



Management Discussion and Analysis

For the Year Ended December 31, 2016

Henry Ford Health System and its affiliates' (the System) Management's Discussion and Analysis (MD&A) is intended to provide a high level overview of the consolidated financial performance for the year ended December 31, 2016, with comparable prior year information, including operational highlights. This document includes certain forward-looking comments based on management's beliefs; actual results could differ materially. This document should be read in conjunction with the audited consolidated financial statements as of and for the year ended December 31, 2016.

It is management's intention to regularly provide an MD&A in conjunction with the public release of unaudited quarterly and audited annual statements. The intent is to provide current and prospective bondholders and other interested parties with a better understanding of the System's consolidated financial and operational performance. Management intends on presenting at the Citi/AHA/HFMA Healthcare Investor Conference in May of 2017 in lieu of a routine quarterly investor call to review 2016 year-end results.

Growth

On February 1, 2016, Health Alliance Plan of Michigan (HAP) completed the merger, which was accounted for as an acquisition, with HealthPlus of Michigan (HPM), in Flint Michigan, pursuant to the Agreement and Plan of Merger dated October 30, 2015, and the order approving acquisitions as approved by the State of Michigan Department of Insurance and Financial Services. The fair value of the assets acquired exceeded the liabilities assumed resulting in an inherent contribution of \$18.5 million, which was recorded during the year ended December 31, 2016. The operating results of HPM for the period February 1, 2016 through December 31, 2016 included total unrestricted revenue of \$331.7 million, the majority of which is health care premiums, and excess of revenue over expenses before unusual items of \$6.9 million.

On April 1, 2016, Allegiance Health Group and Affiliates merged with the System, which was accounted for as an acquisition. Allegiance Health Group and Affiliates, headquartered in Jackson, Michigan, operates an acute care facility and has more than 40 sites offering a wide array of primary and specialty care and represents a significant geographic expansion of the System's health care provider operations beyond southeastern Michigan. The fair value of the assets acquired exceeded the liabilities assumed resulting in an inherent contribution of \$221.8 million, which was recorded during the year ended December 31, 2016. The operating results of Allegiance Health Group and Affiliates for the period April 1, 2016 through December 31, 2016 included total unrestricted revenue of \$414.8 million, the majority of which is patient service revenue, and excess of revenue over expenses before unusual items of \$2.5 million.

Henry Ford Health System 2016 Refinancing

In a historic transaction, the System successfully restructured its existing debt. This was one of the largest healthcare tax-exempt bond issue in Michigan, with proceeds of approximately \$1.0 billion. More than 60 funds placed orders for bonds on September 13th, with bond orders totaling \$3.6 billion. The System expects to gain more than \$125.0 million in present value savings and a reduction of more than \$10.0 million in annual interest expense and debt service costs as a result of this transaction. This transaction refinanced the System's existing debt, and did not include any "new money" financing.

Two weeks prior to the bond issue, Standard & Poor's upgraded the System's bond rating to 'A' with stable outlook, and Moody's maintained the System's 'A3' rating, upgrading the outlook from stable to positive. Both investors' groups cited the System's significant improvement and sustained fiscal operations from 2015 into 2016; an expanding footprint as a result of Allegiance Health Group and Affiliates and HPM merging into the System; and the System's unique, fully integrated provider and health plan model.

Organizational Overview

The System is a Baldrige award-winning, integrated, academic health system that includes both extensive provider assets and insurance operations. The System offers differentiated capabilities, as well as strong focus on population health, value based care, and disease management.

The System has an integrated hospital and employed physician model with an extensive integrated provider network, including:

- Five acute hospitals and two psychiatric hospitals geographically distributed, including Henry Ford Hospital, an internationally known academic referral center.
- More than 1,300 employed physicians and scientists, primarily through the Henry Ford Medical Group, a mature and long established integrated group practice.
- A pluralistic physician model, leveraged through the System's physician-led clinically integrated network called the Henry Ford Physician Network.
- A diversified ambulatory network with more than 70 medical and health centers, behavioral health clinics, a substance abuse facility, home-based care, pharmacy, eye care, and other retail services.
- Strong market share, brand and differentiation within southeastern and south-central Michigan, as well as a statewide, national, and international reputation resulting in substantial referral volume.
- A substantial role in teaching health professionals, complemented by a significant research and discovery function.

