

Recap

PiperJaffray®

HEARTLAND
SUMMIT

2019



To our valued clients, partners and friends:

For the last seven consecutive years, Piper Jaffray has had the privilege of hosting the leading voices in healthcare at the Heartland Summit. Beyond being an important gathering for CEOs and healthcare leaders to build relationships, the Heartland Summit has become a forum to discuss the most significant issues impacting the industry. Each year, these discussions seem to take on increasing importance and meaning.

The challenges and opportunities facing the healthcare industry may provide some of the most profound changes to humanity and society. While this may sound dramatic, it is hardly an overstatement. From curing disease, to lifesaving surgical interventions, to expanded medical access, or even simple improvements in transparency, engagement and education about healthy living – the changes taking place in healthcare right now that are dramatically impacting human lives.

Our partners and collaborators are what make the Heartland Summit the special event that it is, and we would like to thank Bob Bradway of Amgen, Omar Ishrak of Medtronic plc, Gianrico Farrugia of the Mayo Clinic and Dave Wichmann of UnitedHealth Group for their participation and support. We also extend our gratitude to the more than 30 leaders who contributed their voices to the discussions and debates at the Heartland Summit – especially those who have chosen to return year after year. Your continuous support and attendance is, perhaps, the Heartland Summit's greatest endorsement, proving that we are doing something right.

While the issues impacting healthcare continue to evolve, so does the need for constructive and honest dialogue. We strongly believe that with honest discussion will come trust; and with trust will come compromise. We hope our role in fostering these important discussions and relationships will be the legacy of the Heartland Summit.

Piper Jaffray will continue to do our part next year for the eighth annual Heartland Summit. To all who attended this year, we thank you again for your contribution and efforts. We look forward to seeing you at the 2020 Heartland Summit.

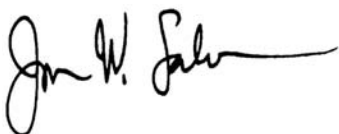
Regards,



J.P. Peltier
Global Group Head
Healthcare Investment Banking



Peter Day
Global Group Head
Healthcare Investment Banking



Jon Salvesson
Vice Chairman
Investment Banking



Matt Hemsley
Managing Director
Chairman, Heartland Summit

Opening Remarks

Speaker: Robert Bradway, Chairman, President & CEO, Amgen, Inc. (AMGN)

“While we may not all see eye to eye on exactly how to do it, the good news is, as leaders across the healthcare industry, we have a common objective - bring quality healthcare to as many people as possible throughout the world.”

– ROBERT BRADWAY, CHAIRMAN, PRESIDENT & CEO, AMGEN, INC.

The Piper Jaffray Heartland Summit commenced with an address by **Robert Bradway, chairman, president & CEO of Amgen, Inc.** Bradway began by welcoming attendees to the seventh Annual Heartland Summit – a conference that provides a forum for “candid discussions with leaders from across the full spectrum of the healthcare industry.”

Bradway, who along with Amgen, Inc. has supported the Heartland Summit for its full seven-year history, continued by outlining the common objective of the conference and the discussions it provokes. “While we may not all see eye to eye on exactly how to do it, the good news is, as leaders across the healthcare industry we have a common objective - bring quality healthcare to as many people as possible throughout the world.” Bradway stressed no one segment of the healthcare economy can achieve this objective on its own and the Heartland Summit

celebrates the fact that the healthcare industry has to find ways to achieve that goal collectively across the different sub-sectors of the healthcare economy.

Looking ahead, Bradway addressed the unique phenomenon of “certainty of demand” in the healthcare industry and the near guarantee that the future will bring even greater demand for what the industry provides. Bradway supports the growing healthcare demand by citing three demographic trends that will define the coming decades: the worldwide aging population, a rapidly growing middle class (particularly in emerging markets) and growing urbanization. “These three long-term demographic trends,” Bradway stated, “will give rise to, and even a dramatic rise to, the growth of serious illnesses, like those diseases [that are the result of] of the aging process [...] and with the growth of those diseases, of course there will be a corresponding growth in demand for innovative solutions to help people live longer, fuller lives while enduring those illnesses.”

That said, with growing demand, greater instances of serious illness and the corresponding growth in innovation comes the problem of reimbursement or, “the big question,” which Bradway defined as, “How are we as a society going to reimburse the innovation that is emerging from the healthcare industry?” Bradway’s “big question” is challenging to answer today and will only become more challenging to answer in the future. In closing, Bradway relayed a thought from Amgen – that we have a healthcare system that is designed to fix what is broken, rather than predicting and preventing. Using cardiovascular disease as an example, Bradway illustrated that the healthcare industry continues to spend money on fixing patients after they have a heart attack rather than spending money on preventing heart attacks – even though the industry is well educated on how heart attacks can be prevented. Bradway expounded on this theme by stating that the industry has been presented an alluring opportunity to predict and prevent these diseases “Because it puts patients at the center of the discussion rather than the cost.”

Bradway’s remarks set an important tone for the day as various leaders, innovators and investors discussed not only the opportunities and challenges that face the industry, but how the different sectors of the healthcare economy can work together to drive change, lower cost and achieve the common goal of delivering quality healthcare to as many people as possible.



Robert Bradway, Amgen, Inc.

