

# Pittsburgh Pharmacy Investment Portfolio



June 2019

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## Section 1. Introduction

The Pitt Pharmacy Investment Portfolio is a student-run investment portfolio that focuses on securities with a high exposure to healthcare. The portfolio was created as a result of the success and sustained interest resulting from the inception of the Biotech Investment Fantasy League in 2016 by students from the University of Pittsburgh School of Pharmacy. The Pitt Pharmacy Investment Portfolio was created with the idea that healthcare students will be experts in recognizing the potential value that healthcare companies pose to the market.

This report serves as an update on the performance of the portfolio, the performance of the market, major industry news, and a company level breakdown of all current holdings. Any alterations made to the portfolio will be discussed with proper justification. The final section will serve as an executive summary of the contents.

All current holdings are outlined in appendix A. Until the next trading cycle (April 2020), the portfolio will remain constant unless leadership determines a move is necessary. These reports will serve as constant due diligence to ensure that nothing goes unnoticed and that the portfolio is under consistent evaluation. The current format for investing utilizes a simulation on investopedia.com. An initial \$50,000 was invested in April 2018. The portfolio as well as all current reporting tactics will be reevaluated on a monthly basis to ensure proper record keeping is maintained.

## Section 2. Market Comparison

S&P 500 is a stock index composed of 500 companies with the largest market capitalizations that are listed on the NASDAQ, NYSE, and Cboe BZX exchanges. Any S&P 500 companies that are classified as members of the GICS® health care sector are included in the S&P 500 Health Care index (SPXHC, also known as S5HLTH).

As of this writing, there are 60 companies within the SPXHC index (see Appendix A). Of those companies, PPIP holds a position in the following 9 companies: Abbott Laboratories, Johnson & Johnson, Merck & Co., Medtronic plc, UnitedHealth Group Inc., AbbVie, Inc., IDEXX Laboratories, CVS Health Corporation, and Mylan N.V. The remaining 6 PPIP companies not listed in the SPXHC are: Agios Pharmaceuticals, Inc., GlaxoSmithKline plc, Novartis AG, AstraZeneca plc, Sarepta Therapeutics, Inc., and Intra-Cellular Therapies, Inc.

We believe that the SPXHC index best represents the entire healthcare sector. For this reason, we have selected the SPXHC index as a comparator in order to evaluate the performance of PPIP relative to the rest of the healthcare sector. This was accomplished by measuring the percent-change of the PPIP value relative to the percent-change of the SPXHC index value during the following investment periods:

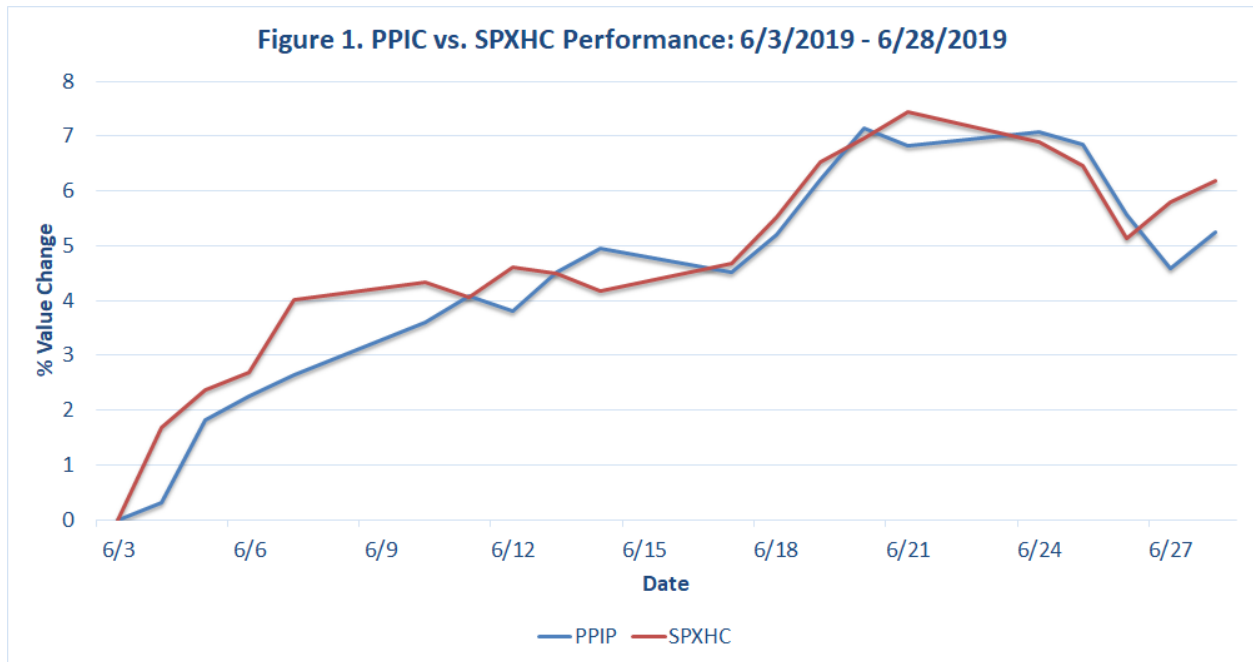
- A. Trailing 1 Month: 06/03/2019 - 06/28/2019
- B. Trailing 3 Months: 04/01/2019 - 06/28/2019
- C. Trailing 6 Months: 02/01/2019 - 06/28/2019
- D. Trailing 12 Months: 07/02/2018 - 06/28/2019



