



WAKE FOREST UNIVERSITY

Independent Auditors' Reports as Required by Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) and *Government Auditing Standards* and Related Information

Year Ended June 30, 2019

WAKE FOREST UNIVERSITY

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KPMG LLP
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Independent Auditors' Report

The Board of Trustees
Wake Forest University:

Report on the Financial Statements

We have audited the accompanying consolidated financial statements of Wake Forest University (the University), which comprise the consolidated balance sheet as of June 30, 2019, and the related consolidated statements of activities, and cash flows for the year 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 consolidated financial statements in accordance 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 consolidated financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' Responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of 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 consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of Wake Forest University as of June 30, 2019, and the changes in its net assets and its cash flows for the year then ended in accordance with U.S. generally accepted accounting principles.



Emphasis of Matter

As discussed in Note 1 to the financial statements, the University adopted Accounting Standards Update (ASU) 2016-14, *Not-for-Profit Entities (Topic 958): Presentation of Financial Statements of Not-for-Profit Entities*; ASU 2014-09, *Revenue from Contracts with Customers*; and ASU 2018-08, *Not-for-Profit Entities, Clarifying the Scope and Accounting Guidance for Contributions Received and Contributions Made*, during the year ended June 30, 2019. Our opinion is not modified with respect to these matters.

Other Matter

Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The supplementary information included in the consolidated balance sheet, statement of activities, statement of cash flows, and the accompanying notes related to the College of Arts and Sciences, Schools of Law, Business, and Divinity, and Reynolda House, Inc. (collectively, Reynolda Campus); and Wake Forest University Health Sciences (WFUHS) is presented for purposes of additional analysis and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the consolidated financial statements as a whole.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated October 21, 2019 on our consideration of Wake Forest University's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of Wake Forest University's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Wake Forest University's internal control over financial reporting and compliance.

KPMG LLP

Greensboro, North Carolina
October 21, 2019

WAKE FOREST UNIVERSITY

Consolidated Balance Sheet

June 30, 2019

(with summarized comparative financial information as of June 30, 2018)

(Dollars in thousands)

	Supplementary information			
	Reynolda Campus	WFUHS	2019	2018
Assets:				
Cash and cash equivalents	\$ 44,889	19,175	64,064	83,542
Accounts receivable, net	12,343	114,138	126,481	109,102
Patient receivables, net	—	83,036	83,036	69,359
Contributions receivable, net	111,828	7,040	118,868	115,280
Notes receivable, net	18,950	942	19,892	22,094
Investments	1,225,459	765,211	1,990,670	1,909,991
Direct investments in real estate	14,515	—	14,515	16,903
Other assets	12,081	25,953	38,034	35,632
Deposit with bond trustee	17,451	—	17,451	176
Land, buildings, and equipment, net	701,160	359,374	1,060,534	993,967
Total Assets	\$ 2,158,676	1,374,869	3,533,545	3,356,046
Liabilities:				
Accounts payable and accruals	\$ 49,656	178,534	228,190	220,549
Other liabilities and deferrals	77,891	150,784	228,675	213,856
Annuities payable	17,981	2,655	20,636	19,457
Notes payable and capital leases	73,545	60,457	134,002	208,687
Bonds payable	413,647	146,574	560,221	420,494
Postretirement benefits	15,298	28,126	43,424	47,364
Government grants refundable	8,138	—	8,138	8,222
Total Liabilities	656,156	567,130	1,223,286	1,138,629
Net Assets:				
Without donor restrictions	700,459	568,423	1,268,882	1,220,509
With donor restrictions	802,061	239,316	1,041,377	996,908
Total Net Assets	1,502,520	807,739	2,310,259	2,217,417
Total Liabilities and Net Assets \$	2,158,676	1,374,869	3,533,545	3,356,046

See accompanying notes to consolidated financial statements.

WAKE FOREST UNIVERSITY

Consolidated Statement of Activities

Year ended June 30, 2019

(with summarized comparative financial information for the year ended June 30, 2018)

(Dollars in thousands)

	Without Donor Restrictions	With Donor Restrictions	2019	2018
Operating revenues:				
Student tuition and fees	\$ 284,680	—	284,680	269,475
Government grants and contracts	197,819	—	197,819	187,522
Private grants and contracts	3,124	28,889	32,013	28,290
Contributions	36,178	20,942	57,120	39,140
Investment return designated for current operations	52,006	28,479	80,485	80,541
Patient revenue	601,476	—	601,476	519,930
Other	244,156	—	244,156	220,734
Sales and services of auxiliary enterprises	101,857	—	101,857	97,470
Net assets released from restrictions	67,311	(67,311)	—	—
Total operating revenues	1,588,607	10,999	1,599,606	1,443,102
Operating expenses:				
Salaries and wages	839,601	—	839,601	754,629
Employee benefits	176,296	—	176,296	154,557
Student aid	11,611	—	11,611	10,204
Services	236,594	—	236,594	233,747
Clinical and laboratory supplies	73,013	—	73,013	54,475
Other operating expenses	135,408	—	135,408	129,887
Depreciation and amortization	84,081	—	84,081	75,781
Interest on debt	22,346	—	22,346	17,694
Total operating expenses	1,578,950	—	1,578,950	1,430,974
Operating excess	9,657	10,999	20,656	12,128
Nonoperating activities:				
Restricted contributions	—	55,714	55,714	49,027
Net assets released from restriction	17,741	(17,741)	—	—
Investment return in excess of (less than) amounts designated for current operations	1,259	(915)	344	11,293
Actuarial (losses) gains on annuity obligations	—	(1,325)	(1,325)	6,308
Unrealized (losses) gains on interest rate swaps	(6,080)	—	(6,080)	5,597
Postretirement related changes other than service costs	5,942	—	5,942	6,186
Gains from affiliates, equity method	11,896	—	11,896	46,922
Other, net	7,958	(2,263)	5,695	(10,164)
Change from nonoperating activities	38,716	33,470	72,186	115,169
Change in net assets	48,373	44,469	92,842	127,297
Adjusted net assets at beginning of year	1,220,509	996,908	2,217,417	2,090,120
Net assets at end of year	\$ 1,268,882	1,041,377	2,310,259	2,217,417

See accompanying notes to consolidated financial statements.

WAKE FOREST UNIVERSITY

Consolidated Statement of Activities

College of Arts and Sciences, Schools of Law, Business, and Divinity, and Reynolda House, Inc.
(Supplementary Information)

Year ended June 30, 2019

(Dollars in thousands)

	<u>Without Donor Restrictions</u>	<u>With Donor Restrictions</u>	<u>Total</u>
Operating revenues:			
Student tuition and fees	\$ 250,810	—	250,810
Government grants and contracts	8,661	—	8,661
Private grants and contracts	3,033	—	3,033
Contributions	30,935	19,469	50,404
Investment return designated for current operations	27,691	23,236	50,927
Other	11,255	—	11,255
Sales and services of auxiliary enterprises	101,857	—	101,857
Net assets released from restrictions	33,477	(33,477)	—
	<u>467,719</u>	<u>9,228</u>	<u>476,947</u>
Total operating revenues			
Operating expenses:			
Salaries and wages	210,302	—	210,302
Employee benefits	52,215	—	52,215
Student aid	3,540	—	3,540
Services	61,877	—	61,877
Other operating expenses	54,891	—	54,891
Depreciation and amortization	46,674	—	46,674
Interest on debt	14,643	—	14,643
	<u>444,142</u>	<u>—</u>	<u>444,142</u>
Total operating expenses			
Operating excess	<u>23,577</u>	<u>9,228</u>	<u>32,805</u>
Nonoperating activities:			
Restricted contributions	—	51,887	51,887
Net assets released from restriction	17,741	(17,741)	—
Investment return in excess of (less than) amounts designated for current operations	6,170	(1,016)	5,154
Actuarial losses on annuity obligations	—	(1,385)	(1,385)
Unrealized losses on interest rate swaps	(5,189)	—	(5,189)
Postretirement related changes other than service cost	(1,743)	—	(1,743)
Other, net	582	(2,263)	(1,681)
	<u>17,561</u>	<u>29,482</u>	<u>47,043</u>
Change from nonoperating activities			
Change in net assets	41,138	38,710	79,848
Adjusted net assets at beginning of year	<u>659,321</u>	<u>763,351</u>	<u>1,422,672</u>
Net assets at end of year	\$ <u>700,459</u>	<u>802,061</u>	<u>1,502,520</u>

See accompanying notes to consolidated financial statements.

WAKE FOREST UNIVERSITY
Consolidated Statement of Activities
Wake Forest University Health Sciences
(Supplementary Information)
Year ended June 30, 2019
(Dollars in thousands)

	<u>Without Donor Restrictions</u>	<u>With Donor Restrictions</u>	<u>Total</u>
Operating revenues:			
Student tuition and fees	\$ 33,870	—	33,870
Government grants and contracts	189,158	—	189,158
Private grants and contracts	91	28,889	28,980
Contributions	5,243	1,473	6,716
Investment return designated for current operations	24,315	5,243	29,558
Patient revenue	601,476	—	601,476
Other	232,901	—	232,901
Net assets released from restrictions	33,834	(33,834)	—
Total operating revenues	<u>1,120,888</u>	<u>1,771</u>	<u>1,122,659</u>
Operating expenses:			
Salaries and wages	629,299	—	629,299
Employee benefits	124,081	—	124,081
Student aid	8,071	—	8,071
Services	174,717	—	174,717
Clinical and laboratory supplies	73,013	—	73,013
Other operating expenses	80,517	—	80,517
Depreciation and amortization	37,407	—	37,407
Interest on debt	7,703	—	7,703
Total operating expenses	<u>1,134,808</u>	<u>—</u>	<u>1,134,808</u>
Operating excess (deficit)	<u>(13,920)</u>	<u>1,771</u>	<u>(12,149)</u>
Nonoperating activities:			
Restricted contributions	—	3,827	3,827
Investment return (less than) in excess of amounts designated for current operations	(4,911)	101	(4,810)
Actuarial gains on annuity obligations	—	60	60
Unrealized losses on interest rate swaps	(891)	—	(891)
Postretirement related changes other than service cost	7,685	—	7,685
Gain from affiliates, equity method	11,896	—	11,896
Other, net	7,376	—	7,376
Change from nonoperating activities	<u>21,155</u>	<u>3,988</u>	<u>25,143</u>
Change in net assets	7,235	5,759	12,994
Adjusted net assets at beginning of year	<u>561,188</u>	<u>233,557</u>	<u>794,745</u>
Net assets at end of year	<u>\$ 568,423</u>	<u>239,316</u>	<u>807,739</u>

See accompanying notes to consolidated financial statements.

WAKE FOREST UNIVERSITY
Consolidated Statement of Cash Flows
Year ended June 30, 2019
(with summarized comparative financial information for the year ended June 30, 2018)
(Dollars in thousands)

	Supplementary information		2019	2018
	Reynolda Campus	WFUHS		
Cash flows from operating activities:				
Change in net assets	\$ 79,848	12,994	92,842	127,297
Adjustments to reconcile change in net assets to net cash provided by (used in) operating activities:				
Depreciation and amortization	46,674	37,407	84,081	75,781
Amortization of debt related costs	(820)	(870)	(1,690)	(903)
Gains on acquisition of affiliate	—	—	—	(4,520)
Equity transfer to affiliate	—	3,991	3,991	10,009
Net gains on investments	(43,653)	(24,748)	(68,401)	(77,140)
Noncash gifts	(64)	—	(64)	(28)
Private gifts restricted for capital and long-term investment	(51,823)	(4,093)	(55,916)	(49,027)
Other revenue restricted for long-term investment	—	—	—	(36)
Losses (gains) on disposals of property and equipment	726	(50)	676	533
Losses on impairment of property held for sale	(540)	—	(540)	430
(Gains) losses from equity method affiliates	—	(11,896)	(11,896)	(46,922)
Unrealized (gains) losses on interest rate swaps	5,189	891	6,080	(5,597)
Bad debt expense and change in allowance for contributions receivable	2,017	—	2,017	31,183
Changes in operating assets and liabilities:				
Accounts, contributions, and patient receivables	(689)	(2,269)	(2,958)	(36,298)
Contributions receivable	(7,128)	—	(7,128)	5,822
Notes receivable	(7)	(28,075)	(28,082)	(175)
Other assets and other liabilities and deferrals	(528)	5,815	5,287	(9,275)
Accounts payable and accruals	9,920	1,056	10,976	19,196
Postretirement benefits	2,331	(6,312)	(3,981)	(3,407)
Annuities payable	1,239	—	1,239	(6,323)
Net cash provided by (used in) operating activities	42,692	(16,159)	26,533	30,600
Cash flows from investing activities:				
Purchases of land, buildings, and equipment	(111,077)	(43,606)	(154,683)	(144,246)
Proceeds from sale of land, buildings, and equipment	959	31	990	297
Repayments of notes receivable	—	—	—	(97)
Disbursements of loans to students and other	(685)	—	(685)	(2,539)
Repayments of loans to students and other	3,067	—	3,067	3,187
Purchases of investments	(400,646)	(162,268)	(562,914)	(707,086)
Net proceeds from sales and maturities of investments	334,258	230,127	564,385	711,991
Equity transfer of affiliate	—	258	258	(1,016)
Acquisition, net of cash acquired	—	—	—	1,090
(Decrease) increase in deposits with bond trustee	(17,275)	—	(17,275)	13,286
Net cash (used in) provided by investing activities	(191,399)	24,542	(166,857)	(125,133)
Cash flows from financing activities:				
Change in government grants refundable	(84)	—	(84)	(1,139)
Proceeds from notes payable	4,728	632	5,360	52,699
Principal payments on notes payable	(33,274)	(8,456)	(41,730)	(6,625)
Proceeds from issuance of bonds payable	97,970	—	97,970	(1,016)
Premium on bond issuance	9,767	—	9,767	—
Payments to retire or defease bonds payable	(7,085)	—	(7,085)	—
Bond issuance costs	(816)	—	(816)	—
Proceeds from capital leases	6,225	—	6,225	(10,745)
Payments on capital leases	(1,240)	(1,719)	(2,959)	81,403
Proceeds from private gifts restricted for long-term investment	(1,780)	—	(1,780)	(2,309)
Other revenue restricted for long-term investment	51,885	4,093	55,978	664
Net cash provided by (used in) financing activities	126,296	(5,450)	120,846	112,932
Net (decrease) increase in cash and cash equivalents	(22,411)	2,933	(19,478)	18,399
Cash and cash equivalents at beginning of year	67,300	16,242	83,542	65,143
Cash and cash equivalents at end of year	\$ 44,889	19,175	64,064	83,542
Supplemental disclosures of cash flow information:				
Cash paid for interest, net of amounts capitalized	\$ 13,306	8,492	21,798	17,951
Capital expenditures included in account payable	14,833	1,545	16,378	22,600
Refinancing of long-term debt	—	45,655	45,655	50,355
Equity transfer from (to) affiliate	—	10,417	10,417	(1,109)

See accompanying notes to consolidated financial statements.

WAKE FOREST UNIVERSITY

Notes to Consolidated Financial Statements

June 30, 2019

(Dollars in thousands)

(1) Organization and Summary of Significant Accounting Policies

(a) *Description of Wake Forest University*

Wake Forest University (the University) is a private, coeducational, not-for-profit institution of higher education and research located in Winston-Salem, North Carolina. The consolidated financial statements of the University include the Reynolda Campus and Wake Forest University Health Sciences (WFUHS), and all entities over which the University has control, including all of the subsidiaries of Reynolda Campus and WFUHS.

Reynolda Campus – includes the College of Arts and Sciences, Schools of Law, Business, and Divinity, and consolidating subsidiaries including: Verger Capital Management, LLC (VCM), and Reynolda House, Inc. (collectively, Reynolda Campus).

WFUHS - a wholly owned affiliate of the University, is a private coeducational, not for profit institution of higher education and research dedicated to medical and health education, healthcare, and biomedical research. Its wholly owned affiliates are the Dialysis Centers of Wake Forest University, Wake Forest Innovation Quarter Development Co., Wake Forest Innovation Quarter CDC, Wake Forest Innovation Quarter Management Co., WFIQ Holdings, LLC, WFIQ Holdings II, LLC, WFIQ Holdings III, LLC, Seed Stage Associates, LLC, Park IMP 1, LLC, BRF – A1, LLC, BRF Deck 1, LLC, BRF – A1a, LLC, Childress Institute for Pediatric Trauma, Wake Forest Emergency Providers, North District Owners Association, and RegenMed Development Organization.

Effective July 1, 2010, the Boards of WFUHS, North Carolina Baptist Hospital (NCBH), Wake Forest University Baptist Medical Center (WFUBMC) and the University approved the Medical Center Integration Agreement (the Integration Agreement or MCIA). The Integration Agreement allows for the leveraging of the combined resources of WFUHS and NCBH to fulfill a single mission, improve health and optimize performance of the combined organizations, while balancing patient care, education and research. The University and NCBH are the members of WFUBMC.

The Integration Agreement created an integrated academic medical center that combines clinical care, education and research under a single management and debt structure referred to as Wake Forest Baptist (WFB), which is governed by WFUBMC. One of the nation's preeminent academic medical centers, WFB is an integrated healthcare system that operates over 50 subsidiaries. It provides a continuum of care that includes primary care centers, outpatient rehabilitation, and dialysis centers. To ensure alignment across the organization, WFUHS and NCBH unrestricted operating income (deficit) are shared equally between the entities. Although the entities will be operated to maximize the value at the total WFB level, revenues, expenses, existing and new assets and debt will continue to be accounted for generally at the individual entity levels.

The WFUBMC Board is comprised of seven directors elected by NCBH from among its Board members, seven directors elected by the University's Board of Trustees and two nonvoting directors elected by the WFUBMC Board from among the faculty of WFUHS. Subject to the reserved powers of the members, WFB operates WFUHS (including all subsidiaries and affiliates) and NCBH (including all subsidiaries and affiliates), including day-to-day management, strategic direction, managed care contracting and other business activities conferred on WFUBMC.

WAKE FOREST UNIVERSITY
Notes to Consolidated Financial Statements
June 30, 2019
(Dollars in thousands)

All significant intercompany balances and transactions have been eliminated in consolidation.

(b) Recent Accounting Standards

Adopted

In August 2016, the Financial Accounting Standards Board (FASB) issued Accounting Standards Update (ASU) 2016-14, Not-for-Profit Entities (Topic 958). This ASU changes certain presentation requirements for not-for-profit entities' financial statements in an effort to make information more meaningful for users. ASU 2016-14 reduces the number of net asset classifications from three to two: net assets without donor restrictions, and net assets with donor restrictions. Additionally, the ASU requires expenses to be presented by their natural and functional classifications. The guidance also requires that investment returns be presented net of external and direct internal investment expenses and eliminates the requirements for disclosures of the components of investment returns. Further, the ASU requires additional qualitative and quantitative disclosures about liquidity and availability of financial assets. The University adopted ASU 2016-14 on July 1, 2018 and has adjusted the presentation of the financial statements accordingly. The ASU has been applied retrospectively to all periods presented.

The reclassification of net assets driven by the adoption of ASU 2016-04 as of June 30, 2018 is as follows:

	Without Donor Restrictions		With Donor Restrictions		Total	
	Reynolda Campus	WFUHS	Reynolda Campus	WFUHS	Reynolda Campus	WFUHS
As previously presented:						
Unrestricted	\$ 653,840	560,020	—	—	653,840	560,020
Temporarily restricted	—	—	354,041	58,346	354,041	58,346
Permanently restricted	—	—	414,791	176,379	414,791	176,379
Net assets, prior year	653,840	560,020	768,832	234,725	1,422,672	794,745
Reclassifications - ASU 2014-06:						
Underwater endowments	5,481	1,168	(5,481)	(1,168)	—	—
Net assets, adjusted	\$ 659,321	561,188	763,351	233,557	1,422,672	794,745

In May 2014, FASB issued ASU 2014-09, *Revenue from Contracts with Customers* (Topic 606), which outlines a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers and supersedes most current revenue recognition guidance, including industry-specific guidance. The core principle of the revenue model is that an entity recognizes 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. The University adopted ASU 2014-09 on July 1, 2018 using the modified retrospective method approach. Periods prior to adoption have been revised to conform to net presentation of a single net patient service revenue total.

The University performed an analysis of revenue streams and transactions under ASU 2014-09, including applying the portfolio approach as a practical expedient to group contracts with similar characteristics,

WAKE FOREST UNIVERSITY

Notes to Consolidated Financial Statements

June 30, 2019

(Dollars in thousands)

such that revenue for a given portfolio would not be materially different than if it were evaluated on a contract-by-contract basis. Upon adoption, the majority of what was previously classified as provision for bad debts and presented as a reduction to net patient service revenue on the consolidated statements of activities is treated as an implicit price concession that reduces the transaction price, which is reported as patient revenue. The University elected the practical expedient allowed under Accounting Standards Codification (ASC) 606-10-32-18 and does not adjust the promised amount of consideration from patients and third party payers for the effects of a significant financing component due to the expectation that the period between the time of the service and the time the service is paid will be one year or less. The impact of any extended payment agreements with patients is not deemed material. The impact of adopting ASU 2014-09 was not material to total revenues without donor restrictions, excess of revenues and gains over expenses and losses, or total net assets. The University's revenue recognition policies are detailed within Note 1(s).

In June 2018, 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*. This ASU clarifies and improves the scope and accounting guidance for contributions received and made and assists entities in evaluating whether transactions should be accounted for as contributions within the scope of Topic 958, Not-for-Profit Entities, or as exchange transactions subject to other guidance, and in determining whether a contribution is conditional. ASU 2018-08 is effective for fiscal year 2019.

