MARCH 2018

NEWSLETTER – VOL. VIII

CONTENTS

TAKING INVENTORY OF AMAZON'S POTENTIAL MOVES INTO HEALTHCARE

For the better part of the last year, a mix of news scoops in the press and actual statements from Amazon have produced some market volatility for various players in the healthcare distribution and supply chain. News of the e-commerce giant's interest in the industry has weighed on share prices for wholesalers, distributors, pharmacies and pharmacy benefit managers (PBMs), given Amazon's reputation for consumer-oriented transparency and swift order fulfillment, which sounds like just what the doctor ordered when healthcare is increasingly criticized for being opaque on costs and profit margins throughout the value chain, and for placing disproportionate burden on the patient.

WHAT HAS – AND HASN'T – BEEN SAID ABOUT AMAZON'S HEALTHCARE AMBITIONS

First, a timeline of various news reports or company statements on if and how Amazon could enter the healthcare market:

Speculation was first kicked off in May 2017 when CNBC reported Amazon was on the hunt for key personnel to figure out how to break into the pharmacy market[1]. This was somewhat shortly followed by Amazon's announcement it would be acquiring Whole Foods Market and its 400+ brick and mortar store fronts in the US[2]. Suddenly, the historically e-commerce focused company had physical footprints in generally higher end markets. On top of its potential pharmacy business ambitions, the company has also been reported to be building out an internal health IT team, looking specifically at features such as electronic health records (EHR) and telemedicine[3].

In hindsight, many have also pointed to Amazon's partnership in late 2016 with Bartell Drugs, a Seattle-metro area pharmacy chain, as portending some of its healthcare ambitions, as the deal allowed for delivery of products from the pharmacy chain under Amazon's Prime Now delivery service in certain Seattle neighborhoods[4]. Just a few months later, the two announced they would be expanding the geographic radius of the arrangement to nearly double its original size[5]. At its core, this venture could be a small-scale test of navigating the pharmacy market with an experienced regional partner.

Further momentum built last fall when Amazon's ultimate decision on entering the healthcare markets was described

[1] https://www.cnbc.com/2017/05/16/amazon-selling-drugs-pharamaceuticals.html
[2] http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=2281414
[3] https://www.cnbc.com/2017/07/26/amazon-1492-secret-health-tech-project.html
[4] http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=2222399
[5] http://phx.corporate-ir.net/phoenix.zhtml?c=176060&p=irol-newsArticle&ID=2240786