In addition to extensive provider assets, the System also has three decades of experience managing pre-payment arrangements through HAP. HAP has products for every market segment and serves more than 662,000 members through six distinct lines of business: group insured commercial, Medicare Advantage (the oldest plan in southeast Michigan), Medicaid, self-funded, network leasing, and individual coverage through public and private exchange participation. HAP also has substantial Administrative Services Only (ASO) capabilities.

Given its history and assets, the System is uniquely positioned to succeed in a pay-for-value environment.

Summary of Operating Results

The System has continued to experience performance levels very favorable to what it achieved in 2013 and 2014, and above long-term historical levels for the organization. The System reported consolidated excess of revenues over expenses before unusual items of \$95.1 million for the year ended December 31, 2016, on consolidated revenues of \$5.7 billion, providing a margin of 1.7%. This was unfavorable to consolidated excess of revenues over expenses before unusual items of \$111.9 million on consolidated revenues of \$5.1 billion, providing a margin of 2.2%, reported for the year ended December 31, 2015. The decrease in System performance was primarily due to decreased performance from HAP's Medicaid and PPO Exchange business. The State of Michigan's Medicaid rebidding process resulted in HAP's transfer of Medicaid membership effective January 1, 2016 and a decline in HAP's margin of \$23.1 million and a decline in revenues of \$376.9 million compared to the prior year. This was partially offset by HPM revenues and operating results for the period February 1, 2016 through December 31, 2016.

The System's performance softened in the second half of 2016 due to volume declines seen across the industry in southeast Michigan (second half of the year discharges were 1.0% below first half of the year levels on a same store basis), the impact of wage rate increases, unfavorable claims development in the insurance division, and strategic investments. Management has been implementing interventions to improve future performance, with continued emphasis on the System's multi-year Strength and Sustainability program to create value through cost reduction, growth, population health leverage, care redesign, and revenue cycle initiatives. Due to pressures on insurance plan performance, HAP withdrew all PPO products from the Exchange marketplace effective January 1, 2017 and is now only selling HMO products on the Exchange, where HAP has the ability to more effectively manage care.

The strength of the consolidated balance sheet was enhanced in 2016 as a result of operating performance, investment returns, and the merger of Allegiance Health Group and Affiliates into the System effective April 1, 2016.

Revenue Growth

As a fully integrated health system, total consolidated unrestricted revenue grew to \$5.7 billion during the year ended December 31, 2016, up \$649.5 million or 12.9% from the year ended December 31, 2015. The System recognized consolidated net patient service revenue of \$3.0 billion and consolidated healthcare premium revenue of \$2.4 billion for the year ended December 31, 2016. Consolidated revenues associated with healthcare services provided by the System to members of its capitated insurance products are included in premium revenue. Consolidated net patient service revenue reflects amounts recognized from all other payers and patients.

Consolidated net patient service revenue increased \$565.7 million or 23.7% during the year ended December 31, 2016, compared to the year ended December 31, 2015, due to the addition of Allegiance Health Group and Affiliates, outpatient volume growth (outpatient facility visits, excluding Allegiance Health Group and Affiliates, increased 7.4% over prior year levels), and growth in ancillary areas (e.g. pharmacy).

Consolidated bad debt and charity have decreased as a percent of net revenue since 2014 due to Medicaid Expansion, subsidized exchanges, and revenue cycle initiatives.

Consolidated health care premiums increased \$14.5 million or 0.6% for the year ended December 31, 2016 compared to the prior year, due to the HPM merger largely offsetting the loss of Medicaid membership effective January 1, 2016. Specifically, during 2016, HAP saw an increase in membership compared to the prior year in commercial fully insured products of 13.0% and Medicare Advantage of 34.0% primarily due to the HPM merger, while Medicaid membership in HAP Midwest Health Plan, Inc. (MHP) decreased 92.0%.