Not Yet Adopted

In February 2016, FASB issued ASU 2016-02, *Leases (Topic 842)*. This ASU requires the recognition of lease assets and lease liabilities by lessees for those leases classified as operating leases under previous GAAP, which have terms of greater than 12 months. This ASU defines a lease as a contract, or part of a contract, that conveys the right to control the use of identified property, plant, or equipment (an identified asset) for a period of time in exchange for consideration. This ASU retains a distinction between finance leases and operating leases. The result of retaining a distinction between finance leases and operating leases in the statement of activities and the statement of cash flows is largely unchanged from previous GAAP. ASU 2016-02 is effective for fiscal year 2020. The University expects to record an increase in lease assets and lease liabilities presented in the consolidated balance sheets.

(c) Basis of Presentation

The consolidated financial statements have been prepared on the accrual basis in conformity with U.S. generally accepted accounting principles (GAAP).

Net assets are reported based on the existence or absence of donor-imposed restrictions and serve as the foundation of the accompanying consolidated financial statements. All significant intercompany accounts and transactions have been eliminated in the consolidated financial statements.

Accordingly, net assets of the University and changes therein are classified and reported as follows:

- *Net Assets without donor restrictions* – Net assets that are not subject to donor-imposed restrictions and may be expended for any purpose in performing the primary objectives of the organization.

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- *Net Assets with donor restrictions* – Net assets subject to donor-imposed stipulations. Some donor restrictions are temporary in nature; those restrictions will be met by actions of the University and/or by the passage of time. Other donor restrictions are perpetual in nature, where by the donor has stipulated the funds be maintained in perpetuity; generally, the donors of these assets permit the University to use all or part of the income earned on related investments for general or specific purposes.

Revenues are reported as increases in net assets without donor restrictions unless their use is limited by donor-imposed restrictions. Donor-restricted contributions are reported as increases in net assets with donor restrictions. Contributions which impose restrictions that are met in the same fiscal year they are received are reported as increases in net assets without donor restrictions. Expenses are reported as decreases in net assets without donor restrictions. Gains and losses on investments and other assets or liabilities are reported as increases or decreases, respectively, in net assets without donor restrictions unless their use is restricted by explicit donor stipulations or by law. Expirations of restrictions on net assets (i.e., the donor-stipulated purpose has been fulfilled and/or the stipulated time period has elapsed) are reported as reclassifications from net assets with donor restrictions to net assets without donor restrictions in the consolidated statements of operations and changes in net assets. For gifts of long-lived assets, these releases of restrictions are treated as nonoperating.

(d) Operating Excess (Deficit)

Revenues earned, expenses incurred, and returns made available for the University's operating purposes of teaching, research, patient care, and other programs and services are components of the operating excess or deficit presented in the consolidated statement of activities. The University considers the following items to be nonoperating activities: restricted contributions for capital and long-term investment and the related net assets released from restriction, investment return in excess of amounts designated for current operations, actuarial gain or loss on annuity obligations, unrealized gain or loss on interest rate swaps, postretirement related changes other than service cost, gain or loss from affiliates (equity method), donor designation changes and other, net, including costs incurred related to a cloud computing arrangement.

(e) Fair Value Measurements

The fair value hierarchy gives the highest priority to unadjusted quoted prices in active markets for identical assets or liabilities (Level 1 measurements) and the lowest priority to measurements involving significant unobservable inputs (Level 3 measurements). The hierarchy requires the use of observable market data when available. The three levels of the fair value hierarchy are as follows:

Level 1 – Valuations for assets and liabilities traded in active exchange markets as of the reporting date. Valuations are obtained from readily available pricing sources for market transactions involving identical assets or liabilities.

Level 2 – Valuations for assets and liabilities are determined through direct or indirect observations other than quoted market prices.

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Level 3 – Valuations for assets and liabilities that are derived from other valuation methodologies including discounted cash flow models and similar techniques, and not based on market exchange, dealer or broker traded transactions.

Net asset value (NAV) – Certain investments that are measured at fair value using the net asset value per share (or its equivalent) practical expedient have not been categorized in the fair value hierarchy.

In the event that changes in the inputs used in the fair value measurement of an asset or liability result in a transfer of the fair value measurement to a different categorization (e.g., from Level 3 to Level 2), such transfers between fair value categories are recognized at the end of the reporting period.

The carrying amounts of cash and cash equivalents (Level 1), patient receivables (Level 2), and accounts receivable (Level 2) approximate fair value because of the terms and relatively short maturity of these financial instruments. The carrying amounts of contributions receivable represent the present value of estimated future cash flows, which approximates fair value (Level 3). Investments (Levels 1-3, see note 8) and deposits with bond trustee (Level 1) are reported at fair value. The fair value of notes receivable from students under government loan programs cannot be made because such loans are not sellable and can only be assigned to the U.S. government or its designees. The fair value of receivables from students under University loan programs (Level 2) approximates carrying value.

The carrying amounts of accounts payable and other accruals (Level 2) approximate fair value because of the relatively short maturity of these financial instruments. Annuities payable (Level 2) are recorded at fair value using a single discount rate equivalent to the University's tax-exempt borrowing rate. The carrying amounts of notes and bonds payable (Level 2) with variable interest rates approximate their fair value because substantially all of these financial instruments bear interest at rates that approximate current market rates for borrowings with similar maturities and credit quality.

(f) Cash Equivalents

Cash equivalents include highly liquid investments with original maturities at date of purchase of three months or less. Such assets, reported at fair value, primarily consist of depository account balances, and money market funds. The University maintains bank accounts at various financial institutions covered by the Federal Depository Insurance Corporation (FDIC). At various times throughout the year, the University may maintain bank accounts in excess of the FDIC-insured limit. Management believes that the risk associated with these bank accounts is minimal.

(g) Contributions Receivable

Pledges that represent unconditional promises to give are recognized at fair value as contributions with donor restrictions in the period such promises are made by donors. Pledges are recorded after discounting, using rates ranging from 1.46%–3.88% in order to derive the present value of the future cash flows. An allowance for uncollectible contributions receivable is provided based upon management's judgment, considering such factors as prior collection history, type of contribution, relationship with donor, and nature of fund-raising activity.

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(h) Notes Receivable

Notes receivable, which are recorded at face value, principally represent amounts due from students under Perkins and other U.S. government sponsored loan programs. A general allowance is made for uncollectible student loans after considering long-term collection experience and current trends. Other notes receivable are evaluated individually for impairment, with allowances based on management's expectations given facts and circumstances related to each note.

(i) Investments

The University's Board of Trustees created an asset management company, VCM, that provides research, advice, counsel and management with respect to the University's primary investment portfolio. VCM manages the investment funds of Verger Capital Fund, LLC (Master Fund), Verger Fund I, LLC (Verger Fund I), and Verger Fund II, LLC (Verger Fund II). The Master Fund is controlled by the University and provides investment services for Verger Fund I and Verger Fund II. Verger Fund I was created to hold the Reynolda Campus long-term endowment pool and Verger Fund II was created to hold the WFUHS and Reynolda House long-term endowment pools.

Certain investments, however, are held in specific instruments outside of VCM to comply with donor restrictions or other considerations.

Valuation – Investments are recorded at fair value in the consolidated balance sheet. Investments in readily marketable debt and equity securities are stated at their fair values, which are determined based on quoted market prices. For shares in mutual funds, the University considers fair value based on share prices reported by the funds as of the last business day of the fiscal year. Investments in private equity and absolute return funds are generally reported at the net asset value (NAV) reported by fund managers and these values are reviewed and evaluated by the University's investment management company. Unless it is probable that all or a portion of the investment will be sold for an amount other than NAV, the University has concluded, as a practical expedient, that the NAV approximates fair value. Additionally, the University's interest in both Verger Fund I and Verger Fund II are included at NAV in investments on the consolidated balance sheet. Investments in joint ventures are accounted for using the equity method.

Risks – Investments are exposed to several risks, including interest rate, currency, market and credit risks. Due to the level of risk associated with certain investments, it is at least possible that changes in the values of the investments will occur in the near term and that such changes could materially affect the amounts reported in the University's consolidated financial statements.

Reporting – Investment transactions are accounted for on a trade date basis. Short and Intermediate term investment income is reported as investment return included in operating revenues and realized and unrealized gains (losses) are reported as nonoperating revenues. Long-term investment spending rate distribution (see Note 8) is reported as operating revenues and any excess (deficit) of income and realized and unrealized gains (losses) earned on investments above (below) spending rate, including split-interest agreements are reported as nonoperating revenues. Investment management fees are netted against investment return.

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(j) Investments in Real Estate

Investments in real estate are primarily comprised of rental properties of the University and are valued at the lower of net book value or market. The University records depreciation on rental properties over 40 years. Depreciation is calculated using the straight-line method. Real estate gifts held for sale are recorded at fair value, based on periodic external appraisals.

(k) Interests in Perpetual Trusts Held by Others and Split-Interest Agreements

The University's split-interest agreements with donors consist primarily of irrevocable charitable remainder trusts for which the University serves as trustee and charitable gift annuities. Assets held in these trusts are stated at fair value and are included in investments. Contribution revenue is recognized at the dates the trusts are established. The University recognizes the change in value of split-interest agreements according to the fair value of assets that are associated with each trust and recalculates the liability for the present value of annuity obligations. Any change in fair value is recognized in the consolidated statement of activities.

The University is also the beneficiary of certain trusts and other assets held and administered by others. The University's share of these assets is recognized in investments at fair value.

(l) Other Assets

Other assets are primarily comprised of prepaid expenses, deferred expenses, and inventories. Inventories are valued at the lower of average cost or net realizable value.

(m) Land, Buildings, and Equipment

Land, buildings, and equipment are recorded at cost at date of acquisition or estimated fair value on the date received for donated items. Depreciation is calculated using the straight-line method over the estimated useful life of each class or component of depreciable asset. Estimated lives range from 3 to 60 years. Depreciation is not calculated on land and construction in progress. Gains or losses on the disposal of land, buildings, and equipment are included in the consolidated statement of activities. Interest cost incurred on borrowed funds during the period of construction of capital assets is capitalized as a component of the cost of constructing these assets.

(n) Impairment of Long-Lived Assets

The University periodically assesses the realizability of its long-lived assets and evaluates such assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. For assets to be held, impairment is determined to exist if estimated future cash flows, undiscounted and without interest charges, are less than the carrying amount. The University recognizes an impairment charge when the fair value of the asset or group of assets is less than the carrying value.

(o) Asset Retirement Obligations

The University has asset retirement obligations (AROs) arising from regulatory requirements to perform certain asset retirement activities at the time that certain buildings and equipment are disposed of or renovated. The liability was initially measured at fair value and subsequently is adjusted for accretion

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expense and changes in the amount or timing of the estimated cash flows. The corresponding asset retirement costs are capitalized as part of the carrying amount of the related long-lived asset and depreciated over the asset's useful life. The University revalues asset retirement obligations as remediation costs are incurred or as additional cost information becomes available.

(p) Derivative Instruments

The University holds certain interest rate swap agreements to manage the fixed/variable mix of its debt portfolio. The notional amounts of the agreements dictate the payments between the counterparties based on agreed-upon rates as determined in the agreements. The University records all derivative instruments on the consolidated balance sheet at their respective fair values. All changes in fair value are reflected in the consolidated statement of activities. Cash payments and receipts are included in interest on debt.

(q) Postretirement Plans

The University records annual amounts relating to its postretirement plans based on calculations that incorporate various actuarial and other assumptions including discount rates, mortality, assumed rates of return, turnover rates, and healthcare cost trend rates. The University reviews its assumptions on an annual basis and makes modifications to the assumptions based on current rates and trends when it is appropriate to do so. The effect of modifications to those assumptions is recorded as a change in unrestricted net assets and amortized to net periodic benefit cost over future periods using the corridor method. The University believes that the assumptions utilized in recording its obligations under its plans are reasonable based on its experience and market conditions. The net periodic benefit costs are recognized as employees render the services necessary to earn the postretirement benefits. The University records the service cost component of net benefit cost in the employee benefits expense line item and all other costs associated with net benefit costs are reflected in nonoperating expense.

(r) Government Grants Refundable

Funds provided by the U.S. government under the Federal Perkins Loan Program are loaned to qualified students and may be reloaned after collections. These funds are ultimately refundable to the U.S. government and are reported as liabilities.

(s) Revenue Recognition

The University recognizes revenue based on either ASU 2014-09 (*Topic 606*) or ASU 2018-08 (*Topic 958*) as appropriate based on the underlying transactions within each revenue category.

The University's significant revenue recognition policies are as follows:

Student tuition and fees – Student tuition and fees for instruction and other educational services, net of scholarships and fellowships, are substantially billed and collected prior to the end of each semester. Revenues are earned and recognized over the course of each semester as education services are delivered. Student tuition and fees received in advance of services to be rendered are recorded as deferred revenue. Student aid provided by the University is reflected as a reduction in student tuition and fee revenue up to the cost of attendance. Student financial aid in excess of the

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cost of attendance is reflected as a reduction in auxiliary revenue. Student aid does not include payments made to students for services rendered to the University.

Grants and contracts – Grants for basic research and other sponsored programs are generally subject to restrictions and conditions that must be met before the University is entitled to funding. Accordingly, advances from granting agencies are generally considered refundable in the unlikely event specified services are not performed. The University recognizes revenues on grants for basic research and other sponsored programs as the awards for such programs are expended, since expenditure in accordance with award terms typically results in the simultaneous release of restrictions and conditions imposed by the grantor. Revenue from exchange contracts for applied research is recognized as the University's contractual performance obligations are substantially met. Indirect cost recovery by the University on U.S. government grants and contracts is based upon a predetermined negotiated rate and is recorded as grants and contracts revenue.

Contributions – Contributions, including unconditional promises to give, are recognized in the period the contributions or promise is made. Contributions of assets other than cash are recorded at their estimated fair value. Unconditional promises expected to be collected in future years are recorded at the present value of expected future cash flows discounted at an appropriate discount rate commensurate with the risks involved. Amortization of discounts is recorded as additional contribution revenue in accordance with donor-imposed restrictions, if any, on the contributions. Conditional promises to give are not recognized until they become unconditional, that is, when the conditions on which they depend are substantially met.

Patient revenue – Patient revenue is reported at the amount that reflects the consideration to which WFUHS expects to be entitled for providing patient care. These amounts are due from patients, third party payers, and others, and includes variable consideration for retroactive revenue adjustments due to settlement of reviews and audits. Revenue is recognized as performance obligations are satisfied.

Performance obligations are determined based on the nature of the services provided by WFUHS. Revenue for performance obligations satisfied over time is recognized based on actual charges incurred in relation to total expected or actual charges. WFUHS believes that this method provides a reasonable depiction of the transfer of services over the term of the performance obligation based on the inputs needed to satisfy the obligation. Generally, performance obligations satisfied over time relate to patients receiving inpatient acute care services. WFUHS measures the performance obligation from admission into the hospital to the point when it is no longer required to provide services to that patient, which is generally at the time of discharge. These services are considered to be a single performance obligation. Revenue for performance obligations satisfied at a point in time is recognized when services are provided and WFUHS does not believe it is required to provide additional services to the patient. Generally, performance obligations satisfied at a point in time relate to outpatient services and pharmacy revenue.

Because all of its performance obligations relate to contracts with a duration of less than one year, WFUHS has elected to apply the optional exemption provided in FASB ASC 606-10-50-14(a) and, therefore, is not required to disclose the aggregate amount of the transaction price allocated to

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performance obligations that are unsatisfied or partially unsatisfied at the end of the reporting period. The unsatisfied or partially unsatisfied performance obligations referred to above are primarily related to inpatient acute care services at the end of the reporting period. The performance obligations for these contracts are generally completed when the patients are discharged, which generally occurs within days or weeks of the end of the reporting period.

WFUHS is utilizing the portfolio approach practical expedient in ASC 606 for contracts related to net patient service revenue. WFUHS accounts for the contracts within each portfolio as a collective group, rather than individual contracts, based on the payment pattern expected in each portfolio category and the similar nature and characteristics of the patients within each portfolio. The portfolios consist of major payer classes for inpatient revenue and outpatient revenue. Based on historical collection trends and other analyses, WFUHS has concluded that revenue for a given portfolio would not be materially different than if accounting for revenue on a contract-by-contract basis.

WFUHS has agreements with third party payers that provide for payments to WFUHS at amounts different from its established rates. Payment arrangements include prospectively determined rates per discharge, reimbursed costs, discounted charges, and per diem payments. For uninsured patients who do not qualify for charity care, WFUHS recognizes revenue based on established rates, subject to certain discounts and implicit price concessions as determined by WFUHS. WFUHS determines the transaction price based on standard charges for services provided, reduced by explicit price concessions provided to third party payers, discounts provided to uninsured patients in accordance with WFUHS's policy, and implicit price concessions provided to uninsured patients. Explicit price concessions are based on contractual agreements, discount policies, and historical experience. Implicit price concessions represent differences between amounts billed and the estimated consideration WFUHS expects to receive from patients, which are determined based on historical collection experience, current market conditions, and other factors.

Generally, patients who are covered by third party payers are responsible for patient responsibility balances, including deductibles and coinsurance, which vary in amount. WFUHS estimates the transaction price for patients with deductibles and coinsurance based on historical experience and current market conditions. The initial estimate of the transaction price is determined by reducing the standard charge by any explicit price concessions, discounts, and implicit price concessions. Subsequent changes to the estimate of the transaction price are generally recorded as adjustments to patient service revenue in the period of the change. Adjustments arising from a change in the transaction price were not significant in fiscal year 2019 or 2018. Subsequent changes that are determined to be the result of an adverse change in the patient's ability to pay are recorded as bad debt expense. Bad debt expense for the years ended June 30, 2019 and 2018 was not material to the consolidated statements of activities.

Under the Medicare and Medicaid programs, WFUHS is entitled to reimbursement for billed current procedural terminology codes at fee schedule rates determined by federal and state governments. Differences between established billing rates and reimbursements from these programs are recorded as contractual adjustments to arrive at net patient service revenue.

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Charity care – WFUHS cares for patients who meet certain criteria under its charity care policy without charge or at amounts less than its established rates. WFUHS does not pursue collection of amounts determined to qualify as charity care, and accordingly, such amounts are not recognized as revenue.

Sales and services of auxiliary enterprises – Sales and services of auxiliary enterprises primarily consist of revenues from athletics, residence halls, dining services, parking, and retail stores, which furnish goods and services to students, faculty, staff, and in some cases, the general public. Fee charges are directly related to the cost of goods provided or services rendered and are recognized accordingly. Student aid provided by the University in excess of tuition is reflected as a reduction of sales and services of auxiliary enterprises.

Certain auxiliary revenues arise from contracts. Revenues from intercollegiate athletics ticket sales, media rights, licensing and royalties and other contracts are received and recognized concurrent with event-based obligations or the passage of contract terms, but typically within the fiscal year. However, season ticket proceeds received prior to the report date for events scheduled in the upcoming fiscal year are recorded as deferred revenue and recognized as the associated events are completed. Charges to students for campus residence, dining and laundry services are substantially billed and collected prior to the end of each semester. Associated revenues are earned and recognized over the course of each semester as these services are delivered. Accounts receivable from students are typically insignificant at the end of each fiscal year.

(t) Use of Estimates

The University prepares its consolidated financial statements in accordance with GAAP that requires management to make estimates and assumptions relating to the reporting of assets and liabilities and the disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to such estimates and assumptions include the carrying amount of land, buildings, and equipment, the valuation of nonreadily marketable investments, investments in real estate, allowances for receivables, third-party payer settlements, and any other implicit price concessions, AROs, professional liabilities, interest rate swap obligations and obligations related to employee benefits. Actual results could differ from those estimates.

(u) Income Taxes

The University 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 on related income pursuant to Section 501(a) of the Code. If applicable, unrelated business income is reported by all member and subsidiary organizations on IRS Form 990-T. Fiscal years ending on or after June 30, 2016 remain subject to examination by federal and state tax authorities. The University has evaluated uncertain tax positions for the years ended June 30, 2019 and 2018, including a quantification of tax risks in areas such as unrelated business income and taxation of its for-profit subsidiaries. This evaluation did not identify any material items that effect the consolidated financial statements for the years ended June 30, 2019 and 2018.

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(v) Comparative Financial Information

The consolidated financial statements include certain prior year information for comparative purposes, which does not include sufficient detail to constitute a presentation in conformity with GAAP. Accordingly, such information should be read in conjunction with the University's consolidated financial statements for the year ended June 30, 2018 from which this information was derived. The prior year information has been adjusted to adopt ASU 2016-14 as discussed in Note 1(b).

(2) Liquidity and Availability

Financial assets available for general expenditure within one year of June 30 are as follows:

	2019		
	Reynolda Campus	WFUHS	Total
Cash and cash equivalents	\$ 44,889	19,175	64,064
Accounts receivable, net	12,343	180,147	192,490
Investments available to be liquidated	252,993	359,805	612,798
Total financial assets available within one year	\$ 310,225	559,127	869,352

In addition to amounts included above, as part of the University's liquidity management, it invests cash in excess of daily requirements in short-term investments. To help manage unanticipated liquidity needs, Reynolda Campus and WFUHS have committed lines of credit with a total borrowing capacity of \$100,000 and \$150,000, respectively, at June 30, 2019 which could be drawn upon. Additionally, Reynolda Campus and WFUHS has board-designated endowment funds of \$234,852 and \$296,761, respectively at June 30, 2019. Although the University does not intend to spend from the board-designated endowment funds other than amounts appropriated for general expenditures as part of its annual budget approval and appropriation, amounts from the board-designated endowment funds could be made available, subject to certain lock-up provisions that reduce the total investments that could be made available if necessary.

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(3) Accounts Receivable

The following is an analysis of accounts receivable at June 30, 2019 and 2018:

	2019			2018 Total
	Reynolda Campus	WFUHS	Total	
Accounts receivable	\$ 8,900	70,507	79,407	73,670
Grants receivable	3,833	46,330	50,163	37,381
Total accounts receivable	12,733	116,837	129,570	111,051
Less allowance for bad debts	(390)	(2,699)	(3,089)	(1,949)
Accounts receivable, net	\$ 12,343	114,138	126,481	109,102

(4) Student Services Revenue

Student services revenue consists of revenue for tuition and fees, housing, and dining. The revenue is determined based on published rates for such services less any institutional financial aid awarded by the University to qualifying students. The University's policy attributes aid first to tuition and fees and any excess to auxiliary services, for financial reporting purposes.