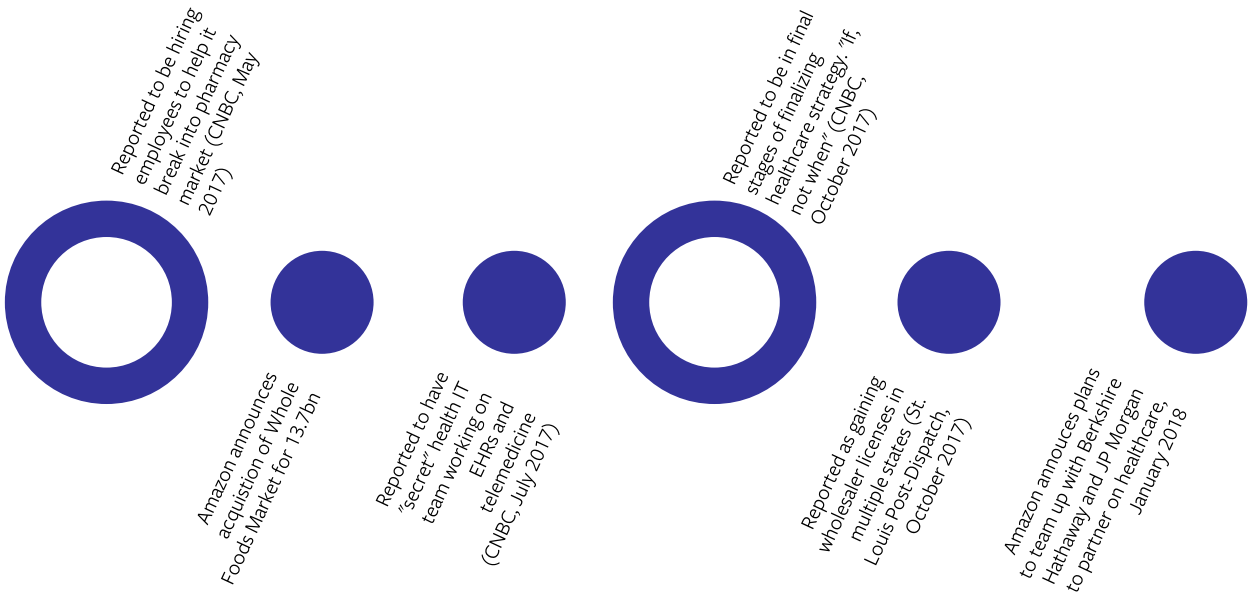

Figure 1Timeline of events around potential Amazon foray into healthcare.

as a "when" and not an "if," with some internal resolution expected by the Thanksgiving holiday on whether it would pursue selling prescription drugs online[6]. This appears to have somewhat been subsequently confirmed when the St. Louis Post-Dispatch reported Amazon had attained wholesaler licenses in roughly a dozen different states across the US[7], and shortly thereafter, that Amazon was in talks with large generic drug manufacturers[8].

The biggest confirmation from Amazon itself came at the end of January 2018 when it announced it was pursuing plans to disrupt the US healthcare market in partnership with Warren Buffett's Berkshire Hathaway, and JP Morgan[9]. While details are scant for now, the press release could roughly be summarized as the companies "making plans to have plans to do so something in healthcare."

WHAT AMAZON COULD DO

Given the sheer scope of what has been said about what Amazon may or may not do, there is a lot of speculation about what may happen, but, worst fears are probably overblown at least in the near term. While Amazon has not shied away from low margin businesses in the past, that philosophy relies on being high-volume. Wholesalers and distributors are already highly concentrated in healthcare, and would take a lot of heavy lifting on Amazon's part to displace established players with any speed to get the volume it would want in a low margin business. While margins are higher on generic drugs compared to branded drugs, the overwhelming majority of generics are purchased through only a handful of procurement platforms. Their size and concentration allow for more efficient discount negotiation with manufacturers than an up-start in the space could do on its own.

There is some appeal to the idea of Amazon trying to enter the PBM space, as it already has a lot of consumer goodwill whereas PBMs have been dragged in the mud as of late. Like with wholesalers and distributors, this is also already a highly concentrated market, where there are a lot of exclusive contracts negotiated. Again, like with wholesalers and distributors, it would not be easy to get to scale in this space, and the cost of purchasing a large, existing PBM player would be an outsized purchase for Amazon compared to what it has done historically.

[6] https://www.cnbc.com/2017/10/06/amazon-considering-selling-online-prescriptions-decision-coming-soon.html
[7] http://www.stltoday.com/business/local/amazon-gains-wholesale-pharmacy-licenses-in-multiple-states/article_4e77a39f-e644-5c22-b5e6-e613a9ed2512.html
[8] https://www.cnbc.com/2017/11/30/amazon-holding-exploratory-talks-with-generic-drug-makers.html
[9] https://www.businesswire.com/news/home/20180130005676/en/Amazon-Berkshire-Hathaway-JPMorgan-Chase-partner-U.S.

Amazon becoming a pharmacy at face value has some appeal, based simply on the idea that it is more expensive to run brick and mortar locations - consider that CVS and Walgreens have in the range of 4,000 location each in the US, 10x the number of Whole Foods stores. Many PBMs negotiate to have in- and out-of-network pharmacies, and there are already integrated pharmacy and PBM players (i.e., CVS/Caremark) incentivized to keep certain pharmacies in network and others out. Amazon would need to find some offering to payers to force payers to in turn demand PBMs keep Amazon pharmacies in network.