Positioning Biopharma for the Next Decade and Beyond

Panelists: Robert Bradway, Chairman, President & CEO, Amgen, Inc. (AMGN)
Giovanni Caforio, M.D., Chairman & CEO, Bristol-Myers Squibb (BMY)
Alexander Hardy, CEO, Genentech, Inc. (Division of Roche Holding AG)
Stephen Ubl, President & CEO, PhRMA (private)

Moderator: Chris Raymond, Senior Research Analyst, Piper Jaffray

“[the biggest threat is] the concern that the policy and the reimbursement environment is not keeping up with the science.”

– ALEXANDER HARDY, CEO, GENENTECH, INC.
(DIVISION OF ROCHE HOLDING AG)

What are the biggest opportunities and the biggest threats facing the biopharmaceutical sector? This is the question posed to an all-star panel of industry leaders on the opening panel of the Heartland Summit. A wide variety of opportunities were mentioned and consistently echoed amongst the panelists including rapid innovation, technological breakthroughs in treatment modalities such as gene/cell therapies and protein degradation, big data and genomic profiling, and the ability to address rising patient out-of-pocket costs. The biggest threats, on the other hand, were focused mainly on the public policy environment and ongoing pricing debates. **Alexander Hardy, CEO of Genentech, Inc. (Division of Roche Holding AG)** summarized the panelists’ perspectives well, “[the biggest threat is] the concern that the policy and the reimbursement environment is not keeping up with the science.” This concern was echoed by **Giovanni Caforio, M.D., chairman & CEO of Bristol-Myers Squibb**, who added,



Alexander Hardy, Genentech, Inc.

“the industry has quickly become a proactive partner in the dialogue with concrete solutions on how to address the important issue of growth in healthcare spend but in a way that provides benefits to patients and continues to support an ecosystem of innovation.”

Given the well-represented concerns surrounding the drug pricing debate, the panel was asked to elaborate on how best to approach paying for growing R&D costs and new therapies. In response, Caforio offered, “We need to look at the totality of the cost and work together with other stakeholders to make sure that we dedicate the resources where they are going to have the most impact [to areas of large and/or inefficient spending in the healthcare ecosystem.]” Shifting his focus to patient spending, Caforio added that revamping broken rebate/reimbursement policies, continuing to support the development of a healthy generic and biosimilar market, and added flexibility surrounding pricing based on patient-specific outcomes will all foster better utilization of resources.

Probing further into the pricing debate, **Stephen Ubl, president & CEO of PhRMA** was asked about potential areas for reform to stop and/or reverse the trend of increasing patient out-of-pocket costs. Ubl promptly pointed out two areas “ripe for reform” that contribute to inflated patient out-of-pocket costs: rebates and the supply chain. Beginning with rebates, Ubl noted that reform was already underway, explaining that “the administration has put out a rule that would essentially make rebates illegal unless they are passed through to the patients at the point of sale.” No less important than rebate reform is the de-linking of the supply chain, which has driven list prices higher because every actor in the system is paid based on a percentage of the list price. Reform, Ubl expounded, may come in the form of “a fee for service, the value of the service [the supply chain stakeholders] provide.”

While reform is necessary, the panel was careful to point out that reform must be enacted without stifling the culture of innovation that is deeply ingrained in the current U.S. healthcare ecosystem. Moderator **Chris Raymond, senior research analyst, Piper Jaffray**, initiated a conversation surrounding this balance by referencing past reforms that didn’t have the debilitating effects



Giovanni Caforio, M.D., Bristol-Myers Squibb

on innovation that were expected and questioned what currently contemplated reforms may carry that risk. Hardy was quick to point to international reference pricing as a proposed reform that could truly hinder the U.S. culture of innovation and the risk/reward paradigm of important R&D. Hardy summarized his opposition to international reference pricing by stating, “We [need to] and are coming forward proactively saying ‘there is an issue and here is a potential solution.’ It does involve pain in the short-run for the industry, but we are a long-term industry, 10-15 years out we need long-term solutions and we have got to head off these short-term fixes.”

The panel then shifted its focus to the accelerating rate of innovation that has presented endless opportunities for the sector, but also has given rise to new challenges. Raymond began by introducing a thought provoking theory: due to the accelerating rate of innovation, first-mover advantage has lost its longevity and forced the sector to rethink drug portfolio management. **Robert Bradway, chairman, president & CEO, Amgen, Inc.** expounded on the theory by responding, “what you are observing is that the world is flat, discover it here today and the rest of the world knows about it tomorrow. It underscores, in my mind, the importance protecting and respecting intellectual property.” Bradway supported his position by referencing the dozens of companies chasing the same targets and an intellectual property system that has increasingly allowed that. “We still believe, however,” Bradway continued, “that first-in-class/best-in-class is of value in our industry and our portfolio is comprised of a rich mix of molecules that are just that – but we have to embrace the reality that there are going to be competitors within weeks and months of the first-in-class therapy and we are going to have to earn returns with that in mind.” In agreement was Caforio, who shared his idea of how to navigate the situation by adding, “If a company establishes a leadership position in a therapeutic area, you need to be thinking about what the technologies are that are going to be displacing the product you just brought to market and having a commitment

to invest in those technologies.” Concluding his thoughts on the matter, Caforio also recommended the use of data to help accelerate the R&D cycle in order to match the accelerating rate of innovation.

