Consolidated Financial Statements

Vanderbilt University Medical Center
Years Ended June 30, 2019 and 2018
With Report of Independent Auditors

Ernst & Young LLP

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June 30, 2019 and 2018

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Report of Independent Auditors

The Board of Directors
Vanderbilt University Medical Center

We have audited the accompanying consolidated financial statements of Vanderbilt University Medical Center, which comprise the consolidated balance sheets as of June 30, 2019 and 2018, and the related consolidated statements of operations and changes in net assets, and cash flows for the years then ended, and the related notes to the consolidated financial statements.

Management's Responsibility for the Financial Statements

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

Auditor's Responsibility

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

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the 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 the entity'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 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 financial statements referred to above present fairly, in all material respects, the consolidated financial position of Vanderbilt University Medical Center at June 30, 2019 and 2018, and the consolidated results of its operations and its cash flows for the years then ended in conformity with U.S. generally accepted accounting principles.

Adoption of New Accounting Standards

As discussed in Note 2 to the consolidated financial statements, Vanderbilt University Medical Center changed its method for recognizing revenue as a result of the adoption of Accounting Standards Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (Topic 606)*, effective July 1, 2018, and changed its consolidated financial statement presentation as a result of the adoption of ASU 2016-14, *Presentation of Financial Statements for Not-For-Profit Entities*, during the year ended June 30, 2019. Our opinion is not modified with respect to these matters.

Ernst & Young LLP

November 12, 2019

Vanderbilt University Medical Center
Consolidated Balance Sheets
June 30, 2019 and 2018

($ in thousands)	**2019**	**2018**
Assets		
Current assets:		
Cash and cash equivalents	$ 574,748	$ 500,908
Current investments	115,941	134,467
Patient accounts receivable, net of allowance for bad debts of $179.1 million as of June 30, 2018	482,485	474,385
Grants and contracts receivable	58,750	57,748
Inventories	75,407	72,636
Other current assets	89,311	85,843
Total current assets	1,396,642	1,325,987
Restricted cash	11,938	77,257
Noncurrent investments	491,047	350,750
Noncurrent investments limited as to use	103,609	95,681
Property, plant, and equipment, net	1,395,095	1,306,639
Other noncurrent assets	48,067	35,877
Total assets	$ 3,446,398	$ 3,192,191
Liabilities and Net Assets		
Current liabilities:		
Current installments of long-term debt	$ 8,568	$ 5,774
Accounts payable and other accrued expenses	304,188	268,087
Estimated payables under third-party programs	24,877	72,947
Accrued compensation and benefits	214,382	197,945
Current portion of deferred revenue	14,965	37,303
Current portion of medical malpractice self-insurance reserves	12,012	16,558
Total current liabilities	578,992	598,614
Long-term debt, net of current installments	1,506,877	1,512,698
Fair value of interest rate exchange agreements	67,901	54,206
Noncurrent portion of medical malpractice self-insurance reserves	44,328	57,520
Noncurrent portion of deferred revenue	7,773	18,719
Other noncurrent liabilities	26,345	22,804
Total liabilities	2,232,216	2,264,561
Net assets		
Net assets without donor restrictions controlled by Vanderbilt University Medical Center	1,050,509	807,481
Net assets without donor restrictions related to noncontrolling interests	7,776	5,724
Total net assets without donor restrictions	1,058,285	813,205
Net assets with donor restrictions	155,897	114,425
Total net assets	1,214,182	927,630
Total liabilities and net assets	$ 3,446,398	$ 3,192,191

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

Vanderbilt University Medical Center
Consolidated Statements of Operations
Years Ended June 30, 2019 and 2018

($ in thousands)	2019	2018
Operating revenues		
Net patient service revenue	$ 3,820,871	$ 3,578,525
Provision for bad debt	-	(135,748)
Net patient service revenue	3,820,871	3,442,777
Academic and research revenue	519,447	495,306
Other operating revenue	157,011	148,316
Total operating revenues	4,497,329	4,086,399
Operating expenses		
Salaries, wages, and benefits	2,290,910	2,179,647
Supplies and drugs	892,211	770,459
Facilities and equipment	268,974	256,938
Services and other	701,079	659,455
Depreciation and amortization	106,524	105,654
Interest	56,529	58,078
Total operating expenses	4,316,227	4,030,231
Income from operations	181,102	56,168
Nonoperating revenues and expenses		
Income from investments	30,106	24,021
Gift income	14,416	11,945
Earnings of unconsolidated organizations	4,031	3,696
Unrealized (loss) gain on interest rate exchange agreements, net of cash settlements	(17,480)	6,379
Total nonoperating revenues and expenses	31,073	46,041
Excess of revenues over expenses	212,175	102,209
Excess of revenues over expenses attributable to noncontrolling interests	(4,075)	(4,068)
Excess of revenues over expenses attributable to VUMC	208,100	98,141
Other changes in net assets without donor restrictions		
Change in noncontrolling interest's net assets	2,052	(167)
Net asset reclassification	(182)	(89)
Net assets released from restriction for capital	35,110	1,292
Other changes	-	49
Total changes in net assets without donor restrictions	$ 245,080	$ 99,226

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

Vanderbilt University Medical Center
Consolidated Statements of Changes in Net Assets
Years Ended June 30, 2019 and 2018

($ in thousands)	2019	2018
Net assets without donor restrictions		
Net assets without donor restrictions at the beginning of the period	$ 813,205	$ 713,979
Excess of revenues over expenses	208,100	98,141
Change in noncontrolling interest's net assets	2,052	(167)
Net asset reclassification	(182)	(89)
Net assets released from restriction for capital	35,110	1,292
Other changes	-	49
Change in net assets without donor restrictions	245,080	99,226
Net assets without donor restrictions at the end of the period	$ 1,058,285	$ 813,205
Net assets with donor restrictions		
Net assets with donor restrictions at the beginning of the period	$ 114,425	$ 86,923
Contributions	85,331	34,988
Restricted investment income	1,665	899
Net assets released from restrictions for operations	(10,596)	(7,182)
Net asset reclassification	182	89
Net assets released from restriction for capital	(35,110)	(1,292)
Change in net assets with donor restrictions	41,472	27,502
Net assets with donor restrictions at the end of the period	$ 155,897	$ 114,425
Total net assets		
Beginning of the period	$ 927,630	$ 800,902
Change in total net assets	286,552	126,728
End of the period	$ 1,214,182	$ 927,630

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

Vanderbilt University Medical Center
Consolidated Statements of Cash Flows
Years Ended June 30, 2019 and 2018

($ in thousands)	2019	2018
Cash flows from operating activities		
Change in total net assets	$ 286,552	$ 126,728
Adjustments to reconcile change in total net assets to net cash provided by operating activities:		
Depreciation and amortization	106,524	105,654
Amortization of debt issuance costs, and original issue premium and discount	26	518
Loss (gain) on disposal of assets	485	(7,686)
Undistributed equity in earnings of equity method affiliates	343	(1,807)
Net realized and unrealized gain on investments	(10,721)	(10,954)
Purchases of trading securities	(231,753)	(348,124)
Sales of trading securities	220,535	332,330
Change in split-interest trusts	194	(230)
Unrealized loss (gain) on interest rate exchange agreements	13,695	(10,997)
Restricted contributions for endowments and property, plant, and equipment	(25,683)	(24,326)
(Decrease) increase in cash due to changes in:		
Patient accounts receivable	(8,100)	(99,699)
Accounts payable and other accrued expenses	38,073	478
Other assets and other liabilities, net	(95,548)	58,536
Net cash provided by operating activities	294,622	120,421
Cash flows from investing activities		
Purchase of property, plant, and equipment	(195,197)	(198,562)
Purchases of long-term securities	(340,184)	(291,235)
Sales and maturities of long-term securities	232,230	135,927
Proceeds on sale of property, plant, and equipment	220	20,394
Net cash used in investing activities	(302,931)	(333,476)
Cash flows from financing activities		
Proceeds from issuance of long-term debt	-	329,719
Debt issuance costs	-	(3,035)
Repayment of long-term debt	(5,000)	(108,100)
Principal payments under capital lease obligations	(1,831)	(1,191)
Restricted contributions for endowments and property, plant, and equipment	25,683	24,326
Distributions to noncontrolling interests	(2,022)	(4,234)
Net cash provided by financing activities	16,830	237,485
Net change in cash, cash equivalents, and restricted cash	8,521	24,430
Cash, cash equivalents, and restricted cash		
Beginning of the period	578,165	553,735
End of the period	$ 586,686	$ 578,165

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

1. Description of Organization

Vanderbilt University Medical Center ("VUMC") is a Tennessee not-for-profit corporation incorporated in March 2015 to operate an academic medical center, including a comprehensive research, teaching, and patient care health system (the "Medical Center"). Until April 29, 2016, the Medical Center operated as a unit within Vanderbilt University ("the University" or "VU"), as a part of the University's administrative structure, with the same governing board, legal, financial, and other shared services.

VUMC began operations effective April 30, 2016, following the closing of the sale of the Medical Center by the University (the "Acquisition"). VUMC owns and operates three hospitals located on the main campus of the University in Nashville, Tennessee: Vanderbilt University Adult Hospital ("VUAH"), Monroe Carell Junior Children's Hospital at Vanderbilt ("MCJCHV"), and Vanderbilt Psychiatric Hospital ("VPH"). In addition, VUMC partially owns Vanderbilt Stallworth Rehabilitation Hospital ("VSRH"), also located on the main campus of the University, through a joint venture with Encompass Health Corp. (formerly called HealthSouth Corp.) in which VUMC holds a 50% interest, which includes a 1% interest held by Vanderbilt Health Services, LLC, ("VHS"), a VUMC wholly owned subsidiary. VUAH, MCJCHV, and VPH are licensed for 1,072 beds, and VSRH is licensed for 80 beds.

VUMC consists of two major operating divisions and an administrative overhead division. The operating divisions include the Clinical Enterprise and Academic Enterprise divisions. The administrative overhead division is referred to as Medical Center Administration ("MCA").

The Clinical Enterprise division includes the professional clinical practice revenues and related expenses of Vanderbilt Medical Group ("VMG"), and technical revenues and associated expenses for the operation of VUMC's hospitals and clinic facilities, including VUAH, MCJCHV, and VPH. The Clinical Enterprise also includes VHS.

- VUAH is a quaternary care teaching hospital licensed for 692 acute care and specialty beds. VUAH, a Level I trauma center, provides advanced patient care and serves as a key site for medical education and clinical research conducted by physician faculty. VUAH includes a comprehensive burn center, the Vanderbilt Transplant Center, the Vanderbilt Heart and Vascular Institute, and the Vanderbilt Ingram Cancer Center.