WHAT LOOKS EASIEST FOR AMAZON TO DO – FOR NOW

While the retail pharmacy opportunity mentioned above would present difficulties, it might be a little bit easier for Amazon to enter the online pharmacy arena given its historical strength in e-commerce. However, virtually all the large retail pharmacies have fairly robust mail order pharmacies as well, and in the past few years have brought down their mail order channel prices with competitors so as not to lose that portion of the business.

The path of least resistance would be going after the cash/self pay portion of the pharmacy business, and/or some kind of partnership with an established player in the healthcare supply chain. In the case of the former, the rise of high deductible plans has more patients pursuing cash/self pay for drugs. The rationale here is that many patients with these plans don't foresee ever meeting their out of pocket max, and there is usually a point of sale discount for self-pay compared to putting the claim through insurance.

With respect to a partnership, that could give Amazon access to the business scale it needs to really start making waves. This of course all depends on who and when, which is rarely easy to predict, let alone appetite for interest from any of the categories mentioned above. There could be interesting synergies of data sharing between health habits and Amazon's click stream (i.e., suggestions for exercise equipment after filling a prescription for heart medication). This would require some navigation of HIPAA regulations that control the sharing of identifying health data as well, which Amazon has not historically needed to think through with its existing lines of business.

WHAT ELSE BESIDES RX DRUGS?

It is worth at least mentioning Amazon can do "something" in healthcare, without it specifically being focused on prescription drugs. This includes over-the-counter drugs, dental consumables, and medical supplies in more of a business-to-consumer (B2C) model rather than business-to-business (B2B) model like much of the above would be characterized as. In these B2C scenarios where Amazon would be selling to patients, physician offices, large practices and hospitals, there are far fewer exclusionary or in- vs out-of-network relationships for Amazon to need to negotiate, and thus easier for them to more quickly gain traction, even if the size of the opportunity is of a smaller scale. In fact, Amazon already has more than 200,000 SKUs on its business website for dental consumables and commoditized medical equipment[10]. The physician practice and dental marketplaces are highly fragmented today, and much more closely resemble what we commonly think of as Amazon's consumer business where it ships thousands of SKUs to thousands of households every day.

Clearly there are a myriad of options Amazon theoretically could pursue, but there does not appear to be sure fire options for it to make a large-scale impact in the near term. While there is appeal in streamlining the prescription drug process to something more akin to one-click ordering, there are 500-pound gorillas at multiple points in the supply chain that Amazon would have to wrestle with first. We hope that Amazon and others continue to think through big questions that we should be asking ourselves about how to improve healthcare, in the US and globally.

- by Christine Livoti

[10] https://www.amazon.com/Professional-Dental-Supplies/b?ie=UTF8&node=8297371011

LABS RECALIBRATE TO NEW NORMAL UNDER PAMA PRICES

As of January 1st of this year, the rate-setting scheme for nation-wide payment rates from the Centers for Medicare & Medicaid Services (CMS) has been rejiggered in an attempt at allowing CMS to benefit from the type of rate contracting that private payers have long been able to do. While CMS has historically set rates for laboratory tests, with private payers then typically using that price as a starting point for negotiation, the new system, as established by the Protecting Access to Medicare Act of 2014 (PAMA), flips the roles of the two, and instead uses the private-payer rates to set Medicare pricing. PAMA is one attempt to cut CMS in on the action and allow it to benefit from free-market based negotiations that private payers do as a natural course of business.

Despite the four-year lead time from the passage of PAMA to implementation of the rule (which was even one year later than it was supposed to be, by statute), there were still surprises once the final rates were released, and perhaps more importantly, leaves questions about what the new status quo could and/or should be with respect to the elaborate choreography of rate setting, negotiating, and contracting.

Under PAMA, labs are required to report to CMS the private payer rates they pay for particular tests. CMS then determines a weighted median amount by test in order to set the new prices. This is not a one-time submission – labs will be required to continue submitting payment data in future years. However, rates cannot be reduced by more than 10% each year for the first few years, and no more than a 15% reduction in the following few years, as a means of setting a floor on pricing expectations to protect labs. CMS has by and large been excluded from negotiating with manufacturers of all kinds on cost, and instead has had to accept list prices across the board.