Taking the conversation a step further, the panel was then asked to discuss what therapeutic categories they want to focus their innovation on that maybe Wall Street hasn’t caught on to yet. Bradway and Hardy voiced their interest in neuroscience, autoimmune disorders and genetics, but the panel kept coming back to oncology, despite its widespread coverage in the industry. “Although we have made tremendous progress in the last ten years in oncology, [...] we are just in the beginning of a long journey in oncology, there is great unmet need that remains,” Caforio summarized.

Finally, the panel ended their discussions with the topic of M&A—specifically why we aren’t seeing more deals executed in the current environment. Raymond pointed to the fact that despite some willing buyers, sellers have so many alternatives in this day and age, that sellers are electing to maintain control for longer. Caforio agreed, but added that buyers are also apprehensive due to high valuations seen in the current market. “Buyers struggle with that equation,” Bradway summarized, “how do I feel confident I can deliver returns to my shareholders after paying a premium to somebody else’s?”



Stephen Ubl, PhRMA

How Pharma and Payers Are Working Together to Increase Transparency and Choice

Panelists: John Prince, CEO, OptumRx, Inc. (Part of UNH)
Jack Bailey, President, US Pharmaceuticals, GlaxoSmithKline plc (GSK)

Moderator: George Barrett, former Chairman & CEO, Cardinal Health, Inc.

“Every seven months the genomic data doubles – it is an unprecedented amount of information that allows us to know exactly, individual by individual, how you would likely respond to a particular drug.”

– JACK BAILEY, PRESIDENT, US PHARMACEUTICALS, GLAXOSMITHKLINE PLC

Pharma companies are beginning to give more insight into the evolution of their pipelines in an effort to demonstrate the burden of innovation in creating the economics in pricing models as public appear for transparency has reached unprecedented levels. **Jack Bailey, president of US Pharmaceuticals at GlaxoSmithKline plc**, has a strong track record of providing a business model focused on transparency. For example, GlaxoSmithKline plc recently opened clinical trial data to patient and payers. The nearly 11,000 people and organizations accessing this information on a monthly basis reflects the company’s core value of transparency across their platform. The role of transparency must be combined with a focus on price and

quality, which is a fundamental shift from the traditional volume model. Bailey believes that in order for the pharma industry to be market-driven there has to be transparency up and down the value chain. Continuing the discussion, **John Prince, CEO of OptumRx**, pointed to the direction of creating the tools for consumers and physicians to be able to make the right decisions based on these transparent metrics.

The conversation naturally pivoted towards the question of regulatory and legislative pressures on the drive for transparency. When discussing legislature specific to Medicare and Medicaid, both panelists agreed that the regulatory and legislative precedents are moving forward, but may not be advancing at the rate necessary for continued innovation. Discussing the Medicare and Medicaid legislative approach, Bailey views the current state as a, “Fundamentally different place from innovation – from an interaction and a healthcare system perspective.” However, he agrees that it is important to focus on working with legislatures in order to move these pieces forward. Prince’s ideas aligned with Bailey’s: “There is a need for a lot more competition and there are some areas where I think the regulatory framework is holding them back.” Opioid management being an area where regulatory standing has been used to hinder innovation. The program was for risk management in the use of opioids and was quickly adapted in the private sector, but delayed by Medicare for the public sector. Prince’s example emphasizes the need for the public sector to find a way to match the speed of the private sector in order to allow for transparency without loss of innovation.

Moving past the concept of regulatory and legislative effects, the conversation shifted to focus on collaboration as a means of transparency. Bailey began by giving examples of healthcare workers’ immunization history being a place where the pharma companies can partner with other groups to share data. This combination of data, education, and the right tools will push transparency and innovation to improve. Prince delved more specifically into the physician’s side of the equation in saying that the partnership is based on the sharing of information by asking, “How are we getting the tools to the prescribing physician so that they can make the best decision in the moment they pick



Jack Bailey, GlaxoSmithKline plc

up the pen?” Once this integration is achieved, the transparency will follow. Both Bailey’s and Prince’s comments pushed the conversation into a question of data and analytics as a pivotal point of transparency.

George Barrett, former CEO of Cardinal Health and panel moderator, described the landscape of the medical industry as a “balkanization” where there are individual parts that require an interconnectivity in order to move forward. Bailey emphasized the growth of data in the industry by explaining, “Every seven months the genomic data doubles – it is an unprecedented amount of information that allows us to know exactly, individual by individual, how you would likely respond to a particular drug.” The integration of data also allows for a clearer understanding of what the individual pricing methods may look like. Prince agreed and reemphasized the idea that looking at disease progressions begs the question how to create an optimized treatment while keeping the idea of effectiveness and transparency insight. Bailey believes that, in the space of oncology, the ideal program is treating one patient at a time; however, this is getting very costly. The answer for Prince is a “total reduction in cost.” They ultimately agreed that the pharmaceutical industry must address the pricing of drugs that provide a cure versus those that require ongoing treatment. Bailey argues that if the system is competitive, then the industry must know where the cost is derived from. The system doesn’t have to be reinvented, but, rather, the small problems among specific prices need to be mended and analyzed.

