

FINANCIAL AND MARKET COMPARISON

Northwell Health and Universal Health Services (2017)

(In Thousands)

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Executive Summary

This report details a comprehensive comparison of Northwell Health and Universal Health Services. These are two of the largest and most competitive health networks in the country. Northwell Health is a not-for-profit integrated healthcare network and the largest healthcare provider in New York. The other healthcare in comparison is Universal Health Services, a for profit healthcare system that is headquartered in King of Prussia, PA but has facilities and operates nationwide. UHS is an American Fortune 500 company and reigns as one of the largest hospital management companies in the United States.

Within this report, we will compare key financial indicators, give a detailed overview of things such as payor mix, recent merger activities, and employee relations, as well as an in-depth look into each systems malpractice insurance, fraud and abuse claims, and status of facilities. It is our hope that potential investors can read this financial and market comparison and make accurate decisions on where to invest their money. Both of these healthcare systems are performing at a high level, but our hope is to provide information that shows how one system is the better investment.

After doing extensive research on both Northwell Health and Universal Health Services, we came to the conclusion that Northwell Health is the stronger of the two health systems and therefore the wiser investment. As you will read in the pages to follow, Northwell is more advanced at this point in time and more ethical, making it the safer investment option. With such a large presence in the New York area, Northwell Health is well-known and well-praised. Northwell is committed to improving its experience for patients and employees and does so by building state-of-the-art facilities and conducting routine maintenance of older buildings. This is a continuously strong growing healthcare system that is ready for change in the industry at any time.

1. Financial Analysis and Comparison

This section is a two-year analysis based off of data extracted from the 2016 and 2017 Northwell Health and Universal Health Services financial statements. The reader can find the complete extracted data and indicators in the spreadsheet below. Some interesting comparisons that could be made from the data recorded below are the net margin, average age of plant, and days cash on hand. UHS recorded a net margin of 12.57% (2017) compared to Northwells' 2.65% (2017). UHS beats Northwell Health's net margin by a large amount, but after observing the percent changed, one can find that Northwell Health has increased their net margin by 590.04% since 2016, while UHS actually decreased their overall net margin by 4.04%. Although Northwell appears to not be as profitable as UHS, it is quickly rising in its competiveness. Compared to UHS, Northwell Health facilities are, on average, about 3 years newer than UHS facilities. Northwell also appears to have 106 more days' cash on hand than that of UHS, which only has 3 days' cash on hand (2017). These are just some indicators that display that Northwell Health is a rising competitor in the healthcare industry, while UHS appears to be falling in regard to its financial status.

(In Thousands)

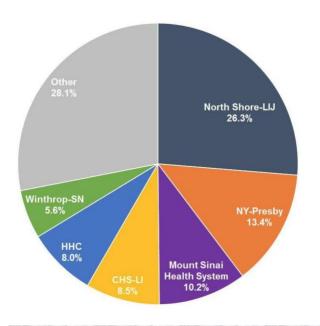
		EXTACTED FINANCIAL DATA		
	Northwell Health 2017	Northwell Health 2016	Universal Health Services 2017	Universal Health Services 2016
Total Operating Revenue	\$ 10,790,483.00	\$ 9,938,268.00	\$ 10,409,865.00	\$ 9,766,210.0
Total Operating Expense	\$ 10,809,220.00	\$ 10,106,269.00	\$ 9,129,687.00	\$ 8,484,799.0
Total Non-Operating Revenue	\$ 312,982.00	\$ 206,963.00	\$ 32,594.00	\$ (2,288.0
Unrestricted Investments	\$ 2,689,489.00	\$ 2,464,366.00	S -	\$
Depreciation	\$ 431,497.00	\$ 410,229.00	\$ 447,765.00	\$ 416,608.6
Cash & Cash Equivalanets	\$ 399,856.00	\$ 383,295.00	\$ 74,423.00	\$ 33,747.
Net Patient Service Revenue	\$ 7,751,249.00	\$ 7,505,264.00	\$ 10,409,865.00	\$ 9,766,210.0
Net Patient Accounts Recievable	\$ 1,094,584.00	\$ 975,423.00	\$ 1,500,898.00	\$ 1,439,553.0
Current Liability	\$ 2,465,890.00	\$ 2,217,575.00	\$ 1,848,034.00	\$ 1,317,373.
Current Assets	\$ 4,763,557.00	\$ 4,337,485.00	\$ 1,798,002.00	\$ 1,681,371.
Long-Term Liabilities	\$ 6,157,040.00	\$ 5,544,163.00	\$ 3,862,358.00	\$ 4,402,835.0
Unrestricted-Net-Assets	\$ 3,315,111.00	\$ 3,027,943.00	\$ 4,989,514.00	\$ 4,533,220.0
Net Margin	\$ 294,245.00	\$ 342,634.00	\$ 771,312.00	\$ 747,171.
Intererst Expense	\$ 129,509.00	\$ 115,231.00	\$ 145,169.00	\$ 125,053.
Principal	\$ 48,844.00	\$ 59,829.00	\$ 545,619.00	\$ 105,895.
Accumulated Depriciation	\$ 2,133,002.00	\$ 1,986,820.00	\$ 3,349,289.00	\$ 2,983,481.