One of the biggest criticisms around the implementation of PAMA is the criteria used to determine exactly which labs are meant to submit their data to CMS. One estimate has only 34% of the lab market represented, with two major labs representing 80% of the volume used to calculate the rates[11]. Labs are required to report their data if over 50% of their revenues are from Medicare, though, with a bit of handwaving, manages to leave hospital-based labs out of those required to report. Once the hospital lab costs are taken altogether with all other costs of the hospital, including lucrative inpatient stays for privately insured patients, they end up falling under that 50% threshold. It has been suspected hospital labs have been paid somewhat higher than commercial labs (the Quest Diagnostics and LabCorp's of the world), so leaving hospital labs out of the mix has a downward effect on the median price calculation.

It is also worth noting PAMA regulations do come with some teeth: steep monetary fines can be levied against any lab that is required to report but does not. Though because criticism has more been around erroneously leaving some labs out rather than incorrectly bringing too many labs into the fold, it is not likely these types of fines will often come into play. There is a minimum expenditure threshold for labs of $12,500 of Medicare revenues from the clinical lab fee schedule (CLFS) as well, and so probably correctly does not include those outlier labs with low overall total Medicare payment dollars. The CLFS is the nationally set standard for what Medicare will pay for outpatient clinical lab services.

All of these changes work out to pretty significant dollars – CMS pays about $7bn per year for clinical lab tests. In fiscal year 2018, CMS expects savings close to $400m dollars, and up to $1.7bn and $3.9bn in savings over the next 5 and 10 years, respectively[12]. The top 20 codes with the greatest reductions in payment rates all saw cuts greater than 59%, with one code payment rate even cut 99.99%.

Still, some tests saw significant increases in their payment rates. The top 20 largest increases for certain codes range

[11] https://www.xifin.com/news/press-releases/2017/xifin-highlights-flaws-cms-2018-draft-pama-pricing

[12] https://www.genomeweb.com/molecular-diagnostics/cms-holding-market-based-payment-labs-until-2018-tweaks-criteria-labs

from a 150% increase all the way up to a 750% increase (looking at you, "urine screen for bacteria"!)[13].

There are still some implications to PAMA that have fully yet to be felt. Notably, the Medicare CLFS rates were often seen as the starting point for contracting negotiations between labs and payers, and likely arriving at a lower rate than the CLFS fee schedule for private payers – i.e., payment rates defined broadly as a 20% haircut from CLFS rates. Large private payers like the Blue Cross Blue Shield plans have been known to recalibrate their negotiated rates every 3-5 years off the CLFS. But if private payers are looking for a discounted rate off the CLFS fee schedule, and then labs subsequently submit those rates to CMS for the PAMA recalibration of CLFS rates, it quickly becomes a race to the bottom in terms of dollars flowing to labs.

The American Clinical Laboratory Association (ACLA), a large trade group representing labs, has even gone so far to file a lawsuit challenging the PAMA reimbursement rates[14]. As of the time of writing, this suit is still ongoing and has yet to be resolved or a judgement issued. The intricate choreography of negotiating and rate setting between private payers, labs, and CMS will also clearly need to be re-thought. This early on, nothing is probably yet off the table, and does open some opportunity for new and creative schemes to come into play in an arena where we and others will continue to watch.

- by Christine Livoti

PEER-REVIEWED ABSTRACTS

As part of Deerfield's mission of advancing healthcare, the Deerfield Institute is committed to publishing its proprietary research in peer-reviewed, open access scientific journals. Below is a selection of some of our recently published work. More information on the Deerfield Institute, and copies of certain past publications are available on the web at Deerfield.com/Institute.

BMC PUBLIC HEALTH

REDUCING WAITING TIME AND RAISING OUTPATIENT SATISFACTION - AN INTERRUPTED TIME SERIES STUDY

JING SUN, QUIAN LIN, PENGYU ZHAO, QIONGYAO ZHANG, KAI XU, HUIYING CHEN, CECILE JIA HU, MARK STUNTZ, HONG LI, YUANLI LIU

ABSTRACT

Background: It is globally agreed that a well-designed health system deliver timely and convenient access to health services for all patients. Many interventions aiming to reduce waiting times have been implemented in Chinese public tertiary hospitals to improve patients' satisfaction. However, few were well-documented, and the effects were rarely measured with robust methods.