	2019						2018		
	Reynolda Campus			WFUHS			Published Rates	Financial Aid	Net Revenue
	Published Rates	Financial Aid	Net Revenue	Published Rates	Financial Aid	Net Revenue			
Student tuition and fees	\$ 352,884	(102,074)	250,810	51,049	(17,179)	33,870	381,052	(111,577)	269,475
Housing and dining	40,341	(13,123)	27,218	—	—	—	38,775	(11,007)	27,768
Total	\$ 393,225	(115,197)	278,028	51,049	(17,179)	33,870	419,827	(122,584)	297,243

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(5) Patient Revenue and Patient Receivables

Patient revenue by major payer source, net of price concessions, is as follows for the years ended June 30:

	<u>2019</u>		<u>2018</u>	
Medicare and Medicaid	\$ 260,231	43 %	202,918	39 %
Managed care and commercial insurance	297,060	49	276,724	53
Self-pay, insured	11,138	2	8,658	2
Self-pay, uninsured	3,805	1	3,717	1
Other	29,242	5	27,913	5
	<u>601,476</u>	<u>100 %</u>	<u>519,930</u>	<u>100 %</u>
Patient revenue	\$ <u>601,476</u>	<u>100 %</u>	<u>519,930</u>	<u>100 %</u>

Concentration of Credit Risk

WFUHS grants credit without collateral to its patients, most of whom are insured under third-party payer agreements. The mix of receivables from patients and third-party payers was as follows as of June 30:

	<u>2019</u>	<u>2018</u>
Medicare and Medicaid	43 %	42 %
Managed care and commercial insurance	23	20
Self-pay, insured	14	14
Self-pay, uninsured	5	7
Other	15	17
	<u>100 %</u>	<u>100 %</u>

As a result of certain changes required by ASU 2014-09, the majority of WFUHS' provision for bad debts is recorded as a direct reduction to patient revenue instead of being presented as a separate line on the consolidated statement of activities. The adoption of ASU 2014-09 has no impact on WFUHS' net patient receivables, as it was historically recorded net of provision for bad debts and contractual adjustments on the consolidated balance sheet.

WFUHS maintains records to identify and monitor the level of charity care it provides. These records include the amount of charges foregone and estimated costs incurred for services and supplies furnished under its charity care policy and equivalent service statistics. Costs incurred are estimated based on the ratio of total operating expenses to gross charges applied to charity care charges foregone. The amounts of direct and indirect costs incurred for services and supplies furnished under WFUHS' charity care policy totaled \$19,871 and \$16,615 in 2019 and 2018, respectively.

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(6) Contributions Receivable

The following is an analysis of the maturities of the University's contributions receivable at June 30, 2019 and 2018:

	2019			2018 Total
	Reynolda Campus	WFUHS	Total	
One year or less	\$ 31,023	5,059	36,082	37,314
Between one and five years	47,777	2,703	50,480	46,668
More than five years	99,703	600	100,303	97,757
Contributions receivable, gross	178,503	8,362	186,865	181,739
Estimated uncollectible amounts	(7,784)	(953)	(8,737)	(7,172)
Discount to present value	(58,891)	(369)	(59,260)	(59,287)
Contributions receivable, net	\$ 111,828	7,040	118,868	115,280

Contributions receivable are discounted at a rate commensurate with the scheduled timing of receipt. Such amounts outstanding as of June 30, 2019, and 2018, were discounted at rates ranging from 1.46% to 2.55% for Reynolda Campus, respectively, and 2.96% to 3.88% for WFUHS, respectively.

Contributions receivable, net for Reynolda Campus included significant pledges from a few donors and perpetual commitments from a foundation with a long-standing history of support to the University. These long-term unconditional promises to give represented 69% and 65% of Reynolda Campus' net contributions receivable as of June 30, 2019 and 2018, respectively.

(7) Notes Receivable

The following is an analysis of notes receivable at June 30, 2019 and 2018:

	2019			2018 Total
	Reynolda Campus	WFUHS	Total	
Student loans receivable	\$ 14,863	989	15,852	18,377
Other notes receivable	4,525	—	4,525	4,228
Total notes receivable	19,388	989	20,377	22,605
Less: estimated uncollectible amounts	(438)	(47)	(485)	(511)
Notes receivable, net	\$ 18,950	942	19,892	22,094

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The University makes uncollateralized loans to students based on financial need. Student loans are funded through Federal government loan programs or institutional resources. At June 30, 2019 and 2018, student loans receivable consisted of Federal loan programs of \$14,258 and \$16,909, respectively, and institutional loan programs of \$605 and \$635, respectively. The University participates in the Perkins federal revolving loan program. The availability of funds for loans under the program is dependent on reimbursements to the pool from repayments on outstanding loans. Funds advanced by the Federal government of \$8,138 and \$8,222 at June 30, 2019 and 2018, respectively, are ultimately refundable to the federal government and are reported as government grants refundable on the consolidated balance sheet. Outstanding loans canceled under the program result in a reduction of the funds available for loan and a decrease in the liability to the federal government. The Federal Perkins Loan Program expired on September 30, 2017, and the University has implemented procedures to wind-down the program. The University plans to maintain the Perkins outstanding loans and based on review of the prior collection history has recorded an allowance for uncollectible Perkins loan amounts of \$206 and \$206 as of June 30, 2019 and 2018, respectively. Allowances for uncollectible institutional student loans are based on prior collection experience and current economic factors, which, in management's judgment, could influence the ability of loan recipients to repay the amounts per the loan terms. Institutional student loan balances are written off only when they are deemed to be permanently uncollectible. At June 30, 2019 and 2018, the allowance for uncollectible institutional student loan amounts was \$232 and \$247, respectively.

(8) Investments

Investments at June 30, 2019 and 2018 consist of the following:

	<u>2019</u>	<u>2018</u>
Short-term investments ^(a)	\$ 44,550	19,218
Absolute return ^(b)	1,327,170	1,292,957
Commodities: ^(c)	12,700	20,240
Fixed income: ^(d)		
Domestic	261,373	270,912
International	4,524	2,231
Private equity ^(e)	1,166	1,906
Public equity: ^(f)		
Domestic	61,359	51,641
International	32,329	27,820
Real estate: ^(g)	9,732	15,312
Beneficial interest in perpetual trusts and assets held by others ^(h)	29,925	29,614
Other ⁽ⁱ⁾	<u>205,842</u>	<u>178,140</u>
Total investments	\$ <u>1,990,670</u>	<u>1,909,991</u>

(a) Includes short duration U.S. Treasury debt securities and other short-term, higher quality debt securities, cash and money market mutual funds.

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- (b) Includes investments in hedge funds and hedge fund-of-funds that invest both long and short on a global basis primarily in: equity securities (common stocks), credit securities (both investment grade and noninvestment grade), commodities, and currencies. In aggregate, the expectation is that the returns of this segment should not be highly correlated to the broad equity market. Includes \$1,288,064 and \$1,237,025 of funds managed by Verger valued under the NAV practical expedient in fiscal years 2019 and 2018, respectively, whose underlying investments were comprised of 53.0% and 49.1% of equities, 12.3% and 13.5% of real assets, 19.4% and 22.4% of absolute return, and 15.5% and 15.0% fixed income in fiscal years 2019 and 2018, respectively.
- (c) Includes primarily illiquid investments in timberland, oil and gas properties, and water rights and entitlements held through limited partnership interests. While many of the investments are U.S. focused, some are more global. The category also includes more liquid allocations made to commodity (precious metals, industrial materials, and energy) mutual funds.
- (d) Includes long only, hedge strategies, and illiquid investments in various fixed income strategies (both U.S. and non-U.S.) including: investment grade securities, noninvestment grade securities, mortgage backed securities, asset backed securities, Treasury Inflation Protected Securities (TIPS), distressed debt, senior loans, and bank loans. The long only position also includes mutual funds that have daily liquidity in U.S. and non-U.S. fixed income markets.
- (e) Includes illiquid investments primarily in buyout, growth equity, and venture capital (both U.S. and non-U.S.) held through limited partnership interests.
- (f) Includes investments primarily in U.S. and non-U.S. common stocks (including emerging markets) as well as funds that invest in U.S. and non-U.S. common stocks (including emerging markets), mutual funds, and exchange traded funds. While most of the assets are invested long only, some assets are invested on a hedged basis (both long and short).
- (g) Includes illiquid investments in commercial real estate, residential real estate, and farmland held through limited partnership interests. While many of the investments are U.S. focused, some are more global.
- (h) Includes trusts and certain other assets held and administered by others which the University has an unconditional right to receive all or a portion of the specified cash flows.
- (i) Includes primarily funds held under retirement and benefit plans and other miscellaneous investments.

In addition to the long-term pool, the University also manages other investment portfolios. Generally, these portfolios are invested in mutual funds, U.S. Treasury debt securities, and fixed income securities with daily liquidity. Each portfolio's asset allocation is customized based upon the return and risk objectives and distribution requirements of the portfolio.

(9) Endowment

The University's pooled endowment was established for a variety of purposes including both donor-restricted endowment funds and funds designated by the Board of Trustees to function as endowments. Net assets associated with endowment funds are classified and reported based on the existence or absence of

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donor-imposed restrictions. Gift annuities, beneficial interest in perpetual trusts and assets held by others, and contributions receivable are not considered components of the endowment.

The Board of Trustees has interpreted the Uniform Prudent Management of Institutional Funds Act (UPMIFA) as allowing the University to appropriate for expenditure or accumulate so much of an endowment fund as the University determines is prudent for the uses, benefits, purposes, and duration for which the endowment fund is established, subject to the intent of the donor as expressed in the gift instrument. As a result of this interpretation, the University's policy is to report as donor restricted net assets (a) the original value of gifts donated to the donor restricted endowment, (b) the original value of subsequent gifts to the donor restricted endowment, and (c) accumulations to the donor restricted endowment made in accordance with the direction of the applicable donor gift instrument at the time the accumulation is added to the fund.

In accordance with UPMIFA, the board of trustees considers the following factors in making a determination to appropriate or accumulate donor-restricted endowment funds:

1. The duration and preservation of the fund
2. The purposes of the University and the donor-restricted endowment fund
3. General economic conditions
4. The possible effect of inflation and deflation
5. The expected total return from income and the appreciation of investments
6. Other resources of the University
7. The investment policies of the University

The University has adopted investment and spending policies for endowment assets that support the objectives of optimizing long-term returns and providing a sustainable level of endowment income distribution to support the University's activities through the annual operating budget while preserving the real (inflation adjusted) purchasing power of the endowment. The University's primary investment objective is to maximize total return within reasonable and prudent levels of risk while maintaining sufficient liquidity to meet disbursement needs. The endowment spending rate is calculated as a percentage of the average of the previous three-year semiannual moving market value per unit and subject to a 10% maximum annual growth or decline in per-unit spending. The endowment spending rate for the years ended June 30, 2019 and 2018, respectively were 5.0% and 5.15%, respectively, for Reynolda Campus, and 5.3% for WFUHS.

The portfolio is constructed on a foundation of modern portfolio theory and strategic asset allocation. Under the direction of VCM the University diversifies its investments among various asset classes incorporating multiple strategies and investment advisors to help manage risk. Management and investment decisions are not made in isolation, but in the context of the portfolio of investments as a whole and as part of the overall investment strategy.

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The University invests the majority of these assets in Verger Capital Fund. The University has established three individual unitized endowment pools for Reynolda Campus, Reynolda House, and WFUHS. The internal long-term pools are reported on a fair value basis, with each individual fund subscribing to or disposing of units based on the fair value per unit at the beginning of each quarter after which the transaction took place.

Endowment net assets consist of the following at June 30, 2019 and 2018:

	2019		Total	2018 Total
	Without Donor Restriction	With Donor Restriction		
Reynolda Campus:				
Donor-restricted endowment funds:				
Historical Value	\$ —	383,713	383,713	340,211
Appreciation	—	255,942	255,942	264,119
Total donor-restricted endowment funds	—	639,655	639,655	604,330
Board-designated endowment funds	234,852	—	234,852	235,011
Underwater endowments	—	(6,071)	(6,071)	(5,481)
Total endowment net assets	<u>\$ 234,852</u>	<u>633,584</u>	<u>868,436</u>	<u>833,860</u>
WFUHS:				
Donor-restricted endowment funds:				
Historical Value	\$ —	157,627	157,627	153,052
Appreciation	—	31,634	31,634	31,757
Total donor-restricted endowment funds	—	189,261	189,261	184,809
Board-designated endowment funds	296,761	—	296,761	298,090
Underwater endowments	—	(1,567)	(1,567)	(1,168)
Other non-pooled endowment funds	2,075	20,432	22,507	23,412
Total endowment net assets	<u>\$ 298,836</u>	<u>208,126</u>	<u>506,962</u>	<u>505,143</u>

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Changes in endowment net assets for the years ended June 30, 2019 and 2018 are as follows:

	2019			2018
	Without Donor Restriction	With Donor Restriction	Total	
Reynolda Campus:				
Endowment, beginning of year	\$ 235,011	598,849	833,860	719,736
Investment returns, net	4,579	30,432	35,011	49,034
Contributions	1,121	36,439	37,560	100,231
Transfers	878	—	878	(620)
Appropriation for expenditure	(6,737)	(32,136)	(38,873)	(34,521)
Endowment, end of year	<u>\$ 234,852</u>	<u>633,584</u>	<u>868,436</u>	<u>833,860</u>
WFUHS:				
Endowment, beginning of year	\$ 300,857	204,286	505,143	485,587
Investment returns, net	11,964	7,594	19,558	23,859
Contributions	—	3,605	3,605	10,460
Transfers	839	—	839	7,532
Appropriation for expenditure	(14,824)	(7,359)	(22,183)	(22,295)
Endowment, end of year	<u>\$ 298,836</u>	<u>208,126</u>	<u>506,962</u>	<u>505,143</u>

A donor-restricted endowment fund is considered to be underwater if the fair value of the fund is less than either the original gift amount or the amount required by law. At times, the University may have individual donor-restricted endowment funds that are underwater. The University has a policy that permits spending from underwater funds depending on the degree to which the fund is underwater, unless specifically prohibited by the donor or relevant laws and regulations. At June 30, 2019, the amount by which funds were underwater was calculated as follows:

	2019			2018
	Reynolda Campus	WFUHS	Total	
Aggregate original gift amount	\$ 115,316	27,204	142,520	80,669
Aggregate fair value	<u>109,245</u>	<u>25,637</u>	<u>134,882</u>	<u>74,020</u>
Aggregate deficiency	<u>\$ (6,071)</u>	<u>(1,567)</u>	<u>(7,638)</u>	<u>(6,649)</u>

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The purpose of endowed net assets as of June 30, 2019 and 2018 are as follows:

	2019			2018
	Without Donor Restriction	With Donor Restriction	Total	
Reynolda Campus:				
Instruction and research	\$ 6,545	149,666	156,211	151,664
Student aid	13,089	436,127	449,216	424,058
Program support	215,218	47,791	263,009	258,138
Total endowment net assets	<u>\$ 234,852</u>	<u>633,584</u>	<u>868,436</u>	<u>833,860</u>
WFUHS:				
Instruction and research	\$ 31,436	65,200	96,636	95,284
Student aid	4,766	44,519	49,285	48,126
Healthcare services	11,088	798	11,886	11,914
Program support	251,546	97,609	349,155	349,819
Total endowment net assets	<u>\$ 298,836</u>	<u>208,126</u>	<u>506,962</u>	<u>505,143</u>

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(10) Fair Values of Financial Instruments

The following table summarizes the valuation of the University's financial assets and liabilities within the fair value hierarchy levels as of June 30:

	2019				
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>NAV</u>	<u>Total</u>
Financial assets:					
Cash and cash equivalents	\$ 64,064	—	—	—	64,064
Investments:					
Short-term investments	44,550	—	—	—	44,550
Absolute return	39,106	—	—	1,288,064	1,327,170
Commodities	12,700	—	—	—	12,700
Fixed income:					
Domestic	261,373	—	—	—	261,373
International	4,524	—	—	—	4,524
Private equity	—	—	1,069	97	1,166
Public equity:					
Domestic	61,359	—	—	—	61,359
International	32,329	—	—	—	32,329
Real estate	9,152	—	—	580	9,732
Beneficial interest in perpetual trusts and assets held by others					
	—	—	29,925	—	29,925
Other	8,091	79,028	—	118,723	205,842
Total assets	\$ 537,248	79,028	30,994	1,407,464	2,054,734
Financial liabilities:					
Other liabilities and deferrals:					
Employee benefits - nonrecurring	\$ —	65,844	—	—	65,844
Interest rate swap agreements	—	22,204	—	—	22,204
Annuities payable	—	20,636	—	—	20,636
Total liabilities	\$ —	108,684	—	—	108,684

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	2018				
	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>NAV</u>	<u>Total</u>
Financial assets:					
Cash and cash equivalents	\$ 83,542	—	—	—	83,542
Investments:					
Short-term investments	19,218	—	—	—	19,218
Absolute return	55,932	—	—	1,237,025	1,292,957
Commodities	20,240	—	—	—	20,240
Fixed income:					
Domestic	270,912	—	—	—	270,912
International	2,231	—	—	—	2,231
Private equity	—	—	1,832	74	1,906
Public equity:					
Domestic	51,641	—	—	—	51,641
International	27,820	—	—	—	27,820
Real estate	9,634	—	5,678	—	15,312
Beneficial interest in perpetual trusts and assets held by others	—	—	29,614	—	29,614
Other	3,632	69,578	—	104,930	178,140
Total assets	<u>\$ 544,802</u>	<u>69,578</u>	<u>37,124</u>	<u>1,342,029</u>	<u>1,993,533</u>
Financial liabilities:					
Other liabilities and deferrals:					
Employee benefits - nonrecurring	\$ —	57,470	—	—	57,470
Interest rate swap agreements	—	16,126	—	—	16,126
Annuities payable	—	19,457	—	—	19,457
Total liabilities	<u>\$ —</u>	<u>93,053</u>	<u>—</u>	<u>—</u>	<u>93,053</u>

The classification of investments in the fair value hierarchy is not necessarily an indication of the risks or liquidity of each investment's underlying assets and liabilities. In general, for Level 2 and Level 3 investments, the University utilizes the investment manager to provide a valuation estimate based on disclosed techniques and processes, which have been reviewed for propriety and consistency with consideration given to type and investment strategy.

The University's policy is to recognize transfers into and out of Levels 1, 2, and 3 as of the end of the year or when a change in level becomes known. There were no transfers between Level 1 and Level 2 securities during the years ended June 30, 2019 or 2018. Transfers into and out of Level 3 are typically the result of a change in observation of significant valuation inputs required by various models.

Fair value for LIBOR-based interest rate swaps is determined using a relative price approach, by discounting the future expected cash flows at the market discount rate. For the variable leg of a swap, the expected cash flows are based on implied market forward rates for the appropriate underlying index. A credit value adjustment is applied to the total market value of the swap and quantifies the default risk of a counterparty using a default probability assumption based on the counterparty's credit default swap pricing at year-end.

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Obligations under split-interest agreements reported in annuities payable, which approximates fair value, were discounted at a rate that is equivalent to the University's tax-exempt borrowing rate of 1.88% and 2.83% at June 30, 2019 and 2018, respectively.

The following table presents the reconciliation of Level 3 assets measured at fair value for the year ended June 30, 2019. Both observable and unobservable inputs may be used to determine the fair value of positions that the University has classified as Level 3.

	Balances as of June 30, 2018	Total realized and unrealized (losses) gains	Purchases	Sales	Net transfers out of Level 3	June 30, 2019
Investments:						
Private equity	\$ 1,832	(3)	750	(33)	(1,477)	1,069
Real estate	5,678	—	—	(5,496)	(182)	—
Beneficial interest in perpetual trusts and assets held by others	<u>29,614</u>	<u>848</u>	<u>249</u>	<u>(786)</u>	<u>—</u>	<u>29,925</u>
Total Level 3 investments	<u>\$ 37,124</u>	<u>845</u>	<u>999</u>	<u>(6,315)</u>	<u>(1,659)</u>	<u>30,994</u>

Private investments are generally made through limited partnership agreements where the University is normally one of many limited partners. Under the terms of such agreements, the University is required to provide funding, up to the total amount committed by the University, when fund managers make capital calls. These partnerships have a stated maturity date, but can provide for annual extensions for the purpose of disposing remaining portfolio positions and returning capital to investors. Alternatively, the fund may dispose of all portfolio investments and return all capital to investors before the stated maturity date. While the timing and amount of future capital calls and distributions in any particular year are inherently uncertain, the University considers these factors when allocating funds to private investments and believes that it has adequate liquidity to meet its obligations.

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As of June 30, 2019, redemption frequency and the corresponding notice period for all investments are as follows:

Category	Redemption frequency (in days) (if currently eligible)	Redemption notice period (in days)
Short-term investments	1 to 7 days	1 day
Absolute return	daily to >365	1 to 90 days
Commodities	1 to N/A	1 to N/A
Fixed income:		
Domestic	1 to 180 days	daily to monthly
International	N/A	N/A
Private equity	N/A	N/A
Public equity:		
Domestic	1 to 65 days	daily to quarterly
International	90 days	quarterly
Real estate	N/A	N/A
Beneficial interest in perpetual trusts and assets held by others	N/A	N/A
Other	N/A	N/A

(11) Land, Buildings, and Equipment

Land, buildings, and equipment are summarized as follows at June 30, 2019 and 2018:

	2019			2018
	Reynolda Campus	WFUHS	Total	Total
Land and improvements	\$ 38,277	111,744	150,021	145,575
Buildings and other improvements	880,967	451,451	1,332,418	1,232,132
Equipment and furnishings	149,028	271,224	420,252	397,322
Construction in progress	88,947	10,425	99,372	112,362
	<u>1,157,219</u>	<u>844,844</u>	<u>2,002,063</u>	<u>1,887,391</u>
Less accumulated depreciation	<u>(456,059)</u>	<u>(485,470)</u>	<u>(941,529)</u>	<u>(893,424)</u>
	<u>\$ 701,160</u>	<u>359,374</u>	<u>1,060,534</u>	<u>993,967</u>

Total depreciation expense on buildings, improvements, equipment, and furnishings was \$83,093 and \$75,626 for the years ended June 30, 2019 and 2018, respectively.