		FINANCIAL INDICATORS				
	Northwell Health 2017	Northwell Health 2016	Universal Health Services 2017	Universal Health Services 2016	Standard and Poor Averages	Goal
Operating Margin	-0.17%	-1.69%	12.30%	13.12%	2.40%	3-5%
Net Margin	2.65%	0.38%	12.57%	13.10%	3.70%	5-7%
Days cash on hand	109	107	3	2	197.6 Days	<100 Days
Accounts Receivable	51.54	47.44	52.63	53.80	48.2 Days	35- Days
Average Payment Period	86.73	83.48	77.69	59.60	63 Days	10-20 days> Recievables
Current Ratio	1.93	1.96	0.97	1.28	\$2:1	\$2:1
Long-Term-Debt-to-Capitilization	65%	65%	44%	49%	34.00%	>50%
Debt Service Coverage	4.80	4.96	1.97	5.58	\$4.3:1	\$4:1
Avergage Age of Plant	4.94	4.84	7.48	7.16	10.6 Years	>10 Years
Capital Expense	5.19%	5.20%	6.49%	6.38%	7.00%	7%

	PERCENT CHANGE FROM 2016-2017		
	Northwell health	Universal Health Services	
Operating Margin	90.00%	-6.27%	
Net Margin	590.04%	-4.04%	
Days cash on hand	1.36%	104.94%	
Accounts Receivable	8.66%	-2.19%	
Average Payment Period	3.89%	30.37%	
Current Ratio	-1.24%	-23.77%	
Long-Term-Debt-to-Capitilization	0.50%	-11.44%	
Debt Service Coverage	-3.30%	-64.61%	
Avergage Age of Plant	2.07%	4.45%	
Capital Expense	-0.18%	1.73%	
-			

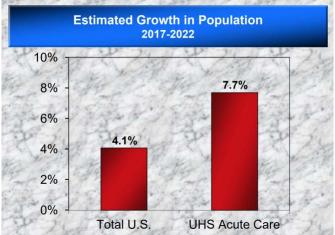
(In Thousands)

2. Market Assessment



Northwell Health

The Northwell Health system (previously called North Shore- LIJ) is the largest private employer and health care provider in New York. This not for profit health system includes 23 hospitals, over 700 outpatient facilities, and employs 68,000 people. Of which, 3,300 are physicians. Northwell's headquarters are located in New York City, NY and it serves the New York Metropolitan Area. Some facilities include the Katz Institute for Women's Health, North Shore University Hospital, and Florence and Robert A. Rosen Family Wellness Center. Reported in 2016, Northwell held a market share of 26.3% (in 2014). This was 13 points greater than its closest competition which is New York-Presbyterian Hospital (13.4%), followed by Mount Sinai Health System (10.2%). This market share percentage have been on a steady incline for the past few years. As for the future, Northwell has set a strategic plan to focus on growth and develop win-win entrepreneurial partnerships and joint ventures.