Expense Trends

Consolidated salaries, wages, and employee benefits increased by \$370.2 million or 19.9% for the year ended December 31, 2016, compared to the year ended December 31, 2015. Consolidated salary expense increased due to the addition of Allegiance Health Group and Affiliates, increased volume, 2015 mid-year salary increases effective for the full year of 2016, 2016 mid-year salary increases as well as various market adjustments to salaries made throughout the year.

Consolidated health care provider expense increased by \$82.0 million or 6.0% due to the HPM merger and increased claims in 2016 offset by decreased MHP Medicaid membership.

Consolidated supplies expense increased \$112.4 million or 15.3% for the year ended December 31, 2016, compared to the year ended December 31, 2015, primarily due to the addition of Allegiance Health Group and Affiliates; pharmacy expense related to expanded ambulatory and specialty pharmacy activities; and other increases in volume. This volume growth more than offset significant savings achieved in hospital supply costs due to aggressive product standardization and contracting initiatives.

Community Benefits and Uncompensated Care

The System expended \$564.0 million on Community Benefit programs for 2016, compared to \$459.1 million in 2015. This included \$391.2 million of uncompensated care at cost for the year ended December 31, 2016, compared to \$299.8 million in the prior year. \$50.4 million of the increase in uncompensated care is due to the addition of Allegiance Health Group and Affiliates. The remaining increase is primarily due to increased unreimbursed Medicare and Medicaid cost related to volume growth and governmental payment constraints. Consistent with expectations resulting from the Affordable Care Act, there were fewer patients without health insurance coverage due to expanded coverage through the subsidized health insurance exchanges and Michigan Medicaid expansion. However, there has been a corresponding growth in Medicaid patient volume, where payment rates do not fully cover the cost of care. In addition, a large number of patients are finding that they now have insurance coverage with deductibles and copayments that are beyond their ability to pay.

Given its mission, the System also had substantial unreimbursed costs for health professional education, research and other community services, which are also important components of overall Community Benefit expenditures.

Balance Sheet

The System maintains a solid balance sheet, which strengthened in 2016. Total System days cash (inclusive of insurance operations) at December 31, 2016, totaled 122.5 compared to 113.6 at December 31, 2015. The increase was primarily due to the addition of Allegiance Health Group and Affiliates as well as favorable consolidated operating performance. Total System days cash is lower than some health systems due to the substantial size of the insurance segment and the amount of capitation revenue and operating expenses for medical services. If days cash was calculated only using expenses of the provider segment for the denominator, days cash would be a much stronger 183.8 days at December 31, 2016.

Investment Performance

The System maintains significant operating investments including cash and cash equivalents, short-term investments, and long-term investments. Consolidated investment income from cash and cash equivalents, short-term investments, and long-term investments recognized during the year ended December 31, 2016 was \$22.2 million compared to \$7.3 million during the year ended December 31, 2015. Consolidated investment income is consistent with market returns on the underlying securities in these funds. As a result of a recent comprehensive asset liability management (ALM) analysis, management anticipates some modification to its asset investment structure in the future to increase net returns within reasonable risk parameters.

Fourth Quarter Strategic Developments and Additional Highlights

The System continues to have a strong leadership team, which includes both long tenured executives and other seasoned leaders who have joined more recently. Fourth quarter highlights include the following:

- Effective January 1, 2017 Wright Lassiter, III assumed the role of President and CEO of the System, succeeding Nancy Schlichting, who retired at the end of 2016. The System Board of Trustees selected Lassiter as incoming CEO at the end of 2014 as part of a planned two-year transition. He served as President of the System, working closely with the organization's leadership team on a comprehensive strategic planning effort resulting in some of the System's largest growth initiatives. These included successful acquisitions of HPM and Allegiance Health Group and Affiliates.
- Teresa Kline joined the System late in 2016 as the new CEO for HAP. She has extensive CEO and senior leader experience in health plans across the nation, including serving as the Senior Vice President and Chief Health Care Management Officer for Health Care Service Corporation, the fourth largest U.S. health insurer.
- David Ozog, MD, was named Chair of Dermatology for Henry Ford Medical Group. Dr. Ozog previously served as the Vice Chair of Dermatology and specializes in cosmetic dermatology, Mohs surgery and the prevention and treatment of scarring.
- Stephan Mayer, M.D., FCCM, joined the System as its new Chair of the Department of Neurology. He joins the System from Mount Sinai Health System in New York, where

he served as the Director of Neurocritical Care and was also the Founding Director of the Institute for Critical Care Medicine at Mount Sinai's Icahn School of Medicine.

