 |
| Series 2017, average fixed interest rate of 5.00%, final maturity in 2041 | 99,565 | - |
| PHS Taxable Debt | | |
| Series 2007 taxable bonds, fixed interest rate of 6.26%, final maturity in 2037 | 100,000 | 100,000 |
| Series 2011 taxable bonds, fixed interest rate of 3.44%, final maturity in 2021 | 250,000 | 250,000 |
| 2012 Taxable Senior Notes, fixed interest rate of 4.11%, final maturity in 2052 | 400,000 | 400,000 |
| 2014 Taxable Senior Notes, fixed interest rate of 4.73%, final maturity in 2044 | 150,000 | 150,000 |
| Series 2015 taxable bonds, fixed interest rate of 4.12%, final maturity in 2055 | 300,000 | 300,000 |
| 2016 Taxable Senior Notes, fixed interest rate of 3.89%, final maturity in 2046 | 225,000 | 225,000 |
| Series 2017 taxable bonds, fixed interest rate of 3.77%, final maturity in 2048 | 303,644 | - |
| Other obligations | 10,308 | 5,312 |
| Line of credit | 52,848 | - |
| Capital lease obligations | 3,181 | 432 |
| Total long-term obligations, par value | 5,171,569 | 4,936,984 |
| Unamortized discounts and premiums, net | 259,487 | 148,277 |
| Deferred financing costs | (25,698) | (28,324) |
| Total long-term obligations, net | 5,405,358 | 5,056,937 |
| Less: Current portion | 459,390 | 615,151 |
| | $ 4,945,968 | $ 4,441,786 |

* Denotes series is issued in multiple subseries.
Variable interest rates are presented at September 30, 2018 and 2017, respectively.

*(in thousands of dollars)*

Aggregate maturities and payments of long-term obligations during the next five years and thereafter, and other amounts classified as current liabilities, are as follows:

| | Scheduled Maturities | Bonds Supported by Partners HealthCare Liquidity | Bonds Supported by Bank Facilities | Total |
|---|---|---|---|---|
| 2019 | $ 135,440 | $ 167,700 | $ 156,250 | $ 459,390 |
| 2020 | 83,041 | - | - | 83,041 |
| 2021 | 334,504 | - | - | 334,504 |
| 2022 | 83,534 | - | - | 83,534 |
| 2023 | 80,034 | - | - | 80,034 |
| Thereafter | 4,364,855 | - | - | 4,364,855 |
| | $ 5,081,408 | $ 167,700 | $ 156,250 | $ 5,405,358 |

The scheduled maturities represent annual payments as required under debt repayment schedules. The current portion of long-term obligations includes the payments scheduled to be made in 2019, bonds supported by Partners HealthCare liquidity that can be tendered prior to September 30, 2019, and bonds supported by bank facilities with financial institutions (standby bond purchase agreements or letters of credit) that expire prior to September 30, 2019. The bonds supported by Partners HealthCare liquidity provide the bondholder with an option to tender the bonds to Partners HealthCare. Accordingly, these bonds are classified as a current liability. The bonds supported by bank facilities provide the bondholder with an option to tender the bonds to the liquidity provider. Generally accepted accounting principles require bonds backed by bank facilities expiring within one year of the balance sheet date as well as potential principal amortization under bank facilities' term out provisions due within one year of the balance sheet date to be classified as a current liability.

Interest expense paid during the years ended September 30, 2018 and 2017 was $201,628 and $212,428, respectively.

In December 2017, PHS issued $948,105 of Partners HealthCare System Series 2017 S Revenue Bonds, plus bond premium of $122,734. The bond proceeds, net of issuance costs of $5,359 were used to refund portions of Series G ($191,532), Series I ($111,556), Series J ($344,484), Series K ($44,331), Series L ($231,658) and Series M ($141,920).

In December 2017, PHS issued $99,565 of Partners HealthCare System Series 2017 NH Revenue Bonds, plus bond premium of $17,488. The bond proceeds, net of issuance costs of $562 were used to refund Wentworth-Douglass Hospital Series 2011 ($97,206), Series 2016A ($14,325) and Series 2016B ($4,960).

In December 2017, PHS issued $303,644 of Partners HealthCare System Taxable Bonds. The bond proceeds, net of issuance costs of $1,943, were used to refund portions of Series K Bonds ($50,054) and to finance certain capital projects ($251,647).

*(in thousands of dollars)*

Partners HealthCare bonds are general obligations of PHS supported by guarantees from BH, The Brigham and Women's Hospital, Inc. (BWH), MGH and The General Hospital Corporation (the General) which may be suspended under certain conditions.

PHS and affiliate debt agreements contain certain covenants, including a minimum debt service coverage ratio and limitations on additional indebtedness and asset transfers.