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The University's policy is to capitalize interest cost incurred on debt during the construction of major projects exceeding one year. Interest cost of \$3,838 and \$4,399 was capitalized in the years ended June 30, 2019 and 2018, respectively.

The liabilities associated with AROs for the years ended June 30, 2019 and 2018 were \$6,705 and \$6,108, respectively, for Reynolda Campus, and \$2,680 and \$2,652, respectively, for WFUHS. These liabilities are reported in other liabilities and deferrals on the accompanying consolidated balance sheet.

(12) Notes, Capital Leases, and Bonds Payable

Notes, capital leases, and bonds payable at June 30, 2019 and 2018 consist of the following:

<u>Reynolda Campus</u>	<u>Years to nominal maturity</u>	<u>Interest rate at June 30, 2019</u>		<u>2019</u>	<u>2018</u>
Notes payable and capital leases:					
Line of credit	>1	LIBOR plus 0.50%	Variable	\$ 53,156	80,328
Promissory note	>1	LIBOR plus 0.75%	Variable	10,625	12,000
Lease and installment loans	<1 to 4	0.75% to 1.40%	Fixed	9,764	4,778
Total notes payable and capital leases				<u>73,545</u>	<u>97,106</u>
Bonds payable:					
2004 Series A tax-exempt	<1	91 day US T-bill	Variable	7,340	14,425
2012 Series serial taxable	23	2.60% to 3.10%	Fixed	20,425	20,425
2012 Series term taxable	23	3.45% to 3.70%	Fixed	104,575	104,575
2016 Series serial tax-exempt	27	4.00% to 5.00%	Fixed	136,730	136,730
2016 Series term tax-exempt	27	2.75% to 3.00%	Fixed	22,370	22,370
2018 Series serial tax-exempt	29	4.47%	Fixed	12,100	—
2018 Series term tax-exempt	29	3.38% to 5.00%	Fixed	15,920	—
2018 Series term tax-exempt	29	3.50% to 5.00%	Fixed	69,950	—
Unamortized bond premium				26,940	18,115
Unamortized bond issuance costs				(2,703)	(2,009)
Total bonds payable				<u>413,647</u>	<u>314,631</u>
Total notes payable, capital leases, and bonds payable				<u>\$ 487,192</u>	<u>411,737</u>

Reynolda Campus entered into a capital projects financing agreement with Branch Banking and Trust Company that permits the University to borrow up to \$100,000. The line of credit is due on July 1, 2022 and bears interest at the one-month LIBOR plus 0.50%, 2.88% at June 30, 2019.

Reynolda Campus entered into a financing agreement with Branch Banking and Trust Company to finance the purchase and implementation of an enterprise resource-planning program that permits the University to borrow up to \$12,000. The term loan is due on July 1, 2026 and bears interest at the one-month LIBOR plus 0.75%, 3.19% at June 30, 2019.

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Reynolda Campus leases various equipment under lease and installment loans expiring at various dates through 2022.

Reynolda Campus has outstanding \$7,340 of tax-exempt North Carolina Facilities Finance Agency Revenue Bonds, Series 2004A. The obligations of the University are evidenced by a loan agreement dated December 1, 2004, by and between the University and Branch Banking and Trust Company, as trustee. The Series 2004 A Series tax-exempt bond is due in 2020. The interest rate on the bonds is determined weekly, and at the option of the University may be converted to a fixed rate. The University's obligation under the loan agreement is an unsecured, unconditional obligation. There are no related covenants underlying the bonds and the University has complied with all continuing disclosure requirements.

The Series 2012 taxable bonds are evidenced by a loan agreement dated August 2, 2012, by and between the University and Branch Banking and Trust Company, as trustee. The Series 2012 taxable bonds have final maturities of January 15, 2027 for the serial bonds and January 15, 2042 for the term bonds. The 2012 bonds maturing on January 15, 2032 and 2042 are subject to mandatory sinking fund redemptions through 2032 and 2042 in increasing annual amounts of \$5,445 to \$6,205 and \$6,405 to \$8,830, respectively. Interest is payable each January 15 and July 15. The University's obligation under the loan agreement is an unsecured, unconditional obligation. There are no related covenants underlying the bonds and the University has complied with all continuing disclosure requirements.

Reynolda Campus issued \$159,100 of tax-exempt North Carolina Capital Facilities Finance Agency Educational Facilities Revenue and Revenue Refunding Bonds, Series 2016. The 2016 Series bonds were issued for the purpose of the current refunding and defeasance of the Series 2009 tax-exempt bonds (\$110,000) and financing the costs of acquisition, construction, renovation and installation of capital assets of the Reynolda Campus. The Series 2016 tax-exempt bonds are evidenced by a loan agreement dated July 1, 2016, by and between the University and Branch Banking and Trust Company, as trustee. The Series 2016 tax-exempt bonds have final maturities of January 1, 2039 for the series bonds and January 1, 2041 and 2046 for the term bonds. The 2016 bonds maturing on January 1, 2040 and 2046 are subject to mandatory sinking fund redemptions through 2041 and 2046 with annual amounts of \$1,720 to \$2,930 and \$1,290 to \$3,485, respectively. Interest is payable each January 1 and July 1. The University's obligation under the loan agreement is an unsecured, unconditional obligation. There are no related covenants underlying the bonds and the University has complied with all continuing disclosure requirements.

Reynolda Campus issued \$97,900 of tax-exempt North Carolina Capital Facilities Finance Agency Educational Facilities Revenue and Revenue Refunding Bonds, Series 2018. The 2018 Series bonds were issued for the purpose of repaying a portion of the line of credit and financing the costs of acquisition, construction, renovation and installation of capital assets of the Reynolda Campus. The Series 2018 tax-exempt bonds are evidenced by a loan agreement dated July 1, 2018, by and between the University and Branch Banking and Trust Company, as trustee. The Series 2018 tax-exempt bonds have final maturities of January 1, 2039 for the series bonds and January 1, 2043 and 2048 for the term bonds. The 2018 bonds maturing on January 1, 2043 and 2048 are subject to mandatory sinking fund redemptions through 2043 and 2048 with annual amounts of \$875 to \$8,205 and \$4,870 to \$8,940, respectively. Interest is payable each January 1 and July 1. The University's obligation under the loan agreement is an unsecured, unconditional obligation.

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WFUHS	Years to nominal maturity	Interest rate at June 30, 2019		2019	2018
Notes payable and capital leases:					
Line of credit	>1	LIBOR plus 0.65%	Variable	\$ 7,449	7,449
Loan agreement	<1 to 10	LIBOR plus 0.65%	Variable	7,672	9,674
Loan agreement	<1	LIBOR plus 0.55%	Variable	—	48,035
Loan agreement	<1 to 7	LIBOR plus 1.05%	Variable	4,259	4,284
Capital lease	15	4.5%	Fixed	41,077	42,139
Total notes payable				<u>60,457</u>	<u>111,581</u>
Bonds payable:					
Series 2019 A	<1 to 14	5.0 %	Fixed	39,725	—
Series 2012 B	<1 to 16	2.00%–5.00%	Fixed	90,445	94,520
Unamortized bond premium				17,454	12,050
Unamortized bond issuance costs				(1,050)	(707)
Total bonds payable				<u>146,574</u>	<u>105,863</u>
Total notes payable, capital leases, and bonds payable				<u>\$ 207,031</u>	<u>217,444</u>

Effective March 26, 2011, NCBH, WFUHS, and WFUBMC formed a single obligated group (Obligated Group) under the existing NCBH Master Trust Indenture (MTI). New obligations were issued to WFUHS obligation holders under the NCBH MTI. In addition, substantially all of the subsidiaries of NCBH and WFUHS were included in the single credit group as Designated Members (Combined Group). Under the new credit structure, each member of the Obligated Group is jointly and severally liable for all debt and other obligations that are evidenced and secured under the MTI.

Bonds issued under the MTI are payable solely from the Obligated Group's revenues (as defined by the MTI). Additionally, the Combined Group must remain compliant with certain covenants and restrictions required by the MTI and loan agreements underlying the bonds. The Combined Group is subject to covenants under the MTI containing restrictions or limitations with respect to indebtedness, property encumbrance, consolidation or merger or transfer of assets. In addition, the Combined Group has agreed that it will not create any lien upon its property, accounts, or revenue now owned or hereafter acquired other than "permitted liens" as described in the MTI. WFUHS believes it is in compliance with such covenants and restrictions as of June 30, 2019. As of June 30, 2019, WFUHS is jointly and severally liable for \$520,522 of bonds payable borrowed by the other members of the Obligated Group and for \$33,750 and \$30,190, respectively, under WFUBMC's line of credit and notes payable. Because WFUHS does not expect to fund repayment of any of the amounts attributed to the other members of the Obligated Group under the MTI, no portion of these amounts meets the criteria for liability recognition in the accompanying consolidated financial statements.

Series 2019 Revenue Bonds represent bonds issued by Wake Forest Baptist Obligated Group, representing funds borrowed by the entities pursuant to loan agreements with the North Carolina Medical Care Commission (NCMCC). As a conduit issuer, the NCMCC loans the debt proceeds to the

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borrower and the bonds are issued by the NCMCC under a MTI structure. The MTI provides the flexibility for multiple parties to participate in debt issuances as part of an obligated group.

The Series 2019A bonds mature in full in fiscal year 2033. The fixed rate instruments bear interest at fixed coupon rates of 5.00%. Per the bond agreements, the principal and sinking fund payments on the bonds are due on December 1 of each year beginning in 2019 in annual amounts ranging from \$185 to \$4,505.

The Series 2012 Revenue Bonds represent bonds issued by Wake Forest Baptist Obligated Group, representing funds borrowed by the entities pursuant to loan agreements with the North Carolina Medical Care Commission (NCMCC). As a conduit issuer, the NCMCC loans the debt proceeds to the borrower and the bonds are issued by the NCMCC under a MTI structure. The MTI provides the flexibility for multiple parties to participate in the debt issuances as part of an obligated group.

The Series 2012B bonds mature in full in fiscal year 2034. The fixed rate instruments bear interest at fixed coupon rates ranging from 2.00% to 5.00%. Per the bond agreements, the principal and sinking fund payments on the bonds are due on December 1 of each year beginning in 2016 and in increasing annual amounts of \$3,385 to \$7,000. WFUHS entered into an unsecured, taxable line of credit agreement with a total borrowing capacity of \$150,000 to provide for the working capital needs of NCBH, WFUHS, and the Medical Center, all Borrowers under the credit facility. The line of credit is due on June 9, 2020 and bears interest at the one-month LIBOR plus 0.65%.

WFUHS entered into an unsecured loan agreement, with a variable interest rate based upon the one-month LIBOR plus a premium of 0.65% for \$20,014 to refinance two previously outstanding fixed rate notes. Fixed principal payments and accrued interest are due monthly with a final maturity date of April 1, 2023. This taxable loan is guaranteed by both NCBH and WFUBMC.

WFUHS entered into an unsecured loan agreement, with a variable interest rate based upon the one-month LIBOR plus a premium of 0.55% for \$50,355 to refinance the previously outstanding Series 2012C bonds. Principal payments are due on December 1 of each year with monthly interest payments and a bullet maturity date of October 1, 2019. This loan agreement is guaranteed by both NCBH and WFUBMC.

A WFUHS subsidiary entered into a notes payable obligation, with variable interest rates based on one-month LIBOR plus a premium of 1.05% and final maturities in 2021 and 2025.

WFUHS entered into a capital lease obligation of \$44,125 related to the Bowman Gray Center for Medical Education with an initial term of 15 years and additional renewal options. The obligation has a fixed interest rate of 4.5%.

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Aggregate annual maturities of notes, capital leases, and bonds payable for each of the five fiscal years subsequent to June 30, 2019 and thereafter are as follows:

	<u>Reynolda Campus</u>	<u>WFUHS</u>	<u>Total</u>
2020	\$ 12,374	16,024	28,398
2021	9,597	9,740	19,337
2022	8,648	10,051	18,699
2023	49,298	10,462	59,760
2024	8,252	11,029	19,281
In total thereafter	<u>374,786</u>	<u>133,321</u>	<u>508,107</u>
	<u>\$ 462,955</u>	<u>190,627</u>	<u>653,582</u>

Costs related to the registration and issuance of bonds, totaling \$24,237 and \$17,454, respectively, for Reynolda Campus and WFUHS, are carried at cost less accumulated amortization and are amortized over the life of the bonds on a method that approximates the effective-interest method and are included in bonds payable on the accompanying consolidated balance sheet. Total amortization expense for issue costs and premium is included in interest expense in the consolidated statements of activities for Reynolda Campus and WFUHS totaled \$942 and \$1,050, respectively, for 2019.

(13) Interest Rate Swap Agreements

To manage the fixed/variable allocation of its debt portfolio, including hedging exposure to increasing interest expense from variable rate debt, the University utilizes interest rate swap agreements. The University has only limited involvement with derivative instruments and does not use them for trading purposes.

Parties to interest rate swap agreements are subject to market risk for changes in interest rates as well as credit loss in the event of nonperformance by the counterparty. To minimize this exposure, the University verifies that the counterparties for these swap transactions are major financial institutions that meet the University's criteria for financial stability and creditworthiness. Additionally, the University is exposed to tax basis risk since a change in tax rate environments will change the level of correlation between the interest rate payments made on the variable rate bonds and the percentage of LIBOR payments being received from the counterparties.

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The following table summarizes the general terms for each of the University's swap agreements:

	Reynolda Campus			WFUHS
	November 2006	October 2008	December 2016	August 2002
	interest rate	interest rate	interest rate	interest rate
	swap	swap	swap	swap
Notional amount	\$ 7,340	50,000	10,625	21,047
Effective date	November 6, 2006	October 1, 2008	December 28, 2016	August 20, 2002
Maturity date	January 1, 2020	January 1, 2038	July 1, 2026	July 1, 2034
Rate received	67% of one-month LIBOR	67% of one-month LIBOR	67% of one-month LIBOR	67% of one-month LIBOR
Rate paid	3.38 %	3.61 %	2.44 %	3.67 %
Collateral provisions	None	100% liability if > \$20,000	None	100% asset/ liability – \$250 min
Settlement frequency	Monthly	Monthly	Monthly	Weekly

The University records all interest rate swap agreements in other liabilities and deferrals on the consolidated balance sheet at their respective fair values. The estimated amount the University would pay to terminate the swap agreements at the reporting date, taking into account current forward interest rates and the current forward creditworthiness of the swap counterparties, approximates the fair value of the interest rate swap. All changes in fair value are reflected as a gain or loss in nonoperating activities in the consolidated statement of activities. Periodic net cash settlement amounts with counterparties are accounted for as adjustments to interest expense on the related debt and collateral to support the swaps is included in investments on the consolidated balance sheet. Collateral held by counterparties at June 30, 2019 and 2018, respectively, was \$0 and \$0 for Reynolda Campus, and \$4,070 and \$3,090 for WFUHS.

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The related financial information on each of these instruments is as follows:

	2019		2018	
	Fair value	Gain	Fair value	Gain
Reynolda Campus:				
November 2006 interest rate swap	\$ (85)	187	(272)	475
October 2008 interest rate swap	(17,803)	(4,965)	(12,839)	3,574
December 2016 interest rate swap	(286)	(411)	125	304
Total	(18,174)	(5,189)	(12,986)	4,353
WFUHS:				
August 2002 interest rate swap	(4,030)	(891)	(3,140)	1,244
Grand total	\$ (22,204)	(6,080)	(16,126)	5,597

As of June 30, 2019, the University's adjusted debt portfolio, after taking into account the aforementioned swap agreements, was 99% fixed rate for Reynolda Campus, and approximately 100% fixed rate for WFUHS.

(14) Net Assets

The following is a summary of net assets at June 30:

	2019		
	Without Donor Restriction	With Donor Restriction	Total
Reynolda Campus:			
Operating	\$ 237,788	—	237,788
Endowment	234,852	633,584	868,436
Investment in plant, net	227,819	—	227,819
Donor pledges and gifts	—	146,990	146,990
Trust (annuity, perpetual, split-interest) and loan agreements	—	21,487	21,487
Total net assets	\$ 700,459	802,061	1,502,520

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	2019		
	Without Donor Restriction	With Donor Restriction	Total
WFUHS:			
Operating	\$ 74,354	—	74,354
Endowment	298,836	208,126	506,962
Investment in plant, net	195,233	—	195,233
Donor pledges and gifts	—	10,483	10,483
Trust (annuity, perpetual, split-interest) and loan agreements	—	20,707	20,707
Total net assets	<u>\$ 568,423</u>	<u>239,316</u>	<u>807,739</u>
	2018		
	Without Donor Restriction	With Donor Restriction	Total
Reynolda Campus:			
Operating	\$ 200,839	—	200,839
Endowment	235,011	598,849	833,860
Investment in plant, net	223,471	—	223,471
Donor pledges and gifts	—	144,506	144,506
Trust (annuity, perpetual, split-interest) and loan agreements	—	19,996	19,996
Total net assets	<u>\$ 659,321</u>	<u>763,351</u>	<u>1,422,672</u>
WFUHS:			
Operating	\$ 75,970	—	75,970
Endowment	300,857	204,286	505,143
Investment in plant, net	184,361	—	184,361
Donor pledges and gifts	—	9,585	9,585
Trust (annuity, perpetual, split-interest) and loan agreements	—	19,686	19,686
Total net assets	<u>\$ 561,188</u>	<u>233,557</u>	<u>794,745</u>

(15) Functional Expenses

Expenses are presented by functional classification in accordance with the overall mission of the University. The University's primary program services are academic, instruction and research, and health care and related services. Expenses for auxiliary enterprises, library, and student services are incurred in support of academic instruction and research, and as such are included therein. Plant operation and maintenance

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expense is allocated to program and supporting activities based upon direct costing or allocated using a variety of allocation techniques such as square footage. The amounts allocated in 2019 and 2018 were \$143,638 and \$132,340, respectively.

Expenses are reported in the consolidated statements of activities in natural categories. Functional expenses for the years ended June 30, 2019 and 2018 are categorized as follows:

	2019							
	Academic, Instruction, and Research		Health Care and Other Related Services		Administration and Other Institutional Support		Total	
	Reynolda		Reynolda		Reynolda		Reynolda	
	Campus	WFUHS	Campus	WFUHS	Campus	WFUHS	Campus	WFUHS
Salaries and wages	\$ 185,520	157,437	—	462,619	24,782	9,243	210,302	629,299
Employee benefits	49,302	31,321	—	90,943	2,913	1,817	52,215	124,081
Student aid	3,533	8,071	—	—	7	—	3,540	8,071
Services	52,024	52,958	—	119,705	9,853	2,054	61,877	174,717
Clinical and laboratory supplies	—	14,192	—	58,821	—	—	—	73,013
Other operating expenses	53,165	29,304	—	42,291	1,726	8,922	54,891	80,517
Depreciation and amortization	40,885	11,310	—	17,127	5,789	8,970	46,674	37,407
Interest on debt	13,694	2,757	—	3,402	949	1,544	14,643	7,703
Total Expenses	\$ <u>398,123</u>	<u>307,350</u>	<u>—</u>	<u>794,908</u>	<u>46,019</u>	<u>32,550</u>	<u>444,142</u>	<u>1,134,808</u>

	2018							
	Academic, Instruction, and Research		Health Care and Other Related Services		Administration and Other Institutional Support		Total	
	Reynolda		Reynolda		Reynolda		Reynolda	
	Campus	WFUHS	Campus	WFUHS	Campus	WFUHS	Campus	WFUHS
Salaries and wages	\$ 176,882	148,371	—	396,017	23,458	9,901	200,340	554,289
Employee benefits	44,774	29,000	—	76,977	1,883	1,923	46,657	107,900
Student aid	3,465	6,739	—	—	—	—	3,465	6,739
Services	48,766	46,793	—	126,178	7,763	4,247	56,529	177,218
Clinical and laboratory supplies	—	13,535	—	40,940	—	—	—	54,475
Other operating expenses	58,092	30,938	—	32,240	689	7,928	58,781	71,106
Depreciation and amortization	36,183	11,134	—	15,600	5,135	7,729	41,318	34,463
Interest on debt	9,503	2,693	—	3,445	659	1,394	10,162	7,532
Total Expenses	\$ <u>377,665</u>	<u>289,203</u>	<u>—</u>	<u>691,397</u>	<u>39,587</u>	<u>33,122</u>	<u>417,252</u>	<u>1,013,722</u>

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(16) Contingencies and Other Commitments

The University maintains rental properties and has entered into long-term operating lease agreements for this real estate providing for future rental income as follows:

	<u>Reynolda Campus</u>	<u>WFUHS</u>	<u>Total</u>
Year ending June 30:			
2020	\$ 10,459	971	11,430
2021	10,669	988	11,657
2022	10,758	770	11,528
2023	9,974	782	10,756
2024	8,323	786	9,109
	<u>\$ 50,183</u>	<u>4,297</u>	<u>54,480</u>

Total income from real estate was \$10,803 and \$11,297 for Reynolda Campus and \$1,242 and \$1,232 for WFUHS for the years ended June 30, 2019 and 2018, respectively.

In 2019, the Reynolda Campus amended an outstanding lease agreement associated with occupying space in the Wake Forest Innovation Quarter. The initial lease term is 15 years with two renewal options for a 5-year and 14-year period, respectively. The lease is classified as an operating lease. Operating lease payments are due monthly and expected payments each year from 2020 to 2024 are \$2,917, \$2,976, \$3,035, \$3,096 and \$2,764 respectively, and \$19,409 thereafter.

