

# MANAGEMENT'S DISCUSSION AND ANALYSIS

(UNAUDITED)

## INTRODUCTION

The following discussion and analysis provides an overview of the financial position of the University of Michigan (the "University") at June 30, 2016 and 2015 and its activities for the three fiscal years ended June 30, 2016. This discussion has been prepared by management and should be read in conjunction with the financial statements and the notes thereto, which follow this section.

The University is a comprehensive public institution of higher learning with over 61,000 students and approximately 7,900 faculty members on three campuses in southeast Michigan. The University offers a diverse range of degree programs from baccalaureate to post-doctoral levels through 19 schools and colleges, and contributes to the state and nation through related research and public service programs. The University also has a nationally renowned health system which includes three hospitals, 40 health centers, more than 150 outpatient clinics, the University's Medical School and Michigan Health Corporation, a wholly-owned corporation created to pursue joint venture and managed care initiatives. The University employs over 46,000 regular employees and approximately 13,000 temporary staff.

The University consistently ranks among the nation's top universities by various measures of quality, both in general academic terms, and in terms of strength of offerings in specific academic disciplines and professional subjects. Research is central to the University's mission and a key aspect of its strong reputation among educational institutions. The University is widely recognized for the breadth and excellence of its research enterprise as well as for the exceptional level of cooperation across disciplines, which allows faculty and students to address the full complexity of real-world challenges. The University's Health System also has a tradition of excellence in teaching, advancement of medical science and patient care, consistently ranking among the best health care systems in the nation.

## FINANCIAL HIGHLIGHTS

The University's financial position remains strong, with assets of \$18.5 billion and liabilities of \$5.5 billion at June 30, 2016, compared to assets of \$18.5 billion and liabilities of \$5.2 billion at June 30, 2015. Net position, which represents the residual interest in the University's assets after liabilities are deducted, totaled \$13.0 billion and \$13.3 billion at June 30, 2016 and 2015, respectively. Changes in net position represent the University's results of operations and are summarized for the years ended June 30, 2016 and 2015 as follows:

(in millions)	2016	2015
Operating revenues and educational appropriations	\$ 6,667.1	\$ 6,307.6
Private gifts for operating activities	167.2	172.0
Operating and net interest expenses	(7,200.8)	(6,735.1)
	(366.5)	(255.5)
Net investment (loss) income	(129.7)	357.8
Endowment, capital gifts and grants and other	201.6	135.4
(Decrease) increase in net position	\$ (294.6)	\$ 237.7

Net position decreased \$295 million in 2016 after an increase of \$238 million in 2015 primarily as a result of a net investment loss of \$130 million in 2016, as compared to net investment income of \$358 million in 2015.

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In 2016, operating revenues and educational appropriations increased 5.7 percent, or \$360 million, while total operating and net interest expenses increased 6.9 percent, or \$466 million. Endowment, capital gifts and grants and other revenues increased \$66 million in 2016 as a result of state capital appropriations and underlying activity associated with the Victors for Michigan campaign which was launched in November 2013.

The results of operations reflect the University's focus on maintaining its national standards academically, in research and in health care within a competitive recruitment environment for faculty and health care professionals and a period of reduced federal funding for research. At the same time, the University is addressing constrained state appropriations and rising health care, regulatory and facility costs with aggressive cost cutting and productivity gains to help preserve access to affordable higher education for Michigan families. To achieve aggressive and sustainable long-term goals for cost cutting and productivity gains, the University is also strategically utilizing resources to bridge cuts and support enterprise-wide information technology projects and other initiatives.

The University's long-term investment strategy combined with its endowment spending policy serves to insulate operations from expected volatility in the capital markets and provides for a stable and predictable level of spending distributions from the endowment. Endowment spending rate distributions to University units totaled \$296 million and \$286 million in 2016 and 2015, respectively. The success of the University's long-term investment strategy is evidenced by strong returns over sustained periods of time and the ability to limit losses in the face of challenging markets.

The University invests its financial assets in pools with distinct risk and liquidity characteristics based on its needs, with most of its financial assets invested in two such pools. The University's working capital is primarily invested in relatively short duration, liquid assets, through its Daily and Monthly Portfolios, while the endowment is invested, along with the noncurrent portion of the insurance and benefit reserves, in an equity oriented long-term strategy through its Long Term Portfolio.

## USING THE FINANCIAL STATEMENTS

The University's financial report includes three financial statements: the Statement of Net Position; the Statement of Revenues, Expenses and Changes in Net Position; and the Statement of Cash Flows. These financial statements are prepared in accordance with Governmental Accounting Standards Board ("GASB") principles, which establish standards for external financial reporting for public colleges and universities.

## STATEMENT OF NET POSITION

The statement of net position presents the financial position of the University at the end of the fiscal year and includes all assets and liabilities of the University. The difference between total assets and total liabilities – net position – is one indicator of the current financial condition of the University, while the change in net position is an indication of whether the overall financial condition has improved or worsened during the year. A comparison of the University's assets, liabilities and net position at June 30, 2016 and 2015 is summarized as follows:

(in millions)	2016	2015
Current assets	\$ 2,445	\$ 2,243
Noncurrent assets:		
Endowment, life income and other investments	10,046	10,264
Capital assets, net	5,709	5,622
Other	350	349
<b>Total assets</b>	<b>18,550</b>	<b>18,478</b>
Current liabilities	1,771	1,640
Noncurrent liabilities	3,778	3,542
<b>Total liabilities</b>	<b>5,549</b>	<b>5,182</b>
<b>Net position</b>	<b>\$ 13,001</b>	<b>\$ 13,296</b>

The University continues to maintain and protect its strong financial foundation. This financial health, as reflected in the statement of net position at June 30, 2016 and 2015, results from the prudent utilization of financial resources including careful cost controls, preservation of endowment funds, conservative utilization of debt and adherence to a long-range capital plan for the maintenance and replacement of the physical plant.

Current assets consist primarily of cash and cash equivalents, operating and capital investments and accounts receivable and totaled \$2.4 billion and \$2.2 billion at June 30, 2016 and 2015, respectively. Cash, cash equivalents and investments for operating activities totaled \$1.2 billion at June 30, 2016, which represents approximately two months of total expenses excluding depreciation.

Current liabilities consist primarily of accounts payable, accrued compensation, unearned revenue, commercial paper, the current portion of bonds payable and net long-term bonds payable subject to remarketing. Current liabilities totaled \$1.8 billion and \$1.6 billion at June 30, 2016 and 2015, respectively.