Methods: We conducted a longitudinal study of the length of waiting times in a public tertiary hospital in Southern China which developed comprehensive data collection systems. Around an average of 60,000 outpatients and 70,000 prescribed outpatients per month were targeted for the study during Oct 2014-February 2017. We analyzed longitudinal time series data using a segmented linear regression model to assess changes in levels and trends of waiting times before and after the

[13] https://www.xifin.com/resources/blog/201803/understanding-pama-changes-and-managing-its-effects

[14] http://www.acla.com/cms-ignored-congressional-intent-in-implementing-new-clinical-lab-payment-system-under-pama-acla-charges-in-suit/

introduction of waiting time reduction interventions. Pearson correlation analysis was conducted to indicate the strength of association between waiting times and patient satisfactions. The statistical significance level was set at 0.05.

Results: The monthly average length of waiting time decreased 3.49 min (P=0.003) for consultations and 8.70 min (P=0.02) for filling prescriptions in the corresponding month when respective interventions were introduced. The trend shifted from baseline slight increasing to afterwards significant decreasing for filling prescriptions (P=0.003). There was a significant negative correlation between waiting time of filling prescriptions and outpatient satisfaction towards pharmacy services (r=–0.71, P=0.004).

Conclusions: The interventions aimed at reducing waiting time and raising patient satisfaction in Fujian Provincial Hospital are effective. A long-lasting reduction effect on waiting time for filling prescriptions was observed because of carefully designed continuous efforts, rather than a one-time campaign, and with appropriate incentives implemented by a task force authorized by the hospital managers. This case provides a model of carrying out continuous quality improvement and optimizing management process with the support of relevant evidence.

Link.

CONTEMPORARY CLINICAL TRIALS COMMUNICATIONS

IS IT TIME FOR THE WEIGHTED LOG-RANK TEST TO PLAY A MORE IMPORTANT ROLE IN CONFIRMATORY TRIALS?

ZHENG SU, MING ZHU

ABSTRACT

The log-rank test is frequently used to detect a potential treatment effect in randomized clinical trials with time-to-event endpoints. It is asymptotically the most powerful test under the proportional hazards setting, but it has been shown to markedly lose power when the proportional hazards assumption is violated.

Link.

DRUG DESIGN, DEVELOPMENT AND THERAPY

VARIABILITY IN THE THERAPEUTIC MANAGEMENT OF ADVANCED OVARIAN CANCER PATIENTS: A FIVE-COUNTRY SURVEY OF ONCOLOGISTS

CÉLINE AUDIBERT, ANNA PERLAKY, MARK STUNTZ, DANIEL GLASS

ABSTRACT

Background: Advanced ovarian cancer patients have a poor prognosis, mainly because the disease is diagnosed at a late stage. A number of therapeutic approaches, such as neoadjuvant and maintenance therapies, have been developed to try to improve treatment outcome. In parallel, the targeted therapies bevacizumab and olaparib have recently been approved for ovarian cancer treatment. The goal of our survey was to provide a comprehensive, global depiction of advanced ovarian cancer treatments across different regions.

Patients and methods: Oncologists from France, Italy, Germany, the UK, and the USA were invited to participate in an online survey. Participants were eligible if they personally managed at least 15 ovarian cancer patients. Quantitative questions

addressed the proportion of patients in neoadjuvant, treatment, and maintenance settings; proportion of BRCA-positive patients; and the type of treatment prescribed per setting and per line of therapy, depending on the patient's BRCA status.

Results: A total of 138 respondents completed our survey in Europe and 132 in the USA. The proportions of patients in treatment, maintenance, and remission were identical across each country and line of treatment at 60%, 20%, and 20%, respectively. The proportion of BRCA-tested patients ranged from 45% in Italy to 73% in the USA, with 10% (UK)–21% (Italy) of tested patients having a positive status. Levels of bevacizumab and olaparib prescriptions differed based on the country, line of treatment, and setting, with a significant share of patients receiving both drugs outside of their approved indications for ovarian cancer treatment.