- MCJCHV is a pediatric quaternary care teaching hospital licensed for 142 acute and specialty beds, 50 pediatric intensive care beds, and 96 neonatal intensive care beds. MCJCHV is the region's only full-service pediatric hospital, with over 30 pediatric specialties. MCJCHV serves as a site for medical education and clinical research conducted by pediatric physician faculty, houses the only Level IV neonatal intensive care center and the only Level 1 pediatric trauma center within the region, and is a regional referral center for extracorporeal membrane oxygenation (heart and lung failure).

- VPH is a psychiatric hospital licensed for 92 beds and provides both inpatient and outpatient partial hospitalization psychiatric services to both adult and adolescent patients. Also, VPH provides psychiatric assessment services and neuromodulation procedures through electroconvulsive therapy and transcranial magnetic stimulation.

- VMG is the practice group of physicians and advanced practice nurses employed by VUMC, most of whom have faculty appointments from the University, who perform billable professional medical services. VMG is not a separate legal entity. VMG has a board which consists of the VUMC clinical service chiefs, who also serve as clinical department chairs. Under the oversight of VUMC executive leadership, VMG sets professional practice standards, bylaws, policies, and procedures. VUMC bills for services rendered by VMG clinicians in both inpatient and outpatient locations. Collected fees derive a component of each VMG clinician's compensation. VMG includes nationally recognized physicians whose expertise spans the spectrum from primary care to the most specialized quaternary discipline. The entire clinical faculty is "board certified" or eligible for board certification. All staff members are re-credentialed every two years by the National Committee for Quality Assurance standards. All specialties and subspecialties currently recognized by the various national specialty boards are represented on the clinical faculty.

- VHS serves as a holding company for 16 health care related subsidiaries and joint ventures owned with various entities, including, but not limited to, VSRH and the Vanderbilt Health Affiliated Network ("VHAN"). VHS operations primarily consist of community physician practices, walk-in and retail health clinics, imaging services, outpatient surgery centers, radiation oncology centers, a home health care agency, a home infusion and respiratory service, an affiliated health network, accountable care organizations, and a rehabilitation hospital. These subsidiaries include clinics managed in multiple outpatient locations throughout middle Tennessee and southwestern Kentucky.

- VUMC also has a holding company that includes five limited liability subsidiaries which support various business to business activities in order to improve the quality, affordability, and availability of health care services. These subsidiaries include businesses focused on pharmacy and supply chain.

The Academic Enterprise division includes all clinically-related research, research-support activities, and faculty endeavors supporting post-graduate training programs. A significant funding source for VUMC's research has historically been the federal government. Federal funding is received from the Department of Health and Human Services, the National Institutes of Health, the Department of Defense, NASA, and other federal agencies. Sponsored research awards, including multiple-year grants and contracts from government sources, foundations, associations, and corporations signify future research commitments. Also, core activities supporting research, including advanced computing and grant administration, are included in this division.

The terms "Company," "VUMC," "we," "our", or "us" as used herein and unless otherwise stated or indicated by context refer to Vanderbilt University Medical Center and its affiliates. The terms "facilities" or "hospitals" refer to entities owned and operated by VUMC and its affiliates, and the term "employees" refers to employees of VUMC and its affiliates.

VUMC operates on a fiscal year which ends on June 30. The term "Fiscal" preceding a year refers to a particular VUMC fiscal year.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements have been prepared on the accrual basis in accordance with accounting principles generally accepted in the U.S. ("GAAP"). Based on the existence or absence of donor-imposed restrictions, VUMC classifies resources into two categories: net assets without donor restrictions and net assets with donor restrictions. In addition, these statements follow GAAP applicable to the not-for-profit industry as described in the Financial Accounting Standards Board's ("FASB") *Accounting Standards Codification* ("ASC") Topic 958.

Principles of Consolidation

The consolidated financial statements include the accounts of VUMC and its wholly owned, majority-owned, and controlled organizations. Noncontrolling interests in less-than-wholly owned consolidated subsidiaries of VUMC are presented as a component of net assets to distinguish between the interests of VUMC and the interests of the noncontrolling owners. All material intercompany transactions and account balances among the various entities have been eliminated.

VUMC uses the equity method to account for its interests in unconsolidated partnerships, joint ventures, and limited liability entities over which it exercises significant influence. Investment carrying amounts are adjusted for VUMC's share of investee earnings or losses based on percentage of ownership. Distributions received from unconsolidated entities that represent returns on VUMC's investment (i.e., dividends) are reported as cash flows from operating activities in VUMC's statement of cash flows.

Use of Estimates

The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect amounts reported in the consolidated financial statements and accompanying notes. These estimates affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated balance sheets and the reported amounts of revenues and expenses during the reporting periods. Actual results ultimately could differ from those estimates.

Cash and Cash Equivalents

Cash and cash equivalents are liquid assets with minimal interest rate risk and maturities of three months or less when purchased. VUMC invests operating assets in a diversified manner. At times, VUMC may have cash and cash equivalents at a financial institution in excess of federally insured limits, and therefore, bear a risk of loss.

Liquidity and Availability

VUMC has $1,670.5 million of financial assets available within one year of June 30, 2019 to meet cash needs for general expenditures consisting of cash and cash equivalents of $574.7 million, patient accounts receivable of $482.5 million, pledges receivable of $6.3 million, and unrestricted investments of $607.0 million. None of these financial assets are subject to donor or other contractual restrictions that make them unavailable for general expenditure within one year of the balance sheet date. Pledges receivable are subject to implied time restrictions but are expected to be collected within one year.

VUMC has a policy to structure its financial assets to be available as its general expenditures, liabilities, and other obligations come due. In addition, as part of its liquidity management, VUMC invests cash in excess of daily requirements in various short-term investments, including certificate deposits and short-term treasury instruments.

As more fully described in Note 11 Long-Term Debt, VUMC also has a committed line of credit in the amount of $100.0 million, which it could draw upon in the event of an unanticipated liquidity need.

Revenue Recognition—Patient Services

VUMC recognizes revenue from patient services at the amount that reflects the consideration to which VUMC expects to be paid for providing such services. These amounts, representing transaction price, are due from patients, third-party payors (including health insurers and government programs), and others and include variable consideration for retroactive revenue adjustments due to settlements of audits, reviews, and investigations. Patient service revenue is recognized as performance obligations based on the nature of the services provided by VUMC are satisfied.

Performance obligations satisfied over time relate to admitted patients in VUMC hospitals receiving inpatient acute care services from admission to the point when services are no longer required, which is generally at the time of discharge. Revenue for performance obligations satisfied over time is recognized based on actual charges incurred in relation to total expected or actual charges. Outpatient services are performance obligations satisfied at a point in time with the related revenue being recognized when goods or services are provided.

VUMC has elected to apply the optional exemption provided in FASB (ASC) 606-10-50-14 as substantially all of its performance obligations relate to contracts with a duration of less than one year. Therefore, VUMC is not required to disclose the aggregate amount of the transaction price allocated to performance obligations that are unsatisfied or partially satisfied at the end of the reporting period. Unsatisfied or partially satisfied performance obligations are primarily related to in-house patients at the end of the reporting period. The performance obligations for these contracts are generally completed when the patients are discharged, which is typically within a week.

VUMC uses a portfolio approach consisting of major payor classes to account for categories of patient contracts as a collective group rather than recognizing revenue on an individual contract basis. Based on historical collection trends and other analysis, VUMC believes that revenue recognized by utilizing the portfolio approach approximates the revenue that would have been recognized if an individual contract approach were used.

VUMC determines the transaction price, which involves estimates and judgment, based on standard charges for goods and services provided, reduced by explicit and implicit price concessions, including contractual adjustments provided to third-party payors, discounts provided to uninsured and underinsured patients in accordance with VUMC policy, and historical collection experience. VUMC analyzes its history and identifies trends for each of its major revenue categories to estimate the appropriate price concessions. Management regularly reviews data about these major revenue categories in evaluating the reasonableness of the transaction price, taking into consideration recent experience by payor category, payor agreement rate changes, and other factors.

In addition to patient payments, VUMC earns revenue and reimbursements from certain services provided under federal healthcare programs and other contracts with third-party payors. These compensation arrangements are complex programs which extend over multiple accounting periods and are subject to the interpretation of federal and state-specific reimbursement rates, new or changing legislation, and final cost report settlements. Estimated settlements under these programs are recorded in the period the related services are performed and are subsequently adjusted, as needed, based on new information.

VUMC provides care to patients who meet the criteria for charity care under its financial assistance policy for no payment or at payment amounts less than its established charge rates. VUMC does not recognize the charges that qualify as charity care as revenue because VUMC does not pursue collection of these amounts.

Revenue Recognition— Non-Patient Services
Revenue for non-patient services is recognized at an amount that reflects the consideration VUMC expects to be entitled in exchange for providing goods or services. The amounts recognized reflect considerations due from customers, the U.S. government, and others, and is recognized as performance obligations are satisfied. Primary categories of non-patient revenue include academic

and research revenue as well as other miscellaneous activities as further described in Note 8 Other Relevant Financial Information.

VUMC receives funding through grants and contracts issued by departments and agencies of the U.S. government, industry, and other foundation sponsors who restrict the use of such funds to academic and research purposes. VUMC recognizes revenue from these grants and contracts in accordance with contract terms, as defined in the agreements governing that funding. VUMC recognizes facilities and administrative ("F&A") costs recovery as revenue when the allowable expenditure is incurred on the associated grant or contract. This activity represents reimbursement, primarily from the federal government, of F&A costs on sponsored activities.

Grants and contracts receivable include amounts due from these sponsors of externally funded research. These amounts have been billed or are billable to the sponsor and are recorded at the amount that reflects the consideration VUMC expects to receive.

Deferred Revenue
Deferred revenue is recorded for funds received in advance. The related revenue is recognized when the performance obligations have been met.

Gift Income and Pledges
VUMC recognizes unconditional promises to give cash and other assets, referred to as pledges, as gift income at fair value when the pledge is received. Conditional promises to give are recognized as pledges once the conditions are substantially met. Pledges are recognized as net assets with or without donor restrictions. Gifts received with donor stipulations limiting the use of the donated assets are reported as net assets with donor restrictions. Donor-restricted contributions whose restrictions are met within the same year as received are reported as gift income in the accompanying consolidated statements of operations. Gift income is recognized when a donor restriction expires, that is, when a stipulated time restriction ends or purpose restriction is accomplished. Gifts of cash or other assets that must be used to acquire long-lived assets are reported as net assets with donor restrictions until the assets are placed in service, at which point they are reclassified to net assets without donor restrictions.

Pledges receivable are reported net of allowances for uncollectible amounts based on an analysis of past collection experience and other judgmental factors. Pledges receivable are included in other current or other noncurrent assets in the consolidated balance sheets based on the expected timing of cash flows. VUMC discounts the noncurrent portion of pledges receivables at a rate commensurate with the scheduled timing of receipt. VUMC applied annual discount rates ranging from 0.5% to 1.5% to amounts outstanding as of June 30, 2019 and 2018.