WFUHS has entered into various operating lease agreements, which expire through 2029 and include varying renewal options. Total rent expense for the years ended June 30, 2019 and 2018 was \$30,369 and \$27,894, respectively. Minimum operating lease payments over the next five years are as follows: 2020 - \$24,542; 2021 - \$24,635; 2022 - \$21,761; 2023 - \$21,073; 2024 - \$20,860; and in the years thereafter - \$72,307.

The estimated cost to complete construction in progress at June 30, 2019 and 2018, respectively, were \$63,433 and \$66,618 for Reynolda Campus, and \$13,935 and \$25,603 for WFUHS.

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 cost recovery. The University would not expect these costs to influence the consolidated financial position significantly.

The University is self-insured for dental benefits, self-insured or fully insured for retiree medical benefits (depending on retiree benefit elections), and self-insured for active employees receiving medical benefits. The University provides an accrual for actual claims reported but not paid and a provision for incurred but not reported claims based on historical trends. Accrued employee health and dental costs, including estimated claims incurred but not reported, amounted to approximately \$936 and \$928 at June 30, 2019 and 2018,

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respectively, for Reynolda Campus and \$5,158 and \$4,775 at June 30, 2019 and 2018, respectively, for WFUHS and are included in other liabilities and deferrals in the accompanying consolidated balance sheet.

The estimated liability for self-insurance claims will be significantly affected if current and future claims differ from historical trends. While management monitors reported claims closely and considers potential outcomes as estimated by its actuaries when determining its self-insurance liability accruals, the complexity of the claims, the extended period of time to settle the claims and the wide range of potential outcomes complicate the estimation. In the opinion of management, adequate provision has been made for this related risk.

The University self-insures workers' compensation liability with excess commercial insurance providing per loss and aggregate annual coverage. The University provides an accrual for actual claims reported but not paid and a provision for incurred but not reported claims based on historical trends, which is included in other liabilities and deferrals on the accompanying consolidated balance sheet.

The estimated liability for workers' compensation claims will be significantly affected if current and future claims differ from historical trends. While management monitors reported claims closely and considers potential outcomes as estimated by its actuaries when determining its self-insurance liability accruals, the complexity of the claims, the extended period of time to settle the claims and the wide range of potential outcomes complicate the estimation. In the opinion of management, adequate provision has been made for this related risk.

Under the Health Insurance Portability and Accountability Act of 1996 (HIPPA), the federal government has authority to complete fraud and abuse investigations. HIPPA has established substantial fines and penalties for offenders. WFUHS maintains policies, procedures and requires regular training sessions to employers to monitor compliance with HIPPA, as well as other applicable local, state and federal statutes and regulations.

The University is involved in legal actions arising in the normal course of activities and is subject to periodic audits and inquiries by regulatory agencies. Although the ultimate outcome of such matters is not determinable at this time, management, after taking into consideration advice of legal counsel, believes that the resolutions of pending matters will not have a materially adverse effect, individually or in the aggregate, upon the University's consolidated financial statements.

(17) Sale-Leaseback Agreement

In 2006, WFUHS entered into a sale-leaseback agreement to sell and lease back certain assets. The initial lease term is 20 years with four 5-year renewal options. The lease is classified as an operating lease. Operating lease expected payments in each year from 2020 to 2024 are \$7,899, \$7,978, \$8,058, \$8,139, and \$8,220, respectively, and \$23,917 thereafter.

In 2010, WFUHS entered into another sale-leaseback agreement to sell and lease back certain assets. The initial lease term is 16 years with three 5-year renewal options. The lease is classified as an operating lease. Operating lease payments are due monthly and expected payments each year from 2020 to 2024 are \$5,924, \$6,072, \$6,223, \$6,379 and \$6,539, respectively, and \$20,612 thereafter.

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WFUHS has a deferred gain related to the sale and leaseback of certain assets, which is amortized over the remaining lease term using the straight line method. The deferred gain was \$15,288 and \$17,234 at June 30, 2019 and 2018, respectively, and is included in other liabilities and deferrals in the accompanying consolidated balance sheet.

(18) Retirement Plans

Substantially all employees of the University are eligible to participate in defined contribution benefit plans. The University contributes a specified percentage of each employee's salary to the plans. Contributions for the years ended June 30, 2019 and 2018, respectively, were \$14,125 and \$13,575 for Reynolda Campus and \$33,714 and \$30,958 for WFUHS.

Certain employees of the University are eligible to participate in other benefit plans including a defined supplemental executive retirement plan, deferred compensation arrangements, and supplemental retirement agreements. The Reynolda Campus and WFUHS have accrued \$2,519 and \$5,747 at June 30, 2019, respectively, and \$1,532 and \$5,967 at June 30, 2018, respectively, for liabilities associated with these plans. These liabilities are included in other liabilities and deferrals on the consolidated balance sheet.

(19) Postretirement Benefits

The University sponsors defined benefit postretirement medical and dental plans that cover all of its full-time employees who elect coverage and satisfy the plans' eligibility requirements when they retire. In addition, Reynolda Campus sponsors a death benefit plan, which pays a \$2 benefit for each retiree. To be eligible, retired employees of Reynolda Campus must be at least 62 years of age with ten or more years of service or be at least 65 years of age with five or more years of service.

WFUHS sponsors a defined benefit postretirement medical and dental plan that covers all WFUHS full-time employees who elect coverage and satisfy the plan eligibility requirements when they retire. On June 2, 2011, the Board of WFUHS approved that effective as of January 1, 2012, the defined benefit postretirement plan would be discontinued for most future retirees and the minimum age required for postretirement benefits will increase from 60 to 62. However, the additional requirement of the Rule of 75 (age and years of service) remains unchanged. All current retirees and currently eligible employees previously grandfathered will continue to be eligible for benefits under this plan. Any WFUHS employee who is within 5 years of meeting the new retirement eligibility of age 62 with combined age and years of service equal to at least 75 as of January 1, 2012 will be grandfathered into this benefit.

The measurement date for the defined postretirement benefit plan is June 30.

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The following table provides a reconciliation of the changes in each plan's benefit obligation, fair value of plan assets, and funded status for the years ended June 30, 2019 and 2018:

	2019			2018 Total
	Reynolda Campus	WFUHS	Total	
Change in benefit obligation:				
Benefit obligation at beginning of year	\$ 12,967	34,397	47,364	50,928
Service cost	563	27	590	599
Interest cost	551	1,417	1,968	1,913
Participants' contributions	441	361	802	754
Actuarial loss (gain)	1,523	(6,111)	(4,588)	(3,986)
Benefits paid	(747)	(1,965)	(2,712)	(2,844)
Benefit obligation at end of year	<u>15,298</u>	<u>28,126</u>	<u>43,424</u>	<u>47,364</u>
Change in plan assets:				
Fair value of plan assets at beginning of year	—	—	—	—
Employer's contributions	306	1,604	1,910	2,090
Participants' contributions	441	361	802	754
Benefits paid	(747)	(1,965)	(2,712)	(2,844)
Fair value of plan assets at end of year	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Total liability	<u>\$ (15,298)</u>	<u>(28,126)</u>	<u>(43,424)</u>	<u>(47,364)</u>
Amounts recognized in unrestricted net assets:				
Prior service (cost) credit	\$ (3,422)	106	(3,316)	(3,659)
Net actuarial loss	(1,522)	4,118	2,596	(5,174)
Total (decrease) increase	<u>\$ (4,944)</u>	<u>4,224</u>	<u>(720)</u>	<u>(8,833)</u>

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The following table provides the components of net periodic benefit cost for the years ended June 30, 2019 and 2018:

	2019			2018 Total
	Reynolda Campus	WFUHS	Total	
Service cost	\$ 563	27	590	599
Interest cost	551	1,417	1,968	1,913
Amortization of prior service credit	(374)	(30)	(404)	(404)
Amortization of net actuarial (gain) loss	(136)	—	(136)	544
Net periodic benefit cost	\$ <u>604</u>	<u>1,414</u>	<u>2,018</u>	<u>2,652</u>

The prior service costs are amortized on a straight-line basis over the average remaining service period of active participants. Gains in excess of 10% of the greater of the benefit obligation and the market-related value of assets are amortized over the average remaining service period of active participants.

The actuarial net gain and prior service credit for the defined postretirement benefits plans that will be amortized from accumulated nonoperating income into net periodic benefit cost over the next fiscal year for Reynolda Campus and WFUHS are \$374 and \$485, respectively.

The weighted average discount rate used to determine the accumulated postretirement benefit obligation at June 30, 2019 for Reynolda Campus and WFUHS, respectively, was 3.67% and 3.37%, and at June 30, 2018 was 4.34% and 4.26%, respectively. The discount rate reflects the current yield curve results as of June 30, 2019 and 2018. For management purposes, Reynolda Campus used 7.70% and 6.80%, and WFUHS used 7.29% and 7.67% for 2019 and 2018, respectively, for the annual rate of increase in the per capita cost of covered healthcare benefits for the first year, and a 4.50% rate was assumed in each year as the ultimate rate.

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Assumed healthcare cost trend rates have a significant effect on the amounts reported for the postretirement benefit plan. A 1% change in assumed healthcare cost trend rates would have the following effects:

	One percentage increase	One percentage decrease
Reynolda Campus:		
Effect on total service and interest cost components of net periodic benefit cost	\$ 285	(251)
Effect on postretirement benefit obligation	33	(28)
WFUHS:		
Effect on total service and interest cost components of net periodic benefit cost	\$ —	—
Effect on postretirement benefit obligation	12	(12)

Aggregate benefits expected to be paid by the University, net of participant contributions, for the postretirement benefits plans are as follows:

	Reynolda Campus	WFUHS	Total
2020	\$ 569	2,315	2,884
2021	634	2,270	2,904
2022	686	2,211	2,897
2023	759	2,047	2,806
2024	834	2,012	2,846
Five years thereafter	4,928	9,207	14,135

The expected benefits to be paid are based on the same assumptions used to measure the University's benefit obligation at June 30, 2019 and include estimated future employee service.

Recent federal healthcare legislation includes several provisions that may affect the University's benefit plans, including imposing an excise tax on high cost coverage, eliminating lifetime and annual coverage limits, and imposing inflation-adjusted fees for each person covered by a health insurance policy for each policy plan year ending after September 30, 2012, through September 30, 2019. For the postretirement benefit plan, the changes due to recent federal healthcare legislation did not change the postretirement benefit obligation for Reynolda Campus and WFUHS.

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(20) Related-Party Transactions

WFUHS and NCBH each incur expenses in the course of managing WFB as an integrated academic medical center. These expenses are aggregated and allocated between WFUHS and NCBH such that each individual entity bears a share of the expenses that is proportionate to the benefit received by each entity. Additionally, WFUHS and NCBH share certain facilities, provide various services, and incur certain expenses on behalf of each other. These transactions are recorded at fair value and the costs associated with operating and maintaining jointly occupied facilities are ultimately paid by the party having beneficial occupancy.

These transactions are recorded as follows in the consolidated financial statements:

	<u>2019</u>	<u>2018</u>
Revenue from MCIA	\$ 202,393	177,143
Corporate service allocation, net	88,118	65,672
Other professional fees, net	<u>33,163</u>	<u>74,912</u>
Total net revenue from NCBH	<u>\$ 323,674</u>	<u>317,727</u>
Accounts receivable from NCBH	\$ 54,368	25,694

In 2015, WFUBMC entered into an unsecured, taxable line of credit with a total borrowing capacity of \$125,000 and a \$60,000 unsecured loan agreement that is guaranteed by both NCBH and WFUHS. In 2019, WFUBMC exercised an accordion feature on the line of credit, bringing its total borrowing capacity to \$150,000. The outstanding balance on the line of credit was \$44,199 and \$19,200 as of June 30, 2019 and 2018, respectively, of which WFUHS recorded a liability of \$7,449 as of June 30, 2019 and 2018. The outstanding balance of the unsecured loan was \$36,000 and \$42,000 as of June 30, 2019 and 2018, respectively, of which WFUHS recorded a liability of \$5,810 and \$6,779, respectively, due to WFUBMC in other liabilities and deferrals that represented the portion of the unsecured loan utilized by WFUHS.

On April 10, 2019, WFUBMC signed a Memorandum of Understanding with The Charlotte-Mecklenburg Hospital Authority, doing business as Atrium Health, to create a next-generation academic health-care system. As part of this strategic partnership, a second campus of the Wake Forest School of Medicine is planned to open in Charlotte, North Carolina. No definitive agreements regarding the partnership have been signed as of the issuance date.

(21) Professional Liability Insurance

WFUHS maintains professional liability coverage, which included a \$5,000 per occurrence and a \$25,000 annual aggregate self-insurance retention for the year ended June 30, 2019. WFUHS estimates its professional liability on an actuarial basis. WFUHS' accrued professional liability costs, including estimated claims incurred but not reported, amounted to approximately \$46,213 and \$44,980 at June 30, 2019 and 2018, respectively, and are included in other liabilities and deferrals on the consolidated balance sheet. In the opinion of management, adequate provision has been made for the related risk.

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The estimated liability for self-insurance claims will be significantly affected if current and future claims differ from historical trends. While management monitors reported claims closely and considers potential outcomes as estimated by its actuaries when determining its self-insurance liability accruals, the complexity of the claims, the extended period of time to settle the claims and the wide range of potential outcomes complicate the estimation. In the opinion of management, adequate provision has been made for this related risk.

(22) Subsequent Events

The University has performed an evaluation of subsequent events through October 21, 2019, which is the date the financial statements were issued, and determined that there are no adjustments or additional items to disclose.

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Federal grantor/pass-through grantor/program or cluster title	Federal CFDA no. or other grant identifying no.	Pass-through entity identifying number	Passed through to subrecipients	Federal expenditures
Federal award expenditures:				
Research and Development Cluster:				
Wake Forest University Health Sciences:				
U.S. Department of Health and Human Services:				
National Institutes of Health Direct Programs:				
Family Smoking Prevention and Tobacco Control Act Regulatory Research	93.077		\$ 4,006,370	4,756,152
Environmental Health	93.113		133,559	1,172,489
Human Genome Research	93.172		—	47,377
Research Related to Deafness and Communication Disorders	93.173		—	331,959
Research and Training in Complementary and Integrative Health	93.213		243,756	1,268,555
Mental Health Research Grants	93.242		70,180	1,076,246
Alcohol Research Programs	93.273		14,376	5,069,920
Drug Abuse and Addiction Research Programs	93.279		163,585	3,847,592
Discovery and Applied Research for Technological Innovations to Improve Human Health	93.286		32,841	1,014,823
Minority Health and Health Disparities Research	93.307		30,884	391,764
National Center for Advancing Translational Sciences	93.350		316	3,809,838
Research Infrastructure Programs	93.351		—	989,394
Cancer Cause and Prevention Research	93.393		533,593	4,458,445
Cancer Detection and Diagnosis Research	93.394		53,576	1,173,074
Cancer Treatment Research	93.395		1,139,565	7,821,079
Cancer Biology Research	93.396		131,396	3,698,620
Cancer Centers Support Grants	93.397		17,715	703,177
Cancer Research Manpower	93.398		584	106,207
Cancer Control	93.399		—	106,207
Cardiovascular Diseases Research	93.837		5,106,757	13,282,868
Lung Diseases Research	93.838		137,587	664,446
Arthritis, Musculoskeletal and Skin Diseases Research	93.846		18,472	628,335
Diabetes, Digestive, and Kidney Diseases Extramural Research	93.847		3,437,268	9,141,591
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853		441,288	3,041,054
Allergy and Infectious Diseases Research	93.855		549,199	2,563,904
Microbiology and Infectious Diseases Research	93.856		—	69,905
Biomedical Research and Research Training	93.859		412,924	4,478,081
Child Health and Human Development Extramural Research	93.865		152,680	783,115
Aging Research	93.866		4,654,776	20,483,956
Vision Research	93.867		—	1,168,270
Accelerometer Data Collection and Analysis of REHAB-HF Participants	93.UNKNOW		38,165	47,717
Multi-Ethnic Study of Atherosclerosis (MESA)	93.UNKNOW		—	(899)
Systolic Blood Pressure Intervention Trial (SPRINT)	93.UNKNOW		392,310	1,604,388
WHIMS-ECHO Hormone Therapy and Cognitive Aging in Older Postmenopausal Women	93.UNKNOW		—	943,662
Women Health Initiative – Regional Center	93.UNKNOW		167,325	951,823
Action to Control Cardiovascular Risk in Diabetes (ACCORD) Follow-On Coordinating Center	93.UNKNOW		(11,457)	—
Subtotal National Institutes of Health Direct Programs			<u>22,069,580</u>	<u>104,319,658</u>
National Institutes of Health Pass-Through Programs From:				
Family Smoking Prevention and Tobacco Control Act Regulatory Research:				
American Heart Association	93.077	FX-ATRAC-WF-05	—	(58)
American Heart Association	93.077	FX-ATRAC-2U54HL120163-WF-06	—	19,172
University of Minnesota	93.077	P005256302	—	3,449
University of North Carolina at Chapel Hill	93.077	5105859	—	154,169
University of North Carolina at Chapel Hill	93.077	5109937	—	1,212
University of North Carolina at Chapel Hill	93.077	5109938	3,200	7,309
University of Texas M.D. Anderson Cancer Center	93.077	3001070141	—	5,393
University of Texas M.D. Anderson Cancer Center	93.077	3001202591	—	12,948
Total Family Smoking Prevention and Tobacco Control Act Regulatory Research			<u>3,200</u>	<u>203,594</u>
Mental Health Research Grants:				
Duke University	93.242	2035157	—	(10,220)
Research Foundation for Mental Hygiene	93.242	130157	2,304	38,792
University of Washington	93.242	BPO8603	—	433
University of Washington	93.242	UWSC8567	—	12,032
Total Mental Health Research Grants			<u>2,304</u>	<u>41,037</u>
Alcohol Research Programs:				
Beth Israel Deaconess Medical Center	93.273	01029996	—	475,338
Johns Hopkins University	93.273	PTEID 2003378008	—	35,867
Oregon Health & Sciences University	93.273	1006932_WF	—	51,352
University of Utah	93.273	10050883-01	—	18,681
Total Alcohol Research Programs			<u>—</u>	<u>581,238</u>
Drug Abuse and Addiction Research Programs:				
Duke University Medical Center	93.279	2036634	—	1,845
Duke University Medical Center	93.279	A030186	—	125,809
Indiana University	93.279	IN-4679749-HHC	—	16,849
Medical University of South Carolina	93.279	MUSC18-040-8D268	—	95,492
Medical University of South Carolina	93.279	MUSC19-011-8D703	—	71,177
Oregon Health and Sciences University	93.279	1012971_WAKEFOREST	—	84,803
University of California – San Diego	93.279	84187174	—	228,694
University of Michigan	93.279	3004221025	—	63,793
University of Michigan	93.279	SUBK00007948/PO 3005178946	—	35,142
Total Drug Abuse and Addiction Research Programs			<u>—</u>	<u>723,604</u>
Minority Health and Health Disparities Research:				
Emory University	93.307	T945957	—	6,105
Emory University	93.307	A101182	—	7,326
North Carolina Central University	93.307	P0099126	—	162,561
University of Michigan	93.307	3004816546	—	13,813
Winston-Salem State University	93.307	21125A	—	47,723
Total Minority Health and Health Disparities Research			<u>—</u>	<u>237,528</u>
Trans-NIH Research Support:				
Albert Einstein College of Medicine	93.310	311196	—	19,900
Albert Einstein College of Medicine	93.310	311397	—	47,721
Duke University	93.310	2036756	—	65,795
University of Florida	93.310	SUB00001764	—	26,750
University of Florida	93.310	SUB00001766	—	690,376
University of Florida	93.310	UFDSP00012118	—	465,582
University of North Carolina at Chapel Hill	93.310	5108613	—	43,678

