PPIP

Pitt Pharmacy Investment Portfolio

Reporting Committee

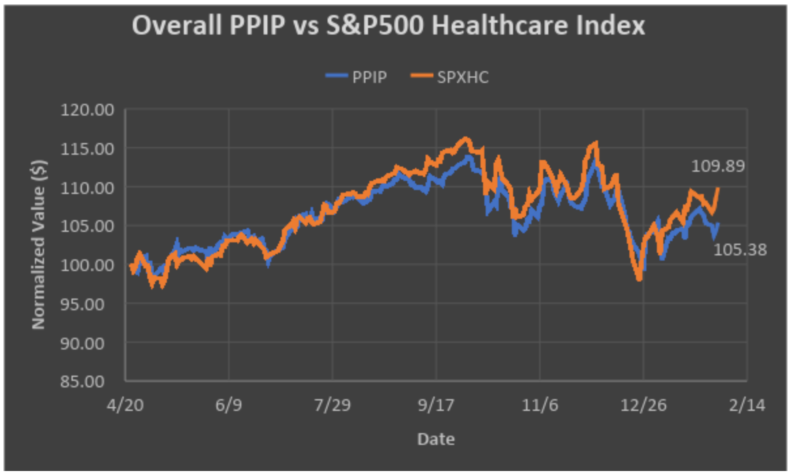
Monthly Report: January 2019

Prepared by: Andrew Haddad, Ryan Jaehne, Mohamed Kashkoush, Kevin Mahar, and Dafonso Davage

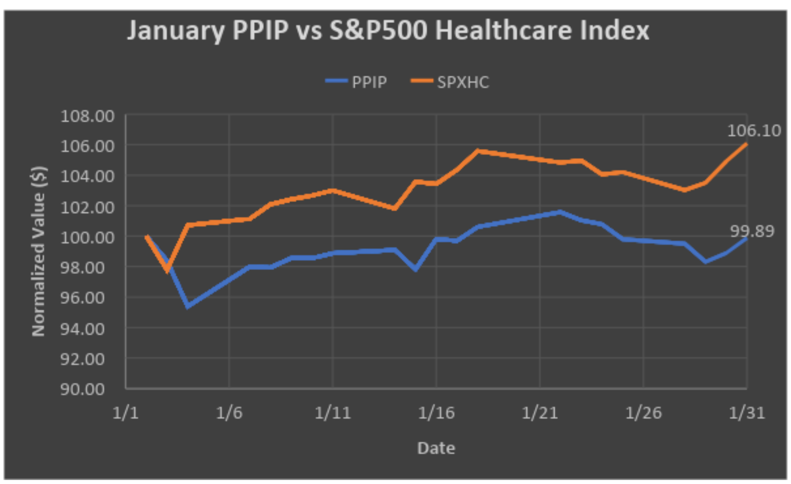
Reviewed By: Corey Rantz, Rick Jones, Sam Bott, Vince Piro, Annalisa Nguyen, Colin Pfeiffer

Market Comparison

From the initial investment date through January 31st, 2019 the PPIP achieved an overall 5.38% gain. During this same period, the S&P 500 Healthcare Index (SPXHC) increased in value by 9.89%. In the context of the initial $50,000 investment, the PPIP has achieved a value of $52,690 as of January 31st while investing in the comparator SPXHC would have yielded $54,945. Therefore, the SPXHC index has outperformed the PPIP by 4.51% during the period of 4/23/18 – 1/31/19.



From the period of January 1st through January 31st, the PPIP achieved an overall 0.11% loss. During this same period, the SPXHC increased in value by 6.10%. In the context of a hypothetical initial $50,000 investment, the PPIP would have achieved a value of $49,945 during January while investing in the comparator SPXHC would have yielded $53,050. Therefore, the SPXHC index has outperformed PPIP by 6.21% during the period of 1/1/19 – 1/31/19.