**Credit Agreement**
Partners HealthCare maintains a $150,000 Credit Agreement (the Agreement) that provides access to same day funds. Advances under the Agreement bear a variable rate of interest based on the London Interbank Offered Rate (LIBOR). As of September 30, 2018, $52,848 was outstanding under the Agreement. The Agreement expires in June 2020.

## 11. Derivatives

**Interest Rate Swaps**
Partners HealthCare utilizes swap contracts to manage fluctuations in cash flows resulting from interest rate risk on certain of its variable rate bonds. These bonds expose Partners HealthCare to variability in interest payments due to changes in interest rates. Management believes that it is prudent to limit the variability of its interest payments. To meet this objective and to take advantage of low interest rates, Partners HealthCare entered into various swap contracts involving the exchange of fixed rate payments by Partners HealthCare for variable rate payments from several counterparties based on a percentage of LIBOR.

By using swap contracts to manage the risk of changes in interest rates, Partners HealthCare exposes itself to credit risk and market risk. Credit risk is the failure of the counterparty to perform under the terms of the swap contracts. When the fair value of a swap contract is positive, the counterparty has a liability to Partners HealthCare, which creates credit risk. Partners HealthCare minimizes its credit risk by entering into swap contracts with several counterparties and requiring the counterparty to post collateral for the benefit of Partners HealthCare based on the credit rating of the counterparty and the fair value of the swap contract. Conversely, when the fair value of a swap contract is negative, Partners HealthCare has a liability to the counterparty and, therefore, it does not possess credit risk. Under certain circumstances, Partners HealthCare may be required to post collateral for the benefit of the counterparty. Market risk is the adverse effect on the value of a financial instrument that results from a change in interest rates. The market risk associated with interest rate changes is managed by establishing and monitoring parameters that limit the types and degree of market risk that may be undertaken.

*(in thousands of dollars)*

The following is a summary of the outstanding positions under these swap contracts as of September 30, 2018:

| Effective Date | Notional Amount | Maturity | Rate Paid | Rate Received |
|---|---|---|---|---|
| 5/1/03 | $ 150,000 | 7/1/35 | 4.40% | 67% 1-month LIBOR |
| 10/15/03 | 9,945 | 1/1/31 | 3.85% | 70% 1-month LIBOR |
| 7/1/05 | 150,000 | 7/1/40 | 3.63% | 67% 1-month LIBOR |
| 7/1/05 | 25,500 | 7/1/25 | 5.11% | 67% 6-month LIBOR |
| 9/1/05 | 4,220 | 1/1/23 | 3.26% | 70% 1-month LIBOR |
| 7/1/07 | 150,000 | 7/1/42 | 3.46% | 67% 1-month LIBOR |
| 7/1/09 | 100,000 | 7/1/44 | 3.71% | 67% 1-month LIBOR |
| 7/1/11 | 100,000 | 7/1/46 | 3.74% | 67% 1-month LIBOR |
| 7/1/13 | 100,000 | 7/1/48 | 3.80% | 67% 1-month LIBOR |
| 7/1/15 | 50,000 | 7/1/50 | 3.80% | 67% 1-month LIBOR |
| 4/1/16 | 100,000 | 7/1/52 | 3.76% | 67% 1-month LIBOR |
| 7/1/17 | 50,000 | 7/1/52 | 3.74% | 67% 1-month LIBOR |
| 7/1/19 | 50,000 | 7/1/49 | 1.85% | 67% 1-month LIBOR |
| 7/1/21 | 50,000 | 7/1/51 | 1.84% | 67% 1-month LIBOR |
| 7/1/23 | 50,000 | 7/1/53 | 1.82% | 67% 1-month LIBOR |
| 7/1/24 | 100,000 | 7/1/54 | 1.81% | 67% 1-month LIBOR |
| 7/1/25 | 50,000 | 7/1/55 | 1.77% | 67% 1-month LIBOR |
| 7/1/26 | 100,000 | 7/1/56 | 1.78% | 67% 1-month LIBOR |
| 7/1/27 | 100,000 | 7/1/57 | 1.78% | 67% 1-month LIBOR |
| | $ 1,489,665 | | | |

Partners HealthCare's swap contracts contain provisions that require collateral to be posted if the fair value of the swap exceeds certain thresholds. The collateral thresholds reflect the current credit ratings issued by major credit rating agencies on Partners HealthCare's and the counterparty's debt. Declines in Partners HealthCare's or the counterparty's credit ratings would result in lower collateral thresholds and, consequently, the potential for additional collateral postings by Partners HealthCare or the counterparty. As of September 30, 2018 and 2017, Partners HealthCare had posted collateral of $40,279 and $117,715, respectively. Partners HealthCare has established procedures to ensure that liquidity and securities are available to meet collateral posting requirements.