The panel came to a close with a final question regarding the importance of the consumer. Bailey believes that it is important to have an “empowered and informed consumer” if the industry is striving for transparency because they will push the market forward. Prince echoed this point by highlighting that “consumer affordability is real and how we look at it is very important.” Both panelists made strong final appeals to transparency and relationships among pharma and payers.



John Prince, OptumRx, Inc.



John Prince, OptumRx, Inc.; Jack Bailey, GlaxoSmithKline plc; George Barrett, Cardinal Health, Inc.

Changing Care Delivery Models for the Changing Needs of the Healthcare System

Panelists: Jason Gorevic, Director & CEO, Teladoc Health, Inc. (TDOC)
Bret Jorgensen, Chairman & CEO, MDVIP Inc. (private)
William McKeon, President & CEO, Texas Medical Center (private)
Penny Wheeler, M.D., President & CEO, Allina Health Systems, Inc. (private)

Moderator: Dan Gulbrandson, Managing Director, Investment Banking, Piper Jaffray

The success of patient care delivery is dependent on providing the appropriate care in the appropriate setting. The evolution of medical technology, such as telehealth and remote monitoring, has allowed patients to receive services by overcoming traditional barriers, such as location, mobility and availability. CEOs from Teladoc Health, Inc., MDVIP Inc., Texas Medical Center and Allina Health Systems, Inc. discussed how their companies are overcoming barriers in order to adhere to the system's evolving needs.

William McKeon, president & CEO of Texas Medical Center, approaches the topic broadly by predicting that the tertiary and quaternary players in healthcare will drive the most growth – some at rate of over 10% within the next five years. Much of the increasing demand for healthcare can be attributed to a heightened need for specialty services with the largest need where primary care is delivered. There is becoming more of a consumer-based approach as corporations such as Walgreens and CVS begin investing in building out their primary care axes. **Jason Gorevic, director & CEO of Teladoc,** stated that “It is definitely a good time to be in the telehealth space” as he elaborated on the exponential growth trajectory his company has followed. While it took 15 years from its inception to hit one

million visits, the subsequent million came after only two years, then five quarters, and so on. There is a seismic shift occurring in how people access care due to consumerism of healthcare, which is driven by both convenience and cost incentives in obtaining virtual care. **Bret Jorgensen, chairman & CEO of MDVIP Inc.** reveals that half their visits are done virtually through means such as secure messaging or phone calls. He describes the company's goal as “Hoping that patients and consumers get engaged in their healthcare.” In doing so, they are forging the path towards a new standard in healthcare delivery.

Highlighting the need for stretching the delivery care model and redefining the traditional boundaries, **Penny Wheeler, M.D., president & CEO of Allina Health Systems, Inc.** is focused on building partnerships with local communities to extend care beyond the doctor's office and into the home. Wheeler states that by combining partnerships and forming a holistic view of health, they can “Reliably and accessibly develop [patients] and connect [them] to viable services in the community that are actually more important and impactful to their health sometimes.”

The panelists all agreed that the key to continuing to spearhead their space is to continue to think about a new digital front door



William McKeon, Texas Medical Center



Jason Gorevic, Teladoc Health, Inc.

to care. It is a great equalizer in regards to the access to care as patients now have the ability to receive access to healthcare regardless of economic status or geographic location, which have historically proven to be significant barriers. This is especially important in the realm of mental health as some patients may not be in a place where they can physically access care or are uncomfortable with and in-person visit being the starting point of a care plan. But with technology, we can surpass these obstacles accessing more patients where they're at and provide the necessary care. Additionally, physicians are given the ability to extend their career as they can continue to assist patients and contribute to the medical field on their terms.

Moderator **Dan Gulbrandson, managing director, investment banking, Piper Jaffray**, challenged the panelists to predict how the doctor-patient relationship will evolve as consumerism remains one of the largest elements in the healthcare industry. Jorgensen acknowledged that “the consumerism trend is catching a lot of traction in pretty much every element of the healthcare system today” and that MDVIP Inc. is focused on nurturing the doctor-patient relationship. Wheeler echoed the changing landscape by reinforcing the need to collaborate with the community: “These centers of excellence [provide] a more holistic look at health. We got schooled by a lot of people that we serve who think that health is the absence of disease—but that’s not completely what health is. It’s making sure you have a roof over your head, feeling safe, having food on the table and caring for things. We’re in the process of changing our care model to screen people for social determinants. Housing, food insecurity, violence in their home, and things like that.” She continued to describe how 30% of people they serve are affected by at least one of these factors, and how one of Allina’s newest software platforms connects patients to relevant resources in their community.

Jorgensen commented on the consolidation of the system and how it will affect the patient experience moving forward. Within the past few years, the number of physicians that are owned or employed by the system has surpassed 50%, which will inevitably have some impact on healthcare delivery. Most of the doctors MDVIP works with are independent, however, the overall proportion that are employed fluctuates often. He argues that while “the incremental employment of physicians has not led to a reduction in cost [...] so while we have not figured out fully the right model to employ physicians, the healthcare system is best served by having a good balance of both.” Non-adherence to one system is beneficial to the consumer, and the synergies between independent doctors and those within the healthcare system can be very valuable, especially looking forward into company sales and development. McKeon elaborated by explaining how many medical centers are beginning to decant in response to changing needs. More independent, primary care physicians maintain a strong presence in communities while tertiary, specialized centers grow larger as they cater to services that cannot be provided in these smaller areas.