Concentrations of Credit Risk
VUMC grants unsecured credit to its patients, primarily residing in Nashville, Tennessee and the surrounding areas of middle Tennessee, most of whom are insured under commercial, Medicare, or TennCare agreements. Medicare, Blue Cross Blue Shield ("BCBS"), and TennCare (which includes BCBS, United, and Amerigroup) represent VUMC's significant concentrations of credit risk from payors.

Inventories
VUMC reports inventories at the lower of cost or market, with cost being determined on the first-in, first-out method. Inventories consist primarily of medical supplies, surgical implants, and pharmaceuticals.

Restricted Cash
VUMC reports cash whose use is restricted at cost, which approximates fair value. The cash is primarily restricted for use in purchasing and constructing property, plant, and equipment.

Investments
VUMC reports investments held at fair value in the consolidated balance sheets. VUMC records purchases and sales of securities on the trade dates, and realized gains and losses are determined based on the average historical cost of the securities sold. VUMC reports net receivables and payables arising from unsettled trades as a component of investments.

Property, Plant, and Equipment, Net
VUMC records purchases of property, plant, and equipment at cost and expenses repairs and maintenance costs as incurred. VUMC capitalizes interest cost incurred on borrowed funds during the period of construction of capital assets as a component of the cost of acquiring those assets. VUMC capitalizes donated assets at fair value on the date of donation.

Capitalized software for internal use is recorded during the application development stage. These costs include fees paid to third parties for direct costs of materials and services consumed in developing or obtaining the software; payroll related costs and capitalized interest costs. Costs for training and application maintenance in the post-implementation operation stage are expensed as incurred.

VUMC computes depreciation using the straight-line method over the estimated useful life of land improvements (3 to 18 years), buildings and leasehold improvements (2 to 37 years), and equipment (1 to 20 years). Equipment costs also include capitalized internal use software costs, which are expensed over the expected useful life, which is generally 1.5 to 12 years. VUMC assigns useful lives in accordance with American Hospital Association guidelines.

Software for internal use is amortized on a straight-line basis over its estimated useful life. In determining the estimated useful life, management considers the effects of obsolescence, technology, competition, other economic factors, and rapid changes that may be occurring in the development of software products, operating systems, and computer hardware. Amortization begins once the software is ready for its intended use.

Impairment of Long-Lived Assets
VUMC reviews long-lived assets, such as property, plant, and equipment, for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. VUMC measures the recoverability of assets to be held and used by comparing the carrying amount of an asset to estimated undiscounted future cash flows expected to be generated by the asset. If the carrying amount of an asset exceeds its estimated future cash flows, VUMC recognizes an impairment charge to the extent the carrying amount of the asset exceeds its fair value.

Conditional Asset Retirement Costs and Obligations
VUMC recognizes the estimated fair value of liabilities for existing legal obligations to perform certain activities, primarily asbestos removal, in connection with the retirement, disposal, or abandonment of assets. These liabilities are included in other noncurrent liabilities on the consolidated balance sheets and total $6.3 million and $6.1 million as of June 30, 2019 and 2018, respectively. VUMC measures these liabilities using estimated cash flows with an inflation rate applied of 3.0% as of June 30, 2019 and 2018. VUMC discounts those cash flow estimates at a credit-adjusted, risk-free rate, which ranged from 2.9% to 4.2% as of June 30, 2019 and 2018, and adjusts these liabilities for accretion costs and revisions in estimated cash flows.

Long-Term Debt
The carrying value of VUMC's debt is the par amount adjusted for the net unamortized amount of debt issuance costs, and bond premiums and discounts.

Interest Rate Exchange Agreements
VUMC reports interest rate exchange agreements at fair value, which is determined to be the present value of future net cash settlements that reflect market yields as of the measurement date and estimated amounts that VUMC would pay, or receive, to terminate the contracts as of the report date. VUMC considers current interest rates and creditworthiness of the interest rate exchange counterparties when estimating termination settlements.

Self-Insurance Reserves
VUMC elects to self-insure a portion of its medical malpractice, professional, and general liability coverage via an irrevocable self-insurance trust. The maximum annual self-insurance retention was \$5.5 million per occurrence, up to \$43.0 million in the aggregate for both Fiscal 2019 and 2018. Actuarial firms assist management in estimating expected losses on an annual basis, at which time VUMC records medical malpractice, professional, and general liability expense within the limits of the program. These liabilities are classified as current or noncurrent based on the expected timing of cash flows and are measured at the net present value of those cash flows using a discount rate of 2.5% as of June 30, 2019 and 2018. For both Fiscal 2019 and 2018, VUMC obtained excess medical malpractice, professional, and general liability coverage from commercial insurance carriers for claims in excess of \$5.5 million per occurrence, up to \$125.0 million. These policies would also provide coverage up to \$125.0 million if any claims in the aggregate exceed \$43.0 million.

VUMC also elects to self-insure for employee health and workers' compensation expenses. Actuarial firms assist management in estimating expected losses on an annual basis. The maximum retention for workers' compensation was \$0.8 million per occurrence for both Fiscal 2019 and 2018. There is no stop loss insurance on health plan claims.

Income Taxes
VUMC is a tax-exempt organization as described in Section 501(c)(3) of the Internal Revenue Code (the "Code") and is generally exempt from federal income taxes under Section 501(a) of the Code.

The Tax Cuts and Jobs Act (the "Act") was enacted on December 22, 2017. The Act reduces the U.S. federal corporate tax rate from 35% to 21%, requires companies to pay a one-time transition tax on earnings of certain foreign subsidiaries that were previously tax deferred, and creates new taxes on certain foreign sourced earnings. For tax-exempt entities, the Act also requires organizations to categorize certain fringe benefit expenses as a source of unrelated business income, pay an excise tax on remuneration above certain thresholds that is paid to executives by the organization, and report income or loss from unrelated business activities on an activity-by-activity basis, among other provisions. At June 30, 2019, the Company made a reasonable estimate of the tax effects of the enactment of the Act. The Company will continue to revise and refine the calculations as additional IRS guidance is issued.

Excess of Revenues Over Expenses
The consolidated statements of operations include excess of revenues over expenses as a performance indicator. Excess of revenues over expenses includes all changes in net assets without donor restrictions, except for changes in noncontrolling interest holders' share of consolidated entities, net assets released from restrictions used for capital, and certain other items.

Statement of Cash Flows
For VUMC's consolidated statements of cash flows, cash, cash equivalents, and restricted cash is defined as those amounts included in the cash and cash equivalents caption and restricted cash caption on the consolidated balance sheets.

Conforming Reclassifications
Certain amounts in the Fiscal 2018 consolidated financial statements have been reclassified to conform to their Fiscal 2019 presentation.

Recent Accounting Pronouncements
Periodically, the FASB issues Accounting Standards Updates ("ASUs") that may impact the recognition, measurement, and presentation of balances and activity in VUMC's consolidated financial statements or the disclosures contained within those statements. As part of preparing consolidated financial statements, VUMC evaluates the effects of the ASUs and applies the updated guidance within the required effective dates.

Adopted

- In May 2014, the FASB issued ASU 2014-09, *Revenue from Contracts with Customers (Topic 606).* The ASU converged and replaced existing GAAP revenue recognition guidance and requires an entity to recognize revenue to depict the transfer of promised goods or services to customers in an amount that reflects the consideration to which the entity expects to be entitled in exchange for those goods or services. On July 1, 2018, this ASU was adopted on a modified retrospective basis. The most significant change was related to the presentation of our consolidated statement of operations, where we no longer present the "Provision for bad debts" as a separate line item and our "Patient service revenues" are presented net of estimated implicit price concessions. We have also eliminated the related presentation of "allowance for bad debts" on our consolidated balance sheet. The adoption of the ASU resulted in no material impact to operating income or excess of revenues over expenses on VUMC's consolidated financial statements.

- In August 2016, the FASB issued ASU 2016-14, *Presentation of Financial Statements for Not-for-Profit Entities,* which, among other things, replaces the existing three-category classification of net assets (i.e., unrestricted, temporarily restricted, and permanently restricted) with a model that combines temporarily restricted and permanently restricted into a single category called "net assets with donor restrictions." Differences in the nature of donor restrictions are disclosed in the notes, with an emphasis on how and when the resources can be used. ASU 2016-14 also provides guidance for classifying deficiencies in endowment funds, accounting for the lapsing of restrictions on gifts to acquire property, plant, and equipment, and providing information about how the nature of expenses relates to programs and supporting activities. During Fiscal 2019, this standard was adopted. The prior period consolidated financial statements presented were adjusted to reflect these changes. The adoption of the ASU resulted in no material impact to VUMC's consolidated financial statements.

- In June 2019, the FASB issued ASU 2018-08, *Not-For-Profit Entities (Topic 958): Clarifying the Scope and the Accounting Guidance for Contributions received and Contributions made.* The amendments in this ASU clarify guidance for when a transaction should be accounted for as a contribution under *Not-for-Profit Entities – Revenue Recognition (Subtopic 958-605)* or as an exchange transaction accounted for under *Revenue from Contracts with Customers (Topic 606).* VUMC adopted ASU 2018-08 effective July 1, 2018. The most significant change relates to the presentation of academic and research revenue paid in advance that meet the definition of a contribution. These amounts are now presented within net assets as net assets with donor restrictions as opposed to deferred revenue. The impact of this adoption was not material to the consolidated financial statements.

- In November 2016, the FASB issued ASU 2016-08, *Statement of Cash Flows (Topic 230): Restricted Cash.* The amendments in this ASU require that a statement of cash flows explain the change during the period in the total cash, cash equivalents, and amounts generally described as restricted cash or restricted cash equivalents. Amounts generally described as restricted cash and restricted cash equivalents should be included with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown on the statement of cash flows. VUMC adopted ASU 2016-08 effective July 1, 2018 on a retrospective basis. The prior period consolidated financial statements presented were adjusted to reflect this change. The adoption of the ASU resulted in no material impact to VUMC's consolidated financial statements.

Not Yet Adopted

- In February 2016, the FASB issued ASU 2016-02, Leases, which requires lessees to recognize assets and liabilities for most leases. ASU 2016-02's transition provisions will be applied to the most recent period presented in the financial statements. For VUMC, the amendments in ASU 2016-02 are effective July 1, 2019, although early adoption is permitted. VUMC expects the primary effect of adopting the new standard to be a requirement to record assets and offsetting obligations for current operating leases. VUMC is still evaluating the impact on the consolidated financial statements.