E. Since Inception: 04/23/2018 - 06/28/2019

**A. Trailing 1 Month: 6/3/2019 - 6/28/2019**

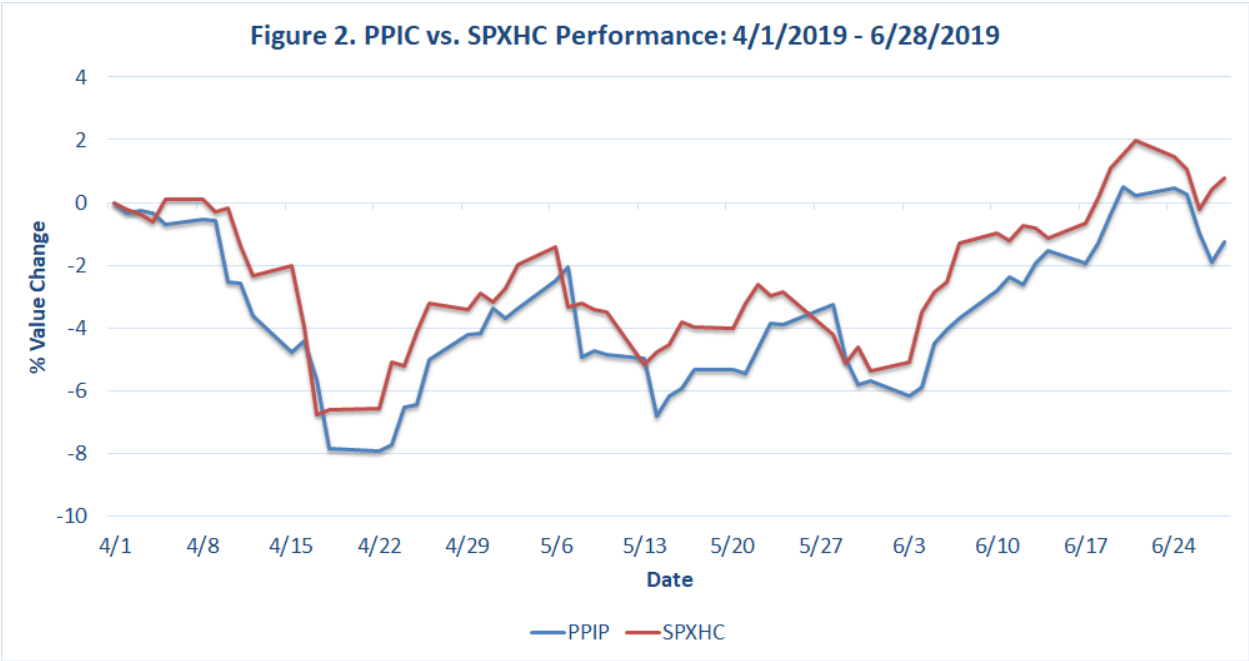
During the investment period beginning June 3rd, 2019 and ending June 28th, 2019, the PPIP value increased 5.24% while the SPXHC index value increased 6.18%. Thus, the SPXHC index outperformed PPIP by 0.94% during this period. In the context of a hypothetical \$50,000 investment during this period, the PPIP would have yielded a gain of \$2,620 while investing in the SPXHC index would have yielded a gain of \$3,090. The percent-changes in PPIP and SPXHC value are shown below in Figure 1.



**B. Trailing 3 Months: 4/1/2019 - 6/28/2019**

During the investment period beginning April 1st, 2019 and ending June 28th, 2019, the PPIP value decreased 1.27% while the SPXHC index value increased 0.77%. Thus, the SPXHC index outperformed PPIP by 2.04% during this period. In the context of a hypothetical \$50,000 investment during this period, the PPIP would have yielded a loss of \$635 while investing in the SPXHC index would have yielded a gain of \$385. The percent-changes in PPIP and SPXHC value are shown below in Figure 2.