Conclusion: This survey provides real-world data on how advanced ovarian cancer patients are currently treated: 1) BRCA testing was not performed systematically, which raises concerns regarding access to treatment and 2) absence of consensus regarding which chemotherapeutic regimens or targeted therapy to use in different stages of the disease.

Link.

IP CORNER

Intellectual Property (IP) is a vital asset to any emerging company in the healthcare space. Here, we highlight noteworthy trends and events in the IP realm with implications for both young and established healthcare companies alike.

PATENT MUSINGS IN NUMBERS AND FIGURES

In 2017, 352,585 new patents were granted and 374,731 patent applications were published by the US Patent and Trademark Office. The publication number represents a roughly 5% decline from the previous year. One trade publication comments that one reason for the decline is "patent owners are getting smarter and doing a better job of filing patent applications that are more useful.[15]" Regardless of the decline, there are still on average over 1,000 new patent applications published daily. Patent owners and inventors continue to see high value in obtaining patent exclusivity and are willing to pay the costs. Despite all the criticism of the US patent system and all the uncertainty, patent owners continue to trust that the system is reasonable and useful.

While the pro-patent mentality has a long history in the U.S., originating in the U.S. Constitution, it is also interesting to look at IP activity from other parts of the world. US patentees continued to dominate patent grants at the US Patent Office with 179,522 patents last year (patent owners from the rest of the world received 173,063 patent grants). South Korea came in second with 23,525 patents followed by Germany (17,545), China (13,120) and a tie between Japan and Taiwan (12,622 each). European countries, such as the UK, France, an Italy produced significantly fewer patents. The worldwide patenting activity, however, is different. According to the World Intellectual Property Organization Report for 2016[16], that year Asia produced just over 2 million patent applications or 64.6% of all patent applications filed world-wide, three times more than North America.

The same report shows China emerging as one of the lead innovators, with over 1.2 million patent applications filed at its home office in 2016, predominantly from residents of China, followed by ~600,000 applications filed in the US, split roughly

[15] https://www.anaqua.com/learn/anaqua-perspectives/2017-patent-analysis-patentees-are-making-more-informed-filing-renewal
[16] http://www.wipo.int/edocs/pubdocs/en/wipo_pub_941_2017-chapter2.pdf

evenly between residents and non-residents. Rounding out the top 3 is Japan, which also had roughly 300,000 domestic applications, and a smaller proportion of applications from non-residents.

Looking more closely at China's patent office, Chinese entities filed four times more patents in China than U.S. entities did in the U.S. However, numbers alone may be misleading, as some commentators suggest that Chinese companies are required to file a certain number of patents and the pressure from this requirement produces low quality patent filings. On the other hand, the increased patent activity from China and other countries in Asia may indicate a drastic change in the IP enforcement attitudes from anti- to pro-patent. The numbers may reflect a genuine boom of the Chinese IP economy.

In the U.S., two areas remain as pillars in the U.S. intellectual property system – innovative activity at academic institutions, and IP enforcement by the U.S. Federal courts. In 2016, 9 of the top 10 most innovative universities by the number of issued patents are in the U.S, led by the University of California system, MIT, and Stanford. The lone OUS academic institution to crack the top 10 is Tsinghua University[17].

In 2017, 4,072 new patent cases were filed in district courts, down from a peak of 5,874 in 2015, but up from the low of 2,582 in 2005. Last year patent cases also saw renewed interest by the US Supreme Court. The highest court reviewed and clarified several memorable issues. In *Life Technologies. Corp. v Promega Corp.*, infringement by a single component of a multi-component system assembled abroad was reviewed. The topic of laches, or unreasonable delay in bringing a suit was revisited in *SCA Hygiene Products v First Quality Baby Products, LLC.* Patent exhaustion (*Impression Products Inc. v Lexmark International Inc.*) and proper litigation venue (*TC Heartland LLC v Kraft Food Group Brands LLC*) were also revisited. Even the constitutionality of IPR proceedings was taken up by the Supreme Court in *Oil States v Greene's Energy Group* for review.