3. Related Parties

On April 29, 2016, VUMC acquired the assets, liabilities, rights, and obligations of the clinical enterprise, postgraduate medical training programs, and clinically related research of the University's owned and operated Medical Center, "the Acquisition".

The assets acquired and liabilities assumed from the Acquisition were detailed in a Master Transfer and Separation Agreement ("MTSA"). The MTSA contains the framework for the ongoing economic relationship between VUMC and the University. The relationship is memorialized in the form of an Academic Affiliation Agreement ("AAA"), a Trademark License Agreement ("TMLA"), a Ground Lease, and a Reciprocal Master Services Agreement ("MSA"). The agreements are described below.

- The AAA outlines the ongoing academic, research, and clinical affiliation between the University and VUMC for all of the University's degree-granting, certificate, and research programs. The AAA allocates responsibility between the University and VUMC for jointly administered research and academic programs and is an exclusive agreement between VUMC and VU requiring VUMC to be organized, governed, and operated in a manner that supports VU's academic and research mission. The agreement provides that VU will be the exclusive academic affiliate of VUMC, and VUMC will be the exclusive clinical affiliate of VU.

  The AAA requires VUMC to pay VU an annual fee in equal monthly payments adjusted annually for inflation based upon the Biomedical Research and Development Price Index ("BRDPI") in perpetuity under certain mutually agreed-upon termination or default clauses. During Fiscal 2019 and 2018, VUMC recorded operating expense totaling $74.9 million and $73.1 million, respectively, in connection with fees due under the AAA.

- Under the TMLA, the University grants, subject to certain consents and approvals, a perpetual license to use various University-owned licensed marks in connection with VUMC's fundamental activities after the Acquisition date. The licensed marks, which VUMC continues to use as its primary brands, include virtually all those previously in use by VUMC. This agreement requires VUMC to pay VU a monthly royalty payment equal to 1.0% of all operating revenue of VUMC and a percentage of net income from operations (5% in Fiscal 2018, 10% in Fiscal 2019, and 15% in Fiscal 2020 and beyond). During Fiscal 2019 and 2018, VUMC recorded operating expense totaling $63.8 million and $44.2 million, respectively, in connection with royalty fees due under the TMLA. Also, VUMC is required to pay in equal monthly installments an annual TMLA base fee, which increases 3% annually, but is also reduced by the amount of principal payments made under a subordinate note discussed in Note 11 Long-Term Debt (the "Fixed TMLA Royalty Payment"). During Fiscal 2019 and 2018, VUMC recorded operating expense totaling $60.6 million and $58.7 million, respectively, in connection with this base fee. In July of 2018, VU sold its rights to future base fee payments to a third party. The TMLA is in force in perpetuity under certain mutually agreed-upon termination or default clauses.

- The Ground Lease is an agreement between VU and VUMC that allows VUMC to use the land on which VUMC's campus and related buildings are located. The initial term of the Ground Lease ends June 30, 2115, with the option to extend the lease for two additional terms of up to 50 to 99 years each with agreement between VU and VUMC. The lease covers 1.7 million square feet or 38.75 acres of space, payable monthly and CPI adjusted annually. During Fiscal 2019 and 2018, VUMC recorded operating expense totaling $19.0 million and $18.5 million, respectively, in connection with fees due under the Ground Lease.

- The University and VUMC provide services to one another for agreed-upon consideration as outlined in the MSA. VU provides services to VUMC, such as information technology infrastructure support, utilities, and law enforcement staffing. VUMC provides various operational services for the University, such as a student health clinic and animal care. Additionally, the MSA encompasses an Employee Matters Agreement ("EMA") and specific Employee Service Agreements ("ESAs"). The EMA and ESAs govern employee transitions and ongoing sharing between VU and VUMC in various capacities, such as research, teaching, clinical, and other administrative services. Services under the MSA can be terminated by either party subject to predetermined cancellation notification periods. In connection with the MSA, during Fiscal 2019 and 2018, VUMC recognized revenue totaling $45.1 million and $50.9 million, respectively, and recorded operating expense totaling $122.8 million and $124.2 million, respectively.

- Also, as part of the Acquisition, VUMC issued to VU a $100.0 million subordinate promissory note payable, which is further described in Note 11 Long-Term Debt, with a balance of $84.6 million as of June 30, 2019, and $89.6 million as of June 30, 2018. In July of 2018, VU sold its rights to future principal and interest payments on this note to a third party.

The impact of these agreements in the consolidated statements of operations during Fiscal 2019 and 2018 is as follows:

($ in thousands)	**2019**	**2018**
Academic and research revenue	$ 14,401	$ 12,239
Other operating revenue	30,745	38,647
Total operating revenues	$ 45,146	$ 50,886
Operating expenses		
Salaries, wages, and benefits	$ 7,725	$ 6,973
Facilities and equipment	58,872	57,385
Services and other	274,512	254,370
Interest	2,823	2,985
Total operating expenses	$ 343,932	$ 321,713

Other current assets include amounts receivable from VU, which totaled $4.9 million as of June 30, 2019, and $7.0 million as of June 30, 2018. Accounts payable and other accrued expenses include amounts payable to related parties, which totaled $47.7 million as of June 30, 2019, and $31.8 million as of June 30, 2018.

In the normal course of business, members of VUMC's Board of Directors or VUMC employees may be directly or indirectly associated with companies engaged in business activities with VUMC. VUMC has a written conflict of interest policy that requires, among other things, that members of the VUMC community (including trustees) may not review, approve, or administratively control contracts or business relationships when (i) the contract or business relationship is between VUMC and a business in which the individual or a family member has a material financial interest, or (ii) the individual or a family member is an employee of the business and is directly involved with activities pertaining to VUMC.

Furthermore, VUMC's conflict of interest policy extends beyond the foregoing business activities in that disclosure is required for any situation in which an applicable individual's financial, professional, or other personal activities may directly or indirectly affect, or have the appearance of affecting, an individual's professional judgment in exercising any VUMC duty or responsibility, including the conduct or reporting of research.

The policy extends to all members of the VUMC community (including trustees, faculty, staff, and their immediate family members). Each applicable person is required to certify compliance with the conflict of interest policy on an annual basis. This certification includes specifically disclosing whether VUMC conducts business with an entity in which he or she (or an immediate family member) has a material financial interest, as well as any other situation that could appear to present a conflict with VUMC's best interests.

When situations exist relative to the conflict of interest policy, VUMC takes active measures to appropriately manage the actual or perceived conflict in the best interests of VUMC, including periodic reporting of measures taken to the Audit Committee of the Board of Directors.

4. Patient Service Revenue, Patient Accounts Receivable, and Estimated Third-Party Settlements

Management has determined that the nature, amount, timing, and uncertainty of revenue and cash flows are affected by the major classes of payors. The sources of net patient service revenue by payor for Fiscal 2019 are as follows:

	2019
Other third-party payors, primarily commercial carriers	$ 2,355,860
Medicare/Managed Medicare	896,843
TennCare/Medicaid	529,785
Uninsured (self-pay)	38,383
	$ 3,820,871

The sources of patient service revenue, net of contractual adjustments and provision for bad debts, by payor for Fiscal 2018 are as follows:

	2018
Other third-party payors, primarily commercial carriers	$ 2,179,809
Medicare/Managed Medicare	792,186
TennCare/Medicaid	428,530
Uninsured (self-pay)	42,252
	$ 3,442,777

Patient accounts receivable, net of explicit and implicit price concessions, comprise amounts due from the following sources as of June 30, 2019:

($ in thousands)	2019
Medicare	$ 77,122
TennCare/Medicaid	67,917
Blue Cross	112,779
Other third-party payors, primarily commercial carriers	163,132
Patient responsibility[1]	61,535
Patient accounts receivable	$ 482,485

[1] Includes self-pay after insurance.

Patient accounts receivable, net of related contractual adjustments, discounts, and bad debt allowances, comprise amounts due from the following sources as of June 30, 2018:

($ in thousands)		**2018**
Medicare	$	71,405
TennCare/Medicaid		77,158
Blue Cross		95,986
Other third-party payors, primarily commercial carriers		174,397
Patient responsibility[(1)]		55,439
Patient accounts receivable, net	$	474,385

[(1)] Includes self-pay after insurance.

Estimated third-party settlements by major payor category as of June 30, 2019 and 2018, are as follows:

($ in thousands)		**2019**		**2018**
Receivables under third-party programs				
Tricare/Champus[(1)]	$	8,536	$	8,875
Total receivables under third-party programs	$	8,536	$	8,875
Payables under third-party programs				
TennCare/Medicaid	$	18,896	$	53,162
Medicare[(1)]		14,517		28,660
Total payables under third-party programs	$	33,413	$	81,822

[(1)] These two federal healthcare programs are combined for presentation purposes on the face of the consolidated balance sheets and are reflected as an obligation in Fiscal 2019 and Fiscal 2018.

Certain contracts require pay for performance or episode of care settlements whereby VUMC receives additional payment or pays a penalty based on its ability to achieve certain clinical measures or manage the cost of care for patients within various thresholds. VUMC estimates and accrues these adjustments in the period the related services are rendered and adjusts these estimates in future periods as settlements are finalized. The aggregate liability associated with pay for performance and episode of care settlements at June 30, 2019 and 2018, was $1.0 million and $0.9 million, respectively, with the ultimate resolution of such financial arrangements not expected to have a material impact on the operating results of VUMC.

Medicare

Amounts received under Medicare are subject to review and final determination by program intermediaries or their agents. Final settlements have been reached for program periods ended June 30, 2014. Final settlements have not been reached for subsequent years due to audit delays experienced with the Medicare Administrative Contractor, and thus, those periods remain subject to audit by program representatives.

TennCare

TennCare is a Medicaid managed care program implemented by the state of Tennessee to provide healthcare coverage to those patients eligible for Medicaid through the Federal 1115 Waiver Program. VUMC contracts with each of the three TennCare managed care organizations (“MCOs”), which offer health maintenance organization (“HMO”) and Medicare Special Needs Products for Dual Eligible Enrollees. VUMC receives inpatient reimbursement through payments that are primarily based on the Medicare severity diagnostic related group system (“MS-DRG”) for these plans. VUMC receives outpatient payments generally based on an ambulatory payment classification system (“APC”), and/or a payor-developed fee schedule.

In accordance with the Tennessee Hospital Assessment Act, VUMC receives a payment of a portion of its unreimbursed TennCare costs based upon VUMC’s share of uninsured TennCare costs for all of the covered hospitals.

There is no assurance that this program will be continued in its current structure or will not be materially modified in the future, however, we anticipate funding will remain relatively stable over the coming year.

The change in our payables under third-party programs is due to a change in estimate relating to the settlement of prior years’ third-party payor liability of approximately $46.0 million and increased net patient service revenue during the year-ended June 30, 2019.