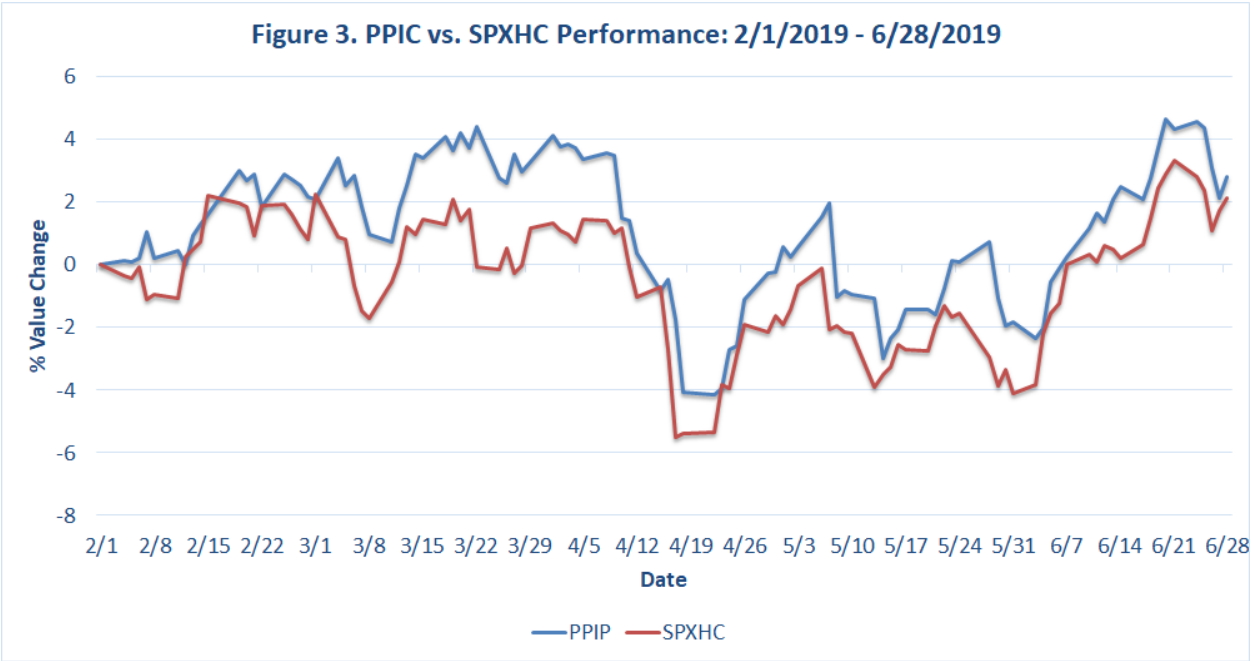




**C. Trailing 6 Months: 2/1/2019 - 6/28/2019**

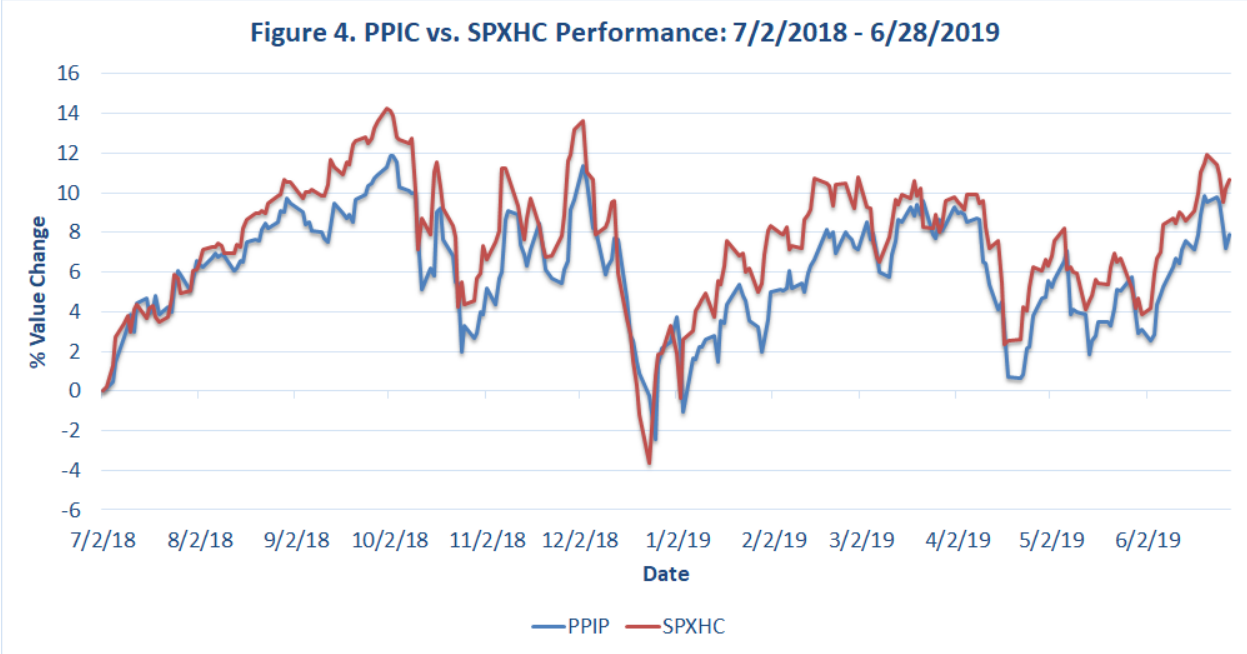
During the investment period beginning February 1st, 2019 and ending June 28th, 2019, the PPIP value increased 2.79% while the SPXHC index value increased 2.12%. Thus, PPIP outperformed the SPXHC index by 0.67% during this period. In the context of a hypothetical \$50,000 investment during this period, the PPIP would have yielded a gain of \$1,395 while investing in the SPXHC index would have yielded a gain of \$1,060. The percent-changes in PPIP and SPXHC value are shown below in Figure 3.