Upon the occurrence of certain events of default or termination events identified in the swap contracts, either Partners HealthCare or the counterparty could terminate the contracts in accordance with their terms. Termination results in the payment of a termination amount by one party that attempts to compensate the other party for its economic losses. If interest rates at the time of termination are lower than those specified in the swap contract, Partners HealthCare would make a payment to the counterparty. Conversely, if interest rates at such time are higher, the counterparty would make a payment to Partners HealthCare.

*(in thousands of dollars)*

## 12. Commitments

### Leases

Partners HealthCare has capital and noncancelable operating leases for certain buildings and equipment. Minimum future lease commitments under noncancelable leases for the next five years and thereafter are as follows:

| | Capital Leases | Operating Leases |
|---|---|---|
| 2019 | $ 1,215 | $ 183,587 |
| 2020 | 1,170 | 171,549 |
| 2021 | 924 | 152,836 |
| 2022 | - | 131,639 |
| 2023 | - | 115,576 |
| Thereafter | - | 492,771 |
| Total lease payments | 3,309 | $ 1,247,958 |
| Less: Amount representing interest | 128 | |
| Capital lease obligations at September 30, 2018 | $ 3,181 | |

Rental expense under operating leases approximated $187,800 and $178,252 in 2018 and 2017, respectively.

### Construction Projects

North Shore Medical Center, Inc. is constructing a new building and renovating the former Spaulding North Shore building to enable consolidation of services provided at the Union Hospital (Lynn) campus to the Salem Hospital location. The new building includes a new 69 bay emergency department with 10 observation beds, a fully outfitted 24 bed medical and surgical floor and a second floor shelled out for future medical and surgical demand. The former Spaulding North Shore building is being converted to a 4 floor, 120 bed psychiatric facility. As of September 30, 2018, accumulated costs incurred related to this campus consolidation project are approximately $120,100 with approximately $50,200 in outstanding commitments. The total cost of the project is expected to be approximately $207,000 with occupancy scheduled for Fall 2019.

## 13. Pension and Postretirement Healthcare Benefit Plans

Substantially all employees of Partners HealthCare are covered under noncontributory defined benefit pension plans and various defined contribution pension plans. In addition, certain affiliates provide subsidized healthcare benefits for retired employees on a self-insured basis, with the benefit obligation being partially funded. These retiree healthcare benefits are administered through an insurance company and are accounted for on the accrual basis, which includes an estimate of future payments for claims incurred.

*(in thousands of dollars)*

In 2017, a Voluntary Retirement program was offered to a sub-set of BH employees who met specific criteria. For those employees who accepted the voluntary retirement package, the benefits of this program were conveyed as increased contributions to the defined benefit pension plan and the postretirement health plan. The total cost of this program was approximately $88,384, of which approximately $80,915 was for the defined benefit plan and $7,469 was for the postretirement plan. In September 2017, approximately $80,200 was funded into the defined benefit plan related to this program with the remaining $715 being funded in October 2017.

In 2017, MGH changed the guaranteed minimum interest credit given to its employees to 5.0% from 6.5% to comply with new regulations.

Total expense for these plans consists of the following:

| | Years Ended September 30, 2018 | 2017 |
|---|---|---|
| Defined benefit plans | $ 276,619 | $ 386,170 |
| Defined contribution plans | 166,743 | 157,721 |
| Postretirement healthcare benefit plans | (3,345) | 5,733 |
| | $ 440,017 | $ 549,624 |

Information regarding benefit obligations, plan assets, funded status, expected cash flows and net periodic benefit cost follows within this footnote.

**Benefit Obligations**

| | Defined Benefit Pension Plans | | Postretirement Healthcare Benefit Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Change in benefit obligations** | | | | |
| Benefit obligations at beginning of year | $ 6,916,236 | $ 6,855,889 | $ 161,100 | $ 151,875 |
| Service cost | 329,653 | 337,981 | 3,157 | 3,502 |
| Interest cost | 278,872 | 261,797 | 4,902 | 4,087 |
| Plan amendments (gain) loss | (6,487) | (267,820) | - | - |
| Actuarial (gain) loss | (309,035) | (171,081) | 511 | (7,762) |
| Special termination benefits | - | 80,915 | - | 7,469 |
| Benefits paid | (307,111) | (164,243) | (7,851) | (6,354) |
| Expenses paid | (15,760) | (17,359) | - | - |
| Employee contributions | 142 | 157 | 9,606 | 8,283 |
| Acquisition | 142,484 | - | - | - |
| Benefit obligations at end of year | $ 7,028,994 | $ 6,916,236 | $ 171,425 | $ 161,100 |

*(in thousands of dollars)*

The accumulated benefit obligation for all defined benefit pension plans at the end of 2018 and 2017 was $6,695,351 and $6,595,493, respectively.