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University of North Carolina at Chapel Hill	93.310	5111883	\$ —	169,800
Women & Infants Hospital	93.310	9525	—	17,490
Women & Infants Hospital	93.310	5001441	—	156,468
University of Southern California	93.310	CTAFYN137	—	(10,883)
Total Trans-NIH Research Support			—	1,692,677
Research Infrastructure Programs:				
Regents of the University of California	93.351	10621sc	—	125,451
Texas Biomedical Research Institute	93.351	58238	—	33,751
University of Colorado-Denver	93.351	FY18.745.005	—	18,702
Total Research Infrastructure Programs			—	177,904
Cancer Cause and Prevention Research:				
Alliance for Clinical Trials in Oncology	93.393	A011106	—	20,355
Alliance for Clinical Trials in Oncology	93.393	A071102	—	1,280
Alliance for Clinical Trials in Oncology	93.393	None Identified	—	2,200
Brown University	93.393	00001077	—	5,050
Brown University	93.393	None Identified	—	2,525
Dana-Farber Cancer Institute	93.393	1204001	—	74,635
Emory University	93.393	A055648	—	87,617
Mount Sinai School of Medicine	93.393	0255-0851-4609	—	11,634
Ohio State University	93.393	None Identified	—	209
Purdue University	93.393	11000720-011	—	71,411
University of California – San Francisco	93.393	10297sc	—	5,048
University of Texas – Houston	93.393	164457/164399	—	16,057
Total Cancer Cause and Prevention Research			—	298,021
Cancer Detection and Diagnosis Research:				
Case Western Reserve University	93.394	RES512735	—	33,828
Case Western Reserve University	93.394	RES513624	3,812	124,787
Total Cancer Detection and Diagnosis Research			3,812	158,615
Cancer Treatment Research:				
Adult Brain Tumor Consortium	93.395	1601	—	474
Adult Brain Tumor Consortium	93.395	ABTC1501	—	7,079
Alliance for Clinical Trials in Oncology	93.395	None Identified	—	153
Cancer and Leukemia Group B Foundation	93.395	5-32014	—	467
Children's Hospital of Philadelphia	93.395	9500080215-13C	—	13,396
Children's Hospital of Philadelphia	93.395	FP00013087_SUB206_01	—	65,383
ECOG-ACRIN Cancer Research Group	93.395	1UG1CA189828-01-WFU1	—	152,658
ECOG-ACRIN Cancer Research Group	93.395	1UG1CA189828-01-WFU2	—	26,192
ECOG-ACRIN Cancer Research Group	93.395	E2112	—	21,286
ECOG-ACRIN Cancer Research Group	93.395	EA5142	—	175
ECOG-ACRIN Cancer Research Group	93.395	EA8143	—	3,010
John Wayne Cancer Institute	93.395	JWCIMSLTII	—	2
Johns Hopkins University	93.395	None Identified	—	6,437
Johns Hopkins University	93.395	PO#2002555394	—	2,000
Mount Sinai School of Medicine	93.395	0254-7376-4605	—	11,088
NRG Oncology	93.395	BR002	—	89
NRG Oncology	93.395	NRG-GY004	—	(917)
NRG Oncology	93.395	NRG-GY005	—	6,843
Ohio State University	93.395	60068870PO #RF01556149	—	1,690
Regents of the University of California	93.395	1568GTA594	—	46,394
Regents of the University of California	93.395	None Identified	—	162,482
University of North Carolina at Greensboro	93.395	20180024.3	—	41,212
University of Nebraska Medical Center	93.395	34-5140-2058-001	—	7,554
Total Cancer Treatment Research			—	575,147
Cancer Biology Research:				
Georgia Tech	93.396	RJ409-G1	—	331,136
Georgia Tech	93.396	RJ409-G3SUP1	—	150,418
Pennsylvania State University	93.396	7R01CA22761	—	12,255
University of Arizona	93.396	430604	6,497	13,694
Virginia Tech	93.396	432050-19541	—	37,872
Virginia Tech	93.396	432058-19541	—	19,867
Total Cancer Biology Research			6,497	565,242
Cancer Control:				
Alliance for Clinical Trials in Oncology	93.399	A011401	—	4,993
Alliance for Clinical Trials in Oncology	93.399	A021501	—	6,050
Alliance for Clinical Trials in Oncology	93.399	None Identified	—	15,060
Alliance for Clinical Trials in Oncology	93.399	None Identified	—	366
Alliance for Clinical Trials in Oncology	93.399	None Identified	—	1,580
Alliance for Clinical Trials in Oncology	93.399	None Identified	—	187
NRG Oncology	93.399	NSABP B-55	—	1,710
Southwest Oncology Group	93.399	S1605	—	4,438
Total Cancer Control			—	34,384
Cardiovascular Diseases Research:				
Brigham & Women's Hospital	93.837	109961	—	10,202
Brigham & Women's Hospital	93.837	117349	—	105,111
Brigham & Women's Hospital	93.837	119532	—	14,041
Case Western Reserve University	93.837	RES513068	—	88,649
Columbia University	93.837	2(GG011046-03)/(GG011046-02)	—	15,773
Columbia University	93.837	5(GG011659-01)	—	10,849
Johns Hopkins University	93.837	2003635681	—	71,869
Johns Hopkins University	93.837	2003821352	—	2,840
Mount Sinai School of Medicine	93.837	0255-1502-4605	—	1,380
New England Research Institute	93.837	None Identified	—	23,027
Oregon Health & Sciences University	93.837	1013015_WFUHS	—	8,750
Partners Healthcare	93.837	225712	—	32,300
The Miriam Hospital & Brown Medical School	93.837	710-9144	20,762	176,268
Tulane University Medical Center	93.837	None Identified	—	9,633
University of Kentucky	93.837	320000735-19-041	—	7,049
University of Minnesota	93.837	N004944404	—	3,309
University of Minnesota	93.837	N006187413	—	627
University of Minnesota	93.837	N006187414	—	72,689

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University of Minnesota	93.837	N00618743	\$ —	1,643
University of Minnesota	93.837	None Identified	—	34,973
University of Texas – Houston	93.837	00106128	—	41,985
University of Texas – Houston	93.837	0013417A	—	12,599
University of Texas Southwest Medical Center – Dallas	93.837	GMO 180101	—	93,350
University of Washington	93.837	BPO32090	—	110,969
University of Washington	93.837	UWSC10978BPO37226	—	13,817
University of Washington	93.837	UWSC7564	—	15,827
University of Washington	93.837	UWSC8536	—	1,222
University of Washington	93.837	UWSC9055	—	78,308
University of Washington	93.837	UWSC9382	—	64,526
Washington University – St. Louis	93.837	WU-17-322, PO 2928793C	—	2,826
Total Cardiovascular Diseases Research			20,762	1,126,411
Lung Diseases Research:				
Case Western Reserve University	93.838	RES513753	—	12,665
Columbia University	93.838	7(GG010919-03)	—	1,155
Columbia University	93.838	7(GG010919-05)	—	29,494
Fred Hutchinson Cancer Research Center	93.838	0000760192	—	378
Massachusetts General Hospital	93.838	224404	16,631	22,829
Massachusetts General Hospital	93.838	228540	—	(12,924)
Massachusetts General Hospital	93.838	229886	105,919	283,656
Massachusetts General Hospital	93.838	WFUHS Z17448	174,979	219,970
National Jewish Medical and Research Center	93.838	2020095406	—	7,323
Pennsylvania State University	93.838	WFU HL109086	—	5,364
Tufts University	93.838	102680-00001	—	8,330
University of Arizona	93.838	435611	—	87,429
University of California – San Francisco	93.838	104588c	—	387,216
University of North Carolina at Chapel Hill	93.838	5111455	—	24,873
University of Vermont	93.838	31439-01-004-SUB-003	—	32,692
University of Vermont	93.838	32723SUB852545	—	180,930
University of Washington	93.838	UWSC9506	—	28,149
University of Washington	93.838	UWSC9347	—	69,512
Total Lung Diseases Research			297,529	1,389,041
Arthritis, Musculoskeletal and Skin Diseases Research:				
New York University School of Medicine	93.846	16-A0-00-006363-01 Project 107073	—	54,723
New York University School of Medicine	93.846	17-A0-00-008437	—	45,982
New York University School of Medicine	93.846	Subaward # 17-A1-00-005969-01/Project #11008CB	—	14,419
New York University School of Medicine	93.846	17-A1-00-005969-01 Project 110088	—	75,653
University of Michigan	93.846	3002095782	—	458
Virginia Commonwealth University	93.846	PT107007-SC104560	—	2,564
Total Arthritis, Musculoskeletal and Skin Diseases Research			—	193,799
Diabetes, Digestive, and Kidney Diseases Extramural Research:				
Broad Institute	93.847	5216279-5500001189	—	357,754
Case Western Reserve University	93.847	RES510573	—	36,484
Cedars-Sinai Medical Center	93.847	0001338076	—	(2,718)
Cedars-Sinai Medical Center	93.847	0001453002, 0001338076	—	267,863
Columbia University	93.847	135598093	—	(12,703)
Florida International University	93.847	800007514-01UG	—	144,736
George Washington University	93.847	18-B02	—	76,613
George Washington University	93.847	21049-46-CCLS91379F	—	61,536
George Washington University	93.847	S-DPP1920-IC01	—	36,088
George Washington University	93.847	S-GRD1718-LL43	—	171,682
Harvard Pilgrim Health Care	93.847	AH000650	—	108,863
Johns Hopkins University	93.847	2002910217	—	17,340
Kaiser Permanente Southern California	93.847	CS113409_WFUHS	—	1,542
Kaiser Permanente Southern California	93.847	None Identified	—	15,299
Mount Sinai Medical Center	93.847	0255-3830-4609	—	27,250
Mount Sinai Medical Center	93.847	0255-B221-4609	—	121,450
Northern California Institute for Research	93.847	SHL2118-04	—	33,593
Sritoh School of Medicine – Loyola University	93.847	206423	—	3,050
Tufts University	93.847	5014197-SERV	—	52,386
Tufts University	93.847	None Identified	—	(1,962)
University of Illinois at Chicago College	93.847	P1157703	—	1,007
University of Michigan	93.847	3003482457	—	15,826
University of Michigan	93.847	3003773938	—	27,027
University of Michigan	93.847	3003773940	—	11,634
University of Michigan	93.847	3004195234	—	10,346
University of Michigan	93.847	3004195235	—	37,723
University of North Carolina at Chapel Hill	93.847	5105187	—	2,195
University of North Carolina at Chapel Hill	93.847	5112044	—	51,028
University of North Carolina at Chapel Hill	93.847	5034497 4/1/165-34497	—	20,696
University of North Carolina at Chapel Hill	93.847	None Identified	—	10,379
University of Pennsylvania	93.847	572042	—	14,965
University of Pennsylvania	93.847	572264	—	6,171
University of Pennsylvania	93.847	574485	—	35,492
University of Pennsylvania	93.847	None Identified	—	88,839
University of South Carolina	93.847	18-3668PO 2000039782	—	71,041
University of Southern California	93.847	78078941	—	97,984
University of Washington	93.847	UWSC8594	—	12,609
Total Diabetes, Digestive, and Kidney Diseases Extramural Research			—	2,031,108
Extramural Research Programs in the Neurosciences and Neurological Disorders:				
Emory University	93.853	T423217 (Yr3 T270095)	—	2,354
Emory University	93.853	T473217	—	10,359
Emory University	93.853	T651854 (Yr4 T473217)	—	16,191
John Hopkins University	93.853	PO#2003044864PO#2001948320	—	5,507
Massachusetts General Hospital	93.853	227810	—	17,978
Massachusetts General Hospital	93.853	None Identified	—	10,934
Mayo Clinic	93.853	WAK-224063-01 (effective 3/1/18)WAK187276	—	24,831
Mayo Clinic	93.853	WAK-232483	—	899
Ohio State University	93.853	60065846	80,000	113,387
Stanford University	93.853	None Identified	—	9,329
University of Cincinnati	93.853	010333-005	—	162,962
University of Cincinnati	93.853	010785-138224	—	809

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University of Cincinnati Medical Center	93.853	None Identified	\$ —	106,952
University of Miami	93.853	665164	—	7,812
University of Medicine and Dentistry of New Jersey	93.853	W07B-009	—	14,312
University of North Carolina at Chapel Hill	93.853	5109025	—	24,494
University of Washington	93.853	UWSC7779	—	10,643
Virginia Polytechnic Institute and State University	93.853	431861-19541	—	93,815
Virginia Polytechnic Institute and State University Carilion School of Medicine	93.853	431884-19541	—	84,997
Weill Cornell Medical College	93.853	170326-03	—	77,578
Total Extramural Research Programs in the Neurosciences and Neurological Disorders			80,000	796,143
Allergy and Infectious Diseases Research:				
Columbia University	93.855	10(GG011896-34)	—	23,045
Columbia University	93.855	10(GG011896-49)	—	39,222
Columbia University	93.855	21(GG011896-34)	—	40,333
Columbia University	93.855	27(GG011896-49)	—	107,118
Columbia University	93.855	3(GG011896-34)	—	63,864
Duke University	93.855	2033866	—	(18,140)
Duke University	93.855	2033869	—	7,613
Duke University	93.855	2034161	—	(1,158)
Duke University	93.855	2034582	—	(34,425)
Duke University	93.855	2034598	—	(41,915)
Duke University	93.855	2035478	—	(20,904)
Duke University	93.855	2035485	—	3,219
Duke University	93.855	2036398	—	155,404
Duke University	93.855	2036405	—	83,251
Duke University	93.855	A030229	—	731,616
Duke University	93.855	A030236	—	2,228,619
Duke University	93.855	A030533	—	124,083
Duke University	93.855	None Identified	—	(6,838)
Institute for Clinical Research, Inc.	93.855	M52-WF-034-1101-3	—	53,697
Johns Hopkins University	93.855	2003615873	—	19,506
Partners Healthcare	93.855	227111	—	15,496
University of Alabama-Birmingham	93.855	000506871-001	—	11,635
University of Hawaii	93.855	1R21AI40248-01	—	48,540
Total Allergy and Infectious Diseases Research			—	3,632,881
Biomedical Research and Research Training:				
East Tennessee State University	93.859	13-080-5-S1.5	—	(7,019)
University of South Carolina	93.859	18-3579	—	(1,106)
Total Biomedical Research and Research Training			—	(8,125)
Child Health and Human Development Extramural Research:				
Cincinnati Children's Hospital	93.865	139307	—	14,103
University of Michigan	93.865	3004583867	—	87,916
University of South Carolina	93.865	17-3164/PO # 2000028782	—	3,219
University of South Carolina	93.865	18-432/USC No. 11530-F/PO No. 2000035587	—	10,519
University of South Carolina	93.865	18-3652	—	2,495
University of Wyoming	93.865	1002696T-WF-Year4	—	146,818
University of Wyoming	93.865	1002696X-WF-Year4	—	17,348
Women & Infants Hospital	93.865	9373	—	4,130
Total Child Health and Human Development Extramural Research			—	286,548
Aging Research:				
Brigham & Women's Hospital	93.866	111014	—	34,305
California Pacific Medical Center	93.866	28021015-S222PO 28000005987	—	968,574
Johns Hopkins University	93.866	2003189929	—	77,193
Johns Hopkins University	93.866	2003379640	—	119,831
Johns Hopkins University	93.866	2003589933	—	538,566
Johns Hopkins University	93.866	2004070511	—	36,807
Johns Hopkins University	93.866	2004144882	—	110
Mayo Clinic	93.866	WAK-250202/PO #66468106	—	7,380
Medical University of South Carolina	93.866	MUSC14-077	—	17,275
Ohio State University	93.866	60051416PO RF1531329	—	10,711
Ohio State University	93.866	60067302PO RF1531329	—	34,687
The Regents of the University of California	93.866	ADC-041-EXERT	—	33,477
University of California – San Diego	93.866	42024655	204,198	339,007
University of California – Irvine	93.866	2018-3598	—	9,091
University of Florida	93.866	UFDSP00010463	—	35,848
University of Florida	93.866	UFDSP00010698	—	29,402
University of Florida	93.866	UFDSP00011845	—	185,615
University of Florida	93.866	UFDSP00011847	—	(3,455)
University of Florida	93.866	UFDSP0010690	—	2,638
University of Maryland	93.866	65520-Z0159203	—	13,059
University of Massachusetts	93.866	OSP2018115	—	8,166
University of Miami	93.866	3U01AG052410-03S1SPC-001003	—	52,887
University of Miami	93.866	SPC-001048	—	32,523
University of Minnesota	93.866	MMRF – ASPREE	6,120	33,992
University of North Carolina at Chapel Hill	93.866	5106148	—	78,930
University of North Carolina at Chapel Hill	93.866	5107610	—	45,447
University of North Carolina at Greensboro	93.866	20170398	—	15,220
University of Pittsburgh	93.866	0040521 (129823-3)	—	(7,853)
University of Pittsburgh	93.866	0040521 (131245-3)	—	24,629
University of Southern California	93.866	75696819	—	17,683
University of Southern California	93.866	79634982	—	181,337
University of Southern California	93.866	81622748	—	17,051
University of Southern California	93.866	85221759	—	(1,095)
University of Southern California	93.866	93356607	—	21,635
University of Southern California	93.866	107786842	—	7,954
University of Southern California	93.866	118035962	—	15,368
University of Washington	93.866	UWSC11053; BPO38317	—	32,273
Vanderbilt University	93.866	UNIV59652	—	281,317
Total Aging Research			210,318	3,347,585

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Federal grantor/pass-through grantor/program or cluster title	Federal CFDA no. or other grant identifying no.	Pass-through entity identifying number	Passed through to subrecipients	Federal expenditures
Environmental Health: University of Southern California	93.113	93343187	\$ —	51,669
Oral Diseases and Disorders Research: University of Texas – Houston	93.121	0012976A	—	31,667
Human Genome Research: Arizona State University	93.172	17-082	—	61,628
Research Related to Deafness and Communication Disorders: Ohio State University	93.173	60068546	—	39,856
Research and Training in Complementary and Alternative Medicine: Mt. Sinai Medical Center of Florida, Inc.	93.213	590624427	—	31,913
Discovery and Applied Research for Technological Innovations to Improve Human Health: University of Maryland	93.286	48414-Z0005203	—	529,164
National Center for Advancing Translational Sciences: Emory University	93.350	U54TR001456	—	1,257
Nursing Research: University of California – Irvine	93.361	2017-3533	—	8,155
Cancer Centers Support Grants: University of Texas M.D. Anderson Center Center	93.397	3001068631	—	69,829
Blood Diseases and Resources Research: University of Pennsylvania	93.839	570994	—	194,903
Medical Library Assistance: Brigham & Women's Hospital	93.879	117673	—	88,582
International Research and Research Training: Michigan State University	93.989	RC108046WUFU	—	36,786
RURAL: Risk Underlying Rural Areas Longitudinal Cohort Study: Boston Medical Center	93.UNKNOWN	4500003019	—	1,170
CTSUPHISupp: Cancer Trials Support Unit Phase II Supplemental Payments (N02-CM-62212): Children's Hospital of Philadelphia	93.UNKNOWN	None Identified	—	1,102
Treatment of Gardnerella Vaginalis Colonization: University of Alabama-Birmingham	93.UNKNOWN	000500918-T012-002	—	78,873
Antibiotic Safety in Infants with Complicated Intra-Abdominal Infections: Duke University	93.UNKNOWN	201316	—	11,169
A Randomized Phase III Trial of Adjuvant Therapy: NRG Oncology	93.UNKNOWN	None Identified	—	2,250
CTSU EAY131 – Molecular Analysis for Therapy Choice (MATCH): ECOG-ACRIN Cancer Research Group	93.UNKNOWN	None Identified	—	(6,860)
STI CTG TA2 T08 – A Phase III Comparative Trial of Benzathine Penicillin G: University of Alabama-Birmingham	93.UNKNOWN	000500918-T016-004	—	35,730
A Randomized Phase III Clinical Trial Evaluating Post-Mastectomy Chestwall, etc.: National Surgical Adjuvant Breast and Bowel Project	93.UNKNOWN	B-51	—	5,500
Systems Modeling Guided Bone Regeneration: University of Texas – Houston	93.UNKNOWN	None Identified	—	100
ASPIrin in Reducing Events in the Elderly eXTension protocol (ASPREE-XT): Minneapolis Medical Research Foundation	93.UNKNOWN	None Identified	—	34,245
Impact of Adolescent Nicotine Use on Nicotine Self-Administration in Adulthood: University of Pittsburgh	93.UNKNOWN	0059872 (130994-1)	—	(5,837)
Role of PUFA-Gene Interactions in Health Disparities: University of Arizona	93.UNKNOWN	494064	—	168,842
Jackson Heart Surveillance Study: University of Mississippi	93.UNKNOWN	66111350819-14	—	39,395
Implementing A Virtual Tobacco Treatment in Community Oncology Practices: Massachusetts General Hospital	93.UNKNOWN	232008	—	55,053
Jackson Heart Study Coordinating Center: University of Mississippi	93.UNKNOWN	66111350819-13	—	25,508
Phase III Trial to Evaluate the Efficacy and Safety of MK-3475 as Adjuvant Therapy: Southwest Oncology Group	93.UNKNOWN	None Identified	—	1,892
Jackson Heart Study: University of Mississippi	93.UNKNOWN	None Identified	—	3,619
Examining the Effects of Advertising, Packaging and Labeling on Perceptions, Use and Exposure of Combustible Tobacco Products: University of Pennsylvania	93.UNKNOWN	575399	—	24,124
Agile Vaccines and Immunotherapeutics Research: Henry Jackson Foundation	93.UNKNOWN	949941	—	88,665
Genetics of African American Type 2 Diabetes: Vanderbilt University	93.UNKNOWN	VUMC71249	—	247,149
Mycoplasma Genitalium Among Men with Urethritis Attending STD Clinics in the US: University of Alabama-Birmingham	93.UNKNOWN	000500918-T011-001	—	55,567
Molecular Basis of Exercise-induced Changes in HDL Function: University of South Carolina	93.UNKNOWN	19-3841	—	8,951
Reverse-Translate the Measures of Biological Aging to Cynomolgus Monkeys: Duke University Medical Center	93.UNKNOWN	A03-0907	—	9,632
Mutations in TP53 Underlying Aggressive Endometrial Cancer in African Americans: University of Texas M.D. Anderson Center Center	93.UNKNOWN	3001270174	—	27,308
Emotional Stress as a Risk Factor for Arrhythmia: Ischemic and Genetic Mechanisms: Emory University	93.UNKNOWN	None Identified	—	6,280
Replication and Extension of ADSP Discoveries in African-Americans: University of Miami	93.UNKNOWN	SPC-001051	—	60,349
Impact of Nicotine Reduction on Adolescent Cigarette Use, etc.: Brown University	93.UNKNOWN	00001306	—	10,137
Immunopathogenesis in Fungal Asthma: Tulane University Medical Center	93.UNKNOWN	TUL-HSC-556546-18/19	—	39,471
WHISH-2-Prevent Heart Failure Study: Kent County Memorial Hospital	93.UNKNOWN	5001381-SHUMAKER	—	7,305
Atherosclerosis Risk in Communities (ARIC) – Field Center: University of North Carolina at Chapel Hill	93.UNKNOWN	5109158	—	356,015
University of North Carolina at Chapel Hill	93.UNKNOWN	5109427	—	191,739
University of North Carolina at Chapel Hill	93.UNKNOWN	5112555	—	285,668
Total Atherosclerosis Risk in Communities (ARIC) – Field Center			—	833,422
Atherosclerosis Risk in Communities (ARIC) Study – Coordinating Center: University of North Carolina at Chapel Hill	93.UNKNOWN	5106342	—	27,445
University of North Carolina at Chapel Hill	93.UNKNOWN	5109241	—	20,294
University of North Carolina at Chapel Hill	93.UNKNOWN	5112636	—	53,696
Total Atherosclerosis Risk in Communities (ARIC) – Coordinating Center			—	101,435