**D. Trailing 12 Months: 7/2/2018 - 6/28/2019**

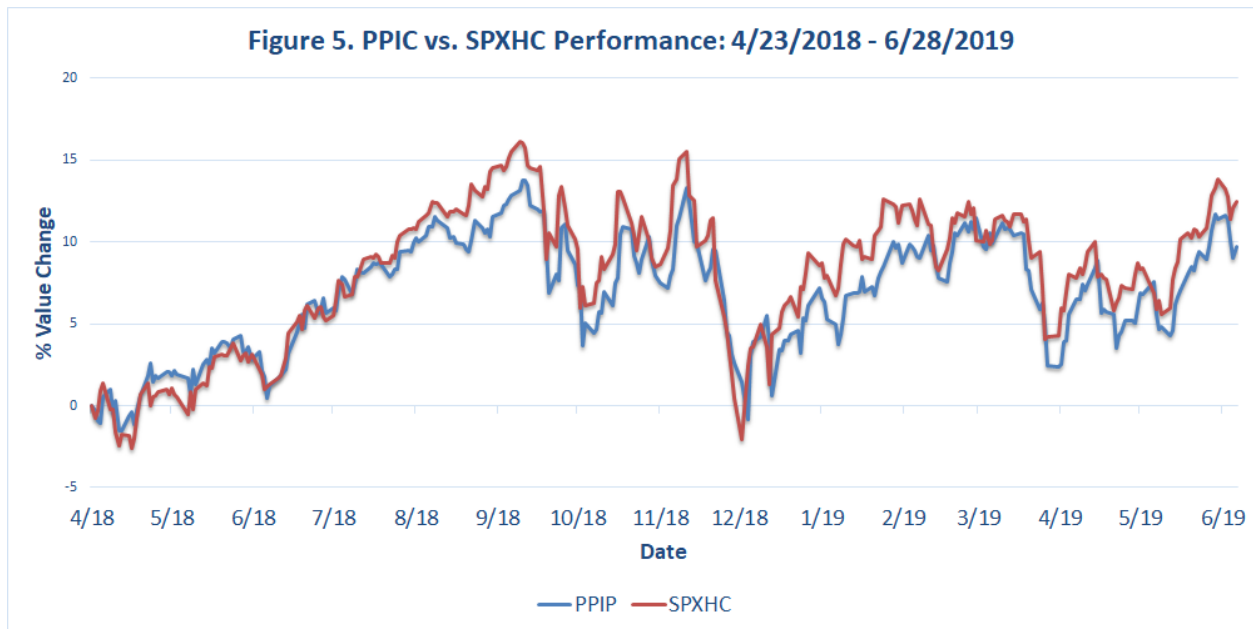
During the investment period beginning July 2nd, 2018 and ending June 28th, 2019, the PPIP value increased 7.90% while the SPXHC index value increased 10.64%. Thus, the SPXHC index outperformed PPIP by 2.74% during this period. In the context of a hypothetical \$50,000 investment during this period, the PPIP would have yielded a gain of \$3,950 while investing in the SPXHC index would have yielded a gain of \$5,320. The percent-changes in PPIP and SPXHC value are shown below in Figure 4.



**E. Inception to Present: 4/23/18 - 6/28/19**



During the investment period beginning April 23rd, 2018 and ending June 28th, 2019, the PPIP value increased 9.73% while the SPXHC index value increased 12.47%. Thus, the SPXHC index outperformed PPIP by 2.74% during this period. In the context of a hypothetical \$50,000 investment during this period, the PPIP would have yielded a gain of \$4,865 while investing in the SPXHC index would have yielded a gain of \$6,235. The percent-changes in PPIP and SPXHC value are shown below in Figure 5.



## Section 3. Major Industry Updates

### General Market Update

Overall, financial markets performed well throughout the month of June. The DJI consistently improved over the entire month, opening at 24,896 on June 3 and closing at 26,599 on June 28<sup>th</sup>. The S&P 500 Healthcare Index followed a similar pattern, improving from 1009 to 1072 in the same time period.

### Regulatory Updates

The FDA is seeking public feedback on the Clinical Data Summary Report (CSR) program, launched in 2018. CSR is intended to publish safety data reports from new drug applications in a manner easy for the public to understand.

The FDA is continuing to work on an integrated review document template. The new document is part of a broader initiative in the Center for Drug Evaluation and Research to promote interdisciplinary assessments of new drugs and improve communication about new drug approvals. The integrated review template is intended for public consumption of safety data.



### Political Developments

Healthcare pricing has been a hot topic in the US government over the past few months, but considerable action was taken in June. President Trump passed an executive order requiring hospitals and insurance companies to disclose more information about healthcare to patients. Hospitals must disclose which price patients and insurers will pay in an easy-to-read format, as well as state the out-of-pocket cost before the patient actually receives care. However, there is still much ambiguity regarding implementation- how hospitals and insurance companies will display privately negotiated rates remains uncertain.

US-China trade talks may resume after the G20 summit in Japan on June 28-29<sup>th</sup>. China hopes to regain access to US tech markets after the Huawei sanctions. Resuming “business as usual” between two of the world’s largest economies would benefit the overall financial markets tremendously. Impact on healthcare may not be as large, but would still benefit from trade between the two countries.

### Industry News

Bristol-Meyers Squibb is cooperating with the FTC to officially close the Celgene purchase at the end of 2019 or early 2020. Insys Pharmaceuticals, a major opioid drugmaker, filed for bankruptcy on June 10. A week prior, the company agreed to pay \$225 million to settle a US lawsuit regarding physician bribes.

Louisiana finalized a deal with Gilead to purchase Hepatitis C drugs for its Medicaid program via a subscription model. Instead of paying for individual medication, the state will pay Gilead a fixed amount of money (as of now, an undisclosed amount) over several years to receive the drugs. Other states including Washington have considered a similar subscription based, sometimes being referred to as a “Netflix”, model

## **Section 4. Major Product Updates**

During the month of June, three companies had very strong performances from their product sections that likely contributed to their strong monthly performances. The first company that is worth noting is IDEXX Laboratories. Their key growth driver is the Companion Animal Group (CAG). The group's strong performance is primarily due to success and reputability of the of the Catalyst One chemistry analysis platform. With no indication of a decrease in performance, it is likely that The Catalyst One remains the primary growth driver for the company. Abbot Laboratories also turned in a strong month. Their Afinion 2 analyzer platform launched a new assay to detect HbA1c. The Freestyle Libre is expected to gross \$5B annually with a second-generation platform in development. Finally, the Alinity platform, another high throughput analysis system has started its launch in the U.S follow success in Europe. AstraZeneca turned in solid performance this month with one of their leading Oncology compounds, Lynparza, getting the green light from the FDA as a frontline maintenance treatment in ovarian cancer. Another key point from AZ this month was the unveiling of positive trial data from their DECLARE study in which Farxiga was able to reduce the progression of kidney disease and



occurrence of renally related deaths in type II diabetes patients. It seems safe to expect increased sales as a result from the positive data.