Universal Health Services

Universal Health Services is a Fortune 500 company and is one of the largest hospital management companies in the United States. This for-profit healthcare system is based in King of Prussia, PA and operates in 37 states. Despite being based in Pennsylvania, UHS spans from coast to coast and serves patients in Puerto Rico and the U.K. as well. UHS currently has over 83,000 employees and over 350 facilities. Just in the Greater Philadelphia Area, UHS owns Brooke Glen Behavioral Hospital in Fort Washington; Fairmount Behavioral Health System and Friends Hospital, both in Philadelphia; the Horsham Clinic

in Ambler; Keystone Center in Chester; and Hampton Behavioral Health Center in Westhampton. Given that UHS is such a spread-out company, there are various region's market shares to focus on. For example, UHS hold 26% of the market in South Texas and is a strong leader in the Las Vegas market. In terms of a long-term plan, Universal Health Services is committed to focusing on rapid growth areas in acute care versus the US population. Primary competitors include Methodist Hospital and Baptist Medical Center, both in San Antonio, TX, as well as Envision Healthcare and LifePoint Health.

(In Thousands)

3. Payor Mix

Universal Health Services

Universal Health Services has experienced a semi-consistent trend in its payor mix over the last three years. As of 2017, 19% of the payor mix derives from Medicare payments, 11% derives from Medicaid payments, 56% derives from managed care payments, and 14% derives from other forms of payment such as self-pay. This data is reflected in Figure X below. The trends that are most apparent are the declines among Medicaid and Medicare payor shares, and the increases in managed care and other third party payor shares.

Figure X: Universal Health Services Payor Mix

Patient Revenues			
2017	2016	2015	
19%	20%	21%	
11%	12%	13%	
56%	56%	54%	
14%	12%	12%	
100%	100%	100%	
	2017 19 % 11 % 56 % 14 %	Patient Revenues 2017 2016 19% 20% 11% 12% 56% 56% 14% 12%	

Percentage of Net

Medicare and Medicare Trends

Since 2015, the payor share for Medicare has decreased by 1% annually, and the payor share for Medicaid has also decreased by 1% annually. Medicare and Medicaid are federal programs which reimburse hospitals based on fixed rates. These rates are typically far below the rates charged to managed care plans. As a result of the ACA, dependent on UHS facility locations, these rates will continue to drop due to the reduction of Medicare and Medicaid reimbursement rates. Decreases in the payor mix for Medicare and Medicaid could be considered favorable depending on trends regarding managed care plans and other third party payors.

Managed Care Plans and Other Third Party Payor Trends

As the share of revenues from Medicare and Medicaid has decreased, the share of revenues generated from managed care plans and other third party payors has increased. Firstly, the share of revenues from managed care plans saw an increase of 2% in between the years 2015 and 2016. This increase in the share of revenue from managed care plans is most likely a result of the ACA being fully implemented. The ACA created an individual mandate that encouraged individuals to acquire coverage through health exchanges, hence the increase of managed care revenues from 54% to 56% in the years 2015 to 2016. This increase is favorable for Universal Health Services due to managed care plans offering higher reimbursement rates than that of Medicare and Medicaid. However, in 2017 the individual mandate was repealed and the effects of the repeal could be seen. As of 2017, the trends for managed care plan revenue shares have stalled, meanwhile other third party revenue shares have increased by 2%. The increase in other third party payor revenue shares is not favorable for Universal Health Services due to increases in self-pay. Although self-pay rates are high, they are often unrealized and lead to no gains in revenue, thus offsetting revenue increases from managed care payments.

Northwell Health

Compared to Universal Health Services, there are some differences regarding Northwell Health's payor mix. These differences have mainly been influenced by both location and organizational models. As of 2017, 33% of Northwells revenues derived from Medicare payments, 21% of revenues derived from Medicaid payments, 40% of revenues derived from other third parties (insurance), and 6% of revenues derived from self-pay. Northwell Health has experienced some changes in their patient mix over the last 3 years, and for the most part these fluctuations are relatively favorable. This data can be observed below in Figure Y.