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## ENDOWMENT, LIFE INCOME AND OTHER INVESTMENTS

The composition of the University's endowment, life income and other investments at June 30, 2016 and 2015 is summarized as follows:

(in millions)	2016	2015
Endowment investments	\$ 9,743	\$ 9,952
Life income investments	111	111
Noncurrent portion of insurance and benefits obligations investments	192	201
	\$ 10,046	\$ 10,264

The University's endowment funds consist of both permanent endowments and funds functioning as endowment. Permanent endowments are those funds received from donors with the stipulation that the principal remain intact and be invested in perpetuity to produce income that is to be expended for the purposes specified by the donors. Funds functioning as endowment consist of amounts (restricted gifts or unrestricted funds) that have been allocated by the University for long-term investment purposes, but are not limited by donor stipulations requiring the University to preserve principal in perpetuity. Programs supported by endowment funds include scholarships, fellowships, professorships, research efforts and other important programs and activities.

The University uses its endowment funds to support operations in a way that strikes a balance between generating a predictable stream of annual support for current needs and preserving the purchasing power of the endowment funds for future periods. The major portion of the endowment is maintained in the University Endowment Fund, a unitized pool which represents a collection of approximately 9,800 separate (individual) funds, the majority of which are restricted for specific purposes. The University Endowment Fund is invested in the University's Long Term Portfolio, a single diversified investment pool.

The endowment spending rule provides for distributions from the University Endowment Fund to the units that benefit from the endowment fund. At June 30, 2016 and 2015, the annual distribution rate was 4.5 percent of the one-quarter lagged seven year moving average fair value of University Endowment Fund shares. The University's endowment spending rule is one element of an ongoing financial management strategy that has allowed the University to effectively weather the challenging economic environment while avoiding measures such as faculty hiring freezes, furloughs, program cuts or halting construction.

To protect endowment principal in the event of a prolonged market downturn, distributions are limited to 5.3 percent of the current fair value of fund shares. Capital gains or income generated above the endowment spending rate are reinvested so that in lean times funds will be available for distribution. In addition, departments may also use withdrawals from funds functioning as endowment to support capital expenditures and operations.

Endowment spending rate distributions totaled \$303 million, \$292 million and \$283 million and withdrawals from funds functioning as endowment totaled \$60 million, \$13 million and \$137 million in 2016, 2015 and 2014, respectively. Total spending rate distributions combined with withdrawals from funds functioning as endowment averaged 4.9 percent, 4.1 percent and 6.0 percent of the current year average fair value of the University Endowment Fund for 2016, 2015 and 2014, respectively. Over the past ten years, total spending rate distributions combined with withdrawals from funds functioning as endowment averaged 5.0 percent.

## CAPITAL AND DEBT ACTIVITIES

One of the critical factors in continuing the quality of the University's academic, research and clinical programs is the development and renewal of capital assets. The University continues to implement its long-range plan to maintain and modernize its existing infrastructure and strategically invest in new construction.

Capital asset additions totaled \$595 million in 2016, as compared to \$660 million in 2015. Capital asset additions primarily represent renovation and new construction of student residence, academic, research, clinical and athletic facilities, as well as significant investments in equipment, including information technology. Current year capital asset additions were primarily funded with net position and gifts designated for capital purposes of \$364 million, as well as debt proceeds of \$183 million and state capital appropriations of \$48 million. Construction in progress, which totaled \$452 million at June 30, 2016 and \$529 million at June 30, 2015, includes important projects for student residential life, research, instruction, patient care and athletics.

Projects completed in 2016 include two significant residential projects. The construction and furnishing of the Munger Graduate Residences created a new state-of-the-art residence hall designed to foster a high level of diversity and interaction among graduate students studying across the University's 19 schools and colleges. By bringing together scholars with different approaches, this trans-disciplinary residence aims to break up the traditional silos of graduate work and foster greater collaboration to generate new ideas. The eight-story building is approximately 380,000 gross square feet and accommodates 630 students in an apartment-style layout.

Originally constructed in 1937, West Quadrangle, combined with the Cambridge House portion of the Michigan Union, underwent a renovation of approximately 370,000 gross square feet of space. With the creation of a central campus dining facility in nearby South Quad, the student dining facilities were repurposed to create space for living and learning activities to foster student interaction and community. The project also included infrastructure upgrades such as roof replacement, new plumbing, heating, cooling and ventilation systems, renovated student rooms and bath facilities and accessibility improvements.

Projects completed in 2016 also included construction of a new School of Nursing building of approximately 78,000 gross square feet to accommodate its instructional space needs. Key features of the building include active learning classrooms, a technologically rich clinical learning center with simulation and skills labs and simulated patient suites in an environment that will foster collaboration and community. This facility also includes offices for student services and a small number of faculty offices. The balance of the school's offices and administration remain in the existing North Ingalls building.

Construction in progress at June 30, 2016 includes several significant academic renovation and construction projects. At the Ross School of Business, work continues on a new academic building to replace the Computer and Executive Education Building and a comprehensive renovation of Kresge Hall, formerly the Kresge Business Administration Library. In total, this project represents approximately 75,000 gross square feet of building renovation and 104,000 gross square feet of new building construction. The project will add classrooms, study space, and faculty research and office space as well as enhance non-academic operations to improve the student experience, with added space for student life functions, financial aid, admissions and onsite recruiting. Connecting the new building to existing buildings improves efficiencies throughout the school as well. Exterior building finishes are also being added to Sam Wyly Hall, the Business Administration Executive Dormitory and the Hill Street Parking Structure to create a welcoming and unified look for the entire Ross School complex of buildings. This project is scheduled to be completed in fall 2016.

A Biological Science Building of approximately 300,000 gross square feet is being constructed to provide a teaching, research and museum facility for the biological sciences and exhibit museums. Bringing these programs together under one roof will create exciting opportunities for interdisciplinary teaching, research and collaboration, and offer a richer experience for museum visitors. The new building will house classrooms, research laboratories, associated support functions, offices and vivarium services, as well as the anthropology, natural history, paleontology and zoology museums currently housed at the Alexander G. Ruthven Museums Building. The structure will also include a connection to the adjacent Life Sciences Institute Building to increase the utilization of its loading dock and vivarium functions. This project is scheduled to be completed in spring 2018.