## Section 5. Major Pipeline Updates

FDA granted priority review of Invokana (canagliflozin) sNDA to treat chronic kidney disease in patients with type 2 diabetes – if approved this will become the first to market option for these patients. Lumapterone is under FDA review for schizophrenia and could make or break Intra cellular as it looks for its first approved product. Merck's PCV-15 vaccine proved non-inferior to PCV-13. This particular vaccine candidate requires close monitoring, as it not only looks to replace PCV-13 but also aims to beat Pfizer's PCV-20 candidate to market. The review of the PCV-15 and PCV-20 and their places in therapy will likely come down to their efficacy against difficult to treat pneumococcal serotypes such as serotype 3.

## Section 6. Individual Company Performance

### Abbott Laboratories

#### Products

- Launch of the Afinion™ HbA1c Dx assay on the Afinion 2 Analyzer platform
- There is speculation that the FreeStyle Libre could \$5 Billion annually, and a second generation platform is in development
- Alinity high through put analysis system is performing well in Europe and rolling out in the U.S
- MitraClip is set to expand into new therapy areas with unmet clinical need

#### Pipeline

- Launched first ever rapid point of care HbA1c test – Afinion HbA1c Dx
- Launched partnership with CARE and Abbott Fund to address noncommunicable diseases in humanitarian settings

#### Financials +10.47%

ABT market capitalization began the month at \$134.3B and ended at \$148.4B. Peak market capitalization was reached on June 23rd at \$149.6B and trough market capitalization was reached on June 3rd at \$133.7B. Overall, from June 1st through June 30th, the share price of ABT increased +10.47%.

### AbbVie, Inc.

#### Products

- Humira Revenue up 7.1% in the US but down 23% internationally due to biosimilar competition (total revenue \$3.215B, and \$1.231B)
- HemeOnc portfolio up 43.2 %, key players: IMBRUVICA showed increase of 34.0% (\$1.022B), and VENCLEXTA w/ net revenue \$151M
- SKYRIZI approved in moderate-severe plaque psoriasis





- VENCLEXTA received breakthrough therapy and priority review in frontline CLL
  - Clinical Trial in multiple myeloma recently reinstated following hold due to deaths
- HCV portfolio lead by Mavyret, Portfolio down 11.3% globally, US revenue grew 17.3%
- Other Key products include Creon, Lupron, and Synthroid represent stable income sources

#### Pipeline

- Acquired Allergan along with its pipeline
- FDA lifted partial clinical hold on phase 3 study of Venclexta in patients with multiple myeloma positive for the t(11;14) genetic abnormality
- Paves the way for a possible approval for multiple myeloma
- Released new long term phase 3 trial data for upadacitinib
- Showed that patients receiving once daily upadacitinib through 48 weeks continued to demonstrate improved signs and symptoms of rheumatoid arthritis
- Presented data from Venclexta chemotherapy free combination regimen for patients with previously untreated chronic lymphocytic leukemia
- Patients treated with venetoclax plus obinutuzumab lived significantly longer without their disease progressing, and sustained that benefit after stopping treatment, compared to those treated with obinutuzumab plus chlorambucil

#### Financials -3.94%

ABBV market capitalization began the month at \$113.4B and ended at \$107.5B. Peak market capitalization was reached on June 16th at \$116.6B and trough market capitalization was reached on June 25th at \$97.2B. Overall, from June 1st through June 30th, the share price of ABBV declined -3.94%.

### **Agios Pharmaceuticals, Inc.**

#### Products

- Tibsovo revenue increased since Q1 ended
- Idhifa has shown increased return from royalties

#### Pipeline

- Presented Updated Data from Phase 1 Studies of TIBSOVO® (ivosidenib) in Newly Diagnosed Adult Patients with IDH1 Mutant Acute Myeloid Leukemia (AML) Not Eligible for Intensive Chemotherapy
  - With Longer Follow Up, CR+CRh Rate Increased to 70% and CR Rate Increased to 61% in the Phase 1 Study of TIBSOVO® in Combination with Azacitidine
  - Phase 1 Data of Single Agent TIBSOVO® Demonstrated 12.6 Month Median Overall Survival and 42% CR+CRh Rate

#### Financials +4.33%

AGIO market capitalization began the month at \$2.7B and ended at \$2.9B. Peak market capitalization was reached on June 18th at \$3.0B and trough market capitalization was reached on June 1st at \$2.7B. Overall, from June 1st through June 30th, the share price of AGIO increased +4.33%.