The System is nationally and internationally recognized for its innovation and excellence. The following are awards received and unique achievements during the fourth quarter:

- Detroit businessman and philanthropist Mort Harris has given the System the largest individual gift in its 100-year history to facilitate cancer clinical care and research in Detroit in honor of his late wife Brigitte Harris. This new \$20.0 million gift is part of a \$40.0 million package from Harris that supports Henry Ford's new Detroit cancer building project, along with three specific program areas: pancreatic cancer, brain cancer and precision medicine. The combined gift of \$40.0 million will name the new building the Brigitte Harris Cancer Pavilion, part of the Henry Ford Cancer Institute. The building will be a destination for ambulatory cancer treatment, precision medicine, clinical trials, and enhanced support services for cancer patients.
- Henry Ford Hospital and Henry Ford Macomb Hospital were named Top 50 Heart Hospitals for 2017. Selected from more than 1,000 hospitals evaluated across the United States, this is the fifth time each of these Henry Ford hospitals has received the award through the 100 Top Hospitals program by Truven Health Analytics.
- The Henry Ford Cancer Institute earned the highest level of accreditation for its cancer services from the Commission on Cancer of the American College of Surgeons. The Cancer Institute achieved "Three-Year with Commendation Gold Level" accreditation, which is awarded to cancer programs that meet all 34 compliance standards, and achieve all seven commendations. Earning seven commendations is the most a program can receive, and means the Cancer Institute exceeded compliance standards for performance in those areas.
- Henry Ford Hospital's Center for Structural Heart Disease and Cath lab team performed five highly complex heart procedures that were transmitted live to the Transcatheter Cardiovascular Therapeutics Conference - the world's largest educational meeting specializing in interventional cardiovascular medicine. Henry Ford Hospital was one of five U.S. hospitals and one of 15 worldwide chosen to participate because of its expertise and leading edge cardiology procedures. More than 15,000 cardiologists and industry experts tuned in.
- Henry Ford Hospital's Level 1 Trauma Center certification was renewed. This means Henry Ford Hospital continues to be equipped to handle the most critically injured patients, and has met high standards for trauma care, education and research. Level 1 status from the American College of Surgeons is the highest national recognition a trauma center can receive.
- Partnering with Beckman Coulter, Inc., the System's Pathology and Laboratory Medicine product line has enhanced and streamlined operations by fully automating the Henry Ford Hospital laboratory and modernizing equipment at 12 other System locations. These enhancements were designed to increase the efficiency of System laboratories, which

already comprise one of the largest network of integrated laboratories in the United States, producing more than 30 million diagnostic reports each year. The organization is the only ISO-15189 accredited laboratory in Michigan.

Recap of other major 2016 achievements

- The System joined Affirmant Health Partners, previously known as the Federation Care Network, a clinically integrated network of six not-for-profit health systems across Michigan that joined together to provide a high-performing option to insurers and businesses.
- The System formally embarked on a journey to become a high reliability organization (HRO) by focusing first on improving our patient safety performance as well as overall performance excellence. This journey is for both clinical and non-clinical staff.
- The System launched its Precision Medicine initiative to improve cancer care for System patients, and was selected by The National Institutes of Health to lead one of the select research consortiums participating in the NIH Precision Medicine Initiative (PMI) Cohort Program, which will ultimately collect demographic, health and genetic sequencing for one million people. The System has one of the largest cancer programs in Michigan, providing care at four hospitals and four outpatient treatment facilities. Approximately 5,500 new cancer patients are treated annually, with plans in place for future clinical growth and expanded care. Those plans include a new five-story, 144,000 square-foot destination ambulatory cancer center in Detroit that is scheduled to open in 2019.
- The System announced that it is licensing its medical expertise, innovative tools, technologies, and practices for the development of a new specialty care hospital in India's southern state of Tamil Nadu.