| | Defined Benefit Pension Plans | | Postretirement Healthcare Benefit Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Weighted-average assumptions used to determine end of year benefit obligation** | | | | |
| Discount rate | 4.31% | 3.90% | 3.80% - 4.30% | 2.85% - 3.85% |
| Rate of compensation increase | 3.00% - 4.45% | 3.00% - 4.45% | N/A | N/A |
| Postretirement healthcare cost trend rate for next year | N/A | N/A | 6.00% | 5.00% - 6.00% |
| Rate to which the cost trend rate is to decline | N/A | N/A | 5.00% | 5.00% |
| Year that rate reaches the ultimate trend rate | N/A | N/A | 2020 | 2020 |

Assumed healthcare cost trend rates have a significant effect on the amounts reported for the postretirement healthcare plans. A one-percentage-point change in assumed healthcare cost trend rates would have the following effect:

| | One-Percentage-Point | |
|---|---|---|
| | Increase | Decrease |
| Effect on postretirement benefit obligation | $ 813 | $ (666) |

**Plan Assets**

| | Defined Benefit Pension Plans | | Postretirement Healthcare Benefit Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| **Change in plan assets** | | | | |
| Fair value of plan assets at beginning of year | $ 6,039,237 | $ 5,069,057 | $ 103,262 | $ 85,426 |
| Actual return on plan assets | 422,552 | 762,731 | 5,391 | 9,553 |
| Employer contributions | 288,643 | 388,894 | 7,334 | 6,354 |
| Employee contributions | 142 | 157 | 9,606 | 8,283 |
| Benefits paid | (307,111) | (164,243) | (7,851) | (6,354) |
| Expenses paid | (15,760) | (17,359) | - | - |
| Acquisition | 100,109 | - | - | - |
| Fair value of plan assets at end of year | $ 6,527,812 | $ 6,039,237 | $ 117,742 | $ 103,262 |

The assets of the defined benefit pension plans are aggregated in a single master trust (Master Trust) and managed as one asset pool. The investment objective for the Master Trust is to achieve the highest reasonable total return after considering (i) plan liabilities, (ii) funding status and projected cash flows, (iii) projected market returns, valuations and correlations for various asset classes and (iv) Partners HealthCare's ability and willingness to incur market risk.

*(in thousands of dollars)*

Within the Master Trust, assets are allocated to managers with investment mandates that may range from a single sub-asset class to very broad mandates; with restrictions that range from long-only to unconstrained; and with management structures ranging from separately managed funds to mutual/commingled funds to private partnerships. Less market sensitive managers employ absolute return, long/short equity and diversified strategies; other exposures include currency and volatility based strategies. Investment risks (concentration, correlation, valuation, liquidity, leverage, mandate compliance, etc.) are measured at the manager level as well as the pool level.

The following table presents the capital allocations, reported exposures of the allocations and policy benchmarks by manager mandate within the Master Trust. Some managers, particularly less market sensitive managers, invest allocated capital among multiple policy benchmark asset classes.

| | September 30, 2018 | | | September 30, 2017 | | |
|---|---|---|---|---|---|---|
| | Dollars | Reported Exposures | Policy Benchmark | Dollars | Reported Exposures | Policy Benchmark |
| Global equity | $ 834,907 | 13 % | 11 % | $ 674,691 | 11 % | 10 % |
| Traditional U.S. equity | 832,940 | 13 | 13 | 787,491 | 13 | 13 |
| Traditional foreign developed equity | 812,674 | 12 | 12 | 708,281 | 12 | 11 |
| Traditional emerging markets equity | 770,919 | 12 | 13 | 814,762 | 13 | 11 |
| Private equity | 580,925 | 9 | 8 | 474,426 | 8 | 9 |
| Real assets | 223,624 | 3 | 3 | 173,313 | 3 | 3 |
| Less Market Sensitive managers | 2,198,471 | 34 | 35 | 2,126,629 | 35 | 36 |
| Fixed income managers | 273,352 | 4 | 5 | 279,644 | 5 | 7 |
| | $ 6,527,812 | 100 % | 100 % | $ 6,039,237 | 100 % | 100 % |

The postretirement healthcare benefit plans assets are invested in commingled funds with the objective of achieving returns to satisfy plan obligations and with a level of volatility commensurate with Partners HealthCare's overall financial profile.