Strongest Individual Holdings

IDEXX Laboratories (IDXX)- *14.38%*

IDEXX Laboratories saw a 14.38% increase in stock price during the month of January 2019. On January 21st, IDEXX announced they will be introducing a new diagnostic test for canines called the Catalyst® Progesterone Test. This test measures progesterone levels in dogs and can be performed by veterinarians in-house, with quantitative results arriving in just 12 minutes. Progesterone levels are used to determine the dog's ovulation status, which is essential in understanding when they are ready to breed. IDEXX believes there is a large market for the use of this test, citing that over a quarter of all veterinary clinics in the US are involved in reproductive management services. IDEXX also cites the fact that missing a breeding opportunity can be extremely costly for breeders since canine ovulation only occurs once or twice per year. Furthermore, the rise of IDEXX stock value is consistent with the strong rise of Companion Animal Group Diagnostic revenues globally. As a global leader in veterinary diagnostics and software, IDEXX can benefit immensely from this upwards trend in the value of CAG diagnostic testing.

Agios Pharmaceuticals (AGIO)- *16.2%*

Agios pharmaceuticals stock price saw a 16.2% increase during the month of January 2019. The reasoning behind this increase in value may be traced back to a few ideas. For starters, Agios has been referred to as a possible biotech buyout candidate due to their two cancer therapies currently on the market. Tibsovo and Idhifa treat patients with acute myeloid leukemia, with one of the therapies targeting an IDH1 mutation form (Tibsovo) and the other therapy targeting an IDH2 mutation form of the cancer (Idhifa). Of these therapies, only Tibsovo is owned by Agios in full. Idhifa was acquired by Agios through a partnership with Celgene, who was recently bought-out by Bristol Meyers Squibb. Due to Agios' market cap only being about $3 billion, it is not unreasonable to assume that Bristol Meyers would be interested in buying out Agios to control both leukemia therapies wholly. Otherwise, BMS will have to continue to pay out royalties on sales of Idhifa to Agios for quite some time. Another potential reason for Agios' recent success can be attributed to the release of their 2019 initiatives for cancer and rare genetic disease. Included in these initiatives is the hope to gain FDA approval for a number of indications for Tibsovo, starting a phase III trial for their drug vorasidenib, and starting a phase 1 dose escalation trial for a pipeline drug indicated for lymphoma. Many other initiatives to conduct various phase I and III trials involving different compounds in Agios' pipeline were included.

Concert Pharmaceuticals (CNCE)- *12.74%*

In January, Concert Pharmaceuticals stock price saw a 12.74% increase. Reasons for this price increase can be partly attributed to the fact that Concert currently has two wholly owned compounds which have proven to shown promise, CTP-543 for alopecia areata and CTP-692 for schizophrenia. They are also involved with a partnered program in AVP-786 for Alzheimer's agitation. Currently, Concert is performing a phase II trial for CTP-543 testing a dosage strength of 12 mg, as compared to the previously tested 8 mg strength. They believe this trial could show higher efficacy vs the 8 mg strength and also prove a consistent safety profile. In January, Concert completed enrollment for this trial and expects results to be available in the third quarter of 2019. Another positive for Concert in January includes the starting of the second phase I dose escalation trial for CTP-692 for schizophrenia. Lastly, insiders at Concert Pharmaceuticals have recently bought a lot of stock, possibly indicating a strong sense of optimism in the company's future.

Weakest Individual Holdings: *Monthly*

Merck & Co.(MRK) -2.59%

Merck may find themselves on our list of worst performers, but there is very little news to warrant this placement. Despite some litigation concerns early on, a trend positive regulatory performances and business maneuvers stand to counter worries. The company was ruled against in a patent infringement case with Gilead over Sivaldi and Harvoni in which Merck was initially awarded $200 million in 2016. Additionally, a deal was struck with Vertex in which Merck forfeit their rights to the use of two DNA-PK inhibitors in gene editing for six specific disease states. No further details of the agreement were reported. Vertex has repeatedly stressed the importance of CRISPR/Cas9 editing in the company's future, as seen in clinical development deal with CRISPR Therapeutics. On the other hand, Merck received a number of approvals by regulatory agencies this month, including five from Japan's PMDA for expanded Keytruda usage and one from the FDA for a Herceptin (branded by Roche) biosimilar currently held by their partner, Samsung Bioepis. Merck will have exclusive marketing and distribution rights in the US. Furthermore, the company entered a licensing agreement with Amunix for an undisclosed protease-triggered immune activator (ProTIA) immune-oncology molecule. To end the month, Breakthrough Therapy Designation was awarded to V114, a 15-Valent conjugate vaccine for pneumococcal disease. Overall, a modest loss and a promising outlook for 2019 allows for a safe assumption that the company's slow start is unlikely to trend into the coming months.