Figure Y: Northwell Health Payor Mix

December 31			
2017	2016	2015	
33%	33%	36%	
21	21	20	
6	6	6	
40	40	. 38	
100%	100%	100%	
	2017 33% 21 6 40	2017 2016 33% 33% 21 21 6 6 40 40	

Medicare and Medicaid Trends

From 2015 to 2017 the share of revenues derived from Medicare payments have decreased by 3%, and the share of revenues derived from Medicaid have increased by 1%. These changes are reflective of both New York States efforts to expand Medicaid and the federal government's efforts to decrease Medicare reimbursements. The changes are not to be considered favorable due to the fact that Medicaid reimbursements are lower than Medicare and insurance reimbursements.

Other Sources and Self-Pay Trends

In regard to other sources and self-pay trends, Northwell health has similar but more favorable revenue shares than Universal Health Systems. From 2015 to 2017, Northwell Health has experienced an increase of 2% for revenues derived from other sources (Insurance). This increase in revenue from other sources coincides with no increases from self-pay. Keeping self-pay constant while also increasing revenues from other third parties is extremely favorable for Northwell health. Expenses from self-pay appear to be minimized, while Northwell Health has increased its revenue share from third party sources with higher reimbursement rates. Residing within a state that has expanded Medicaid has given Northwell the advantage of a population with increasing coverage. Although these trends are favorable for Northwell Health, they may not remain consistent due to the federal government's efforts to reduce the impact of the ACA.

(In Thousands)

4. Mergers and Acquisitions

Northwell Health

Northwell Health recorded two major acquisitions in 2017. In August of 2017, Northwell Health acquired the *Visiting Nurse Association of Hudson Valley* (VNA). The financials of this purchase were not specified. The purchase of VNA added about 6,000 patients to Northwell's geriatric system and also roughly 350 employees. In December of 2017, Northwell health finalized an acquisition of Mather Hospital. The financials of this procurement are also unspecified, but added 248-beds, multiple high income medical departments, and a staff of over 2,600 employees to Northwell Health's system. These acquisitions are highly representative of Northwell Health's strategic plan to dominate their region and expand their reach. The strategic plan has led Northwell to be New York State's largest health system and private employer.

Universal Health Services

Universal Health Services had no recorded mergers and acquisitions in 2017. The most recent acquisition occurred in January of 2018. This acquisition was for the Mississippi based behavioral health system *Memorial Behavioral Health* (MBH). The purchase of MBH led to Universal Health services acquiring "a 109-bed behavioral health facility for adults, adolescents and children, along with two outpatient clinics in Gulfport, Miss". The price of this acquisition was unspecified, but expanded Universal Health Services presence in the region, and added to their multi-billion-dollar behavioral health network.

5. Medical Staff

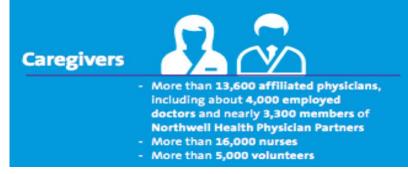
Northwell Health

Northwell health does not specify their employee data numbers in their financial statements, but estimates can be found on Northwells website. According to Figure Z, Northwell has over 13,600 affiliated physicians, about 4,000 employed physicians, and nearly 3,300 members of their

physician partner program.

Figure Z: Medical Staff

Employment Status Data (2017)



Physician Model

According to the data, Northwell health operates through a hybrid physician model. This indicated by the number of affiliates and partners compared to the level of employed doctors. A majority of Northwells physician staff is affiliated but not employed which indicates a private practice model. Although Northwell leans towards the private practice model, they employ 34% of their physician staff, which may show a trend towards a hybrid or even an employee based practice.

Universal Health Services

Universal Health services states in its financial statements that they employ 730 physicians. The make-up of these employed physicians is: 240 acute care physicians and 490 psychiatrists. Universal Health Services generates revenues of over 10 billion dollars and would not be able to operate with a total of only 730 physicians. Universal Health Services has not released any data regarding their physician affiliates.

Physician Model

Based on assumptions regarding the scale of the network, it can be inferred that Universal Health services is a private practice based network. The total number of physicians employed by Universal Health Services represent only a fraction of the total revenues that the network gains annually,

6. Employee Relations

Northwell Health

As previously stated, Northwell Health employs over 68,000 people and at December 31, 2017, approximately 35% of those employees are union employees. They are covered under terms of many collective bargaining agreements.