In Fiscal 2019 and 2018, net patient service revenue includes the following supplemental amounts received in each respective period from TennCare and the associated reserves for those payments, changes in estimates effecting reserves are excluded:

($ in thousands)	2019	2018
Essential access	$ -	$ 14,609
Disproportionate share	10,965	11,511
Trauma fund	1,600	1,900
Graduate medical education	14,603	14,158
Provision for disproportionate share audit	(10,965)	(11,511)
Charity pool	12,246	-
Provision for virtual disproportionate share audit	(2,682)	-
Total supplemental TennCare revenue, net of audit provision	$ 25,767	$ 30,667

5. Charity Care Assistance, Community Benefits, and Other Unrecovered Costs

VUMC maintains a policy which sets forth the criteria under which health care services are provided to patients who have minimal financial resources to pay for medical care. Additionally, VUMC provides other services that benefit the economically disadvantaged for which little or no payment is expected.

Charity care is determined by examining patient and family income relative to the federal poverty guidelines. VUMC provides additional discounts based on the income level of the patient household using a sliding scale for those patients with a major catastrophic medical event not qualifying for full charity assistance. Tennessee law mandates that all uninsured patients receive a discount from billed charges for medically necessary services. These amounts are classified as charity care if the patient meets charity care criteria, for which no revenue is recorded, or is included as a part of price concessions in Fiscal 2019 and in discounts and contractual adjustments in Fiscal 2018.

VUMC maintains records to identify and monitor the level of charity care provided, and these records include gross charges and patient deductibles, coinsurance and copayments foregone for services furnished under its charity care policy, and the estimated cost of those services. VUMC calculates a ratio of total costs to gross charges and then multiplies the ratio by foregone charity care charges in determining the estimated cost of charity care. The gross amount of foregone charity care revenue in Fiscal 2019 and 2018 totals $341.5 million and $323.9 million, respectively. The estimated cost of providing care to charity patients in Fiscal 2019 and 2018 totals $89.9 million and $93.2 million, respectively.

In addition to the charity care services described above, TennCare/Medicaid and state indigent programs do not cover the full cost of providing care to beneficiaries of those programs. As a result, in addition to direct charity care costs, VUMC provided services related to TennCare/Medicaid and state indigent programs and was reimbursed substantially below the cost of rendering such services. VUMC also provides public health education and training for new health professionals and provides, without charge, services to the community at large for many patients with special needs.

6. Academic and Research Revenue, and Grants and Contracts Receivable

Academic and research revenue comprises the following for Fiscal 2019 and 2018:

($ in thousands)	**2019**	**2018**
Grants and contracts revenue		
Federally funded	$ 297,758	$ 288,535
Non-federally funded	113,423	102,239
	411,181	390,774
Facilities and administrative costs recovery	108,266	104,532
Academic and research revenue	$ 519,447	$ 495,306

Grants and contracts receivable comprises the following as of June 30, 2019 and 2018:

($ in thousands)	**2019**	**2018**
Federally funded	$ 28,171	$ 29,370
Non-federally funded	30,579	28,378
Total grants and contracts receivable	$ 58,750	$ 57,748

7. Pledges Receivable, Net

Pledges receivable, net of applied discounts and allowance for uncollectible pledges, as of June 30, 2019 and 2018, were as follows:

($ in thousands)	2019	2018
Amounts due		
Within one year	$ 8,072	$ 9,569
In one to five years	25,027	11,141
Total pledges receivable	33,099	20,710
Unamortized discount	(1,296)	(453)
	31,803	20,257
Allowance for uncollectible pledges	(3,317)	(2,068)
Net pledges receivable	$ 28,486	$ 18,189
Net pledges receivable classified as		
Current	$ 6,327	$ 8,070
Noncurrent	22,159	10,119
	$ 28,486	$ 18,189

In addition to pledges reported as pledges receivable, VUMC had cumulative bequest intentions and conditional promises to give totaling $65.8 million as of June 30, 2019, and $58.1 million as of June 30, 2018. Due to their conditional nature, VUMC does not recognize intentions to give as assets.

8. Other Relevant Financial Information

Other current assets comprise the following as of June 30, 2019 and 2018:

($ in thousands)	2019	2018
Prepaid expenses	$ 39,610	$ 29,263
Other receivables	31,261	30,635
Amounts due from VU (see Note 3 Related Parties)	4,929	7,038
Current pledges receivable, net (see Note 7 Pledges Receivable, Net)	6,327	8,070
Expected recoveries from commercial insurance excess coverage	3,345	5,457
Other	3,839	5,380
Total other current assets	$ 89,311	$ 85,843

Other noncurrent assets comprise the following as of June 30, 2019 and 2018:

($ in thousands)		**2019**		**2018**
Equity in unconsolidated organizations	$	21,480	$	21,822
Noncurrent pledges receivable (see Note 7 Pledges Receivable, Net)		22,159		10,119
Other		4,428		3,936
Total other noncurrent assets	$	48,067	$	35,877

Other operating revenue comprises the following for Fiscal 2019 and 2018:

($ in thousands)		**2019**		**2018**
Amounts recognized under MSA with VU (see Note 3 Related Parties)	$	30,745	$	38,647
Clinical contracts		40,952		37,366
VHS other revenue		23,622		19,632
Nonclinical contracts		8,442		7,631
Resident and house staff rotations		11,507		6,972
Parking fees		7,116		6,967
Cafeteria		6,452		6,191
VHPS other revenue		5,087		-
Other		23,088		24,910
Total other operating revenue	$	157,011	$	148,316

9. Investments

VUMC investments are made up of current investments, restricted cash, noncurrent investments, and noncurrent investments limited as to use on the face of the consolidated balance sheets. VUMC investments include assets limited as to use related to the following specified purposes as of June 30, 2019 and 2018:

($ in thousands)		**2019**		**2018**
Self-insured malpractice program	$	52,069	$	65,383
Donor endowments		38,443		22,721
Split-interest trusts		7,383		7,577
Supplemental employee retirement program assets		5,714		-
	$	103,609	$	95,681

VUMC's endowment does not include gift annuities, interests in trusts held by others, contributions pending donor designation, or contributions receivable.

Self-insured malpractice program – VUMC elects to self-insure a portion of its medical malpractice, professional, and general liability via an irrevocable self-insurance trust.

Donor endowments – Donor-restricted gifts where the principal amount is to be held in perpetuity. Distributions of earnings are restricted for use according to the donor's intent, as specified in a gift agreement. Donor endowments typically benefit specific programs in clinical departments of the Medical Center, for either general program support, a directorship, or research.

Split-interest trusts – Trusts established by donors where VUMC is named as beneficiary. Depending on the terms of the trust, VUMC may receive periodic distributions, and potentially a principal amount at some point in the future. Like donor endowments, split-interest trusts typically benefit specific programs as defined in the terms of the trust.

Supplemental employee retirement program assets – Assets set aside to fulfill obligations as they come due according to the terms of the retirement program.

The Board of Directors' interpretation of its fiduciary responsibilities for donor-restricted endowments under the Uniform Prudent Management of Institutional Funds Act ("UPMIFA") requirements is to preserve intergenerational equity, barring the existence of any donor-specific provisions. Under this broad guideline, future endowment beneficiaries should receive at least the same level of real economic support as the current generation. The overarching objective is to preserve and enhance the real (inflation-adjusted) purchasing power of the endowment in perpetuity. VUMC invests assets to provide a relatively predictable and stable stream of earnings to meet spending needs and attain long-term return objectives without the assumption of undue risks.

Investments were as follows as of June 30, 2019 and 2018:

($ in thousands)	2019	2018
Corporate bonds	$ 153,940	$ 122,639
Equity mutual funds	128,287	135,885
Cash and cash equivalents	9,436	75,972
Split-interest trusts	7,383	7,577
Hedged equity mutual funds	61,401	41,275
Fixed income mutual funds	167,079	97,946
Certificates of deposit	25,897	48,243
Asset-backed securities	29,506	33,547
Real estate mutual funds	18,969	14,098
Commercial paper	10,916	10,284
Government bonds	10,604	1,899
Hedged debt mutual funds	86,678	63,295
Commodities and managed futures mutual funds	6,895	5,495
Target date mutual funds	5,544	-
Total investments, at fair value	$ 722,535	$ 658,155

Investment returns comprise the following elements for Fiscal 2019 and 2018:

($ in thousands)	2019	2018
Interest and dividend income	$ 19,749	$ 13,415
Net realized gains on sales of securities	10,847	14,713
Realized investment gains, before fees	30,596	28,128
Unrealized investment losses, net	(126)	(3,759)
Total investment returns before fees	30,470	24,369
Investment manager and trustee fees and other	(364)	(348)
Total income from investments, net	$ 30,106	$ 24,021

VUMC has exposure to risks, including liquidity, interest rate, counterparty, basis, regulatory, market, and credit risks, for marketable securities. Due to the level of risk exposure, it is possible that material near-term valuation changes for investment securities may occur.

VUMC manages all investments, including endowments, as an investment pool.

10. Property, Plant, and Equipment, Net

Property, plant, and equipment comprise the following as of June 30, 2019 and 2018:

($ in thousands)	2019	2018
Land and land improvements	$ 33,404	$ 20,132
Buildings and improvements	1,087,686	971,393
Equipment and software	441,091	391,745
Construction in progress	145,380	131,838
Property, plant, and equipment at cost	1,707,561	1,515,108
Accumulated depreciation and amortization	(312,466)	(208,469)
Property, plant, and equipment, net	$ 1,395,095	$ 1,306,639

As part of the MTSA, VUMC acquired land and land improvements and buildings and improvements which are not allowed to be repurposed without the express consent of VU.

During Fiscal 2019, VUMC placed in service phases of the MCJCHV expansion as well as completed phases of the VUAH bed expansion and clinical relocation, which are included in buildings and improvements. We expect the remaining construction in progress includes all ongoing construction costs incurred and primarily represents the ongoing MCJCHV and VUAH construction to be completed in Fiscal 2020.

In Fiscal 2019 and 2018, VUMC capitalized interest of $6.0 million and $2.0 million, respectively, related to long-term capital projects, primarily the MCJCHV expansion and the VUAH bed expansion.