The rate of innovation in the U.S. appears robust and healthy and there is hope that the renewed interest from the Supreme Court will inject even greater predictability into U.S. patent litigation.

- by Mark Shtilerman, Senior Counsel

[17] National Academy of Inventors, "Top 100 Worldwide Universities Granted U.S. Utility Patents" 2016

CAUGHT OUR EYE

Several gene therapy developers faced headwinds earlier this year following the publication of a paper that reported severe toxicity in certain animal models associated with a family of vectors used to deliver the gene therapy payload. The senior author, Jim Wilson at UPenn, is one of the preeminent scientists in the gene therapy field, whose career spans back decades, including when the field first had momentum in the 1990s. The field subsequently sputtered and suffered after the death of a patient under Wilson's care named Jesse Geisenger, who died in the year 2000 of multi-organ failure associated with an experimental gene therapy trial. *Science Magazine*

A newly unveiled tool dubbed the FDA Amendments Act of 2007 (FDAAA) Trials Tracker is meant to call out sponsors of clinical trials who fail to publish results of those trials. Per the FDAAA statute, sponsors have 13 months from the completion of those studies to post summary results and adverse event information, or can face fines up to $10,000 per day. The Trials Tracker tool has a running tally of the total dollar sum the FDA could collect in these late fees. As of the time of writing, the total figure is near $6m. *Regulatory Affairs Professionals Society*

Bristol-Myers Squibb struck a massive deal with Nektar Therapeutics for the latter's nascent experimental immunotherapy called NKTR-214. Under the terms of the deal, the collaboration allows for the evaluation of NKTR-214 and Bristol's Opdivo (nivolumab) in five tumor types and seven potential indications. The deal brought a massive windfall for Nektar in the form of a $1bn upfront payment while still holding onto 65% of global profits. With this deal, and the largest ever fee in biotech history, Bristol is trying to maintain its stronghold in the immuno-oncology space that it established with its PD-1 Opdivo. *Forbes*

Health insurer UnitedHealthcare announced it will pass on drug rebates it receives from manufacturers to patients in the form of discounts at the pharmacy counter/point-of-sale. The plan will take effect next year, initially for only patients enrolled in certain plan types known as fully insured plans. The company expects this will have the biggest impact on patients with high deductible plans who regularly buy drugs that already have significant manufacturer rebating. UnitedHealthcare. A few weeks later, fellow insurer Aetna followed suit and similarly announced it intends to lower consumers' out-of-pocket drug costs by sharing some of the rebates it negotiates with PBMs. Aetna has not yet said what form these discounts will take. The decision to pass along discounts to consumers is thought to reflect consolidation in the supply chain, stoked in part by the competitive threat of Amazon. *Bloomberg*

A recent analysis in *Nature Reviews Drug Discovery* looked at the top 20 mechanism of action targets by global sales data and associated NIH funding, in the form of RO1 grants, received. TNF inhibitors like Humira and Enbrel took the top spot with $163bn in global sales from 2011-2015 and had roughly equal NIH grant dollars, totaling $165m. Yet the number two spot went to insulins like Lantus and NovoLog, with total sales of $144bn, but only 2 million in NIH grant dollars. As part of their analysis, the authors note G protein-coupled receptors, ion channels, kinases, and nuclear receptors are the four protein families with the most consistently, successfully, druggable target classes.

Dr. Paul Farmer, co-founder and chief strategist of Partners in Health, one of the Deerfield Foundation's partners, was recently awarded with the National Academy of Sciences 2018 Public Welfare Medal. The medal, the Academy's most prestigious award, was granted for his work creating community-based treatment strategies that provide high quality health care in some of the most resource-poor settings around the world. *National Academy of Sciences*

The Health Care Cost Institute (HCCI) released a study on 2016 healthcare spending across four national insurance companies – Aetna, Humana, Kaiser Permanente, and UnitedHealthcare. HCCI found total health spending per person is growing faster than ever, having grown 4.6% in 2016 versus 4.1% in 2015 and less than 3% per person from 2012 to 2014. While consumer out of pocket spending per person increased, it still grew more slowly than total spending. The largest increases in spend were associated with administered drugs, emergency room visits, and surgical hospital admissions. *Health Care Cost Institute*

DEERFIELD FOUNDATION

The Foundation has formed 39 partnerships and invested and committed over $40 million for the advancement of children's health in its 10 years, ranging from health clinics in Nepal to a mobile medical home for children in the South Bronx. In this newsletter we would like to highlight just one of the organizations that we feel is helping us fulfill our mission of advancing healthcare. We are proud to be critical supporters of The Mott Haven Academy.