Bristol-Myers Squibb (BMY) -5.02%

In a month where BMS owned a majority of news coverage, the most appropriate term to define the future of the company is: uncertainty. Significant news that went overlooked includes the month opening with Sprycel receiving expanded approval to include pediatric patients greater than 1 year old for Philadelphia chromosome-positive ALL and ending with the company reporting a 9% increase in yearly revenue. The main focus was news of a reported $74 billion acquisition of Celgene, a merger that would bring BMS up to nine medications individually bringing in over $1 billion annually and would make the company the 4th largest in the pharmaceutical sector. The proposition is facing considerable blowback from BMS investors, citing the unreasonable risk of taking on a company that is set to lose its patent in 2022 for Revlimid which is currently two-thirds of Celgene's revenue stream. Many infer the acquisition stems from projections of slowing growth for BMS in 2019 as well as what seems like a losing battle between Opdivo and Merck's Keytruda. In other news, the company will be facing a $1 billion lawsuit pertaining to intentionally infecting Guatemalans with syphilis as part of a 1940's research investigation. Johns Hopkins University and the Rockefeller Foundation were included in the lawsuit. Analysis of the entire month would show that the Celgene news prompted acute loss (-14%) followed by a return to growth in line with the market since the Christmas eve selloff. Needless to say, this will be an extremely important company to closely monitor in the coming months.

AbbVie Inc. (ABBV) -12.91%

AbbVie may have posted its worst month since we began following the company; however, the takeaway from the news this month can be best described as short-term loss with long-term potential. We got a look into what could be a blockbuster molecule for in the coming years, after the company invested $105 million in Tizona Therapeutics to enter a strategic collaboration of their CD39 target oncology molecule, TTX-030. The molecule targets the ATP-adenosine axis by preventing the conversion of from ATP to adenosine, an immunosuppressive state. This mechanism would be the first in the market. Currently, Tizona is remaining the lead up through completion of Clinical 1b studies, at which point AbbVie will control global development and commercialization. Unfortunately, this news had very little impact on their market price, as the next morning it was announced that they will record $4 billion in impairment charges by terminating development of the Rova-T program. This oncologic therapy was acquired in 2016 when the company purchased Stemcentrx. Bad news continued into the month as Imbruvica returned non-superior results to the placebo results in the Phase 3 RESOLVE Trial for metastatic pancreatic cancer. However, the molecule was expanded in indication for combination therapy with J&J's Gazyva for first line therapy in CLL/SLL patients. This would be the first therapy for the indication which does not include a CD20 inhibitor. Imbruvica is now up to six approved indications over 10 different settings. Looking at financials, the company reported 4th quarter earnings of $8.305 billion, yielding 15% revenue growth for the year, but roughly $65 million under what analysts reported for the final quarter. Quarterly dividends rose 11.5% from Q3 to $1.07/share.

Weakest Individual Holdings: *Overall*

AbbVie (ABBV) -13.60%

The company was running close to net even since April before the recent loss. As eluded to in the monthly overview, there is little reason to feel skeptical about the future of the company in terms of growth and pipeline. While it may take time to rebound, expect this company to grow in the coming months. We will monitor next months results to ensure they are in line with our prediction and reevaluate our opinions if deemed necessary.

Concert Pharmaceuticals(CNCE) -26.26%

Though a mainstay on this list, Concert firmly believes in their vision and has the potential to make considerable strides in 2019. Unfortunately, it is highly unlikely to be observed in the near future and the company is expected to remain on this list for the coming months.

Agios Pharmaceuticals(AGIO) -37.64%

Since Christmas eve, Agios has outperformed our expectations, but also leaves a lot of questions moving forward. There is very little information currently to suggest that the company will be able to maintain this level of growth; however, like Concert, closer monitoring next month is warranted to ensure we do not overlook short term success due to long term failure.