Property, plant, and equipment balances above include the following amounts related to capitalized internal use software:

($ in thousands)	**2019**	**2018**
Equipment and software	$ 158,189	$ 150,568
Construction in progress	2,976	1,137
	161,165	151,705
Accumulated amortization	(26,063)	(12,019)
Internal use software, carrying value	$ 135,102	$ 139,686

Depreciation and amortization comprised the following amounts in Fiscal 2019 and 2018:

($ in thousands)	**2019**	**2018**
Depreciation of tangible assets	$ 82,236	$ 87,538
Amortization of capital leases, leasehold improvements, and internal use software	24,288	18,116
Total depreciation and amortization	$ 106,524	$ 105,654

11. Long-Term Debt

Long-term debt comprises the following as of June 30, 2019 and 2018:

($ in thousands)	2019 Carrying Amount	2018 Carrying Amount	Effective Interest Rate [(2)]	Fiscal Year of Maturity
Series debt				
Fixed-rate debt				
Series 2016A	$ 476,930	$ 476,930	4.1 %	2047
Series 2016B	300,000	300,000	4.1 %	2027
Series 2017A	121,270	121,270	4.1 %	2049
Series 2017 Taxable	100,000	100,000	4.2 %	2038
Total fixed-rate debt	998,200	998,200	4.1 %	
Variable-rate debt				
Series 2016D	100,000	100,000	4.9 %	2047
Series 2016E	128,070	128,070	4.1 %	2047
Series 2016F	21,900	21,900	3.5 %	2025
Series 2017B	50,000	50,000	3.5 %	2047
Series 2018 Tax-exempt	53,385	53,385	2.5 %	2050
Total variable-rate debt	353,355	353,355	4.0 %	
Total series debt	1,351,555	1,351,555		
Other long-term debt				
Subordinated note	84,583	89,583	3.2 %	2036
Product financing arrangement	31,508	28,929	4.0 %	2027
Capital leases	1,730	1,156	4.0 %	Various
Subtotal[(1)]	1,469,376	1,471,223	4.1 %	
Net unamortized premiums	58,424	60,521		
Net unamortized issuance costs	(12,355)	(13,272)		
Total long-term debt	1,515,445	1,518,472		
Current portion	(8,568)	(5,774)		
Long-term debt, net	$ 1,506,877	$ 1,512,698		

(1) The effective interest rate of 4.1% as of June 30, 2019, is presented exclusive of interest rate exchange agreements discussed in Note 12 Interest Rate Exchange Agreements. Inclusive of these agreements, the overall portfolio effective interest rate was 4.3%.

(2) The effective interest rate for each debt instrument is calculated by dividing each instrument's interest expense by the weighted average debt outstanding, and where applicable, interest expense is reduced by premium amortization and increased by original issue discount amortization. Interest rates per the agreements are detailed in the accompanying notes.

On April 29, 2016, VUMC issued the Series 2016 A, B, C, D, E, and F bonds ("2016 Series Debt") and notes aggregating $1.3 billion of proceeds for the purpose of financing the Medical Center Acquisition and paying a portion of the costs of issuance associated with the 2016 Series Debt.

The bonds and notes comprising the 2016 Series Debt were issued by the Health and Educational Facilities Board of The Metropolitan Government of Nashville and Davidson County, Tennessee ("HEFB"). As a conduit issuer, the HEFB loaned the debt proceeds to VUMC. VUMC's debt service requirements under these loan agreements coincide with required debt service of the actual HEFB bonds.

- The Series 2016A tax-exempt fixed-rate revenue bonds were issued in the par amount of \$476.9 million and include an original issue premium of \$59.6 million. The Series 2016A bonds have a final maturity date of July 1, 2046, and can be optionally redeemed at par on or after July 1, 2026. The 2016A bonds were structured as serial bonds with maturities from Fiscal 2030 through 2032, as well as three term bonds maturing Fiscal 2036 through 2047, which are subject to mandatory sinking fund redemption in lots. The Series 2016A bonds bear interest at 5% per annum and pay interest semiannually on July 1 and January 1.

- The Series 2016B taxable fixed-rate revenue bonds were issued in the par amount of \$300.0 million, bearing interest at 4.1% per annum. Interest is paid semiannually on July 1 and January 1, and has a bullet maturity of July 1, 2026. VUMC is entitled, at its option, to redeem all or a portion of the Series 2016B bonds before April 1, 2026, at a make-whole redemption price, which equals the greater of (i) 100% of the remaining outstanding principal and (ii) the net present value of the remaining scheduled principal and interest payments to the original maturity date, using a discount rate of 35 basis points above rates for U.S. Treasury securities with comparable maturities.

- The Series 2016D taxable variable-rate revenue notes ("floating rate notes") were issued in the par amount of \$100.0 million and bear interest initially at a fixed spread to one-month LIBOR of 2.5% through the initial mandatory tender date of July 1, 2021, and a final maturity of July 1, 2046. Beginning six months prior to the mandatory tender date of July 1, 2021, the bonds have an optional redemption feature. If the Series 2016D bonds are successfully remarketed at the mandatory tender date, they are subject to mandatory redemption in lots commencing on July 1, 2021, and each July thereafter until final maturity.

- The Series 2016E taxable term loan revenue notes were issued in the par amount of \$128.1 million and were placed privately with a bank. The notes bear interest in a variable-rate mode at a fixed spread to one-month LIBOR of 2.4% through the initial mandatory tender date of July 1, 2022, and a final maturity of July 1, 2046. During Fiscal 2018, VUMC renegotiated the interest to a variable-rate mode at a fixed spread to one-month LIBOR of 1.8%. In addition to optional redemption of all or a portion of the notes at any time, subject to notice, the Series 2016E notes are subject to principal amortization commencing on July 1, 2022, as defined in the Series 2016E loan agreement between VUMC and the lender.

- The Series 2016F taxable variable-rate revenue bonds were issued in the par amount of \$75.0 million and were placed privately with a bank. The bonds bear interest in a variable-rate mode at a fixed spread to one-month LIBOR of 2.5% through the initial mandatory tender date of July 1, 2022. During Fiscal 2018, \$53.1 million of the Series 2016F bonds were extinguished using proceeds from the 2018 tax-exempt fixed-rate revenue bonds, discussed further below. The renegotiated interest rate on the remaining \$21.9 million of principal outstanding is a variable-rate mode at a fixed spread to one-month LIBOR of 1.2%. The remaining principal has a mandatory tender date of July 1, 2024. Prior to that, VUMC must pay \$2.1 million of principal on July 1, 2022, and \$2.2 million of principal on July 1, 2023. The remaining \$17.6 million of principal is due on July 1, 2024.

On July 26, 2017, the Series 2017A Tax-Exempt and Series 2017 Taxable Corporate Bonds were issued, and on August 1, 2017, the Series 2017B Taxable Revenue Bonds were issued ("2017 Series Debt"), aggregating $271.3 million of proceeds for the purpose of refinancing existing debt, funding capital projects related to the MCJCHV expansion and the VUAH bed expansion/clinical relocation, which is a phased project, and paying a portion of the costs of issuance associated with the 2017 Series Debt.

The Series 2017A Tax-Exempt Revenue Bonds and the Series 2017B Taxable Term Loan Revenue Note were issued by the HEFB. The Series 2017 Taxable Bonds were a corporate issue with VUMC as the issuer.

- The Series 2017A tax-exempt fixed-rate revenue bonds were issued in the par amount of $121.3 million and include an original issue premium of $5.1 million. The final maturity date is July 1, 2048, and optional redemption at par can occur on or after July 1, 2027. The Series 2017A bonds bear interest at 4.4% per annum and pay interest semiannually on July 1 and January 1.

- The Series 2017 taxable fixed-rate corporate bonds were issued in the par amount of $100.0 million, bearing interest at 4.2% per annum. Interest is paid semiannually on July 1 and January 1, and the bonds have a final maturity date of July 1, 2037. There is a bullet payable beginning July 1, 2026, that allows VUMC to call the debt.

- The Series 2017B taxable variable-rate term loan notes were issued in the par amount of $50 million and placed privately with a bank. The notes bear interest initially at a fixed-spread to one-month LIBOR of 1.2%. The notes have a final maturity date of July 1, 2046, and a tender date of August 1, 2024. Proceeds from the issuance of the Series 2017B notes were used to extinguish the Series 2016C R-FLOATs, initially issued on April 29, 2016.

On April 20, 2018, the Series 2018 Tax-Exempt Revenue Bonds ("2018 Series Debt") aggregating $53.4 million of proceeds were issued for the purpose of refinancing existing debt and paying a portion of the costs of issuance associated with the 2018 Series Debt. The Series 2018 Tax-Exempt Revenue Bonds were issued by the HEFB, were placed privately with a bank, and bear interest at a fixed spread to 81% of one-month LIBOR of 0.6%. The bonds have a final maturity date of July 1, 2049, and can be optionally redeemed on or after July 1, 2025. Proceeds from the issuance of the Series 2018 bonds were used to extinguish a portion of the Series 2016F taxable variable-rate bonds.

Each of the bonds and notes comprising the 2016, 2017, and 2018 Series Debt represent separate obligations under a Master Trust Indenture ("MTI") structure. The MTI provides the flexibility for multiple parties to participate in debt issuances as part of an obligated group; presently, VUMC has no other third-party members participating in the obligated group. All debt issued under the MTI is a general obligation of the obligated group. Under the provisions of the Leasehold Deed of Trust, Security Agreement, Assignment of Rents and Leases, and Fixture Filing (the "Security Agreement") within the MTI, gross receivables of the obligated group are pledged as collateral. Additionally, the Security Agreement established a mortgage lien on (i) the leasehold interest of the land subject to the Ground Lease; (ii) the buildings, structures, improvements, and fixtures now or hereafter located on the land subject to the Ground Lease; and (iii) certain other collateral.

Trust indentures for certain bond issues contain covenants and restrictions, the most material of which include limitations on the issuance of additional debt, maintenance of a specified debt service coverage ratio, and a minimum amount of days cash on hand. VUMC complied with such covenants and restrictions as of June 30, 2019 and 2018.

On April 29, 2016, VUMC delivered a secured subordinated promissory note in the amount of $100.0 million to the University to finance the Acquisition (the "subordinated note"). In July of 2018, VU sold its rights to future principal and interest payments on this note to a third party. The note was issued at a fixed rate of 3.25% with monthly principal payments totaling $5.0 million annually commencing on May 31, 2016, for a period of 20 years ending on April 30, 2036. VUMC may, at any time and from time to time, without premium or penalty, prepay all or any portion of the unpaid principal amount of the subordinated note. This note is secured by the gross receivables and mortgaged property described in the Security Agreement subject to the requirements of the 2016 Series Debt and the MTI.

As part of the Acquisition, VUMC assumed a 10-year, unsecured, noninterest-bearing product financing arrangement with a vendor for the purchase and implementation of internal use software. As part of this agreement, VUMC has committed to an annual payment of $0.5 million payable in monthly installments through November 2019. These payments will be considered imputed interest. During Fiscal 2020, the annual payment increases to $4.9 million payable in monthly installments. These payments are considered principal and imputed interest and continue through Fiscal 2027. The balance due under the Product Financing Arrangement is $31.5 million and $28.9 million as of June 30, 2019 and 2018, respectively. At June 30, 2019 and 2018, $1.9 million and $0 was included in the current installments of long-term debt caption, with the remaining balance in the long-term debt, net of current installments caption.