A recent employee strike that Northwell has faced came in the spring of 2018. Nurses from the University Hospital's Ocean Breeze campus (New Hyde Park, NY) called for a strike in regards to contract negotiations. These nurses are represented by the New York State Nurses Association. When asked to comment on this possible strike, a Northwell representative expressed disappointment. Northwell offers a variety of pension plans and other postretirement benefits for all of its employees.

Universal Health Services

In keeping with most recent data, Universal Health Services reports that they have 76,600 employees located in the United States; approximately 55,000 of these employees work full-time. Approximately 765 workers from 6 of their hospitals are unionized. Unions represented include the Culinary Workers and Bartenders Union, the International Union of Operating Engineers, the Service Employees International Union (SEIU), Communications Workers of America, and the Northwestern Nurses Association/Pennsylvania Association of Staff Nurses and Allied Professions.

There are a wide range of unions represented within the Universal Health Services health system, but a growing base of unionized employees is still on UHS's radar. If more employees were to unionize, UHS labor costs could potentially increase. As far as benefits for all employees, UHS provides for self-insured risks including general and professional liability claims, workers' compensation claims, and healthcare and dental claims.

7. Malpractice Insurance

Northwell Health

Through a combination of a self-insurance program and purchased primary and excess insurance, Northwell prepares itself for any potential medical malpractice losses. At December 2017, Northwell reserved \$37,972,000 for self-insurance claims and incidents, based on actuarial determinations and a 2.0% discount rate.

In regards to the primary insurance program, Northwell decided to purchase primary malpractice insurance on an occurrence basis, which covers most hospitals and as of January 2017, has started to fully self-insure the primary layer of up to \$1,000 per claim.

At December 2017, liability was recorded as \$576,357,000 based on the discount rate of 2%. Finally, Regional Insurance covers some excess malpractice losses that are above the primary per claim limit. At December 2017, these reserves were recorded at \$170,149,000 based on the 2% discount rate, and the estimated undiscounted incurred but not reported liability for claims in excess of primary insurance layers was \$84,864,000.

Because Northwell facilities are only located in New York, they are protected by a law that puts a limit on the amount of money a person can be awarded for an injury.

(In Thousands)

Universal Health Services

United Health Services chooses to purchase professional and general liability insurance. Professional liability insurance covers negligence related to professional services or advice, where as general liability insurance protects against physical injury to people or damage to property arising from daily operations. Both of these types of liability insurance are subject to policy limitations.

The 2017 Annual Report for UHS states that the health system is subject to medical malpractice lawsuits and they are prepared to deal with such matters. They closely monitor their coverage and any lawsuits that arise, but are confident that the insurance they carry is adequate (based on past claims and experiences).

8. Fraud and Abuse Claims

Northwell Health

Northwell Health has no outstanding fraud and abuse claims, nor does it have a history of any fraud and abuse allegations. Northwell Health's clean fraud and abuse history may have to do with their rigorous fraud and abuse policy. Northwell Health has a policy that states that "it is the obligation of Northwell Health and its affiliated entities to prevent and detect any actions within the organization that are illegal, violative of federal and state health care program, fraudulent or in violation of any applicable Northwell Health policy".

This policy is then enforced by a rigorous compliance program which "strives to educate our work force regarding Northwell Health policies, the requirements, rights and remedies of Federal and state laws governing the submission of false claims, including the rights of employees to be protected as whistleblowers under such laws and the importance of submitting accurate claims and reports to federal and state governments".

Universal Health Services

Unlike Northwell Health, it appears that Universal Health Services has had a history of fraud and abuse cases. Although Universal Health Services has a fraud and abuse compliance program that is similar to Northwell Health's program, Universal Health Services has had an ongoing legal investigation since early 2013. The dispute began as investigation by the Department of Justice into the medical billing practices for 10 behavioral health facilities owned by Universal Health Services. The billing practices that are being scrutinized are suspected of violating False Claims Act regulations. As of 2019, this investigation has extended to about 20 other facilities as well as the Universal Health Services corporate office.