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Renovation of the Science Building on the University's Dearborn campus, which was originally constructed in 1959, is also underway. The renovation of this 80,000 gross square foot facility will provide updated laboratory and classroom space for the Department of Natural Sciences. In addition, approximately 20,000 gross square feet will be added to the building for state-of-the-art laboratory spaces, a new elevator, loading dock and mechanical penthouse. Infrastructure that is shared with the adjacent Computer Science Building is also being upgraded. The renewed facility will help transform science education and facilitate closer academic-industry and student-industry collaboration. This project is scheduled to be completed in fall 2016.

The University is aware of its financial stewardship responsibility and works diligently to manage its financial resources effectively, including the prudent use of debt to finance capital projects. A strong debt rating is an important indicator of the University's success in this area. In June 2016, Moody's affirmed its highest credit rating (Aaa) for bonds backed by a broad revenue pledge based on the University's ability to translate its international brand into revenue growth and philanthropic support, and ongoing superior financial flexibility from robust financial reserves. Standard & Poor's also affirmed its highest credit rating (AAA) based on the University's robust enrollment and demand, exceptional student quality, retention and graduation rates, excellent balance sheet, exceptional research presence and manageable debt burden.

Long-term debt activity for the years ended June 30, 2016 and 2015 is summarized as follows:

2016				
(in millions)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	\$ 138	\$ 197	\$ 175	\$ 160
Bonds	1,730	361	265	1,826
	\$ 1,868	\$ 558	\$ 440	\$ 1,986

2015				
(in millions)	Beginning Balance	Additions	Reductions	Ending Balance
Commercial paper	\$ 41	\$ 137	\$ 40	\$ 138
Bonds	1,794		64	1,730
	\$ 1,835	\$ 137	\$ 104	\$ 1,868

The University utilizes commercial paper, backed by a general revenue pledge, to provide interim financing for its capital improvement program. Outstanding commercial paper is converted to long-term debt financing as appropriate, within the normal course of business. Outstanding bonds are supported by the University's general revenues.

During 2016, consistent with capital and debt financing plans, the University issued \$307 million of fixed rate, tax-exempt, general revenue bonds, with a net original issue premium of \$54 million. Total bond proceeds of \$361 million were utilized to convert \$71 million of commercial paper to long-term debt, refund \$205 million of General Revenue Bonds and provide \$85 million for capital projects and debt issuance costs.

The composition of the University's debt at June 30, 2016 and 2015 is summarized as follows:

(in millions)	2016	2015
Variable rate:		
Commercial paper	\$ 160	\$ 138
Bonds	611	833
Fixed rate bonds	1,215	897
	\$ 1,986	\$ 1,868

A significant portion of the University's variable rate bonds are subject to remarketing and, in accordance with GASB Interpretation No. 1, such debt is classified as current unless supported by liquidity arrangements such as lines of credit or standby bond purchase agreements, which could refinance the debt on a long-term basis. In the event that variable rate bonds are put back to the University by the debt holder, management believes that the University's strong credit rating will ensure that the bonds will be remarketed within a reasonable period of time. In addition, the University maintains five remarketing agents to achieve a wide distribution of its variable rate bonds.

While fixed rate bonds typically have a higher effective rate of interest at the date of issuance as compared to variable rate bonds, they reduce the volatility of required debt service payments and do not require liquidity support, such as lines of credit, standby bond purchase agreements or internal liquidity.

Effective interest rates averaged 2.3 percent in 2016 and 2.1 percent in 2015, including the federal subsidies for interest on taxable Build America Bonds. Interest expense net of federal subsidies received for interest on taxable Build America Bonds and interest capitalized during construction totaled \$48 million in 2016 and \$42 million in 2015.

## OBLIGATIONS FOR POSTEMPLOYMENT BENEFITS

In accordance with GASB Statement No. 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other than Pensions*, the University recognizes the cost of postemployment benefits during the periods when employees render their services. Using current actuarial assumptions, and presuming a continuation of the current level of benefits, the University's obligations for postemployment benefits totaled \$1.84 billion and \$1.75 billion at June 30, 2016 and 2015, respectively. Since a portion of retiree medical services will be provided by the University's Health System, this liability is net of the related margin and fixed costs of providing those services which totaled \$394 million and \$331 million at June 30, 2016 and 2015, respectively.

The University amortizes changes in actuarial assumptions, plan design and experience gains and losses over a ten-year closed period. Accordingly, the liability for net postemployment benefits obligations recorded in the statement of net position may differ from the actuarial accrued liability due to the unamortized portion of these changes. At June 30, 2016, the recorded liability for net postemployment benefits obligations totaled \$1.84 billion and the actuarial accrued liability totaled \$1.84 billion.

By implementing a series of health benefit initiatives over the past 11 years, the University has favorably impacted its actuarial accrued liability for postemployment benefits by \$847 million as of June 30, 2016. These initiatives have included cost sharing changes, elimination of Medicare Part B reimbursements for certain retirees and the adjustment of retirement eligibility criteria. Conversely, in 2015, a reduction in the discount rate and the adoption of a new mortality table, unfavorably impacted the actuarial accrued liability by \$344 million.

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## NET POSITION

Net position represents the residual interest in the University's assets after liabilities are deducted. The composition of the University's net position at June 30, 2016 and 2015 is summarized as follows:

(in millions)	2016	2015
Net investment in capital assets	\$ 3,821	\$ 3,782
Restricted:		
Nonexpendable:		
Permanent endowment corpus	1,815	1,674
Expendable:		
Net appreciation of permanent endowments	1,519	1,708
Funds functioning as endowment	1,942	2,061
Restricted for operations and other	658	603
Unrestricted	3,246	3,468
	\$ 13,001	\$ 13,296

Net investment in capital assets represents the University's capital assets net of accumulated depreciation and outstanding principal balances of debt related to the acquisition, construction or improvement of those assets. The increase of \$39 million in 2016 reflects the University's continued development and renewal of its capital assets in accordance with its long-range capital plan.

Restricted nonexpendable net position represents the historical value (corpus) of gifts to the University's permanent endowment funds. The increase of \$141 million in 2016 primarily represents new gifts. Restricted expendable net position is subject to externally imposed stipulations governing their use and includes net appreciation of permanent endowments, funds functioning as endowment and net position restricted for operations, facilities and student loan programs. Restricted expendable net position totaled \$4.1 billion at June 30, 2016, as compared to \$4.4 billion at June 30, 2015, with the current year decline driven primarily by a decrease in net appreciation of permanent endowments resulting from investment losses.