In Fiscal 2019 and 2018, noncash investing and financing activities totaled $2.4 million and $5.8 million, respectively, related to property, plant, and equipment expenditures financed through the product financing arrangement and capital leases.

Interest paid on all obligations, net of amounts capitalized, was $59.7 million and $54.7 million in Fiscal 2019 and 2018, respectively.

Principal retirements and scheduled sinking fund requirements based on nominal maturity schedules for long-term debt due in subsequent fiscal years ending June 30 are as follows:

($ in thousands)

2020	$ 8,568
2021	9,183
2022	109,281
2023	139,634
2024	11,840
Thereafter	1,190,870
	$ 1,469,376

VUMC has entered into an agreement with a bank to provide a general use line of credit with a maximum available commitment totaling $100.0 million. The line of credit, which may be drawn upon for general operating purposes, expires on April 24, 2020, and can be renewed. Interest on each advance under this line of credit accrues at a rate of 0.65% plus LIBOR, and a commitment fee of 0.15% per annum accrues on any unused portion of the line of credit. Commitment fees for the line of credit totaled $0.2 million in Fiscal 2019 and 2018. No amounts were drawn under this credit facility as of June 30, 2019 or 2018.

12. Interest Rate Exchange Agreements

On April 29, 2016, the University transferred an interest rate exchange agreement to VUMC with a total notional amount of $150.0 million and an original termination date of May 1, 2040. VUMC split the transferred notional amount into two agreements, with key features summarized below:

Notional Amount	Pay Fixed Rate	Receive Variable Rate	Mandatory Termination Date
$75.0 million	4.12%	68% of one-month LIBOR	April 29, 2021
$75.0 million	4.18%	68% of one-month LIBOR	April 29, 2023

VUMC incorporated these interest rate exchange agreements into its debt portfolio management strategy. Collateral pledging requirements were removed from the novated agreements, and the agreements were modified to either be negotiated, extended or terminated automatically on April 29, 2021 and 2023, at which point the exchange agreements will be settled at fair value.

VUMC recorded the following activity related to the interest rate exchange agreements during Fiscal 2019 and 2018:

($ in thousands)	2019	2018
Mark-to-market adjustments	$ (13,695)	$ 10,997
Cash settlements	(3,785)	(4,618)
Unrealized (loss) gain on interest rate exchange agreements, net of cash settlements	$ (17,480)	$ 6,379

13. Operating Leases

VUMC has entered into certain long-term agreements with respect to facilities and equipment, both as a lessee and a lessor, which VUMC classifies as operating leases. Rental expense and rental income in Fiscal 2019 and 2018 are as follows:

($ in thousands)	2019	2018	Location in Consolidated Statements of Operations
Operating lease rental expense	$ 124,810	$ 112,712	Operating expenses— Facilities and equipment
Operating lease rental income, including related-party income	8,046	7,843	Operating revenues— Other operating revenue

The following is a schedule by fiscal year of future minimum rentals on noncancelable operating leases as of June 30, 2019:

($ in thousands)	Equipment	Property	Ground Lease	Total
2020	$ 35,233	$ 53,466	$ 19,020	$ 107,719
2021	24,580	48,634	19,020	92,234
2022	15,116	41,437	19,020	75,573
2023	6,891	38,481	19,020	64,392
2024	2,927	36,436	19,020	58,383
Thereafter	-	186,035	1,730,820	1,916,855
Total minimum rentals	$ 84,747	$ 404,489	$ 1,825,920	$ 2,315,156

Essential provisions of leases considered by management to be material are as follows:

- On April 29, 2016, VUMC entered into a Ground Lease with VU for approximately 1.7 million square feet of land for an initial term ending June 30, 2115, and an option to extend for up to two additional terms of 50 to 99 years each upon agreement by VU and VUMC. The initial annual base rent of $19.0 million is payable monthly, and is CPI adjusted annually. The Ground Lease allows VUMC to use the land on which its campus and related buildings are located. The $1.8 billion in ground lease payments in the table above represents future minimum rentals based on current payments.

- In July 2007, VU entered into an agreement to lease approximately 50% of the space in the 850,000 square foot One Hundred Oaks shopping center located approximately five miles from the main campus (“100 Oaks Lease”). VU redeveloped this leased space primarily for medical and office uses. This operating lease commenced during Fiscal 2009 with an initial lease term of 12 years. In October 2014, VU agreed to an amendment which extends the original lease term by an additional 15 years, with an option to renew the lease further for four additional 10-year periods. As part of the lease agreement, the lessee also has first rights on leasing additional space in the shopping center and first rights on purchasing if the landlord desires to sell. On April 29, 2016, the 100 Oaks Lease was assigned to VUMC. As a condition of the assignment, amendments to the 100 Oaks Lease were added which required VUMC to provide the landlord a $25.0 million irrevocable standby letter of credit, pay a $13.2 million refinancing penalty payable to the landlord, and pay $7.8 million of the landlord’s closing costs, financing fees, and prepayment penalties associated with a refinancing of the landlord’s debt. The prepayment penalty and closing costs were recorded as part of the Acquisition. The irrevocable standby letter of credit must remain in place through April 29, 2026. The amounts related to this standby letter of credit are recorded as facilities and equipment expense and totaled $0.2 million in Fiscal 2019 and $0.3 million in Fiscal 2018. VUMC included minimum property rental payments totaling $125.6 million related to this space in the above future minimum property rentals.

- On April 29, 2016, VU assigned to VUMC a lease for approximately 231,000 square feet of office space at 2525 West End Avenue with expiration dates ranging from 2026 through 2030, with options to renew for two additional five-year periods. VUMC included minimum property rental payments totaling $75.0 million related to this space in the above future minimum property rentals.

- On April 29, 2016, VUMC and VU entered into certain lease agreements for the use of space in buildings owned by both entities. As of June 30, 2019, VUMC's estimated future minimum property lease payments to VU totaled $24.1 million. Estimated future lease receipts from VU for the fiscal year ended June 30, 2020, are $7.2 million, subject to annual renewal.

14. Net Assets

Net asset restrictions relate to the following purposes as of June 30, 2019 and 2018:

($ in thousands)	2019	2018
Donor-restricted - time or purpose		
Property, plant, and equipment	$ 11,023	$ 38,404
Research and education	88,084	38,331
Operations	3,841	2,761
Total donor-restricted - time or purpose	$ 102,948	$ 79,496
Donor restricted - perpetuity		
Research and education	$ 52,949	$ 34,929

Net assets without donor restrictions are free of donor-imposed restrictions. This classification includes all revenues, gains, and losses not restricted by donors. VUMC reports all expenditures in net assets without donor restrictions since the use of restricted contributions in accordance with donors' stipulations results in the release of the restriction.

Donor restricted – time or purpose contain donor-imposed stipulations that expire with the passage of time or that can be satisfied by the action of VUMC. These net assets may include unconditional pledges, split-interest agreements, interests in trusts held by others, and accumulated appreciation on donor-restricted endowments not yet appropriated by the Board of Directors for distribution. Donor gifts that are restricted for funding capital projects are considered released from restriction once related capital expenditures have been made and the asset is placed in service.

Donor restricted – perpetuity contains amounts held in perpetuity as requested by donors. These net assets may include unconditional pledges, donor-restricted endowments, split-interest agreements, and interests in trusts held by others. Generally, the donors of these assets permit VUMC to use a portion of the income earned on related investments for specific purposes.

UPMIFA specifies that unless stated otherwise in a gift instrument, donor-restricted assets in an endowment fund are restricted assets until appropriated for expenditure. Barring the existence of specific instructions in gift agreements for donor-restricted endowments, VUMC reports the historical value of such endowments as donor restricted – perpetuity and the net accumulated appreciation as donor restricted – time or purpose. In this context, the historical value represents the original value of initial contributions restricted as permanent endowments plus the original value of subsequent contributions and, if applicable, the value of accumulations made in accordance with the direction of specific donor gift agreements.

15. Fair Value Measurements

Fair value measurements represent the amount at which the instrument could be exchanged in an orderly transaction between market participants at the measurement date. VUMC utilizes a fair value hierarchy that prioritizes the inputs to valuation techniques used to measure fair value into three levels:

Level 1 Inputs to the valuation methodology are unadjusted quoted prices for identical assets or liabilities in active markets that VUMC has the ability to access.

Level 2 Inputs to the valuation methodology include quoted prices for similar assets or liabilities in active markets, quoted prices for identical or similar assets or liabilities in inactive markets, inputs other than quoted prices that are observable for the assets or liabilities, and inputs that are derived principally from or corroborated by observable market data by correlation or other means.

Level 3 Inputs to the valuation methodology are unobservable and significant to the fair value measurement. Unobservable inputs reflect VUMC’s assumptions about the inputs market participants would use in pricing the asset or liability, including assumptions about risk. Unobservable inputs are developed based on the best information available in the circumstances and may include VUMC’s own data.

VUMC’s principal assets and liabilities are cash and cash equivalents, investments, patient accounts receivable, estimated receivables and payables under third-party programs, grants and contracts receivable, pledges receivable, accounts payable and other accrued expenses, self-insurance reserves, long-term debt, and interest rate exchange agreements. Except for long-term debt, the carrying amount of these assets and liabilities approximates fair value.

As of June 30, 2019, the carrying value and estimated fair value of total long-term debt totaled $1.515 billion and $1.588 billion, respectively. As of June 30, 2018, the carrying value and estimated fair value of total long-term debt totaled $1.518 billion and $1.534 billion, respectively. VUMC bases estimated fair value of long-term debt on market conditions prevailing at fiscal year-end reporting dates. Besides potentially volatile market conditions, fair value estimates typically reflect limited secondary market trading. The fair values of the fixed-rate Series Debt, as defined in Note 11 Long-Term Debt, were based on a Level 2 computation using quoted prices for similar liabilities in inactive markets as of June 30, 2019 and 2018, as applicable. The carrying amounts related to VUMC’s variable-rate Series Debt and other long-term debt obligations approximate their fair values as of June 30, 2019 and 2018. As of June 30, 2019 and 2018, the fair values of the promissory note payable and the product financing arrangement were based on a Level 2 discounted cash flow approach applying a risk-adjusted spread for issuers of similar credit quality to U.S. Treasury yields for securities with comparable maturities.