It’s clear that the healthcare system is undergoing significant change as society and technology evolve. Looking to the future, it is critical that healthcare companies revise their delivery models to cater to patients’ needs in order to provide the best service possible.



Penny Wheeler, M.D., Allina Health Systems, Inc.

How to Help Chronic Care Patients and Their Caregivers Make the ‘Right’ Decisions

Panelists: Ken Ehlert, Chief Scientific Officer, UnitedHealth Group Incorporated (UNH)
Sami Inkinen, Founder & CEO, Virta Health, Inc. (private)
Kevin Sayer, Chairman, President & CEO, DexCom, Inc. (DXCM)

Moderator: Adam Gunther, Managing Director, Investment Banking, Piper Jaffray



Ken Ehlert, UnitedHealth Group Incorporated

While there are many diseases that have clear root causes with well-known treatments, there are even more chronic diseases that have non-linear treatment recommendations that require us to reexamine how we approach managing these ailments. For example, individuals with a certain subtype of diabetes might be prescribed medication that is 85% effective in treating their condition; however, the root cause of the patient’s diabetes could be that they are simply consuming too many carbohydrates. **Ken Ehlert, chief scientific officer of UnitedHealth Group Incorporated**, used this example to make the point that we need to continue to subtype diseases in an effort to get closer to being able to give patients a higher level of certainty upon initial diagnosis.

Sami Inkinen, co-founder & CEO of Virta Health, Inc., noted that one of the reasons we have this “chronic disease epidemic” is that we are essentially playing the whack-a-mole game with the way we are treating patients’ symptoms. For diabetes or hypertension, physicians normally prescribe drugs to treat the symptoms of hypoglycemia, but the patients continue to suffer from other symptoms. Virta tries to find the root cause of patients’ symptoms and treat that in order to try to address all the associated symptoms. **Kevin Sayer, chairman, president & CEO of DexCom, Inc.** agreed with Inkinen’s point and said in



Sami Inkinen, Virta Health, Inc.

the diabetes space we now have much better markers available for effectively treating patients than we have used in the past. The question that remains is how do we look at individuals with chronic conditions and treat them for the root cause of their ailment(s) at every cost-event in the treatment cycle.

Inkinen expanded on the idea that advances in technology are key to being able to put together a more holistic picture to treat individual patients. Historically, physicians see their patients for 30 minutes every six months. Virta is trying to change that. Using their technology, patients log data and interact with physicians for much shorter periods every day. Sayer opined that the body has certain biomarkers that can tip physicians off to the onset of a condition. Currently, we classify someone as diabetic if they have two A1cs tests that score above 6.5. So even if a patient is demonstrating symptoms of diabetes, we are typically not able to treat them properly if they do not pass this coding test. In this scenario, biomarkers would be a much more effective means to be able to provide preventative care. The earlier we can detect these, the better.

Following this discussion, Sayer brought up the story of a young mother whose son is diabetic. Upon receiving her son’s Dexcom, Inc. product, which provides her with a large amount of data about

her son's condition, the mother's response was "I can't make all these decisions." While Dexcom, Inc. had been providing her with sufficient data, perhaps they could do a better job of synthesizing the former in order to recommend an action plan. Now Dexcom, Inc. is providing this data to companies who can put together a concrete path forward for patients in these situations. Sayer noted that he is more than confident that Dexcom, Inc. will be ready to take on a value-based healthcare system.

Inkinen also mentioned it is difficult to change the current system to work in a way that promotes the effective use of the data their companies are collecting. When he originally tried to market Virta Health, Inc.'s solutions to health systems, the feedback he received was physicians and managers did not want to have to synthesize a large amount of data and instead preferred to see patients in person every six months. In realizing this, he had to re-build Virta's model from scratch. In this regard, data can be extremely helpful, but in order for change to be implemented, incentives must be aligned properly. Sayer agreed and said that an important piece to providing data to a patient is also having a physician to interpret what the proper course of action is for a chronic patient. This is where the idea of comorbidities comes in. When we can provide patients with enough data points to ask their physician(s) about say two specific medications, then we have reduced the cost of the healthcare event and improved the outcomes for patients.

The final component to making the treatment of chronic diseases more effective is being able to incentivize physicians and health plan managers on an increased time horizon, so if they are paid for an investment today there will be more positive results down the road.



Kevin Sayer, DexCom, Inc.



Sami Inkinen, Virta Health, Inc.; Kevin Sayer, DexCom, Inc.

How Can Healthcare Leaders Learn from the past to Shape the Decisions of the Future?

Speaker: Alex Gorsky, Chairman & CEO, Johnson & Johnson (JNJ)

Moderator: Matt Hemsley, Managing Director, Investment Banking, Piper Jaffray

“Don’t ever underestimate the impact you can have with just a minute of your time.”

– ALEX GORSKY, CHAIRMAN & CEO, JOHNSON & JOHNSON

Transitioning out of the c-suite is one of the most difficult and personal tasks for a long-time leader. At the 2018 Heartland Summit, a panel of respected leaders who recently made this move shared candid insight about their transition as it’s one of the least-discussed topics in the industry. To build on the theme of leadership, we wanted to have an equally candid discussion about how leaders learn from the biggest challenges of their career.