## **AstraZeneca plc**

### Products

- Merck collaboration Lynparaza green lighted in the frontline maintenance treatment in ovarian cancer
- Breztri Aerospher combination approved in Japan and under review in the US
- Farxiga was able to reduce progression of kidney disease and renally related deaths in type two diabetes
- Expecting increased sales as a result

### Pipeline

- Imfinzi improves overall survival at interim analysis in the Phase III CASPIAN trial in 1st-line extensive-stage small cell lung cancer
- Breztri Aerosphere approved in Japan for patients with COPD
- Lynparza approved in Japan for 1st line maintenance therapy in BRCA- mutated advanced ovarian cancer
- Lynparza approved in the EU for 1st line maintenance therapy in BRCA- mutated advanced ovarian cancer
- Calquence significantly prolonged the time patients lived without disease progression in relapsed or refractory chronic lymphocytic leukaemia
- Lokelma demonstrated efficacy in treating hyperkalemia in patients with end-stage renal disease on haemodialysis

### Financials +8.92%

AZN market capitalization began the month at \$96.7B and ended at \$107.2B. Peak market capitalization was reached on June 20th at \$108.0B and trough market capitalization was reached on June 1st at \$96.7B. Overall, from June 1st through June 30th, the share price of AZN increased +8.92%.

## **CVS Health Corporation**

### Products

- Continued strong performance from pharmacy services
- Increased demand for Pharmacy Benefit Management and Specialty Pharmacy services
- In transition period as it incorporates Aetna, synergies appear to be positive
- Retention Rates are good but less than expected
- Omnicare has had a lowered performance due to decreased reimbursement rates and generic releases

### Pipeline

- Completed rollout of time delay safes in all of its Michigan pharmacies
- Announced the availability of Vendor Benefit Management, a new service developed to help CVS Caremark pharmacy benefit management (PBM) clients more easily contract,



implement and manage their choice of available and emerging third-party health and wellness benefit solutions both digital and non-digital

#### Financials +2.06%

CVS market capitalization began the month at \$68.0B and ended at \$70.8B. Peak market capitalization was reached on June 10th at \$71.5B and trough market capitalization was reached on June 1st at \$68.0B. Overall, from June 1st through June 30th, the share price of CVS increased +2.06%.

### **GlaxoSmithKline plc**

#### Products

- Approval of 2 new self-administration methods for Nucala by the FDA for patients with severe eosinophilic asthma and eosinophilic granulomatosis with polyangiitis
- Advair losing revenue to generic competition
- Competition in HIV space from Gilead
- Sold off Eurax, Salvon and Tixylix to Stada and looks to raise about \$1.26 billion by selling its consumer brand products

#### Pipeline

- Has decided to discontinue development of their universal flu vaccine after assessing interim phase 1 data for the candidate
- Respiratory drug Trelegy Ellipta met the main goal of a late-stage asthma study by improving lung function in patients with uncontrolled asthma
  - Trelegy Ellipta is already approved for COPD
  - Generic competition for blockbuster Advair is pushing GSK to pursue newer respiratory therapies to take it's place

#### Financials +2.51%

GSK market capitalization began the month at \$95.5B and ended at \$99.1B. Peak market capitalization was reached on June 20th at \$100.9B and trough market capitalization was reached on June 1st at \$95.5B. Overall, from June 1st through June 30th, the share price of GSK increased +2.51%.

### **IDEXX Laboratories**

#### Products

- Companion Animal Group expected to remain a core source income
- Catalyst One chemistry analysis platform expected to be continuing key growth drivers for the company and the Companion Animal Group

#### Pipeline

- No update/change in pipeline



### Financials +12.11%

IDXX market capitalization began the month at \$21.5B and ended at \$23.7B. Peak market capitalization was reached on June 28th at \$23.7B and trough market capitalization was reached on June 3rd at \$21.1B. Overall, from June 1st through June 30th, the share price of IDXX increased +12.11%.

### **Intra-Cellular Therapies, Inc.**

#### Products

- No products on the market

#### Pipeline

- Lumateperone, a novel drug for the potential treatment of adults with schizophrenia, is currently being reviewed by the FDA
- Intra- Cellular Therapeutics has outlined the clinical results, safety, and tolerability of Lumateperone in various presentations at the American Psychiatric Association annual meeting in San Francisco in May

### Financials +3.18%

ITCI market capitalization began the month at \$715.6M and ended at \$715.6M. Peak market capitalization was reached on June 17th at \$778.9M and trough market capitalization was reached on June 11th at \$587.5M. Overall, from June 1st through June 30th, the share price of ITCI increased +3.18%.

### **Johnson & Johnson**

#### Products

- Darzalex, Imbruvica from Oncology and Stelara were the primary contributors to increased growth during Q2
- Other core products include Simponi/Simponi Aria, Invega Sustenna, and Tremfya also showed a strong performance
- Biosimilar competition has been cutting into the sales of other key drugs, such as Xarelto, Zytiga, Remicade and Procrit/Eprex

#### Pipeline

- FDA granted priority review of Invokana (canagliflozin) sNDA to treat chronic kidney disease in patients with type 2 diabetes
  - If approved, will become the first and only therapy to treat CKD in patients with type 2 diabetes
- In the investigational phase 3 TITAN study, Erleada (apalutamide) in addition to androgen deprivation therapy showed significant improvement in overall survival and radiographic progression-free survival in patients with metastatic castration-sensitive prostate cancer

### Financials +5.96%

JNJ market capitalization began the month at \$348.2B and ended at \$369.8B. Peak market capitalization was reached on May 6th at \$382.9B and trough market capitalization was reached



on June 1st at \$348.2B. Overall, from June 1st through June 30th, the share price of JNJ increased +5.96%.