(In Thousands)

Universal Health Services has had some implications due to the ongoing investigation, but they are relatively minor. Each news release regarding the investigations and lawsuits have a coinciding short term stock price decrease, but Universal Health Services stocks have steadily climbed since the beginning of the investigations from around \$60 in 2013, to around \$125 in 2019. Universal Health Services has also accumulated a reserve settlement fund that amounts to roughly \$90 million, but it also continues to reap in over \$800 million in Medicare and Medicaid reimbursements annually.

9. Board and Management Governance

Northwell Health

Northwell Health has a thirty-one-person board of trustees. The board is also composed of many life trustees and honorary trustees, both types holding no operational powers. The board of trustees is led by the chairman Mark L Cluster, and is composed of many top tier business and health professionals. Board members are appointed by the existing board of trustees, they give approval on any managerial request, and are expected to serve on committees.

The CEO is Michael J Dowling, and he leads the executive board for Northwell Health. The executive board is composed of numerous vice presidents who are responsible for the activities of individual hospitals and other Northwell Health entities.

Northwell Health operates and directs other entities within their network. In order to continue these operations, Northwell Health has two parent holding companies. One is Northwell Health, Inc and the other is Northwell Healthcare, Inc. Both of these organizations act as the parent holding companies for entities that exist within Northwell Healths network.

Universal Health Services

Universal Health Services is a for-profit corporate health network that is led by a seven-person board of directors. The board is led by the Chairman and CEO Alan B. Miller. Board members are elected by the shareholders and are expected to serve on committees, attend board meetings, evaluate existing management, and maximize profits

Management is composed of vice presidents who coordinate the acute division, the behavioral division, and the corporate division. Upper management mainly focuses on regional performance and must seek approval through the corporate office.

As an entity that operates under corporate governance, the corporation must answer to its shareholders. Recently there have been transparency issues due to ongoing False Claims Act investigations that have caused shareholders to panic. Shareholders of Universal Health Services stock have been filing official suits and complaints against Universal Health Services for causing and mishandling ongoing investigations. The CtW Investment group has even gone as far as to

demand governance overhauls in response to "mounting number of publicly disclosed federal criminal and civil investigations into the company".

Despite these demands and complaints, no directors have lost a reelection, been fired, nor been personally indicted due to the ongoing investigations.

10. Capital Holdings

Northwell Health

Northwell Health has an astounding 700+ facilities, including doctor's offices, blood testing centers and labs, clinical departments, emergency departments, hospitals, imaging, pharmacies, rehabilitation centers, and walk-in/urgent care clinics. This hospital system strives to keep their facilities up to date and their patients in the best quality of care. As calculated in the financial indicators on page 6 of this report, the average age of plant for Northwell is 4.94 years, meaning that facilities are well kept up to date. Recently, one of the hospitals in the Northwell system, Mather Hospital, earned its 12th top "A" rating from The Leapfrog Group for its efforts in protecting patients from harm and meeting the highest patient safety standards in the country. In recent years, Northwell has spent money on state of the art facilities, such as the newly opened \$3 million Center for Breast and Lymphatic Surgery. This new outpatient center is 4,600 square-feet and was built to treat women, with breast cancer or a genetic predisposition for the disease, who need reconstructive breast and lymphatic surgery. In regards to their facilities, Northwell stresses how they want to provide the best possible care for all of their patients. In addition, Northwell continually spends an appropriate percentage of depreciation on its capital expenditures. Over the past three years, Northwell Health has spent 158%, 150%, 145% and 137% for the six months ended June 30, 2017 and the years ended December 31, 2016, 2015 and 2014, respectively. of 2017, future capitals improvement plans and strategic investments were set in place on a two-The expected expenditures set to buy new equipment, replace old equipment, information technology, major capital projects and investments in joint ventures and other strategic initiatives was \$1.8 billion over the 2-year period of 2017-2019.