For financial instruments measured at fair value on a recurring basis, the following tables summarize valuation hierarchy levels as of June 30, 2019 and 2018, determined by the nature of the financial instrument and the least observable input significant to the fair value measurement:

	Fair Value Measurements as of June 30, 2019			
($ in thousands)	**Level 1**	**Level 2**	**Level 3**	**Total Carrying Amount**
Assets				
Corporate bonds	$ 2,657	$ 151,283	$ -	$ 153,940
Equity mutual funds	31,873	96,414	-	128,287
Cash and cash equivalents	9,436	-	-	9,436
Beneficial interests in split-interest trusts	7,383	-	-	7,383
Hedged equity mutual funds	-	61,401	-	61,401
Fixed-income mutual funds	46,146	120,933	-	167,079
Certificates of deposit	-	25,897	-	25,897
Asset-backed securities	81	29,425	-	29,506
Real estate mutual funds	-	18,969	-	18,969
Commercial paper	-	10,916	-	10,916
Government bonds	-	10,604	-	10,604
Hedged debt mutual funds	-	86,678	-	86,678
Commodities and managed futures mutual funds	-	6,895	-	6,895
Target date mutual funds	-	5,544	-	5,544
Total assets reported at fair value	$ 97,576	$ 624,959	$ -	$ 722,535
Liabilities				
Interest rate exchange agreements	$ -	$ 67,901	$ -	$ 67,901
Total liabilities reported at fair value	$ -	$ 67,901	$ -	$ 67,901

($ in thousands)	Fair Value Measurements as of June 30, 2018 Level 1	Level 2	Level 3	Total Carrying Amount
Assets				
Corporate bonds	$ 9,507	$ 113,132	$ -	$ 122,639
Equity mutual funds	36,269	99,616	-	135,885
Cash and cash equivalents	75,972	-	-	75,972
Beneficial interests in split-interest trusts	7,577	-	-	7,577
Hedged equity mutual funds	-	41,275	-	41,275
Fixed-income mutual funds	21,079	76,867	-	97,946
Certificates of deposit	-	48,243	-	48,243
Asset-backed securities	-	33,547	-	33,547
Real estate mutual funds	-	14,098	-	14,098
Commercial paper	-	10,284	-	10,284
Government bonds	-	1,899	-	1,899
Hedged debt mutual funds	-	63,295	-	63,295
Commodities and managed futures mutual funds	-	5,495	-	5,495
Total assets reported at fair value	$ 150,404	$ 507,751	$ -	$ 658,155
Liabilities				
Interest rate exchange agreements	$ -	$ 54,206	$ -	$ 54,206
Total liabilities reported at fair value	$ -	$ 54,206	$ -	$ 54,206

VUMC employs derivatives, primarily interest rate exchange agreements, to help manage interest rate risks associated with variable-rate debt. In addition to the credit risk of the counterparty owing a balance, VUMC calculates the fair value of interest rate exchange agreements based on the present value of future net cash settlements that reflect market yields as of the measurement date.

Parties to interest rate exchange agreements are subject to risk for changes in interest rates, as well as the risk of credit loss in the event of nonperformance by the counterparty. VUMC deals only with high-quality counterparties that meet rating criteria for financial stability and credit-worthiness.

16. Retirement Plan

VUMC's full-time employees participate in a 403(b) defined contribution retirement plan administered by a third party. For eligible employees with one year of continuous service, this plan requires employer matching of employee contributions up to 5% of eligible compensation. The employee immediately vests in these contributions.

VUMC funds the obligations under this plan through monthly transfers to the respective retirement plan administrator with the corresponding expense recognized in the year incurred. During Fiscal 2019 and 2018, VUMC recognized $64.1 million and $60.7 million, respectively, of expense in connection with this plan.

17. Functional Expenses

VUMC provides general health care services primarily to residents within its geographic location and supports research and education programs. Total operating expenses by nature and function for Fiscal 2019 and 2018 were as follows:

($ in thousands)	For the year ended June 30, 2019			
	Healthcare Services	Academic Research and Education	Administrative and Other	Total
Salaries, wages, and benefits	$ 1,613,439	$ 490,280	$ 187,191	$ 2,290,910
Supplies and drugs	831,059	47,418	13,734	892,211
Facilities and equipment	156,210	38,257	74,507	268,974
Services and other	517,935	95,339	87,805	701,079
Depreciation and amortization	83,922	992	21,610	106,524
Interest	43,082	12,241	1,206	56,529
Total operating expenses	$ 3,245,647	$ 684,527	$ 386,053	$ 4,316,227

($ in thousands)	For the year ended June 30, 2018			
	Healthcare Services	Academic Research and Education	Administrative and Other	Total
Salaries, wages, and benefits	$ 1,535,710	$ 460,973	$ 182,964	$ 2,179,647
Supplies and drugs	717,164	48,882	4,413	770,459
Facilities and equipment	145,207	39,885	71,846	256,938
Services and other	463,798	82,605	113,052	659,455
Depreciation and amortization	81,252	622	23,780	105,654
Interest	47,395	9,603	1,080	58,078
Total operating expenses	$ 2,990,526	$ 642,570	$ 397,135	$ 4,030,231

Certain expense categories are attributable to more than one function. Therefore, these expenses require an allocation on a reasonable basis that is consistently applied. The expenses that are allocated include salaries, wages, and benefits, and services and other.

18. Commitments and Contingencies

Management has policies, procedures, and an organizational structure to enforce and monitor compliance with government statutes and regulations. VUMC's compliance with such laws and regulations is subject to future government review and interpretations, as well as regulatory actions unknown or unasserted at this time.

- Litigation. VUMC is a defendant in certain lawsuits alleging medical malpractice and civil action.

  On August 16, 2016, VUMC received written notice from VU of a third-party claim which could, if determined adversely to VU, require indemnification by VUMC pursuant to the provisions of the MTSA, dated as of April 29, 2016. The third-party claim is a lawsuit (Cassell v. Vanderbilt University, et al., No. 3:16-cv-02086 (U.S.D.C. M.D. TN)) brought by current and former employees of VU which alleges claims relating to administration of the Vanderbilt University Retirement Plan and New Faculty Plan. A proposed settlement has been reached, the terms of which are subject to review and approval by an independent court-appointed fiduciary and, assuming a favorable review, to final approval by the District Court. VUMC has established a liability reserve which reflects its estimated liability under the proposed settlement, assuming final approval is received for the terms as proposed.

In January 2018, VUMC received a subpoena from the United States Department of Health and Human Services, Office of Inspector General ("OIG") dated January 18, 2018, requesting medical and billing records for 62 patients who received certain cardiac diagnostic testing services at VUMC. VUMC completed its production of records responsive to the subpoena in April 2018. In October 2018 OIG notified VUMC the matter was closed, and no further action has been taken in the matter by OIG.

In late Fiscal 2018, VUMC identified that standing orders used in certain VUMC clinical departments may not have been documented and entered appropriately. Upon further review, VUMC determined that medical record documentation required to support the medical necessity for the services rendered pursuant to certain of such orders was insufficient and that certain reimbursement amounts received for the services so ordered must consequently be repaid. VUMC has established a liability equal to the amount of the estimated repayment associated with such orders. Through the operation of its compliance program, VUMC from time to time initiates the review of billing for clinical services provided by VUMC and its affiliated providers. VUMC has established a liability reserve relating to certain matters under review as of June 30, 2019, which is not material to VUMC's overall financial position.

- Regulations. VUMC's compliance with regulations and laws is subject to future government reviews and interpretations, as well as regulatory actions unknown at this time. VUMC believes that the liability, if any, from such reviews will not have a significant effect on VUMC's consolidated financial position.

- Medical Malpractice Liability Insurance. The consolidated balance sheets include reserves for medical malpractice, professional, and general liability coverage totaling $56.3 million as of June 30, 2019, and $74.1 million as of June 30, 2018. These liabilities are measured at the net present value of those cash flows using a discount rate of 2.5% at both dates and are classified as current or noncurrent based on the expected timing of cash flows. Other current assets include expected recoveries from commercial insurance carriers under excess coverage arrangements totaling $3.3 million as of June 30, 2019, and $5.5 million as of June 30, 2018. During Fiscal 2019 and 2018, VUMC recorded expenses for medical malpractice liability insurance of $23.5 million and $20.5 million, respectively.

- Employee Health and Workers' Compensation Insurance. Accrued compensation and benefits included actuarially determined liabilities for employee health and workers' compensation claims totaling $17.3 million and $6.6 million, respectively, as of June 30, 2019, and $17.0 million and $7.5 million, respectively, as of June 30, 2018. During Fiscal 2019 and 2018, VUMC recorded expenses for self-insured employee health benefit plans, net of employee premiums, totaling $177.2 million and $160.4 million, respectively. During Fiscal 2019 and 2018, VUMC recorded expenses for self-insured workers' compensation plans of $2.8 million and $3.7 million, respectively.

- Federal and State Contracts and Other Requirements. Expenditures related to federal and state grants and contracts are subject to adjustment based upon review by the granting agencies. Amounts of expenditures that granting agencies might disallow cannot be determined at this time. These amounts affect government grants and contracts revenue, as well as facilities and administrative costs recovery. VUMC does not expect these costs to influence the consolidated financial position by material amounts.

- Health Care Services. In Fiscal 2019 and 2018, 85% and 84%, respectively, of VUMC's operating revenue was generated by providing health care services, where revenue is affected by reimbursement arrangements with federal and state healthcare programs, commercial insurance, and other managed care payors. If reimbursement rates from third-party payors decrease or if contract terms become less favorable in future periods, VUMC's operating revenues may decline. See Note 4 Patient Service Revenue, Patient Accounts Receivable, and Estimated Third-Party Settlements, for further information regarding healthcare revenues and related receivables.

- HIPAA Compliance. Under the Health Insurance Portability and Accountability Act of 1996 ("HIPAA"), the federal government has authority to complete fraud and abuse investigations. HIPAA has established substantial fines and penalties for offenders. VUMC maintains policies, procedures, and organizational structures to enforce and monitor compliance with HIPAA, as well as other applicable local, state, and federal statutes and regulations.

- Construction. VUMC had contractual commitments under major construction and equipment contracts totaling $113.7 million and $119.5 million as of June 30, 2019 and 2018, respectively.

- Letter of Credit. As a requirement of the assignment of the 100 Oaks Lease described in Note 13 Operating Leases, VUMC provided an irrevocable standby letter of credit of $25.0 million to the landlord of the property dated June 10, 2016.

19. Subsequent Events

Management evaluated events after June 30, 2019 through November 12, 2019, the date on which the consolidated financial statements were issued. During this period, there were no subsequent events requiring recognition or disclosure in the consolidated financial statements that have not been recorded or disclosed.

Effective August 1, 2019, VUMC acquired Tennova Healthcare – Lebanon, now known as Vanderbilt Wilson County Hospital ("VWCH"), from Community Healthcare Systems, Inc. VWCH is a two-campus facility licensed for 245 beds and is a substantial provider of both inpatient and outpatient medical services in Lebanon, Tennessee.

On October 22, 2019, VUMC issued a $128.6 million 35 year note with a 30 year average life at a rate of 3.87% to replace the Series 2016E taxable term loan revenue notes.

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