## **Medtronic plc**

### Products

- Positive real world data on Gaurdian Connect continuous Glucose Monitoring System when paired with the Sugar.IQ diabetes assistant app
- Expected to be a leader in the expanding market for Transcatheter Aortic Heart Valve Replacement procedure
- Recall on older insulin pumps, as well as implantable cardiac devices, clinic programmers and home monitors due to cyber security risk
- Acquired NanoLOCK platform through acquisition of Titan Spine, this should solidify a foothold in the market for Spinal Surgery solutions

### Pipeline

- Announced findings from a pilot study of their Extravascular Implantable Cardioverter Defibrillator system which showed that the system can be implanted with no major complications and can sense, pace, and defibrillate the heart
- SelectSite C304-HIS deflectable catheter system has been cleared by the FDA for launch to market
  - Expansion to the company's cardiac care portfolio
  - This catheter system ensures proper positioning of Medtronic's other product, SelectSecure MRI SureScan Model 3830 cardiac pacing lead'

### Financials +4.35%

MDT market capitalization began the month at \$124.0B and ended at \$130.6B. Peak market capitalization was reached on June 21st at \$133.3B and trough market capitalization was reached on June 1st at \$124.7B. Overall, from June 1st through June 30th, the share price of MDT increased +4.35%.

## **Merck & Co.**

### Products

- Keytruda continues to be top grossing product and has passed Humira has highest grossing drug
- Overall Oncology and Human Health Vaccines continue to be the highest earning groups

### Pipeline

- BELSOMRA (suvorexant) met primary and secondary efficacy endpoints in its phase 3 study dedicated to treat insomnia in patients with mild-to-moderate alzheimer's disease dementia
  - Primary: 4 weeks of treatment with Belsomra improved patients mean sleep time by 28.2 minutes compared to placebo
- Results from Merck's phase 2 trial of Investigational 15-valent Pneumococcal Conjugate Vaccine (V114) in Infants were announced



- Met primary endpoint by demonstrating non-inferiority to PCV13 for all serotypes plus 2 additional serotypes
- Merck acquired Peloton Therapeutics for \$1.05B in cash
  - Now owns the rights to Peloton's lead candidate, PT2977, which is referred to as a novel oral HIF-2α inhibitor
    - Treatment designed to fight late-stage development of renal cell carcinoma, which is a form of kidney cancer responsible for approximately 90-95% of cases in adults
  - Boosts Merck's late-phase oncology pipeline
- Keytruda fails to meet its main goal in a late-stage study focusing on the treatment of triple negative breast cancer

Financials +5.17%

MRK market capitalization began the month at \$203.9B and ended at \$215.9B. Peak market capitalization was reached on June 24th at \$220.1B and trough market capitalization was reached on June 1st at \$203.9B. Overall, from June 1st through June 30th, the share price of MRK increased +5.17%.

**Mylan N.V**

Products

- Key products include Fulphila, Wexela, and Inhub which have driven new product sales in US
- In Europe, Hulio and the TOBI podhaler are crucile preformers
- Unfavorable currency translation in Europe, low volumes of product in the US and pricing changes has reduced the impact of increased new product sales

Pipeline

- Theravance Biopharma and Mylan Expand YUPELRI® (revefenacin) Development and Commercialization Agreement to Include China and Adjacent Territories

Financials +10.76%

MYL market capitalization began the month at \$8.7B and ended at \$9.8B. Peak market capitalization was reached on June 28th at \$9.8B and trough market capitalization was reached on June 1st at \$8.7B. Overall, from June 1st through June 30th, the share price of MYL increased +10.76%.

**Novartis AG**

Products

- Cosentyx has been rapidly building a positive reputation in psoriasis market
- Entresto continues see increased growth as well
- LutATHERA, Promacta, Kisqali and Kymriah have driven positive growth in Novartis' Oncology portfolio
- Biosimilar product such as Erelzi, Rixathon have been strong preformers for biosimilar group



- Humira biosimilar Hyrimoz has been performing well in Europe

#### Pipeline

- The phase 2b trial of emricasan, in collaboration with Conatus, in patients with decompensated NASH did not meet its primary endpoint of event-free survival relative to placebo
- New Sandoz biosimilar adalimumab data confirms switching from reference biologic has no impact on safety or efficacy
- Presented first-of-its-kind histology data with iscalimab suggesting the extended survival of transplanted organs may be possible
- The U.S. Food and Drug Administration recently granted capmatinib Breakthrough Therapy Designation for patients with metastatic NSCLC harboring MET exon-14 skipping mutation with disease progression on or after platinum-based chemotherapy. Previously, both the U.S. FDA and Japan's Pharmaceuticals and Medical Devices Agency recognized capmatinib with Orphan Drug status.

#### Financials +4.16%

NVS market capitalization began the month at \$196.6B and ended at \$212.2B. Peak market capitalization was reached on June 25th at \$216.3B and trough market capitalization was reached on June 1st at \$196.6B. Overall, from June 1st through June 30th, the share price of NVS increased +4.16%.

### **Sarepta Therapeutics, Inc.**

#### Products

- Sarepta is currently developing programs to expand patient access to Exondys 51, Vyondys 53

#### Pipeline

- No pipeline updates

#### Financials +32.21%

SRPT market capitalization began the month at \$8.4B and ended at \$11.3B. Peak market capitalization was reached on June 1st at \$8.4B and trough market capitalization was reached on June 28th at \$11.3B. Overall, from June 1st through June 30th, the share price of SRPT increased +32.21%.