The following table presents plan assets, by type of investment, as of September 30, 2018 and 2017 measured at fair value on a recurring basis using the fair value hierarchy defined in Note 6:

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| | Quoted Prices in Active Markets for Identical Items (Level 1) | Significant Other Observable Inputs (Level 2) | Investments Valued Using NAV as a Practical Expedient | Fair Value at September 30, 2018 |
| **Defined benefit pension plans** | | | | |
| Invested cash equivalents | $ 43,228 | $ - | $ - | $ 43,228 |
| Separately managed investments | 664,321 | 304,620 | - | 968,941 |
| Registered investments | | | | - |
| Commingled funds | - | 1,708,124 | - | 1,708,124 |
| Private partnerships | - | - | 3,807,519 | 3,807,519 |
| | 707,549 | 2,012,744 | 3,807,519 | 6,527,812 |
| **Postretirement healthcare benefit plans** | | | | |
| Commingled funds | 19,474 | 83,863 | 14,405 | 117,742 |
| Total plan assets | $ 727,023 | $ 2,096,607 | $ 3,821,924 | $ 6,645,554 |

*(in thousands of dollars)*

| | Fair Value Measurements Using | | | |
|---|---|---|---|---|
| | **Quoted Prices in Active Markets for Identical Items (Level 1)** | **Significant Other Observable Inputs (Level 2)** | **Investments Valued Using NAV as a Practical Expedient** | **Fair Value at September 30, 2017** |
| **Defined benefit pension plans** | | | | |
| Invested cash equivalents | $ 21,217 | $ - | $ - | $ 21,217 |
| Separately managed investments | 693,171 | 328,558 | - | 1,021,729 |
| Registered investments | 118,902 | - | - | 118,902 |
| Commingled funds | - | 1,530,156 | - | 1,530,156 |
| Private partnerships | - | - | 3,347,233 | 3,347,233 |
| | 833,290 | 1,858,714 | 3,347,233 | 6,039,237 |
| **Postretirement healthcare benefit plans** | | | | |
| Commingled funds | 11,717 | 82,452 | 9,093 | 103,262 |
| Total plan assets | $ 845,007 | $ 1,941,166 | $ 3,356,326 | $ 6,142,499 |

In evaluating the Level at which Partners HealthCare's private partnerships have been classified within the fair value hierarchy, management has assessed factors including, but not limited to price transparency, the ability to redeem these investments at net asset value at the measurement date, and the existence or absence of certain restrictions at the measurement date. Investments in private partnerships generally have limited redemption options for investors and, subsequent to final closing, may or may not permit subscriptions by new or existing investors. These entities may also have the ability to impose gates, lockups and other restrictions on an investor's ability to readily redeem out of their investment interest in the fund. As of September 30, 2018 and 2017, Partners HealthCare has excluded all assets from the fair value hierarchy for which fair value is measured using net asset value per share as a practical expedient.

*(in thousands of dollars)*

**Funded Status**

The funded status of the plans recognized in the balance sheet and the amounts recognized in unrestricted net assets follows:

| | Defined Benefit Pension Plans 2018 | Defined Benefit Pension Plans 2017 | Postretirement Healthcare Benefit Plans 2018 | Postretirement Healthcare Benefit Plans 2017 |
|---|---|---|---|---|
| **End of year** | | | | |
| Fair value of plan assets at measurement date | $ 6,527,812 | $ 6,039,237 | $ 117,742 | $ 103,262 |
| Benefit obligations at measurement date | (7,028,994) | (6,916,236) | (171,425) | (161,100) |
| Funded status | $ (501,182) | $ (876,999) | $ (53,683) | $ (57,838) |
| **Amounts recognized in the balance sheet consist of** | | | | |
| Current liabilities | $ (1,820) | $ (1,914) | $ (1,488) | $ (1,309) |
| Long-term liabilities | (499,362) | (875,085) | (52,195) | (56,529) |
| | $ (501,182) | $ (876,999) | $ (53,683) | $ (57,838) |
| **Amounts not yet recognized in net periodic benefit cost and included in unrestricted net assets consist of** | | | | |
| Actuarial net loss (gain) | $ 1,508,828 | $ 1,940,521 | $ 16,214 | $ 14,975 |
| Prior service cost (credit) | (296,658) | (322,508) | (24,220) | (29,508) |
| | $ 1,212,170 | $ 1,618,013 | $ (8,006) | $ (14,533) |
| **Amounts recognized in unrestricted net assets consist of** | | | | |
| Current year actuarial (gain) loss | $ (298,585) | $ (526,545) | $ 2,085 | $ (11,348) |
| Amortization of actuarial gain (loss) | (133,111) | (137,883) | (847) | (1,935) |
| Current year prior service cost (credit) | (6,487) | (267,820) | - | - |
| Amortization of prior service (cost) credit | 32,338 | 24,833 | 5,289 | 5,289 |
| | $ (405,845) | $ (907,415) | $ 6,527 | $ (7,994) |

At the end of 2018 and 2017, the projected benefit obligation, accumulated benefit obligation and fair value of plan assets for pension plans with an accumulated benefit obligation in excess of plan assets were as follows:

| | 2018 | 2017 |
|---|---|---|
| **Accumulated benefit obligation in excess of plan assets** | | |
| Projected benefit obligation | $ 7,028,994 | $ 6,916,236 |
| Accumulated benefit obligation | 6,695,351 | 6,595,493 |
| Fair value of plan assets | 6,527,812 | 6,039,237 |