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Multi-Ethnic Study of Atherosclerosis (MESA): University of Washington	93.UNKNOWN	UWSC8541/UWSC8897	\$ —	467,478
Sexually Transmitted Infections Clinical Trials Group: University of Alabama – Birmingham	93.UNKNOWN	000500918-T013-010	—	7,550
Womb to Tomb: Development Programming-aging Interactions in Primates: University of Wyoming	93.UNKNOWN	1004121B-WF	—	179,874
University of Wyoming	93.UNKNOWN	1004121G-WF	—	234,886
Subtotal National Institutes of Health Pass-Through Programs			624,422	22,091,125
Total National Institutes of Health			22,694,002	126,410,783
Food and Drug Administration Pass-Through Programs From: Food and Drug Administration_Research: Children's Hospital – Boston	93.103	GENFD0001539553	—	14,095
Total Food and Drug Administration			—	14,095
Substance Abuse and Mental Health Services Administration Direct Program: Substance Abuse and Mental Health Services_Projects of Regional and National Significance	93.243		78,750	270,778
Total Substance Abuse and Mental Health Services Administration			78,750	270,778
Health Services and Resources Administration Direct Programs: Maternal and Child Health Federal Consolidated Programs	93.110		—	58,124
Nurse Anesthetist Traineeship	93.124		—	54,989
Grants for Primary Care Training and Enhancement	93.884		—	455,719
Special Projects of National Significance	93.928		28,712	243,496
Subtotal Health Services and Resources Administration Direct Programs			28,712	812,328
Health Services and Resources Administration Pass-Through Programs From: Area Health Education Centers: University of North Carolina at Chapel Hill	93.107	5109108	13,611	23,987
University of North Carolina at Chapel Hill	93.107	5112711	—	73,403
Total Area Health Education Centers			13,611	97,390
Maternal and Child Health Federal Consolidated Programs: Hemophilia of Georgia, Inc.	93.110	5 H30MC24046-07-00	—	15,453
PPHF Geriatric Education Centers: University of North Carolina at Chapel Hill	93.969	5111028	—	10,829
Subtotal Health Services and Resources Administration Pass-Through Programs			13,611	123,672
Total Health Services and Resources Administration			42,323	936,000
Centers for Disease Control and Prevention Direct Programs: HIV Demonstration, Research, Public and Professional Education Projects	93.941		116,678	326,596
Assistance Programs for Chronic Disease Prevention and Control	93.945		169,020	810,031
Sexually Transmitted Diseases (STD) Provider Education Grants	93.978		26,151	348,175
Effectiveness and Cost-effectiveness of Glucose Lowering Medications in Type 2 Diabetes	93.UNKNOWN		—	127,261
Subtotal Centers for Disease Control and Prevention Direct Programs			311,849	1,612,063
Centers for Disease Control and Prevention Pass-Through Programs From: Birth Defects and Developmental Disabilities – Prevention and Surveillance: Duke University	93.073	216069	—	9,979
Blood Disorder Program: Prevention, Surveillance, and Research: University of North Carolina at Chapel Hill	93.080	5109317	—	7,260
University of North Carolina at Chapel Hill	93.080	5112775	—	17,283
Total Blood Disorder Program: Prevention, Surveillance, and Research			—	24,543
CDC and Prevention Investigations and Technical Assistance: North Carolina Department of Health and Human Services	93.283	None Identified	—	75,251
Community Anti-Drug Coalitions of America	93.283	CDCGHE 17-4408	—	30,342
Total CDC and Prevention Investigations and Technical Assistance			—	105,593
Sexually Transmitted Diseases Prevention and Control Grants: University of Alabama Birmingham	93.977	000506238-002	—	52,563
ELC Project K8 Threat of Antibiotic-Resistant Gonorrhea: Guilford County Health Department	93.UNKNOWN	Contract No. 102	—	(10,582)
Guilford County Health Department	93.UNKNOWN	Contract No. 848	—	270,682
Combined HIV and STD Prevention and Care for Vulnerable MSM and Transgender Women: University of North Carolina at Chapel Hill	93.UNKNOWN	5110457	—	11,922
University of North Carolina at Chapel Hill	93.UNKNOWN	5112088	—	95,991
Subtotal Centers for Disease Control and Prevention Pass-Through Programs			—	560,691
Total Centers for Disease Control and Prevention			311,849	2,172,754
Immed Office of the Secretary of Health and Human Services Pass-Through Programs: Advancing System Improvements for Key Issues in Women's Health: NC Coalition Against Domestic Violence	93.088	None Identified	—	7,481
Total Immed Office of the Secretary of Health and Human Services			—	7,481
Agency for Healthcare Research and Quality Direct Programs: Research on Healthcare Costs, Quality and Outcomes	93.226		18,243	235,468
Agency for Healthcare Research and Quality Pass-Through Programs: Research on Healthcare Costs, Quality, and Outcomes: Children's Hospital Medical Center – Cincinnati	93.226	305227 / PO 3100611304	—	25,364
Indiana University	93.226	IN4683532	—	264
Indiana University	93.226	IPID 00410654/NEG 134432	—	19,543
University of North Carolina at Chapel Hill	93.226	5101347	—	103,745
University of North Carolina at Chapel Hill	93.226	5111272	—	5,716
Total Research on Healthcare Costs, Quality, and Outcomes Pass-Through Programs			—	154,632
Total Agency for Healthcare Research and Quality			18,243	390,100
Office of Minority Health Direct Program: Community Programs to Improve Minority Health Grant Program	93.137		38,942	225,300
Total Office of Minority Health			38,942	225,300
Total U.S. Department of Health and Human Services			23,184,109	130,427,291

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Federal grantor/pass-through grantor/program or cluster title	Federal CFDA no. or other grant identifying no.	Pass-through entity identifying number	Passed through to subrecipients	Federal expenditures
U.S. Department of Defense:				
U.S. Department of Defense Direct Programs:				
Military Medical Research and Development:				
Department of Army	12.420		\$ 7,737,614	12,976,921
Basic Scientific Research:				
Department of Army	12.431		—	201,357
Integrated Organoid Testing System (INGOTS):				
Department of the Navy	12.UNKNOWN		132,666	439,893
Follow up REMIND Project for Development of a Human Memory Prosthetic:				
Defense Advance Research Project	12.UNKNOWN		1,446,953	2,219,249
Determining The Fundamental Differences Among Tissue Organoids From Different Species:				
Defense Threat Reduction Agency	12.UNKNOWN		—	144,609
Subtotal U.S. Department of Defense Direct Programs			<u>9,317,233</u>	<u>15,982,029</u>
U.S. Department of Defense Pass-Through Programs From:				
Military Medical Research and Development:				
American Burn Association	12.420	ABA W81XWH-11-1-0835	—	12,042
American Burn Association	12.420	ABA W81XWH-08-1-0760	—	262
American Burn Association	12.420	ABA W81XWH-16-2-0048	—	15,326
Henry Jackson Foundation	12.420	859167	—	560,080
Johns Hopkins University	12.420	2001950420	—	122
Johns Hopkins University	12.420	VUMC37447	—	30
Johns Hopkins University	12.420	None Identified	—	407
Johns Hopkins University	12.420	APL Contract No. 151535	—	134,324
The Geneva Foundation	12.420	S-1415-02	—	107,595
The Geneva Foundation	12.420	S-1414-03	—	35,579
The Metis Foundation	12.420	S-W81XWH-17-2-0002-003	—	151,042
University of California at San Diego	12.420	96446991 (MP Invoice #S9001830)	—	10,757
University of California at San Diego	12.420	96348471 (MP Invoice #S9001833)	—	21,208
University of California at San Diego	12.420	105647161 (MP Invoice #S90032013)	—	12,171
University of Kentucky	12.420	None Identified	—	4,337
University of Michigan	12.420	SUBK0005968PO 3005454891	—	19,516
University of Michigan	12.420	3004015397	—	107,307
University of Michigan	12.420	3004015759	—	95,625
University of Michigan	12.420	PO 3005446601	—	22,012
University of Pittsburgh	12.420	0046827(411515-1)	—	24,918
University of Pittsburgh	12.420	0046853 (411562-1)	—	21,038
University of Southern California	12.420	74957201 / WEI1872-06 / CTADODTAU1372	—	(6,650)
University of Texas-San Antonio	12.420	155615/155536	—	27,557
Total Military Medical Research and Development Pass-Through Programs			<u>—</u>	<u>1,376,605</u>
Basic Scientific Research:				
Virginia Polytechnic Institute and State University	12.431	450277-19541	—	42,710
Uniformed Services University Medical Research Projects:				
Henry Jackson Foundation	12.750	3125	—	432,078
Warrior Injury Assessment Manikin (WIAMan) Biomechanics Product Team:				
Johns Hopkins University	12.UNKNOWN	117216	—	89,550
Endovascular Perfusion Augmentation for Critical Care:				
Military and Health Research Foundation	12.UNKNOWN	SC-18-05/PO 0051	—	225,217
Surgical Timing and Rehabilitation (STaR) for Multiple Ligament Knee Injuries:				
University of Pittsburgh	12.UNKNOWN	0056666 (413614-20)	—	945
Pre-Clinical Assessment of Bioprinted Human Skin for Wound Healing and Skin Regeneration:				
Medical Technology Enterprise Consortium	12.UNKNOWN	None Identified	—	426,432
Universal Media for the Support and Expansion of Human Cells:				
RegenMed Development Organization	12.UNKNOWN	2017-601-001 (M)	—	758,619
RegenMed Development Organization	12.UNKNOWN	2017-601-001 (B)	—	967,080
Total Universal Media for the Support and Expansion of Human Cells			<u>—</u>	<u>1,725,699</u>
Subtotal U.S. Department of Defense Pass-Through Programs			<u>—</u>	<u>4,319,236</u>
Total U.S. Department of Defense			<u>9,317,233</u>	<u>20,301,265</u>
U.S. Department of Transportation:				
U.S. Department of Transportation Direct Programs:				
Crash Injury Research and Engineering Network Center				
National Highway Traffic Safety Administration	20.UNKNOWN		52,499	477,763
Total U.S. Department of Transportation			<u>52,499</u>	<u>477,763</u>
National Aeronautics and Space Administration:				
National Aeronautics and Space Administration Direct Programs:				
Exploration	43.003		—	186,564
Space Operations	43.007		63,886	302,129
Subtotal National Aeronautics and Space Administration Direct Programs			<u>63,886</u>	<u>488,693</u>
National Aeronautics and Space Administration Pass-Through Programs From:				
Exploration:				
Baylor College of Medicine	43.003	PO# 7000000584, TRISH Project# E00003	—	27,959
Baylor College of Medicine	43.003	7000000458	—	99,820
Baylor College of Medicine	43.003	PO # 7000000458	—	267,405
Medical College of Wisconsin	43.003	80NSSC19K0498	—	9,629
Subtotal National Aeronautics and Space Administration Pass-Through Programs			<u>—</u>	<u>404,813</u>
Total National Aeronautics and Space Administration			<u>63,886</u>	<u>893,506</u>
National Science Foundation:				
National Science Foundation Direct Programs:				
Engineering Grants	47.041		—	175,782
Biological Sciences	47.074		—	16,400
Social, Behavioral, and Economic Sciences	47.075		—	12,363
Education and Human Resources	47.076		27,133	405,771
Subtotal National Science Foundation Direct Programs			<u>27,133</u>	<u>610,316</u>

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National Science Foundation Pass-Through Programs From:				
Engineering Grants:				
North Carolina Agricultural and Technical College	47.041	260311A	\$ —	37,626
Total National Science Foundation			27,133	647,942
U.S. Department of Veterans Affairs:				
U.S. Department of Veterans Affairs Pass-Through Programs From:				
Effect of PDK1-E Cadherin Interaction in Prostate Cancer: W.G. Hefner VA Medical Center	64.UNKNOWN	None Identified	—	12,401
Total U.S. Department of Veterans Affairs			—	12,401
U.S. Environmental Protection Agency:				
U.S. Environmental Protection Agency Pass-Through Programs From:				
Science to Achieve Results (STAR) Research Program: University of Washington	66.509	UWSC10118	—	64,336
Total U.S. Environmental Protection Agency			—	64,336
U.S. Department of Education:				
U.S. Department of Education Direct Programs:				
Education Research, Development and Dissemination	84.305		25,830	147,438
Total U.S. Department of Education			25,830	147,438
Subtotal – Wake Forest University Health Sciences			32,670,690	152,971,942
Reynolds Campus:				
U.S. Department of Health and Human Services:				
National Institutes of Health Direct Programs:				
Aging Research	93.866		—	104,083
Allergy and Infectious Disease Research	93.855		45,106	248,428
Arthritis Musculoskeletal and Skin Diseases Research	93.846		738,452	1,129,891
Blood Diseases and Resources	93.839		—	82,982
Mental Health Research:	93.242		—	21,455
Biomedical Research and Research Training	93.859		—	103,774
Subtotal National Institutes of Health Direct Programs			783,558	1,690,613
National Institutes of Health Pass-Through Programs From:				
Aging Research :				
Ohio State University	93.866	60051416	—	60,434
DePaul University	93.866	None Identified	—	749
Allergy and Infectious Disease Research:				
Emory University	93.855	T405249	—	6,133
Biomedical Research and Research Training:				
Neuroglobin	93.859	0042274 (126454-1)	—	11,139
Arthritis Musculoskeletal and Skin Diseases Research				
Brigham & Women's Hospital	93.846	109136	—	12,103
Blood Diseases and Resources Research :				
University of Pittsburgh	93.839	0034673 (123613-1)	—	128,115
Cardiovascular Diseases Research:				
Northwestern University	93.837	60039432 WAFU	—	8,741
Drug Abuse and Addiction Research Programs:				
Ohio State University	93.279	60051416	—	18,976
Trans-NIH Research Support:				
University of Florida	93.310	UFDSP00011593	—	122,233
Subtotal U.S. Department of Health and Human Services Pass-Through Programs			—	368,623
Total U.S. Department of Health and Human Services			783,558	2,059,236
U.S. Department of Defense Direct Programs:				
Military Medical Research and Development:				
Department of Army	12.420		—	169,600
Air Force Defense Research Sciences Program:				
Air Force Office of Scientific Research	12.800		—	140,660
Total U.S. Department of Defense			—	310,260
U.S. Department of Homeland Security Direct Programs:				
Homeland Security Research, Development, Testing, Evaluation, and Demonstration of Technologies Related to Nuclear Threat Detection	97.077		—	46,304
Subtotal U.S. Department of Homeland Security Direct Programs			—	46,304
U.S. Department of Homeland Security Pass-Through Programs From:				
National Cyber Security Awareness:				
University of New Mexico	97.128	707791-874N	—	27,538
Total U.S. Department of Homeland Security			—	73,842
National Science Foundation Direct Programs:				
Engineering Grants	47.041		6,612	540,799
Mathematical and Physical Sciences	47.049		—	401,579
Geosciences	47.050		45,882	99,358
Computer and Information Science Engineering	47.070		—	53,275
Science and Technology Centers	47.073		—	23,035
Biological Sciences	47.074		44,988	764,608
Social, Behavioral, and Economic Sciences	47.075		13,450	133,933
Education and Human Resources	47.076		—	168,838
Subtotal National Science Foundation Direct Programs			110,932	2,185,425
National Science Foundation Pass-Through Programs From:				
Geosciences:				
Duke University	47.050	14-NSF-1032	—	6,331
Social, Behavioral, and Economic Sciences:				
Board of Trustees of the University of Illinois	47.075	None Identified	—	20,409
Education and Human Resources:				
Purdue University	47.076	4101-70770	—	5,590
Subtotal National Science Foundation Pass-Through Programs			—	32,330
Total National Science Foundation			110,932	2,217,755

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Agency for International Development Direct Programs: USAID Foreign Assistance for Programs Overseas	98.001		\$ —	612,279
Subtotal Agency for International Development Direct Programs			—	612,279
Agency for International Development Pass-Through Programs: USAID Foreign Assistance for Programs Overseas: National Academy of Sciences	98.001	200006099	—	48,263
Subtotal Agency for International Development Pass-Through Programs			—	48,263
Total Agency for International Development			—	660,542
U.S. Department of Energy Pass-Through Programs From: Improvement of Scintillators: Lawrence of Berkeley National Laboratory	81.UNKNOWN	7223011	—	89,571
Parallel Tensor Decompositions for Massive Data; Sandia National Laboratories	81.UNKNOWN	1877799	—	29,891
Office of Science Financial Assistance Program: University of Texas at Dallas	81.049	120063	—	147,297
Total U.S. Department of Energy			—	266,759
U.S. Department of Agriculture Direct Programs: Agriculture and Food Research Initiative	10.310		43,568	124,120
Subtotal U.S. Department of Agriculture			43,568	124,120
U.S. Department of Agriculture Pass-Through Programs: Summer Food Service Program for Children: North Carolina Department of Public Institution	10.559	9077	—	15,108
Subtotal U.S. Department of Agriculture Pass-Through Programs			—	15,108
Total U.S. Department of Agriculture			43,568	139,228
U.S. Department of State Direct Programs: Professional and Cultural Exchange Programs – Citizen Exchanges	19.415		—	129,605
Total U.S. Department of State			—	129,605
National Aeronautics and Space Administration Pass-Through Programs: Science: Streamline Automation, LLC	43.001	3009-SC-01-RO	—	56,984
Total National Aeronautics and Space Administration			—	56,984
National Endowment for the Arts Programs: Support the Creation and Presentation of Served by Forklift Danceworks	45.024		—	15,000
Total National Endowment for the Arts Programs			—	15,000
Subtotal – Reynolda Campus			938,058	5,929,211
Total Research and Development Cluster			33,608,748	158,901,153
Student Financial Assistance Cluster: Wake Forest University Health Sciences: U.S. Department of Education Direct Programs: Federal Direct Student Loans	84.268		—	31,563,349
Subtotal U.S. Department of Education Direct Programs			—	31,563,349
Total U.S. Department of Education			—	31,563,349
Subtotal – Wake Forest University Health Sciences			—	31,563,349
Reynolda Campus: U.S. Department of Education Direct Programs: Federal Supplemental Educational Opportunity Grant	84.007		—	651,780
Federal Direct Student Loans	84.268		—	45,114,555
Federal Work Study Program	84.033		—	827,227
Federal Perkins Loan Program	84.038		—	16,908,191
Federal Pell Grant Program	84.063		—	2,348,233
Subtotal U.S. Department of Education Direct Programs			—	65,849,986
Total U.S. Department of Education			—	65,849,986
Subtotal – Reynolda Campus			—	65,849,986
Total Student Financial Assistance Cluster			—	97,413,335
Training and other programs: Wake Forest University Health Sciences: U.S. Department of Health and Human Services Pass-Through Programs From: HIV Care Formula Grants: Central Carolina Health Network	93.917	CFY2018-2019-WFMC-Part B	—	17,614
Central Carolina Health Network	93.917	CFY2019-2020-WFMC-Part B	—	9,506
Central Carolina Health Network	93.917	CFY2018-2019-WFMC-Part D	—	20,224
North Carolina Department of Health & Human Services	93.917	00034892	—	(32)
North Carolina Department of Health & Human Services	93.917	00036469	—	814,124
Total HIV Care Formula Grants			—	861,436
Grants to Provide Outpatient Early Intervention Services with Respect to HIV Disease: Health Resources and Services Administration	93.918		—	378,280
Coordinated Services and Access to Research for Women, Infants, Children, and Youth: Health Resources and Services Administration	93.153		—	431,994
Ryan White HIV/AIDS Dental Reimbursement and Community Based Dental Partnership Grants: Health Resources and Services Administration	93.924		—	43,512
Subtotal Pass-Through Programs from U.S. Department of Health and Human Services			—	1,715,222
Total training and other programs			—	1,715,222
Total expenditures of federal awards			\$ 33,608,748	258,029,710

See accompanying notes to schedule of expenditures of federal awards and schedule of expenditures of state awards.

WAKE FOREST UNIVERSITY

Schedule of Expenditures of State Awards

Year ended June 30, 2019

State grantors/pass-through grantors/agencies	State expenditures
Wake Forest University Health Sciences:	
NC Department of Health and Human Services	\$ 4,883,662
NC Department of Commerce	(34,730)
North Carolina State Education Assistance Authority:	
Forgivable Education Loans for Services (FELS)	712,000
NC National Guard Tuition Assistance Program (NCTAP)	1,500
State of NC pass-through funds from:	
North Carolina Biotechnology Center:	
LacunaDx A Novel Nucleic Acid-Based Point-of Care Diagnostic for ID	31,341
Stable Zirconium-89 Labeling of Monoclonal Antibodies	6,100
Regenerative Medicine Essentials	3,000
Duke University:	
NC Brain Health Registry	103,315
University of North Carolina at Chapel Hill:	
UNC General Administration Support	9,585,436
AHEC Practice Support Services	197,344
UNC Award #2000028972	2,514,664
AHEC Operating Funds (Outreach)	4,104,036
AHEC Nursing Grant Award	(286)
AHEC Mental Health Award	137
AHEC NCBH Residency Grant	424,440
AHEC Office of Rural Primary Care Education	(8,307)
Governor's Institute on Alcohol and Substance Abuse:	
SPF-Rx PDMP Data Analysis and Support	47,997
North Carolina Hospital Foundation:	
NC Emergency Department Peer Support Program	109,051
NC Technical Assistance for the Peer Support Program	69,596
Subtotal – Wake Forest University Health Sciences	22,750,296
Reynolda Campus:	
Forgivable Education Loans for Services (FELS)	4,954
Golden LEAF Scholarship Program (GOLD)	12,000
NC National Guard Tuition Assistance Program (NCTAP)	23,800
NC Need-Based Scholarships (NBS)	1,430,934
Subtotal – Reynolda Campus	1,471,688
Total expenditures of state awards	\$ 24,221,984

See accompanying notes to schedule of expenditures of federal awards and schedule of expenditures of state awards.