### **UnitedHealth Group Inc.**

#### Products

- Key growth drivers are UnitedHealthcare Medicare & Retirement, OptumRx and OptumHealth which are expected to have continued growth

#### Pipeline

- No update/change in pipeline



Financials +3.61%

UNH market capitalization began the month at \$229.8B and ended at \$231.9B. Peak market capitalization was reached on June 21st at \$239.7B and trough market capitalization was reached on June 3rd at \$224.8B. Overall, from June 1st through June 30th, the share price of UNH increased +3.61%.

## **Section 7. Conclusion**

This month, PPIP was outpaced by the SPXHC but still achieved a 5.24% growth. Last month, struggling Agios was spotlighted as a potential sell candidate, but strong sales and positive Phase 1 results for an additional Tibsosofo indication allowed for a modest 4.33% gain. This is a positive sign, but the company will remain on our watch list. Intra-cellular will also need to be monitored now through the FDA's decision on Lumapterone. Regardless of the approval, the company and its potential will need to be reassessed at the time of the decision.

Lynparza boosted AZ this month after getting approved as a frontline maintenance therapy for ovarian cancer. The race to the FDA is underway for Merck and Pfizer, as Merck looks to replace Prevnar 13 with their 15-valent pneumococcal conjugate vaccine and Pfizer looks to fight back with a 20-valent vaccine of their own. Everything from serotype coverage to ease of implementation will be reviewed if/when these vaccines meet approval, as there does not seem to be room on the market for both vaccines. Prevnar 13 saw sales of \$5.8B in 2018, so whoever wins this battle will be poised for a nice return.

There will be no adjustments made to the portfolio at this time. The watchlist currently consists of Agios and Intra cellular. These two securities will be closely monitored and discussed in detail at the event of any major news.





## Appendix A: PPIP Investment Positions as of 6/30/19

Investment	Shares	Share Value	Total Value	% of portfolio
Abbott Laboratories (ABT)	63	\$84.10	\$5,298.30	9.91%
Abbvie (ABBV)	53	\$72.72	\$3,854.16	7.21%
Agios (AGIO)	17	\$49.88	\$847.96	1.59%
AstraZeneca (AZN)	65	\$41.28	\$2,683.20	5.02%
CVS (CVS)	91	\$54.49	\$4,958.59	9.27%
Glaxo SmithKline (GSK)	50	\$40.02	\$2,001.00	3.74%
Idexx (IDXX)	10	\$275.33	\$2,753.30	5.15%
Intra Cellular Therapeutics (ITCI)	95	\$12.98	\$1,233.10	2.31%
Johnson and Johnson (JNJ)	43	\$139.28	\$5,989.04	11.20%
Medtronic (MDT)	56	\$97.39	\$5,453.84	10.20%
Merck (MRK)	63	\$83.85	\$5,282.55	9.88%
Mylan (MYL)	93	\$19.04	\$1,770.72	3.31%
Novartis (NVS)	50	\$91.31	\$4,565.50	8.54%
Sarepta (SRPT)	11	\$151.95	\$1,671.45	3.12%
United Health (UNH)	21	\$244.01	\$5,124.21	9.58%
<b>Total</b>			<b>\$53,486.92</b>	<b>100.00%</b>

## Appendix B: Companies in S&P 500 Health Care Index (SPXHC)

1. AGILENT TECHNOLOGIES INC
2. ABBVIE INC.
3. AMERISOURCEBERGEN CORPORATION
4. ABIOMED INC
5. ABBOTT LABORATORIES
6. ALLERGAN PLC.
7. ALIGN TECHNOLOGY INC.
8. ALEXION PHARMACEUTICAL INC.
9. AMGEN INC.
10. ANHEM INC.
11. BAXTER INTERNATIONAL INC.
12. BECTON DICKINSON & CO
13. BIOGEN INC
14. BRISTOL-MYERS SQUIBB CO
15. BOSTON SCIENTIFIC CORP
16. CARDINAL HEALTH INC.
17. CELGENE CORP.
18. CERNER CORP.
19. CIGNA HOLDING COMPANY
20. CENTENE CORPORATION
21. COOPER COS INC.
22. CVS HEALTH CORPORATION



23. QUEST DIAGNOSTICS INC.
24. DANAHER CORP.
25. DAVITA INC.
26. EDWARDS LIFESCIENCES CORP.
27. GILEAD SCIENCES INC.
28. HCA HEALTHCARE INC.
29. HOLOGIC INC.
30. HENRY SCHEIN INC.
31. HUMANA INC.
32. IDEXX LABORATORIES
33. ILLUMINA INC.
34. INCYTE CORPORATION
35. IQVIA HOLDINGS INC.
36. INTUITIVE SURGICAL INC.
37. JOHNSON & JOHNSON
38. LABORATORY CORP AMER HLDGS.
39. ELI LILLY AND COMPANY
40. MCKESSON CORPORATON
41. MEDTRONIC PLC
42. MERCK & CO INC.
43. METTLER-TOLEDO INTERNATIONAL INC
44. MYLAN NV
45. NEKTAR THERAPEUTICS
46. PFIZER INC.
47. PERKINELMER INC.
48. PERRIGO COMPANY PLC
49. REGENERON PHARMACEUTICALS INC.
50. RESMED INC.
51. STRYKER CORP.
52. THERMO FISHER SCIENTIFIC INC.
53. UNIVERSAL HEALTH SERVICES INC.
54. UNITEDHEALTH GROUP INC.
55. VARIAN MEDICAL SYSTEMS INC.
56. VERTEX PHARMACEUTICAL
57. WATERS CORP.
58. DENTSPLY SIRONA INC.
59. ZIMMER BIOMET HOLDINGS INC.
60. ZOETIS INC.