Universal Health Services

Universal Health Services has over 350 facilities, many of which are in new condition. UHS cares about its patients and how comfortable they are during their stay in the facilities. As calculated by the financial indicators on page 6 of this report, Universal Health Services has an average age of plant of 7.48 years. This is below the goal of having an average below 10 years, but is cutting it close. Recently, UHS opened a new behavioral health facility called Palm Point Behavioral Health. This new 80 bed facility opened in the fall of 2018 in Florida, and creates more access to inpatient and outpatient mental health treatment for the entire region. The facility's main goal is to treat children, adolescents, and adults with behavioral health issues such as depression, bipolar disorder, psychosis or substance use disorder, all in separate units. Over the past three years, Universal Health Services has spent \$388.4 million during 2017, \$350.8 million during 2016 and \$337.5 million during 2015. UHS provides depreciation using the straight-line method over the

estimated useful life of building and improvements and equipment. They clarify that the useful lives of buildings and improvements are twenty to forty years and for equipment are three to fifteen years. Looking into the future, UHS is planning to spend approximately \$675 million to \$725 million on capital expenditures for capital equipment, renovations and new projects at existing facilities. On the record, UHS believes that their spending plan is "adequate" to expand, improve and equip their existing facilities.

11. Information and Technology

Northwell Health

Northwell Health is a leading network in regard to the use and integration of technologic advancements. In 2017, nine of Northwell Healths hospitals were awarded a placement on the HealthCares Most Wired List. This list "looks at how hospitals use information technology to enhance patient safety and quality-of-care priorities as well as their public health, administrative processes and workforce decisions", and Northwell Healths designations indicated their commitment to maintaining a technologic standard.

Northwell Health also owns the Northwell Health Innovation center, which "invites inventors, entrepreneurs, clinicians, industry leaders, and creative thinkers to join forces and team with the sharpest minds in medicine and technology" to create groundbreaking technologic advancements. Through the center, Northwell Health has incorporated biosensors, telehealth solutions, and patient voice commands into their hospitals. The center has also partnered with corporations and clinicians in order to work on new technologies such as emergency health drones, advanced cardiac imaging, real time location services asset management, and advancements in electronic health records.

Universal Health Services

As one of the largest health networks in the world, Universal Health Services must actively upgrade old equipment and purchase new technologic advancements in order to continue to stay competitive. These purchases have totaled to about \$50 million for the years 2016 and 2017 combined. The technology purchased includes telehealth systems, LED replacements, physician video consultations, and leading cardiac technology.

The greatest difference between Northwell Health and Universal Health Services in regard to technology is where they obtain it. Northwell Health aims to create new technologies and encourages innovation through its innovation center, while Universal Health Systems looks outwards for new advancements. This may be a reason as to why Universal Health Services has no designations in the technological spectrum, and may also indicate that Northwell Health is ahead in their technologic capabilities.

12. Quality

Northwell Health

Comparatively speaking, Northwell Health's Huntington Hospital, located in Huntington, NY is rated high performing in 1 adult specialty and 3 procedure and condition rankings. This facility is a medium metro sized hospital, has a high nursing staff, and is equipped with a trauma center. Regionally ranked, Huntington Hospital was ranked at #20 for best hospitals in New York and #16 for best hospitals in the New York metro area. Huntington has a high performing national rank for gastroenterology and GI surgery with an overall score of 58.5 out of 100. In regards to procedures and conditions, this hospital is ranked high performing in categories such as colon cancer surgery, heart failure surgery, and hip replacement surgery. These high performing rankings, against national averages, make Northwell stand out among its competition. Patients willingness to recommend this hospital to others earned four out of five stars, as did patient satisfaction with nurses' ability to clearly communicate, listen, and explain things in a way that all patients understood. Overall, Huntington had a high rating for patient satisfaction with hospital room cleanliness and staff responsiveness. Compared to quality indices given to Universal Health Services, Northwell Health ranks as the better healthcare system.