WAKE FOREST UNIVERSITY

Notes to Schedule of Expenditures of Federal Awards and Schedule of Expenditures of State Awards

Year ended June 30, 2019

(1) Basis of Presentation

The accompanying schedule of expenditures of federal awards (the schedule) includes all grants, contracts, and similar agreements entered into directly between Wake Forest University (the University) and agencies and departments of the federal government and all subawards to the University by nonfederal organizations pursuant to federal grants, contracts, and similar agreements and is presented on the accrual basis of accounting. The information in the schedule is presented in accordance with the requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Therefore, some amounts presented in the schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements.

The accompanying schedule of expenditures of state awards includes all grants, contracts, and similar agreements entered into directly between the University and agencies and departments of the state government and all subawards to the University by nonfederal organizations pursuant to state grants, contracts, and similar agreements and is presented on the accrual basis of accounting.

(2) Summary of Significant Accounting Policies

Expenditures for certain federal student financial aid programs are recognized as incurred and include the federal share of students' Federal Supplemental Educational Opportunity Grant (FSEOG) program grants and Federal Work Study (FWS) program earnings, Pell grants, loan disbursements, and administrative cost allowances, where applicable.

Expenditures for other federal awards of the University's academic and other divisions are recognized following, as applicable, either the cost principles in OMB Circular A-21, *Cost Principles for Educational Institutions*, or the cost principles contained in Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards*, wherein certain types of expenditures are not allowable or are limited as to reimbursement.

Expenditures for nonfinancial aid awards include indirect costs, related primarily to facilities operation and maintenance and general, divisional, and departmental administrative services, which are allocated to direct cost objectives (including federal awards) based on negotiated formulas commonly referred to as facilities and administrative cost rates. Facilities and administrative costs allocated to such awards for the year ended June 30, 2019 were based on predetermined rates negotiated with the University's cognizant federal agency, the U.S. Department of Health and Human Services. The University has elected not to use the 10-percent de minimis indirect cost rate as allowed under the Uniform Guidance.

Negative balances presented in the schedule represent programs with unfunded expenditures prior to normal close-out procedures, which were subsequently transferred to nonfederal cost centers.

WAKE FOREST UNIVERSITY

Notes to Schedule of Expenditures of Federal Awards
and Schedule of Expenditures of State Awards

Year ended June 30, 2019

(3) Summary of Facilities and Administrative Costs and Administrative Cost Allowances – Governmental Sources

Facilities and administrative cost recoveries and administrative cost allowances for the University's academic and other divisions for the year ended June 30, 2019 are summarized as follows:

Federal:		
Research and development	\$	41,250,391
Student financial aid		<u>93,594</u>
Total	\$	<u><u>41,343,985</u></u>

(4) Federal Student Financial Aid Loan Programs

The Federal Perkins Loan, Health Professions Student Loan (HPSL), and the Primary Care Loan (PCL) programs are administered directly by the University and balances and transactions relating to these programs are included in the University's basic financial statements. There were no current year loaned amounts under the Federal Perkins Loan program. There were no current year loaned amounts under HPSL and PCL. The balance of loans outstanding under the Federal Perkins Loan program was \$14,257,827 as of June 30, 2019. There were no loans outstanding for the HPSL and PCL programs as of June 30, 2019.

The University disbursed the following amounts of new loans under the Federal Direct Student Loan Program to students of the University during the year ended June 30, 2019:

Federal Direct Student Loan Program:		
Federal subsidized Stafford loans	\$	3,479,728
Federal unsubsidized Stafford loans		42,934,536
Federal PLUS loans		<u>30,263,640</u>
Total	\$	<u><u>76,677,904</u></u>

The University is responsible only for the performance of certain administrative duties with respect to the Federal Direct Student Loan Program and, accordingly, these loans are not included in its basic financial statements. It is not practicable to determine the balance of loans outstanding to students and former students of the University under these programs as of June 30, 2019.

(5) Matching

Under the FWS program, the University matched \$243,934 in compensation to students for the year ended June 30, 2019 in addition to the federal share of expenditures in the accompanying schedule.

Under the FSEOG program, the University matched \$216,827 in funds awarded to students for the year ended June 30, 2019 in addition to the federal share of expenditures in the accompanying schedule.



KPMG LLP
Suite 400
300 North Greene Street
Greensboro, NC 27401

**Independent Auditors' Report on Internal Control Over Financial Reporting
and on Compliance and Other Matters Based on an Audit of
Financial Statements Performed in Accordance With *Government Auditing Standards***

The Board of Trustees
Wake Forest University:

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States, the consolidated financial statements of Wake Forest University (the University), which comprise the consolidated balance sheet as of June 30, 2019, and the related consolidated statements of activities and cash flows for the year then ended, and the related notes to the consolidated financial statements, and have issued our report thereon dated October 21, 2019, which included an emphasis of matter paragraph indicating the University adopted Accounting Standards Update 2014-09, *Revenue from Contracts with Customers*, as amended, Accounting Standards Update 2016-14, *Not-for-Profit Entities: Presentation of Financial Statements of Not-for-Profit Entities*, and Accounting Standards Update 2018-08, *Not-for-Profit Entities – Clarifying the Scope and Accounting Guidance for Contributions Received and Contributions Made*, during the year ended June 30, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the consolidated financial statements, we considered The University's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the consolidated financial statements, but not for the purpose of expressing an opinion on the effectiveness of the University's internal control. Accordingly, we do not express an opinion on the effectiveness of the University's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A material weakness is a deficiency, or combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis. A significant deficiency is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the University's consolidated financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with



those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the University's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the University's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

KPMG LLP

Greensboro, North Carolina
October 21, 2019



KPMG LLP
Suite 400
300 North Greene Street
Greensboro, NC 27401

Independent Auditors' Report on Compliance for Each Major Federal Program; Report on Internal Control over Compliance; and Report on the Schedule of Expenditures of Federal Awards Required by the Uniform Guidance and the Schedule of Expenditures of State Awards

The Board of Trustees
Wake Forest University:

Report on Compliance for Each Major Federal Program

We have audited Wake Forest University's (the University) compliance with the types of compliance requirements described in the *OMB Compliance Supplement* that could have a direct and material effect on the University's major federal program for the year ended June 30, 2019. The University's major federal program is identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs.

The University's financial statements include the operations of RegenMed Development Organization which expended \$2,060,323 in federal awards which are not included in the schedule of expenditures of federal awards for the year ended June 30, 2019. Our audit, described below, did not include the operations of RegenMed Development Organization because the affiliate engaged other auditors to perform an audit in accordance with the Uniform Guidance.

Management's Responsibility

Management is responsible for compliance with federal statutes, regulations, and the terms and conditions of its federal awards applicable to its federal programs.

Auditors' Responsibility

Our responsibility is to express an opinion on compliance for the University's major federal program based on our audit of the types of compliance requirements referred to above. We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the audit requirements of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (Uniform Guidance). Those standards and the Uniform Guidance require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the University's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for the major federal program. However, our audit does not provide a legal determination of the University's compliance.

Opinion on the Major Federal Program

In our opinion, the University complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on its major federal program for the year ended June 30, 2019.



Other Matters

The results of our auditing procedures disclosed instances of noncompliance, which are required to be reported in accordance with the Uniform Guidance and which are described in the accompanying schedule of findings and questioned costs as items 2019-001, 2019-002, 2019-003 and 2019-004. Our opinion on each major federal program is not modified with respect to these matters.

The University's responses to the noncompliance findings identified in our audit are described in the accompanying schedule of findings and questioned costs. The University is also responsible for preparing a corrective action plan to address each audit finding included in our auditors' report. The University's responses and corrective action plan were not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the responses or the corrective action plan.

Report on Internal Control over Compliance

Management of the University is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the University's internal control over compliance with the types of requirements that could have a direct and material effect on a major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with the Uniform Guidance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over compliance.

A deficiency in internal control over compliance exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A material weakness in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance, such that there is a reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. A significant deficiency in internal control over compliance is a deficiency, or a combination of deficiencies, in internal control over compliance with a type of compliance requirement of a federal program that is less severe than a material weakness in internal control over compliance, yet important enough to merit attention by those charged with governance.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that have not been identified. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses. However, we did identify certain deficiencies in internal control over compliance, described in the accompanying schedule of findings and questioned costs as items 2019-001, 2019-002, 2019-003 and 2019-004, that we consider to be significant deficiencies.

The University's responses to the internal control over compliance findings identified in our audit are described in the accompanying schedule of findings and questioned costs. The University is also responsible for preparing a corrective action plan to address each audit finding included in our auditor's report. The University's responses and corrective action plan were not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the responses or the corrective action plan.

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of the Uniform Guidance. Accordingly, this report is not suitable for any other purpose.



Report on Schedule of Expenditures of Federal Awards Required by the Uniform Guidance and the Schedule of Expenditures of State Awards

We have audited the consolidated financial statements of the University as of and for the year ended June 30, 2019, and have issued our report thereon dated October 21, 2019 which contained an unmodified opinion on those consolidated financial statements. Our audit was conducted for the purpose of forming an opinion on the consolidated financial statements as a whole. The accompanying schedule of expenditures of federal awards is presented for purposes of additional analysis as required by the Uniform Guidance and is not a required part of the consolidated financial statements. The accompanying schedule of expenditures of state awards is also presented for purposes of additional analysis and is not a required part of the consolidated financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the consolidated financial statements. The information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the consolidated financial statements or to the consolidated financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the schedule of expenditures of federal awards and the schedule of expenditures of state awards are fairly stated in all material respects in relation to the consolidated financial statements as a whole.

KPMG LLP

Greensboro, North Carolina
December 2, 2019

WAKE FOREST UNIVERSITY
Schedule of Findings and Questioned Costs
Year ended June 30, 2019

(1) Summary of Auditors' Results

- (a) Type of report issued on whether the financial statements were prepared in accordance with generally accepted accounting principles: **Unmodified**
- (b) Internal control deficiencies over financial reporting disclosed by the audit of the financial statements:
 - Material weaknesses: **No**
 - Significant deficiencies: **None Reported**
- (c) Noncompliance material to the financial statements: **No**
- (d) Internal control deficiencies over major programs disclosed by the audit:
 - Material weaknesses: **No**
 - Significant deficiencies: **Yes, 2019-001, 2019-002, 2019-003, and 2019-004**
- (e) Type of report issued on compliance for major programs: **Unmodified**
- (f) Audit findings that are required to be reported in accordance with 2 CFR 200.516(a): **Yes, 2019-001, 2019-002, 2019-003, and 2019-004**
- (g) Major program: Student Financial Assistance Cluster – various CFDA numbers
- (h) Dollar threshold used to distinguish between Type A and Type B programs: **\$3,000,000**
- (i) Auditee qualified as a low-risk auditee: **Yes**

(2) Findings Relating to the Financial Statements Reported in Accordance with *Government Auditing Standards*

None

(3) Findings and Questioned Costs Relating to Federal Awards

Finding 2019-001: Procurement

Federal Agency

U.S. Department of Health and Human Services; National Science Foundation

Federal Program

Research and Development Cluster

WAKE FOREST UNIVERSITY
 Schedule of Findings and Questioned Costs
 Year ended June 30, 2019

Federal Award Number and Federal Award Year

<i>CFDA</i>	<i>Federal Award Number</i>	<i>Federal Award Year</i>
93.279	5PD50DA037844-06	May 1, 2018 through December 31, 2019
93.279	5R01DA017763-12	September 30, 2018 through July 31, 2019
47.041	1659663	October 1, 2017 through September 30, 2020

Criteria

Per 2 CFR Section 215.46, procurement records shall include at a minimum: 1) basis for contractor selection; 2) justification for lack of competition, and 3) basis for price.

Per 2 CFR 200.303, the non-Federal entity must establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award.

Condition

For a nonmajor program, the Research and Development cluster, while testing the remediation from the prior year finding, for 3 of 27 procurement transactions sampled, there was not sufficient documentation maintained to justify the lack of competition related to each procurement at the time of purchase.

Cause and Effect

The procurement transactions did not include documentation sufficient to support lack of competition prior to the purchase authorization.

Questioned Costs

None identified.

Sampling

The sample was not intended to be, and was not, a statistically valid sample.

Repeat Finding in the Prior Year

A similar finding was reported in prior year's audit as finding 2018-001.

Recommendation

We recommend the University reinforce their procurement policies and procedures, which are designed to comply with 2 CFR Section 215.46, to ensure that approval of a sole-source procurement transaction cannot be completed without the documentation of justification for lack of competition. This documentation should be maintained.

Views of Responsible Officials

We concur with the auditor's assessment and have amended sponsored research procurement approval procedures to require appropriate documentation prior to approval.

WAKE FOREST UNIVERSITY
Schedule of Findings and Questioned Costs
Year ended June 30, 2019

Finding 2019-002: Disbursement to or on behalf of students

Federal Agency

U.S. Department of Education

Federal Program

Student Financial Assistance Cluster (CFDA # 84.268)

Federal Award Number and Federal Award Year

P268K196998, P268K196952, P268K196953; July 1, 2018 through June 30, 2019

Criteria

Per 34 CFR Section 668.165(a), the institution must notify a student of the amount of funds that the student or his or her parent can expect to receive, no later than 30 days before, and no later than 30 days after, crediting the student's account at the institution.

Per 2 CFR 200.303, the non-Federal entity must establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award.

Condition

For 8 of 40 students, documentation could not be provided to evidence the required loan disbursement notification.

Cause and Effect

Management's control around review of the loan disbursement notification process did not operate effectively to ensure that the disbursement notification process was complete and timely.

Questioned Costs

None identified.

Sampling

The sample was not intended to be, and was not, a statistically valid sample.

Repeat Finding in the Prior Year

No.

Recommendation

We recommend the University enhance the control activity around the review of the loan disbursement notification process to determine that the notification has been sent and is timely.

WAKE FOREST UNIVERSITY
Schedule of Findings and Questioned Costs
Year ended June 30, 2019

Views of Responsible Officials

The University agrees this recommendation. The University has established a notification reminder process based on each school's academic calendar. Additionally, a system control has been implemented that will identify notification send errors that occur. These controls will enable the University to identify and resolve notification issues in a timely manner.

Finding 2019-003: Eligibility

Federal Agency

U.S. Department of Education

Federal Program

Student Financial Assistance Cluster (CFDA # 84.268)

Federal Award Number and Federal Award Year

P268K196953; July 1, 2018 through June 30, 2019

Criteria

For Title IV programs, the cost of attendance (COA) is generally the sum of the following: tuition and fees; an allowance for books, supplies, transportation and miscellaneous personal expenses; an allowance for room and board; where applicable, allowances for costs for dependent care; costs associated with study abroad and cooperative education; costs related to disabilities; and fees charged for student loans.

Per 2 CFR 200.303, the non-Federal entity must establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award.

Condition

For 5 of 40 students, the COA was calculated incorrectly for which resulted in one of the five exceptions being overawarded by \$275. The aggregate amount of federal aid sampled was \$1,175,798.

Cause and Effect

Management's process for reviewing student financial aid award packages was not sufficiently precise to identify differences in the COA calculations.

Questioned Costs

There were known questioned costs of \$275.

Sampling

The sample was not intended to be, and was not, a statistically valid sample.

WAKE FOREST UNIVERSITY
Schedule of Findings and Questioned Costs
Year ended June 30, 2019

Repeat Finding in the Prior Year

No.

Recommendation

We recommend the University enhance the control activity around the review of student financial aid packages to include a more precise review of COA.

Views of Responsible Officials

The University agrees with this recommendation. The University completed a full review of student accounts impacted by this COA calculation error. A total of \$6,953 in related over awards were identified and have been returned to the Department of Education. The University will implement additional review controls around the COA calculation before it is entered into the financial aid system of record. Additionally, the final approved COA documents will be compared to the COA billed to the student's financial account to ensure accuracy.

Finding 2019-004: Verification

Federal Agency

U.S. Department of Education

Federal Program

Student Financial Assistance Cluster (CFDA # 84.268, 84.063, 84.007, 84.033)

Federal Award Number and Federal Award Year

P268K191963, P063P181963, P007A183185, P033A183185; July 1, 2018 through June 30, 2019

Criteria

Per 34 CFR 668.54, an institution must require an applicant whose Free Application for Federal Student Aid (FAFSA) information is selected for verification by the Secretary, to verify the information specified by the Secretary is accurate.

Per 2 CFR 200.303, the non-Federal entity must establish and maintain effective internal control over the Federal award that provides reasonable assurance that the non-Federal entity is managing the Federal award in compliance with Federal statutes, regulations, and the terms and conditions of the Federal award.

Condition

For 2 of 40 students selected, one student's income per the W2 was less than that per the Institutional Student Information Record (ISIR). The second student's Adjusted Gross Income (AGI) per the parent's tax return was less than that per the ISIR. These differences did not have an impact on the financial award amount disbursed for these students. Both of these exceptions were not identified through the University's verification process.

WAKE FOREST UNIVERSITY
Schedule of Findings and Questioned Costs
Year ended June 30, 2019

Cause and Effect

The control that another financial aid office counselor (different than the counselor performing the verification) reviews the file after the verification is complete for completeness and accuracy is not being performed at a level to identify all discrepancies.

Questioned Costs

None identified.

Sampling

The sample was not intended to be, and was not, a statistically valid sample.

Repeat Finding in the Prior Year

No.

Recommendation

We recommend the University enhance the precision of the control around the review of the verification process.

Views of Responsible Officials

The University agrees with this recommendation. The University has re-emphasized the importance of precision in their review process and has separated responsibilities for need analysis and packaging from responsibilities for verification.

Financial Services

Janet Williams, Vice President for Finance

Please note the findings occurred at Wake Forest University Health Sciences, a wholly owned subsidiary of Wake Forest University.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

Summary of Prior Year Audit Findings

Year ended June 30, 2019

Finding No. 2018-001: Procurement**Grant Program/CFDA #:** Research and Development Cluster/Various**Requirement**

Per 2 CFR Section 215.46, procurement records shall include at a minimum: 1) basis for contractor selection; 2) justification for lack of competition, and 3) basis for price.

Finding

For 19 of 40 procurement transactions sampled, there was not sufficient documentation maintained to justify the lack of competition related to each procurement at the time of purchase.

Status

Partially Corrected

Reason for Findings Recurrence

The structure of the internal control was effectively designed; however, the attention and execution of the control appears to have lapsed for a period of time due to the management and staff turnover in the Office of Sponsored Programs, as well as the decentralized nature of the process initiation at the department level.

Corrective Action Taken to Date

The Office of Sponsored Programs and Strategic Sourcing have successfully implemented a multi-layer review and approval process that will capture all transactions and allow for adequate reviews of supporting documentation in a controlled environment.

Remaining Corrective Actions

Continued education and outreach in the form of recurrent institutional instruction, webinars and presentations to ensure policy adherence.

Person Responsible for Corrective Action

Chris O'Byrne, Vice President and Associate Dean of Research Administration & Operations, Wake Forest University Health Sciences

Finding No. 2018-002: Equipment

Grant Program/CFDA #: Research and Development Cluster/Various

Requirement

Per 2 CFR Section 200.313(d)(2), a physical inventory of Federal property and equipment must be taken and the results reconciled with the property records at least once every 2 years.

Finding

For 9 out of 50 departments sampled, documentation could not be provided to show that all the department's federally funded assets in the data center location had been inventoried within the required timeframe. The other (non-data center) federally funded assets within the 9 departments were inventoried within the timeframe.

Status

Fully corrected

Corrective Action Taken To Date

The Data Center assets are now being inventoried per WFUHS and Federal inventory guidelines and this finding was not repeated in the current year.

Person Responsible for Corrective Action

Joseph Dolan, Associate Vice President and Controller, Wake Forest University Health Sciences



WAKE FOREST
UNIVERSITY

Financial Services

Janet Williams, Vice President for Finance

The finding below occurred at Wake Forest University Health Sciences, a wholly owned subsidiary of Wake Forest University.

WAKE FOREST UNIVERSITY HEALTH SCIENCES

Corrective Action Plan

Year ended June 30, 2019

Finding No. 2019-001: Procurement

Corrective Action Planned

We have amended our Standard Operating Policy to enhance the level of review during the approval process for procurement on federally sponsored awards and continue to require appropriate supporting documentation, per Uniform Guidance (UG), prior to approval. We have already presented on the UG requirement surrounding procurement documentation to our research department personnel responsible for purchasing in order to communicate and raise awareness of the requirements.

Person Responsible for Corrective Action

Chris O'Byrne, Vice President and Associate Dean of Research Administration & Operations

Anticipated Completion Date

December 2019

The findings below occurred at Wake Forest University.

WAKE FOREST UNIVERSITY

Corrective Action Plan

Year ended June 30, 2019

Finding No. 2019-002: Disbursement to or on behalf of students

Corrective Action Planned

The University agrees this recommendation. The University has established a notification reminder process based on each school's academic calendar. Additionally, a system control has been implemented that will identify notification send errors that occur. These controls will enable the University to identify and resolve notification issues in a timely manner.

Person Responsible for Corrective Action

Bill Wells, Director, Financial Aid

Anticipated Completion Date

December 2019

Finding No. 2019-003: Eligibility

Corrective Action Planned

The University agrees with this recommendation. The University completed a full review of student accounts impacted by this COA calculation error. A total of \$6,953 in related over awards were identified and have been returned to the Department of Education. The University will implement additional review controls around the COA calculation before it is entered into the financial aid system of record. Additionally, the final approved COA documents will be compared to the COA billed to the student's financial account to ensure accuracy.

Person Responsible for Corrective Action

Bill Wells, Director, Financial Aid

Anticipated Completion Date

December 2019

Finding No. 2019-004: Verification

Corrective Action Planned

The University agrees with this recommendation. The University has re-emphasized the importance of precision in their review process and has separated responsibilities for need analysis and packaging from responsibilities for verification.

Person Responsible for Corrective Action

Bill Wells, Director, Financial Aid

Anticipated Completion Date

December 2019