*(in thousands of dollars)*

**Expected Cash Flows**
Information about the expected cash flows for the defined benefit and postretirement healthcare benefit plans is as follows:

| | Defined Benefit Pension Plans | Postretirement Healthcare Benefit Plans | Medicare Subsidy |
|---|---|---|---|
| **Expected employer contributions** | | | |
| 2019 | $ 225,450 | $ 9,227 | |
| **Expected benefit payments (receipts)** | | | |
| 2019 | $ 332,424 | $ 9,258 | $ (31) |
| 2020 | 357,172 | 10,529 | (27) |
| 2021 | 381,896 | 11,977 | (23) |
| 2022 | 398,121 | 13,558 | (20) |
| 2023 | 409,383 | 15,058 | (18) |
| 2024-2028 | 2,242,653 | 98,163 | (55) |

**Net Periodic Benefit Cost**

| | Defined Benefit Pension Plans | | Postretirement Healthcare Benefit Plans | |
|---|---|---|---|---|
| | 2018 | 2017 | 2018 | 2017 |
| Service cost | $ 329,653 | $ 337,981 | $ 3,157 | $ 3,502 |
| Interest cost | 278,872 | 261,797 | 4,902 | 4,087 |
| Expected return on plan assets | (432,679) | (407,573) | (6,962) | (5,971) |
| Special termination benefits | - | 80,915 | - | 7,469 |
| Amortization of | | | | |
| Prior service cost (credit) | (32,338) | (24,833) | (5,289) | (5,289) |
| Actuarial net (gain) loss | 133,111 | 137,883 | 847 | 1,935 |
| Net periodic benefit cost | $ 276,619 | $ 386,170 | $ (3,345) | $ 5,733 |

Amounts expected to be amortized from unrestricted net assets into net periodic benefit cost during the year ending September 30, 2019 are as follows:

| | Defined Benefit Pension Plans | Postretirement Healthcare Benefit Plans |
|---|---|---|
| Actuarial net loss (gain) | $ 88,283 | $ 861 |
| Prior service cost (credit) | (34,318) | (5,289) |

*(in thousands of dollars)*

| | Defined Benefit Pension Plans | | Postretirement Healthcare Benefit Plans | |
|---|---|---|---|---|
| | **2018** | **2017** | **2018** | **2017** |
| **Weighted-average assumptions used to determine net periodic pension and postretirement cost** | | | | |
| Discount rate | 3.90% - 4.00% | 3.70% - 4.20% | 2.85% - 3.85% | 2.40 % |
| Expected return on plan assets | 6.90% - 7.25% | 7.50 % | 6.75 % | 7.00 % |
| Rate of compensation increase | 3.00% - 4.45% | 3.00% - 4.45% | N/A | N/A |
| Healthcare cost trend rate for this year | N/A | N/A | 5.00% - 6.50% | 5.00% - 6.50% |
| Rate to which the cost trend rate is to decline | N/A | N/A | 5.00% | 5.00% |
| Year that rate reaches the ultimate trend rate | N/A | N/A | 2021 | 2020 |

Partners HealthCare uses a long-term return assumption which is validated annually by obtaining long-term asset return, volatility and correlation projections for relevant asset class indexes; modifying volatility and correlations to reflect the actual historical experience of the active managers; calculating the expected return using benchmark weights and indexes; and comparing the return assumption to the sum of the expected return and the historical outperformance of the actual return versus the benchmark. Partners HealthCare regularly monitors the active risk of the Master Trust by a statistical regression of the return series of the actual portfolio to that of the policy benchmark.

Assumed healthcare cost trend rates have a significant effect on the amounts reported for the postretirement healthcare plans. A one-percentage-point change in assumed healthcare cost trend rates would have the following effect:

| | One-Percentage-Point | |
|---|---|---|
| | **Increase** | **Decrease** |
| Effect on service and interest cost | $ 75 | $ (59) |

## 14. Professional Liability Insurance

Partners HealthCare insures substantially all of its professional and general liability risk on a claims-made basis in cooperation with other healthcare organizations in the Greater Boston area through a captive insurance company, Controlled Risk Insurance Company Ltd. (CRICO). PHS owns 11% of CRICO. The investment is accounted for on the cost basis of accounting. The policies cover claims made during their respective terms, but not those occurrences for which claims may be made after expiration of the policy, except for certain tail liabilities which CRICO has assumed on an occurrence basis through December 31, 2018. Management intends to renew its coverage on a claims-made basis and has no reason to believe that it will be prevented from such renewal. During 2018, CRICO announced and paid a dividend to member organizations. As a result, Partners HealthCare recognized a dividend of $84,900 as a nonoperating gain.