From product safety to access and pricing, the healthcare industry provides a unique set of challenges that leaders will inevitably face. **Alex Gorsky, chairman & CEO of Johnson & Johnson**, shared about how he learned from other leaders in his life; how he promotes a culture that can respond to challenge; and how he has applies his experiences to challenging situations throughout his career.

The conversation with Gorsky began on a personal note. When asked which leader had most influenced his life, Gorsky



Alex Gorsky, Johnson & Johnson



Alex Gorsky, Johnson & Johnson; Matt Hemsley, Piper Jaffray

immediately answered that his parents set the standard for him. Gorsky shared that his parents instilled in their six children an equal sense of responsibility and humility. His parents were not “afraid to challenge us and joke with us at the same time,” a spirit that Gorsky said he tries to bring to his professional leadership style throughout his career.

Discussing the best leadership advice he ever received, Gorsky quipped, “Nothing good ever happens after midnight”. Joking aside, Gorsky shared an story from early in his career regarding the leader who had first recruited him to Johnson & Johnson. This person had spent just a few minutes with him, but the impact was meaningful enough to convince him to join the company. “Don’t ever underestimate the impact you can have with just a minute of your time,” Gorsky advised. By taking a minute to show your team that you care about them and the value they bring, a leader can have a lasting impact beyond the moment - they can influence someone’s entire career.

On the topic of leading an effective organization, **Matt Hemsley, managing director, investment banking, Piper Jaffray**, asked how Gorsky thinks about managing small mistakes and taking responsibility for them, because so often in larger corporations the small mistakes become big mistakes if not addressed. Gorsky responded, “Within organizations there is a natural dynamic

where people, teams, layers want to protect [leadership]. Not with nefarious intent, but with good intent.” In this structure, extremely talented people handle most of the work, shielding leaders oftentimes from issues as they arise. It is only when all avenues have been tried and they need senior leadership to weigh in that they raise the issue up the chain. This shielding leads to a CEO receiving many bad news calls at 4:30 p.m. on a Friday.

To combat this, Gorsky said “one of the most important things you can do as a leader is to be constantly engaging, making yourself accessible [...] and skipping layers.” While Gorsky noted the need for a chain of command that he learned during his time in the military, he emphasized the benefits that can arise by skipping layers in the organization and speaking directly to the subject matter expert at the heart of the issue.

Outside of running the organization, as the leader of Johnson & Johnson, Gorsky is also in the position to weigh in on various issues in the public eye. Hemsley asked him how he navigates which issues to address. Gorsky responded, “Times have changed dramatically. The expectations of what companies, let alone CEOs and business leaders, should be doing and how leaders should be engaging with issues has changed significantly. Whether we like it or not we are part of that debate and discussion... our responsibility is not only beholden to the shareholder... it’s not an ‘either-or’ proposition, it has to be an ‘and-and’ proposition.” He continued to say, “if something is misaligned with our credo, those are areas that we should have a point of view and make sure we are part of that discussion.”

Looking toward the future, Hemsley asked where Gorsky sees the biggest changes in healthcare will come from. Gorsky pointed to the ways that new technologies will become embedded in every aspect of healthcare over the next few years with “the potential to dramatically improve outcomes and reduce cost.”

Regarding technological innovation, Hemsley asked Gorsky how he goes about sifting through all of the different technologies

that come across his desk and deciding which technologies to invest in. Due to the breadth of promising technologies, the most important thing you can do from his perspective is to have the correct subject matter experts in the room evaluating the technology. You need to become comfortable with taking the right kinds of risks to get in on early science and without the correct team behind you it is impossible. While balancing such risks, Gorsky said you must keep in mind that “some of the best deals I have done are the deals I haven’t done.”

The discussion closed with the advice Gorsky would give: take care of yourself. He added, “while all of us in this room are industry leaders that have a major impact, everybody in here is going to be a patient at some point. If I look at the pace we set for our organizations... overtime if we don’t invest in our own health, there is going to be a toll... take care of yourself, and you will be a better leader, you’ll be more in the moment. It’s better for your business and your family.”



Alex Gorsky, Johnson & Johnson

How Can Companies Engage Consumers to Change Behavior and Maintain Healthy Lifestyles?

Panelists: Bahram Akradi, Founder, Chairman & CEO, LIFE TIME (private)
James Park, Co-Founder, Chairman & CEO, Fitbit, Inc. (FIT)
Grant Verstandig, Founder, President & CEO, Rally Health, Inc. (Part of UNH)

Moderator: Matt Hemsley, Managing Director, Piper Jaffray & Co.

“create an environment where it is not a chore to get healthy”

– BAHRAM AKRADI, FOUNDER, CHAIRMAN & CEO, LIFE TIME

Panel moderator Matt Hemsley started the discussion on consumer engagement for healthy living with three quick, rapid-fire questions for his three panelists: Bahram Akradi of LIFE TIME, James Park from Fitbit, Inc. and Grant Verstandig from Rally Health, Inc.:

“Diet or exercise?”

“How many steps today and what’s your reward for reaching your goal?”

“Carrot or stick”?