Universal Health Services

Overall, Universal Health Services has substantially average quality index measurements. Taking a closer look at one of the UHS facilities, Aiken Regional Medical Center, located in Aiken, South Carolina, we found that they were not nationally ranked in areas such as gastroenterology and GI surgery, geriatrics, neurology and neurosurgery, orthopedics, and lung surgery. On average, this UHS facility was coming in at an average score of 20 to 30 out of 100. This is a medium metro sized hospital and offers general medical and surgical services. In regards to procedures and conditions, Aiken Regional Medical Center was rated average for procedures like abdominal aortic aneurysm repair, chronic obstructive pulmonary disease, color cancer surgery, heart bypass surgery, hip and knee replacement, and lung cancer. These rating are all based on comparisons to national industry averages. Patients, on average, gave Aiken Regional Medical Center a three out of five-star rating for patient experience. In this case, patient experience includes satisfaction with the hospital overall, willingness to recommend, satisfaction with noise volume. These rankings compared to national averages are not too great.

13. Risk Factors

Northwell Health

Similar to Universal Health Services, Northwell Health faces market risk factors that can cause a disturbance in performance. Northwell stated that because health care providers are paid by the government, changing regulations and contractual requirements are among the many factors that they anticipate. Another market risk factor that affected Northwell was the enactment of the Affordable Care Act in 2010. Continuous changes are currently occurring in the United States healthcare system. Looking into the future, Northwell knows and discloses that risk factors such as competition from other expanding health care systems and providers, changes in the demand for health care services, effects of possible inflation, receiving grants and contributions, and referring physicians' and self-referred patients' confidence in Northwell are all possible. It is important that Northwell keeps up with its ability to provide its patients with the services that they need and that they keep a strong relationship with their physicians, because their ability to do so will have a direct effect on revenues and expenses. The success of Northwell's strategic plans and the degree of cooperation among the health system and the market also factor into its future success. In their official statement, Northwell explains that the effect on their organization of future changes in federal, state and private policies and interpretations of policies cannot be determined at this time, but they acknowledge potential risk factors. This shows that they are aware of their environment and the continuous changes in the industry.

Universal Health Services

Universal Health Services discloses many market risk factors that could potentially affect the organization's performance. They are upfront with the fact that a significant portion of their revenue is produced by facilities located in Texas, Nevada, and California. This means that they are sensitive to legislature, regulatory, economic, environmental and competition changes in these three states. In addition, UHS revenues are majorly impacted by the payments received from the government and other third party payors, like Medicare and Medicaid. Changes in these programs can result in limitations on reimbursement for healthcare services. UHS also discloses that they are subject to uncertainties regarding health care reform like legislative changes that occur quite often. One of the items in the UHS 2017 Annual Report is 7A: Quantitative and Qualitative Disclosures About Market Risk, in which the health system states that "To manage this risk in a cost-effective manner, we, from time to time, enter into interest rate swap agreements in which we agree to exchange various combinations of fixed and/or variable interest rates based on agreed upon notional amounts," (UHS 2017 Annual Report). To ensure that all hedging activity is right, they use Financial Accounting Standard Board's ("FASB") guidance which "requires all derivative instruments, including certain derivative instruments embedded in other contracts, to be carried at fair value on the balance sheet." All relationships are formally documented. Also disclosed is the fact that seven interest rate swaps (\$825 million) matured in May 2015. The section closes by stating that UHS measures interest rate swaps at fair value and on a recurring basis.

14. Conclusion

After comparing many aspects of these two well-respected health systems, we have decided that we would choose to invest and/or work for Northwell Health over Universal Health Services. These systems are similar in many ways, but Northwell is more advanced at this point in time and more ethical, making it the safer investment option. With such a large presence in the New York area, Northwell Health is well-known and well-praised. Northwell is committed to improving its experience for patients and employees and does so by building state-of-the-art facilities and conducting routine maintenance of older buildings. Taking initiatives like this shows financial responsibility. In addition, Northwell has a strong employee base of over 68,000 people and a strong facility presence in New York with over 700 facilities. This is a dynamic healthcare system that is continuously growing, which is very appealing to an investor. As calculated at the beginning of this report, strong financial Indicators such as average payment period, average age of plant, and capital expense also support the claim that of the two health systems, Northwell is the better investment. Northwell is prepared for the future and has a strong grip on what market risk factors may affect them in the future. All in all, Northwell Health is the stronger of the two systems, and is therefore the system that we would invest in.





(In Thousands)

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