Although unrestricted net position is not subject to externally imposed stipulations, substantially all of the University's unrestricted net position has been designated for various academic programs, research initiatives and capital projects. Unrestricted net position at June 30, 2016 totaled \$3.2 billion and included funds functioning as endowment of \$4.2 billion offset by unfunded obligations for postemployment benefits of \$1.8 billion. Unrestricted net position at June 30, 2015 totaled \$3.5 billion and included funds functioning as endowment of \$4.3 billion offset by unfunded obligations for postemployment benefits of \$1.7 billion. Unrestricted net position also includes other net resources which totaled \$800 million and \$900 million at June 30, 2016 and 2015, respectively.

## STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

The statement of revenues, expenses and changes in net position presents the University's results of operations. In accordance with GASB reporting principles, revenues and expenses are classified as either operating or nonoperating. A comparison of the University's revenues, expenses and changes in net position for the three years ended June 30, 2016 is summarized as follows:

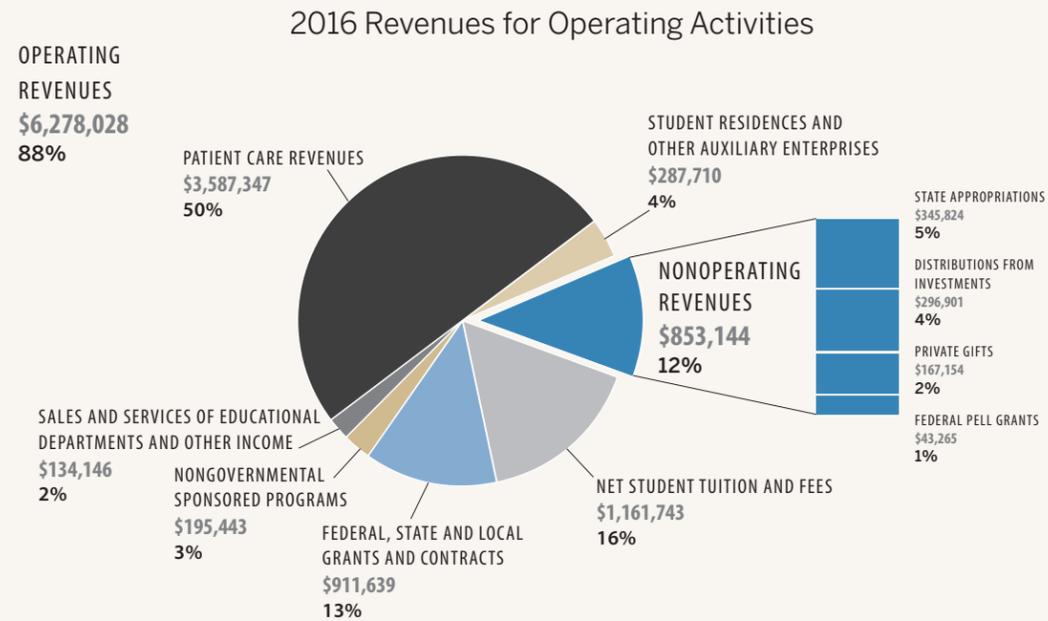
(in millions)	2016	2015	2014
Operating revenues:			
Net student tuition and fees	\$ 1,161.7	\$ 1,145.9	\$ 1,107.6
Sponsored programs	1,107.1	1,047.4	1,027.6
Patient care revenues, net	3,587.3	3,264.8	3,001.3
Other	421.9	465.3	398.4
	6,278.0	5,923.4	5,534.9
Operating expenses	7,152.8	6,693.2	6,381.3
Operating loss	(874.8)	(769.8)	(846.4)
Nonoperating and other revenues (expenses):			
State educational appropriations	345.8	340.2	321.7
Federal Pell grants	43.3	44.0	44.0
Private gifts for operating activities	167.2	172.0	166.4
Net investment (loss) income	(129.7)	357.8	1,653.8
Interest expense, net	(55.6)	(49.3)	(54.2)
Federal subsidies for interest on Build America Bonds	7.6	7.4	7.5
Endowment and capital gifts and grants	163.0	138.2	297.7
State capital appropriations	47.6	3.8	
Other	(9.0)	(6.6)	(15.5)
Nonoperating and other revenues, net	580.2	1,007.5	2,421.4
(Decrease) increase in net position	(294.6)	237.7	1,575.0
Net position, beginning of year	13,295.8	13,058.1	11,483.1
Net position, end of year	\$ 13,001.2	\$ 13,295.8	\$ 13,058.1

One of the University's greatest strengths is the diverse streams of revenue that supplement its student tuition and fees, including private support from individuals, foundations and corporations, along with government and other sponsored programs, state appropriations and investment income. The University continues to aggressively seek funding from all possible sources consistent with its mission in order to supplement student tuition and prudently manage the financial resources realized from these efforts to fund its operating activities, which include instruction, patient care and research.

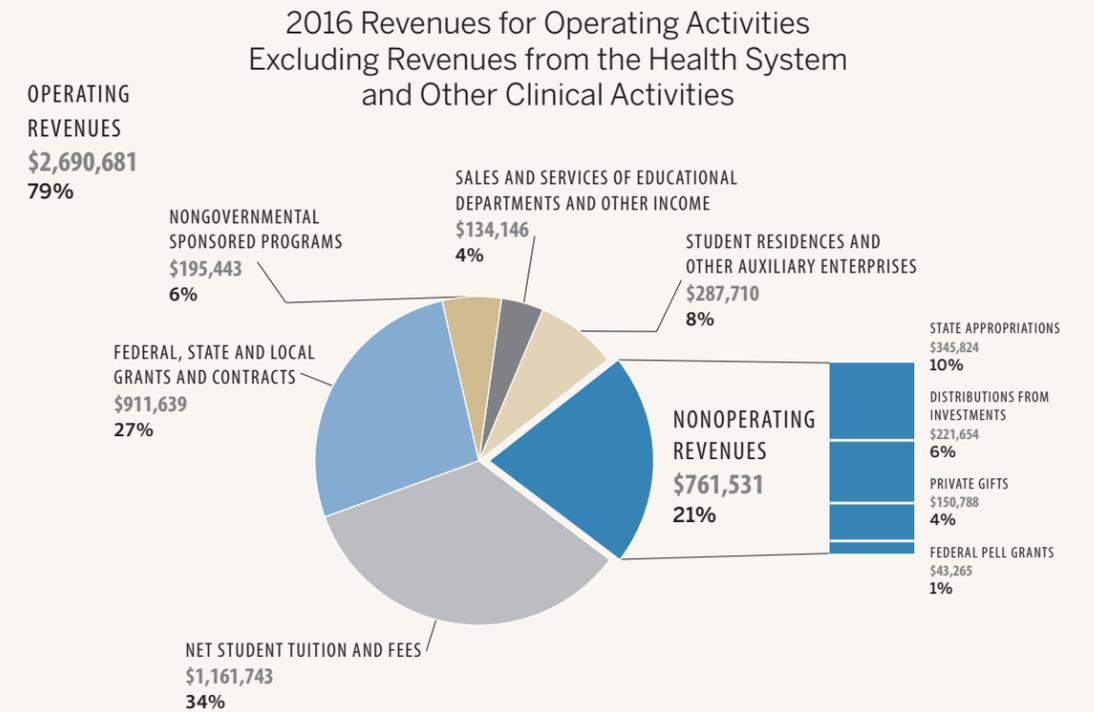
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The following is a graphic illustration of revenues by source, both operating and nonoperating, which are used to fund the University's operating activities for the year ended June 30, 2016 (amounts are presented in thousands of dollars). Certain recurring sources of the University's revenues are considered nonoperating, as defined by GASB, such as state appropriations, distributions from investments, private gifts and federal Pell grants.