Akradi conceded that diet is more important than exercise; Park talked about a team activity challenge that he was working towards; and Verstandig cited statistics that demonstrate that carrots and sticks are about equally followed (or ignored, as the case may be!). These responses addressed the major themes that would frame the discussion.



Bahram Akradi, LIFE TIME



Grant Verstandig, Rally Health, Inc.

The panel began with a discussion assessing how consumer decision-oriented health companies should incentivize healthy activity. **Bahram Akradi, chairman & CEO of LIFE TIME**, emphasized the need to incentivize healthy behavior through rewards as opposed to punishments. He noted that companies, like his own, should strive to “create an environment where it is not a chore to get healthy” and consumers will do “what they want to do, naturally.”

Grant Verstandig, founder, president & CEO of Rally Health Inc., added to Akradi’s remarks by highlighting the empirical success of programs that reward healthy behavior. He cited research from his own company and the University of Pennsylvania that suggests rewards are roughly 50% more valuable at encouraging healthy behavior than punishments, because rewards help create positive feedback loops that sustain healthy activity. Effectively targeting rewards provides companies opportunities to change individuals’ relationship with their own health. “Healthcare at its core is the most broken feedback loop in the world. If I smoke a cigarette a day, I don’t get cancer tomorrow. If I drink a coke today, I don’t get fat tomorrow [...] building a reward is a great way to start building some immediacy.”

Despite advanced technology, environments to encourage healthy behavior, and incentive programs, individuals consistently make poor decisions regarding their health. The panel agreed that misinformation is a leading cause of unhealthy behavior. Akradi cited his 40 years of experience in the fitness industry, and stated people are consistently “misinformed more than they are informed.” Verstandig agreed and mentioned that understanding how important food choices are is a primary source of misinformation. **James Park, co-founder, chairman & CEO of Fitbit, Inc.**, highlighted three causes of unhealthy behavior. First, awareness, which includes education and the right types of information; second, accessibility, or how affordable or easy changing your lifestyle might be; and third, your social circle and the importance of others’ influence on you.

As the conversation shifted to company specific approaches to encouraging healthy living, Akradi described the holistic approach LIFE TIME takes with its customers. LIFE TIME facilities serve as a living environment, and combine workout facilities with living solutions and healthcare options. He emphasized the importance of a healthy life, as opposed to healthy fitness or nutrition. “You achieve fitness in a moment in time – it’s like riding a wave ... focusing on your health for the continuum of your life is the ocean.” He described the potential of healthcare companies to create “healthy way of life villages,” which are convenient, accessible and benefit the environment.

Park then spoke to the importance of data in the healthcare consumer space. Fitbit, Inc. alone has vast quantities of data – 175 trillion steps, nine billion nights of sleep and more. This provides data rich companies like Fitbit tremendous opportunity. “One of the bigger opportunities that we see in our data is around mental health and neuromuscular diseases,” Park said. Fitbit has the potential to track activities like exercise and sleep, which can be tied to mental health and use screeners to alert customers and their health professionals about their mental health. The biggest obstacle to this is not in technology, but the subset of people

who are uncomfortable with a screening system monitoring their activity; however, this isn’t an insurmountable obstacle – as Park pointed out, programs like Siri and Alexa have become widely popular despite initial concern about their invasion of consumers’ privacy. The way monitoring systems are presented to consumers is crucial: “We have to be thoughtful in the way we introduce it.”

The panel then shifted to a discussion about collaboration between companies to drive behavioral change at scale. Akradi spoke candidly about LIFE TIME and said they alone can’t satisfy the customers of companies like Rally Health, Inc. and Fitbit, Inc.; however, he emphasized the ability of companies like Rally to create mindset changes in consumers, which in conjunction with the services offered by his own company are synergistic. “I think that they [companies like Rally] will motivate people as a whole and some of those people will inevitably become more passionate about something they engage in and will be more willing to go further along with it.” Park added that for companies like Fitbit, Inc., the scale and reach of health plans make them a logical partner. Fitbit, Inc. has worked with over a hundred health plans: “there’s a lot of work that me and others in our category are doing with health plans.” Verstandig agreed and noted the present importance of collaboration between companies like Rally Health, Inc. and Fitbit, Inc.: “If a consumer has a Fitbit, they’re more likely to come back – almost threefold – so we said ‘okay, if you’re a Rally member you can buy a Fitbit for 20% off.’” He noted that partnerships like these help better the overall consumer experience. “Healthcare is the single worst experience sector of the economy. The experience has been fragmented, fractured, and these are opportunities to create a holistic narrative for a consumer, that says okay, now my coach can tell me what I need to do, I can earn incentives, I have a place where I can earn those things, and with people at the gym that have similar interests to me, and I can close the feedback loop by getting good sleep and incentives for that.”

The panel built on this by discussing additional uses for data. Akradi emphasized the importance of privacy policy with data, which is good for consumers, but limits the scope of what a company can do. He distinguished between the two uses of data at Fitbit, Inc.. First, is to expand and improve on their existing algorithms and second is to develop behavioral change programs that nudge people in the right way. Fitbit’s “reminders to move” program is an example of this. He spoke about LIFE TIME’s data on consumers’ utilization of different parts of athletic facilities and as well as race data through Athlinks, and mentioned that data sharing between companies like LIFE TIME and Fitbit would be an interesting opportunity. Verstandig closed the discussion by highlighting two uses for health data – first, the power of social data about consumers who are signing up for health products, and second the potential to combine financial and health data, allowing consumers to preemptively pay for corrective health procedures.