THE MOTT HAVEN ACADEMY CHARTER SCHOOL

Mission:	The Mott Haven Academy Charter School is a high performing Charter School that empowers children in an educational environment which addresses and reduces the barriers to academic success through the integration of family support services with a rigorous, college-preparatory academic program. Its graduates will be resilient, resourceful, independent scholars who will obtain the skills necessary to reach their full potential and to build a better future.
Partner since:	2010
Description:	Haven Academy is a Charter School located in the Bronx that aims to remove the barriers to academic success faced by children in the child welfare system.
Total Funding:	$6.8 million
The Deerfield Perspective:	The Deerfield Foundation has partnered with Haven Academy since 2010 to provide primary medical care to Haven's scholars with an in-house PNP and medical clinic.
The Mott Haven Perspective:	Haven Academy provides a stable learning environment for foster care and child welfare children living in unstable home environments. The Deerfield Foundation makes this work possible by providing a vital healthcare resource, our Pediatric Nurse Practitioner (PNP), that we would otherwise not be able to offer to children and families in need. With a PNP on staff, families make fewer unnecessary trips to the emergency room, receive prescriptions, and are better connected to community healthcare providers. As a result, more scholars are attending school and learning to read. Deerfield Foundation's team is collaborative, forthcoming, and truly caring about our scholars' wellbeing. Haven Academy is immensely grateful for our longstanding partnership with the Deerfield Foundation.
Most Recent Projects Funded:	**Provide primary medical care to students with in-house Primary Nurse Practitioner and Medical Clinic and provide funding to transition to Electronic Health Records** In the 2017-18 academic year, Deerfield continued its support for Haven's PNP Joyce Lee. In her role, Nurse Joyce provides in-school care that far exceeds the role of a standard school nurse, administering primary medical care to all Haven Academy scholars who do not already have access to a medical home. Many Haven families lack financial stability and are unable to receive adequate care in the community. Her work in the school also includes health education and preventive services, including nutrition and obesity prevention. In addition to supporting her role, the Deerfield Foundation's support for the 2017-18 academic year will provide funding to transition Haven's scholars' paper medical records to Electronic Health Records (EHR). The system will put Haven Academy on par with community healthcare providers in terms of record-keeping and sharing, allowing our PNP to more efficiently care for the students and better connect them to the local healthcare community. The EHR project is currently in the establishment phase as a provider has been selected and existing records are digitized through a data entry process.

NEWS YOU MAY HAVE MISSED

We've been busy at Deerfield the last few months! Here is a sampling of some of what we've been up to:

Nature Biotechnology Publishes "The Broad and Johns Hopkins lure deep-pocketed investors" by Eva von Schaper
December 09, 2017
Read More

Bluefield Innovations Pursues Broadly Applicable Cancer Target
January 04, 2018
Read More

Deerfield Continues its Commitment to Advancing Healthcare Through its Publication Activities
January 16, 2018
Read More

Broad Institute and Deerfield Management Announce the Advancement of Two Partnership Projects
February 06, 2018
Read More

DFB Healthcare Acquisitions Corp. Closes $250 Million Initial Public Offering
February 21, 2018
Read More

Bridge Medicines Accepts Novel Small Molecule Targeting Basal Cell Carcinoma As First Drug Candidate for Development
March 14, 2018
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Deerfield Commits $36 Million to Advance Dracen's Novel Immuno-Metabolism Pipeline
March 22, 2018
Read More

Deerfield Management and Vanderbilt University announce the launch of Ancora Innovation
March 28, 2018
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