*(in thousands of dollars)*

Partners HealthCare follows the accounting policy of establishing reserves to cover the ultimate costs of medical malpractice claims, which include costs associated with litigating or settling claims. The liability also includes an estimated tail liability, established to cover all malpractice claims incurred but not reported to the insurance company as of the end of the year. The total malpractice liability of $512,516 and $476,083 as of September 30, 2018 and 2017, respectively, is presented as an accrued professional liability in the consolidated balance sheets. These reserves have been recorded on a discounted basis using an interest rate of 4.0% and 3.5% as of September 30, 2018 and 2017, respectively.

Partners HealthCare also recognizes an insurance receivable from CRICO, at the same time that it recognizes the liability, measured on the same basis as the liability, subject to the need for a valuation allowance for uncollectible amounts. The insurance receivable of $433,120 and $401,394 as of September 30, 2018 and 2017, respectively, is reported as a component of other assets in the consolidated balance sheets.

Management is not aware of any claims against Partners HealthCare or factors affecting CRICO that would cause the expense for professional liability risks to vary materially from the amount provided.

## 15. Concentration of Credit Risk

Financial instruments that potentially subject Partners HealthCare to concentration of credit risk consist of patient accounts receivable, research grants receivable, pledges receivable, premiums receivable, certain investments and interest rate swaps.

Partners HealthCare receives a significant portion of its payments for services rendered from a limited number of government and commercial third-party payers, including Medicare, Medicaid, Blue Cross and Blue Shield of Massachusetts, Harvard Pilgrim Health Care and Tufts Health Plan. Research funding is provided through many government and private sponsors. NHP receives a significant portion of its premium revenue from the Commonwealth. Pledges receivable are due from multiple donors. Partners HealthCare assesses the credit risk for pledges based on history and the financial wherewithal of donors, most of which are individuals or organizations well known to Partners HealthCare.

Investments, which include government and agency securities, stocks and corporate bonds, and private partnerships and other investments are not concentrated in any corporation or industry or with any single counterparty. Alternative investments are less liquid than Partners HealthCare's other investments. The reported values of the alternative investments may differ significantly from the values that would have been used had a ready market for those securities existed. These instruments may contain elements of both credit and market risk. Such risks include, but are not limited to, limited liquidity, absence of oversight, dependence upon key individuals, emphasis on speculative investments and nondisclosure of portfolio composition.

Partners HealthCare minimizes the credit risk it is exposed to under interest rate swap agreements by utilizing several counterparties and requiring the counterparties to post collateral for the benefit of Partners HealthCare when the fair value of the swap is positive. Partners HealthCare minimizes its counterparty risk by contracting with nine counterparties, none of which accounts for more than 20% of the aggregate notional amount of the swap contracts.

*(in thousands of dollars)*

## 16. Net Assets

Restricted net assets are available for the following purposes:

| | September 30, 2018 | September 30, 2017 |
|---|---|---|
| **Temporarily restricted** | | |
| Charity care | $ 110,743 | $ 100,858 |
| Buildings and equipment | 123,586 | 82,119 |
| Clinical care, research and academic | 816,132 | 704,554 |
| | $ 1,050,461 | $ 887,531 |
| **Permanently restricted** | | |
| Charity care | $ 27,584 | $ 21,772 |
| Buildings and equipment | 2,434 | 2,433 |
| Clinical care, research and academic | 818,767 | 663,203 |
| | $ 848,785 | $ 687,408 |

### Endowment

Partners HealthCare’s endowment consists of numerous individual funds established for a variety of purposes. The endowment includes both donor-restricted endowment funds and funds designated by the boards to function as endowment.

Partners HealthCare has interpreted UPMIFA as requiring the preservation of the value of the original gift of the donor-restricted endowment funds absent explicit donor stipulations to the contrary. As a result of this interpretation, Partners HealthCare classifies as permanently restricted net assets (a) the original value of gifts donated to the permanent endowment, (b) the original value of subsequent gifts donated to the permanent endowment, and (c) accumulations to the permanent endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund. The remaining portion of the donor-restricted endowment that is not classified in permanently restricted net assets is classified as temporarily restricted net assets until those amounts are appropriated for expenditure by Partners HealthCare in a manner consistent with the standard of prudence prescribed by UPMIFA. In accordance with UPMIFA, Partners HealthCare considers several factors in making a determination to appropriate or accumulate donor-restricted endowment funds. These factors include: the duration and preservation of the fund; the purposes of the organization and the donor-restricted endowment fund; general economic conditions; the possible effect of inflation and deflation; the expected total return from income and the appreciation of investments; other resources of the organization; and the investment policies of the organization.

### Endowment Funds with Deficits

From time to time, the value of assets associated with individual donor-restricted endowment funds may fall below the value of the initial and subsequent donor gift amounts. When such endowment deficits exist, they are classified as a reduction to unrestricted net assets. Deficits of this nature reported in unrestricted net assets were $244 and $135 as of September 30, 2018 and 2017, respectively. These deficits resulted from unfavorable market fluctuations that occurred after the investment of new permanently restricted contributions or subsequent endowment additions.