The University measures its performance both for the University as a whole and for the University without its Health System and other clinical activities. The exclusion of these activities allows a clearer view of the operations of the schools and colleges, as well as central administration. The following is a graphic illustration of University revenues by source, both operating and nonoperating, which are used to fund operating activities other than the Health System and other clinical activities, for the year ended June 30, 2016 (amounts are presented in thousands of dollars).



Tuition and state appropriations are the primary sources of funding for the University's academic programs. There is a relationship between the growth or reduction in state support and the University's ability to restrain tuition fee increases. Together, net student tuition and fees and state appropriations increased 1 percent, or \$21 million, to \$1.51 billion in 2016, as compared to 4 percent, or \$57 million, to \$1.49 billion in 2015.

The University has been able to avoid the severe cuts and double digit tuition increases experienced elsewhere in the country due to a prudent long-term plan which anticipated the realities of the state's challenging economy. The University's plan includes an ongoing commitment to cost containment and reallocating resources to the highest priorities to provide support for innovative new initiatives to maintain academic excellence and help students keep pace with the evolving needs of society.

In 2016, the University's state educational appropriations increased 2 percent, or \$6 million, to \$346 million. In 2015, the University's state educational appropriations increased 6 percent, or \$18 million, to \$340 million.

For the three years ended June 30, 2016, net student tuition and fees revenue consisted of the following components:

(in millions)	2016	2015	2014
Student tuition and fees	\$ 1,502.2	\$ 1,458.6	\$ 1,405.3
Less scholarship allowances	340.5	312.7	297.7
	<u>\$ 1,161.7</u>	<u>\$ 1,145.9</u>	<u>\$ 1,107.6</u>

In 2016, net student tuition and fees revenue increased 1 percent, or \$16 million, to \$1.16 billion, which reflects a 3 percent, or \$44 million, increase in gross tuition and fee revenues offset by a 9 percent, or \$28 million, increase in scholarship allowances. Tuition rate increases in 2016 were 2.7 percent for resident undergraduate students, 3.7 percent for nonresident undergraduate students and 2.7 percent for most graduate students on the Ann Arbor campus, with a 3.2 percent tuition rate increase for most undergraduate and graduate students on both the Dearborn and Flint campuses.

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In 2015, net student tuition and fees revenue increased 3 percent, or \$38 million, to \$1.15 billion, which reflects a 4 percent, or \$53 million, increase in gross tuition and fee revenues offset by a 5 percent, or \$15 million, increase in scholarship allowances. Tuition rate increases in 2015 were 1.6 percent for resident undergraduate students, 3.4 percent for nonresident undergraduate students and 2.4 percent for most graduate students on the Ann Arbor campus, with a 3.2 percent tuition rate increase for most undergraduate and graduate students on the Dearborn campus and a 3.0 percent tuition rate increase for undergraduate and graduate students on the Flint campus.

During 2016 and 2015, the total number of students remained relatively stable; however, the University continued to experience a shift in mix from resident to non-resident students.

The University's tuition rate increases have consistently been among the lowest in the state, even in years of significant reductions in state appropriations, which reflects a commitment to affordable higher education for Michigan families. At the same time, the University has also increased scholarship and fellowship expenses and related allowances to benefit students in financial need.

While tuition and state appropriations fund a large percentage of University costs, private support is also essential to the University's academic distinction. Private gifts for other than capital and permanent endowment purposes totaled \$167 million in 2016, as compared to \$172 million in 2015 and \$166 million in 2014.

The University receives revenues for sponsored programs from various government agencies and private sources, which normally provide for both direct and indirect costs to perform these sponsored activities, with a significant portion related to federal research. Revenues for sponsored programs increased 6 percent, or \$60 million, to \$1.1 billion in 2016, driven primarily by an increase in federally sponsored activity. Revenues for sponsored programs increased 2 percent, or \$20 million, to \$1.0 billion in 2015, driven primarily by an increase in revenue from industry sponsored activities.

Patient care revenues are principally generated within the University's hospitals and ambulatory care facilities under contractual arrangements with governmental payers (Medicare and Medicaid) and private insurers. In 2016, the University's Hospitals and Health Centers ("HHC") realized payment rate increases from the majority of private insurers and governmental payers as compared to 2015 and 2014. The distribution of gross charge activity by primary payer source for the three years ended June 30, 2016 is summarized as follows:

	2016	2015	2014
Medicare	35.9%	35.6%	34.9%
Medicaid	16.7%	16.3%	15.1%
Blue Cross	32.6%	33.2%	34.0%
Other	14.8%	14.9%	16.0%

Patient care revenues increased 10 percent, or \$323 million, to \$3.6 billion in 2016, as compared to an increase of 9 percent, or \$264 million, to \$3.3 billion in 2015. The increased revenues for both years primarily resulted from growth in outpatient and inpatient volume, as well as an increase in revenue per patient case driven by favorable changes in payment rates. Adjusted cases, which is an aggregate activity measurement combining inpatient discharges and outpatient/observation case activity, increased 7 percent in 2016 and 2015 for HHC.

Net investment loss totaled \$130 million in 2016, compared to net investment income of \$358 million in 2015 and \$1.7 billion in 2014. The investment environment in 2016 continued to be challenging and was characterized by a high degree of volatility in the public equity and commodity sectors. The continued low interest rate environment and speculation as to whether higher rates are forthcoming has impacted asset classes within the portfolio in different ways. Both marketable equities and absolute return strategies suffered mid to high single-digit negative returns in 2016, while fixed income returns achieved high positive single-digit returns. Alternative investment results were mixed, with private equity and real estate leading with high single-digit returns. Venture capital returns were slightly negative and natural resources, although improved from the prior year, still returned double-digit losses. This compares to 2015 when the portfolio was characterized by relatively flat performance for the marketable securities with the alternative assets performing their role as a diversifier and delivering high single-digits returns. In 2014, returns were strong in fixed income, developed market equities, absolute return strategies and all alternative asset classes.

With the Victors for Michigan campaign well underway, gifts and grants for endowment and capital purposes continue to be a significant part of sustaining the University's excellence. Endowment and capital gifts and grants totaled \$163 million in 2016, as compared to \$138 million and \$298 million in 2015 and 2014, respectively. Private gifts for permanent endowment purposes totaled \$127 million in 2016, as compared to \$115 million and \$89 million in 2015 and 2014, respectively. Capital gifts and grants totaled \$36 million in 2016, as compared to \$23 million and \$209 million in 2015 and 2014, respectively. In recent years, major gifts have been received in support of the University's wide-ranging capital initiatives which include graduate student housing, the Health System, Law School, Stephen M. Ross School of Business, College of Engineering and Intercollegiate Athletics.

State capital appropriations are also helping the University improve its academic buildings. Current capital outlays are supporting renovations of the George Granger Brown Memorial Laboratories on the Ann Arbor campus, the Science Building and Computer Information Science Building on the Dearborn campus and the William R. Murchie Science Building on the Flint campus. Revenue is recognized as qualified capital expenditures are incurred and totaled \$48 million in 2016 and \$4 million in 2015.

In addition to revenue diversification, the University continues to make cost containment an ongoing priority. This is necessary as the University continues to face significant financial pressures, particularly in the areas of compensation and benefits, which represent 64 percent of total expenses, as well as in the areas of energy, technology and ongoing maintenance of facilities and infrastructure.

A comparative summary of the University's expenses for the three years ended June 30, 2016 is as follows:

(in millions)	2016		2015		2014	
Operating:						
Compensation and benefits	\$ 4,627.4	64%	\$ 4,330.9	64%	\$ 4,150.8	64%
Supplies and services	1,891.6	26	1,735.9	26	1,618.5	25
Depreciation	501.6	7	493.6	7	487.5	8
Scholarships and fellowships	132.2	2	132.8	2	124.5	2
	7,152.8	99	6,693.2	99	6,381.3	99
Nonoperating:						
Interest, net	48.0	1	41.9	1	46.7	1
	\$ 7,200.8	100%	\$ 6,735.1	100%	\$ 6,428.0	100%

The University is committed to recruiting and retaining outstanding faculty and staff and the compensation package is one way to successfully compete with peer institutions and nonacademic employers. The resources expended for compensation and benefits increased 7 percent, or \$297 million, to \$4.6 billion in 2016, as compared to 4 percent, or \$180 million, to \$4.3 billion in 2015. Of the 2016 increase, compensation increased 5 percent, to \$3.5 billion, and employee benefits increased 14 percent, to \$1.1 billion, with the increase in employee benefits driven primarily by a change in the underlying mortality and discount rate assumptions used to develop the recorded liability for postemployment benefits. For 2015, compensation increased 5 percent, to \$3.4 billion, and employee benefits increased 2 percent, to \$962 million. During 2016 and 2015, nursing and other health professionals were added to support higher patient volume levels.

# MANAGEMENT'S DISCUSSION AND ANALYSIS

(UNAUDITED)

The University faces external and industry realities that put significant pressure on its ability to reduce compensation costs while remaining competitive. To help address this risk, the University continues to review components of its existing benefits program to find opportunities for potential savings without compromising the ability to offer competitive benefits to all faculty and staff.

Effective January 1, 2015, the University changed its defined contribution retirement plan to use base pay alone as eligible pay for calculating plan contributions. Elements of salary beyond base pay such as administrative and added-duties differentials, one-time lump sum payments, overtime pay and payout of unused vacation time upon termination will now be excluded from retirement savings calculations. Additionally, University contributions to the plan for certain employees of its health system were reduced to a cap of 9 percent from 10 percent of eligible pay to better align these benefits with those offered within the health care industry. All employees participating in the University's retirement savings plans continue to have the option to save additional base pay via a supplemental retirement account on a pre-tax basis.

Health care benefits are one of the most significant employee benefits. Over the past several years, the University has implemented initiatives to better control its rate of cost increase, encourage employees to choose the lowest cost health care plan that meets their needs and share a larger portion of health care cost increases with employees.

Compared to most employers, the University is in a unique position to utilize internal experts to advise and guide its health care and drug plans. For example, the Pharmacy Benefits Advisory Committee, which consists of internal experts including Health System physicians, School of Pharmacy faculty and on-staff pharmacists, monitors the safety and effectiveness of covered medications and guides appropriate prescribing, dispensing and cost effective use of prescription drugs. In addition, the University utilizes its nationally recognized health policy experts to guide future health plan strategies.

During 2013, the University began to implement changes to eligibility requirements and the University contribution to retiree health benefits that were announced in 2011. These changes were recommended by a committee that evaluated ways to maintain competitive retiree health benefits while helping address the acceleration of future costs. The changes are being phased in over eight years in order to assist current employees with the transition.

The University utilizes a point system to determine retirement eligibility, where points represent the combination of age and years of service for full-time employees. The points needed to retire with health benefits will gradually be increased from 76 in 2013 to 80 in 2021. Over the same period, the University's contribution towards health care benefits will gradually decrease from 87.5 percent for the retiree and 65 percent for any dependents for employees who retire in 2013 to a maximum of 80 percent for the retiree and 50 percent for any dependents for employees who retire in 2021. Employees who retire after December 31, 2020 will need a minimum of 20 years of service to receive the maximum contribution upon retirement which will be 68 percent for the retiree and 26 percent for any dependents. These adjustments will keep the University's retiree benefits competitive with peer institutions while producing an estimated \$9 million reduction in annual cash outlay by 2020 and an estimated \$165 million reduction in annual cash outlay by 2040.