*(in thousands of dollars)*

The following presents the endowment net asset composition by type of fund as of September 30, 2018 and 2017 and the changes in endowment assets for the years ended September 30, 2018 and 2017:

| | Unrestricted | Temporarily Restricted | Permanently Restricted | Total |
|---|---|---|---|---|
| **Endowment net asset composition by type of fund as of September 30, 2018** | | | | |
| Donor-restricted endowment funds | $ (244) | $ 561,692 | $ 803,404 | $ 1,364,852 |
| Board-designated endowment funds | 1,264,654 | - | - | 1,264,654 |
| Total funds | $ 1,264,410 | $ 561,692 | $ 803,404 | $ 2,629,506 |

| | Unrestricted | Temporarily Restricted | Permanently Restricted | Total |
|---|---|---|---|---|
| **Changes in endowment net assets** | | | | |
| Endowment net assets at September 30, 2017 | $ 1,193,485 | $ 499,875 | $ 665,718 | $ 2,359,078 |
| Investment return | | | | |
| Investment income | 3,372 | 32,124 | - | 35,496 |
| Net realized and unrealized appreciation (depreciation) | 73,148 | 85,345 | 157 | 158,650 |
| Total investment return | 76,520 | 117,469 | 157 | 194,146 |
| Contributions | 7,416 | 959 | 70,253 | 78,628 |
| Appropriation of endowment assets for expenditure | (47,305) | (60,203) | - | (107,508) |
| Other changes | 34,294 | 3,592 | 67,276 | 105,162 |
| Total changes | 70,925 | 61,817 | 137,686 | 270,428 |
| Endowment net assets at September 30, 2018 | $ 1,264,410 | $ 561,692 | $ 803,404 | $ 2,629,506 |

| | Unrestricted | Temporarily Restricted | Permanently Restricted | Total |
|---|---|---|---|---|
| **Endowment net asset composition by type of fund as of September 30, 2017** | | | | |
| Donor-restricted endowment funds | $ (135) | $ 499,875 | $ 665,718 | $ 1,165,458 |
| Board-designated endowment funds | 1,193,620 | - | - | 1,193,620 |
| Total funds | $ 1,193,485 | $ 499,875 | $ 665,718 | $ 2,359,078 |

*(in thousands of dollars)*

| | Unrestricted | Temporarily Restricted | Permanently Restricted | Total |
|---|---|---|---|---|
| **Changes in endowment net assets** | | | | |
| Endowment net assets at September 30, 2016 | $ 972,040 | $ 419,900 | $ 602,658 | $ 1,994,598 |
| Investment return | | | | |
| Investment income | 959 | 24 | - | 983 |
| Net realized and unrealized appreciation | 150,089 | 134,481 | 163 | 284,733 |
| Total investment return | 151,048 | 134,505 | 163 | 285,716 |
| Contributions | 5,437 | (497) | 60,498 | 65,438 |
| Appropriation of endowment assets for expenditure | (45,683) | (53,464) | - | (99,147) |
| Other changes | 110,643 | (569) | 2,399 | 112,473 |
| Total changes | 221,445 | 79,975 | 63,060 | 364,480 |
| Endowment net assets at September 30, 2017 | $ 1,193,485 | $ 499,875 | $ 665,718 | $ 2,359,078 |

## 17. Functional Expenses

Total operating expenses by function are as follows:

| | Years Ended September 30, 2018 | 2017 |
|---|---|---|
| Healthcare services | $ 8,884,310 | $ 8,403,658 |
| Research and academic | 1,906,026 | 1,828,057 |
| Medical claims and related expenses | 993,870 | 1,890,368 |
| General and administrative | 1,213,164 | 1,196,410 |
| | $ 12,997,370 | $ 13,318,493 |

## 18. Contingencies

Partners HealthCare is subject to complaints, claims and litigation which arise in the normal course of business. In addition, Partners HealthCare is subject to reviews and investigations by various federal and state government agencies to assure compliance with applicable laws, some of which are subject to different interpretations. Governmental review of compliance by healthcare institutions, including Partners HealthCare, has increased.

## 19. Pending Transactions

In May 2018, Partners HealthCare entered into a definitive affiliation and integration agreement with Care New England Health System. This transaction is currently being reviewed by state and federal agencies.

*(in thousands of dollars)*

## 20. Subsequent Events

Partners HealthCare has assessed the impact of subsequent events through December 7, 2018, the date the audited financial statements were issued. During this period, there were no subsequent events that require adjustment to the audited financial statements. In December 2018, Partners HealthCare intends to issue $400,000 Taxable Senior Notes in a private placement with institutional investors at a fixed rate of 4.60% with principal due in 2049. The proceeds of the sale of the Notes will be used for general corporate purposes.