The University continues to monitor and evaluate the cost of employee and retiree health benefits, following key benchmarks to ensure competitiveness with local and national higher education and health care markets. As national health care reforms are implemented under the Affordable Care Act, the University is closely tracking cost and coverage implications. Careful stewardship of our health benefit plans helps maintain our competitive position while preserving funding for the University's core mission.

The MHealthy initiative is a University-wide effort to improve the health and well-being of faculty, staff and their dependents by creating a culture of health and reducing or preventing health risks in our population. A five-year review of the program conducted in 2015 noted that overall annual program participation has been stable, with over 20,000 employees. Over the five-year period, decreases in the percentage of high risk employees occurred in many risk areas including back pain, alcohol, tobacco, nutrition and physical activity.

These initiatives and programs reflect the reality of the national landscape, while remaining true to the commitment we make to our employees for a robust benefits package.

Supplies and services expenses increased 9 percent, or \$156 million, to \$1.9 billion in 2016, as compared to an increase of 7 percent, or \$117 million, to \$1.7 billion in 2015. These increases were primarily due to growth in patient care related expenses including higher costs of prescription drugs and surgical implants, as well as costs associated with significant capital projects. During 2014, the new Northville Health Center facility was placed in service and the University implemented several significant information technology systems, including the third phase of an electronic medical record and patient billing system.

Depreciation expense increased 2 percent, or \$8 million, to \$502 million in 2016, as compared to an increase of 1 percent, or \$6 million, to \$494 million in 2015. The increased depreciation expense is primarily related to the completion of current year capital projects, as well as the impact of a full year of depreciation for the capital projects completed during the prior year. Capital assets placed in service during 2016 include the renovation of the West Quadrangle and Michigan Union-Cambridge House, as well as new construction of the Munger Graduate Residences and an instructional building for the School of Nursing. Capital assets placed in service in 2015 include the renovation and expansion of South Quad, the A. Alfred Taubman Health Sciences Library buildings and the Phyllis Ocker Field Hockey Stadium.

Net interest expense increased \$6 million in 2016 to \$48 million, from \$42 million in 2015 and \$47 million in 2014.

In addition to their natural (object) classification, it is also informative to review operating expenses by function. A comparative summary of the University's expenses by functional classification for the three years ended June 30, 2016 is as follows:

(in millions)	2016		2015		2014	
<b>Operating:</b>						
Instruction	\$ 1,031.0	14%	\$ 983.5	15%	\$ 953.9	15%
Research	754.8	10	706.1	10	708.8	11
Public service	182.2	3	189.4	3	152.8	2
Institutional and academic support	623.0	9	581.5	9	542.9	8
<b>Auxiliary enterprises:</b>						
Patient care	3,402.5	47	3,127.1	46	2,925.0	46
Other	218.5	3	201.5	3	208.5	3
Operations and maintenance of plant	307.0	4	277.7	4	277.4	4
Depreciation	501.6	7	493.6	7	487.5	8
Scholarships and fellowships	132.2	2	132.8	2	124.5	2
	7,152.8	99	6,693.2	99	6,381.3	99
<b>Nonoperating:</b>						
Interest, net	48.0	1	41.9	1	46.7	1
	\$ 7,200.8	100%	\$ 6,735.1	100%	\$ 6,428.0	100%

Instruction expenses increased 5 percent, or \$48 million in 2016, and 3 percent, or \$30 million in 2015. This increase is consistent with the modest level of growth in the related revenue sources offset by cost containment efforts.

Research expenses increased 7 percent, or \$49 million in 2016, and decreased 0.4 percent, or \$3 million in 2015. The increase in 2016 reflects the strength of the University's research enterprise, in spite of continued pressure from sequestration and intense competition for research dollars. To measure its total volume of research expenditures, the University considers research expenses, included in the above table, as well as research related facilities and administrative expenses, research initiative and start-up expenses and research equipment purchases. These amounts totaled \$1.4 billion, \$1.3 billion and \$1.3 billion in 2016, 2015 and 2014, respectively.

Patient care expenses increased 9 percent, or \$275 million in 2016, and 7 percent, or \$202 million in 2015. These increases are the result of additional patient care volume, including costs of staffing, medical supplies and pharmaceuticals.

# MANAGEMENT'S DISCUSSION AND ANALYSIS

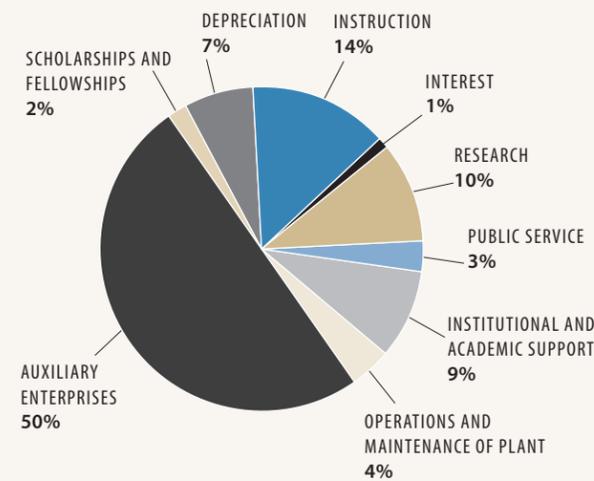
(UNAUDITED)

Total scholarships and fellowships provided to students aggregated \$494 million in 2016, as compared to \$465 million in 2015 and \$441 million in 2014, an increase of 12 percent over the past two years. Tuition, housing and fees revenues are reported net of aid applied to students' accounts, while amounts paid directly to students are reported as scholarship and fellowship expenses. Scholarships and fellowships for the three years ended June 30, 2016 are summarized as follows:

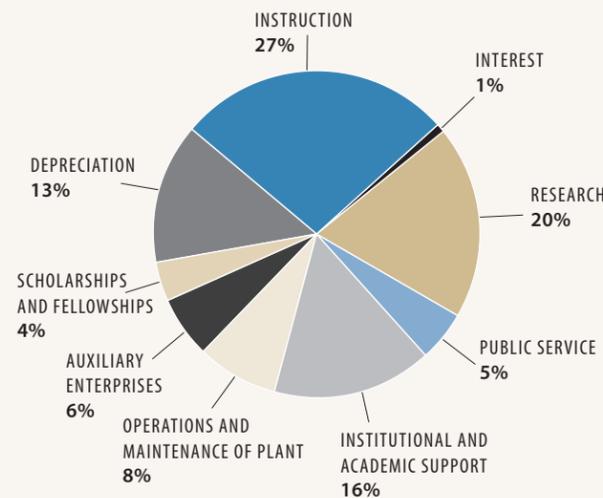
(in millions)	2016	2015	2014
Paid directly to students	\$ 132.2	\$ 132.8	\$ 124.5
Applied to tuition and fees	340.5	312.7	297.7
Applied to University Housing	21.6	19.8	18.6
	<u>\$ 494.3</u>	<u>\$ 465.3</u>	<u>\$ 440.8</u>

The following graphic illustrations present total expenses by function, with and without the University's Health System and other patient care activities:

2016 Expenses by Function



2016 Expenses by Function  
Excluding Expenses from the University's Health System and Other Patient Care Activities



## STATEMENT OF CASH FLOWS

The statement of cash flows provides additional information about the University's financial results by reporting the major sources and uses of cash. A comparative summary of the statement of cash flows for the years ended June 30, 2016 and 2015 is as follows:

(in millions)	2016	2015
Cash received from operations	\$ 6,330.7	\$ 5,943.7
Cash expended for operations	(6,496.5)	(6,238.8)
Net cash used in operating activities	(165.8)	(295.1)
Net cash provided by investing activities	116.4	291.0
Net cash used in capital and related financing activities	(449.3)	(617.0)
Net cash provided by noncapital financing activities	679.0	660.8
Net increase in cash and cash equivalents	180.3	39.7
Cash and cash equivalents, beginning of year	105.5	65.8
Cash and cash equivalents, end of year	<u>\$ 285.8</u>	<u>\$ 105.5</u>

Cash received from operations primarily consists of student tuition, sponsored program grants and contracts and patient care revenues. Significant sources of cash provided by noncapital financing activities, as defined by GASB, include state appropriations, federal Pell grants and private gifts used to fund operating activities.

## ECONOMIC FACTORS THAT WILL AFFECT THE FUTURE

The University continues to face significant financial challenges to its academic programs, stemming from the State's uncertain financial circumstances. Given the continuation of this difficult economic environment, it is noteworthy that the University maintains the highest credit ratings of Moody's (Aaa) and Standard & Poor's (AAA). Achieving and maintaining the highest credit ratings provides the University with significant flexibility in securing capital funds on the most competitive terms. This flexibility, along with ongoing efforts toward revenue diversification and cost containment, will enable the University to provide the necessary resources to support a consistent level of excellence in service to students, patients, the research community, the state and the nation.

A crucial element to the University's future continues to be a strong relationship with the state of Michigan. Historically, there has been a connection between the growth, or reduction, of state support and the University's ability to control tuition increases. Over the past several years, the University has successfully addressed the realities of the state's difficult economy and, pursuant to a long-range plan, continues to work relentlessly to cut and mitigate operational costs in order to remain affordable and preserve access, while protecting the academic enterprise.

The University's budget for 2017 anticipates a 3.0 percent increase in state educational appropriations, a 3.9 percent tuition rate increase for Ann Arbor campus resident undergraduates and a 10.8 percent increase in centrally awarded financial aid. Nonresident undergraduate tuition rates will increase 4.4 percent, while most graduate and professional rates will increase 3.9 percent. Resident undergraduate tuition rates on the Dearborn and Flint campuses will increase 4.1 percent.

# MANAGEMENT'S DISCUSSION AND ANALYSIS

(UNAUDITED)

While tuition and state appropriations fund a large percentage of academic costs, private support is also essential to the University's academic distinction. In November 2013, the University launched the public phase of a major fundraising campaign with the announcement of an ambitious goal of \$4 billion. The campaign, titled "Victors for Michigan," is focused on raising funds for three priority areas of student support, engaged learning and bold ideas, in order to better prepare tomorrow's leaders and address the complex problems facing the world. Since commencing the quiet phase of the campaign in 2011, the University has raised 87.5 percent of the goal, in cash, pledges and bequests. The campaign will continue through 2018.

The University continues to execute its long-range plan to maintain, modernize and expand its complement of older facilities while adding key new facilities for instruction, research, patient care and residential life. This strategy addresses the University's growth and the continuing effects of technology on teaching, research and clinical activities. Authorized costs to complete construction and other projects totaled \$1.1 billion at June 30, 2016. Funding for these projects is anticipated to include \$1.0 billion from internal sources, gifts, grants and future borrowings, \$26 million from the State Building Authority and \$36 million from the utilization of unexpended debt proceeds.

In addition to strategic capital and technological investments, the University's Health System is also focusing on clinical affiliation arrangements to enhance patient care, clinical research, physician recruitment and support services. In support of this goal, the University signed a definitive agreement in September 2016 in connection with a proposed affiliation with Metropolitan Health Corporation ("Metro Health"), a community health care provider in west Michigan. In addition to its 208-bed hospital, Metro Health has neighborhood outpatient centers and offices throughout west Michigan to serve the greater Grand Rapids area.

While HHC is well positioned to maintain a strong financial position in the near term, ongoing constraints on revenue are expected due to fiscal pressures from employers and federal and state governments. Management believes that much of the payment pressure can be offset by growth in patient volume and continued efforts to contain certain costs.

The University will continue to employ its long-term investment strategy to maximize total returns, at an appropriate level of risk, while utilizing a spending rate policy to preserve endowment capital and insulate the University's operations from temporary market volatility.

As a labor-intensive organization, the University faces competitive pressures related to attracting and retaining faculty and staff. Moreover, consistent with the national landscape, the University also faces rising costs of health benefits for its employees and retirees. The University has successfully taken and will continue to take proactive steps to respond to these challenges while protecting the quality of the overall benefits package.

U.S. health care reform will also continue to influence benefits planning. Since the Affordable Care Act was signed into law in March 2010 and subsequently affirmed by the Supreme Court, new regulatory requirements continue to affect health plans, providers and employers alike. Beginning in 2011, the University has implemented several initiatives in response to this new law including required cost-sharing, eligibility and communications changes. University experts are continuing to assess additional health care reform impacts, including health insurance exchanges for large employers in 2017 and the excise tax on high-cost plans in 2020. As of January 1, 2016, the University was required to offer minimum essential health coverage to 95 percent of its full time employees regardless of regular or temporary status. The University is working to develop clear strategies and options for the future that will ensure compliance over the coming years of regulatory change.

While it is not possible to predict the ultimate results, management believes that the University's financial position will remain strong.