James Park, Fitbit, Inc.

How Will Partnerships Evolve in Healthcare Financing and Delivery?

Panelists: Sam Hazen, CEO, HCA Healthcare, Inc. (HCA)
Dave Wichmann, CEO, UnitedHealth Group Incorporated (UNH)

Moderator: Jon Salveson, Chairman, Healthcare Investment Banking Group, Piper Jaffray

Interoperability is defined as the ability of different information systems, devices or applications to connect within and across organizational boundaries to access, exchange and cooperatively use data amongst stakeholders, with the goal of optimizing both value and clinical outcomes across healthcare. Both payers and providers are focused on advancing healthcare interoperability and reducing regulatory burden to support value-based healthcare. Achieving healthcare interoperability enables providers, payers and administrators to coordinate financing and care delivery to facilitate better patient care. With optimal frameworks and partnerships in place, interoperability can influence the cost and quality of outcomes of patient care regardless of where patients seek treatment. Given their size and reach, both HCA Healthcare, Inc. (HCA) and UnitedHealth Group Incorporated (UHG) are perfectly positioned to improve patient outcomes through business model synergies, innovations and data exchange alignment.

David Wichmann, CEO of UnitedHealth Group Incorporated, started the discussion by stressing the importance of data and pricing transparency to improve healthcare payment systems to influence patient care delivery and clinical outcomes. Wichmann discussed how the evolving partnership with HCA can shape product designs that address payment systems, clinical data exchanges and reduce administrative burden to transform existing healthcare delivery models.



Dave Wichmann, UnitedHealth Group Incorporated



Sam Hazen, HCA Healthcare, Inc.

The UHG and HCA partnership is an example of a collaboration whereby their combined scale and size not only benefited patient outcomes but also simultaneously lowered healthcare delivery costs. For example, HCA and UHG instituted initiatives to drive healthcare efficiency through data exchange. UHG's ability to process trillions of transactions and get to patient-level details in each episode of care is synergistic with HCA's EMR data on individual patients. When combined, both organizations can identify opportunities and gaps to significantly improve patient care experience, lower financial costs and enhance clinical outcomes through efficient care delivery.

Wichmann then went on to identify fragmentation in the patient care experience as being a key area of opportunity for both HCA and UHG. The discussion focused on how re-defining primary care, aligning on economic incentives and engaging consumers on the same data sets will be critical to re-shape the healthcare ecosystem. Convenient locations, real-time patient data, measurement of efficiency and outcomes are all critical to achieve consistent clinical outcomes. Wichmann emphasized, "while other companies support patients outside of the healthcare environment, HCA and UHG have a rare opportunity to collaborate and support large volumes of patients directly at the point of care."

The panel then shifted to identify business synergies between UHG and HCA. Wichmann identified three (3) key areas that have the potential to re-shape finance and delivery in healthcare:

1. *Pricing and data transparency:* With UHG's ability to break down the full continuum of care and its ability to process trillions of healthcare transactions, being transparent about price can significantly help both UHG and HCA deliver high-quality care to their patients and members.
2. *Consistent measurement of clinical outcomes:* UHG and HCA can align on key metrics through data exchange of patient level electronic health records.
3. *Interoperable partnerships:* The lack of data standards, stakeholder coordination, and industry-wide enforcement are major obstacles to true interoperability. This results in compromised health outcomes. Given these facts, the ability to exchange and then use data in real-time will become a key area for partnership for large organizations such as UHG and HCA.

"We [UHG] are focused on reducing administrative barriers to achieve interoperability, alignment and keeping patient experience and outcome central to our goals" concluded Wichmann.

Sam Hazen, CEO of HCA Healthcare, Inc. joined Wichmann's dialogue and discussed how leveraging data provides an opportunity to fix inefficiencies that exist in financial and care delivery systems in healthcare. "We have a huge repository of data on patients, but UHG has the data to attack inefficiencies," said Hazen. He highlighted the problem of enormous clinical variation in the patient pathways and how data can help make more consistent and efficient clinical decisions. Hazen emphasized the critical role providers play in attacking inefficiencies and discussed ways to empower front-line staff through data to reduce these areas of inefficiencies within the healthcare system. For example, Hazen mentioned how HCA created an algorithm to detect and identify early sepsis in ICU patients. The technology has helped save over 8,000 lives and supports HCA's efforts to drive continuous learning and improvement through real-time data.

The discussion then pivoted to identify cost saving opportunity and competing factors for both HCA and UHG as a result of their partnership. Hazen discussed how this partnership entails a two-way street—UHG has enormous capabilities to drive efficiency, data and outcome while HCA has the means to deliver this through their provider networks. **Jon Salveson, chairman, healthcare investment banking at Piper Jaffray**, asked if there were any areas of competition between the two organizations, Hazen replied, "I don't see significant competing areas here. There is not much deviation in UHG and HCA's larger goals. There is more alignment than competition. Our revenue is UHG's cost in some cases, but we can drive that cost downwards through efficient outcomes. Our core opportunities are so much greater when we are aligned on the big picture. We are in 45 different

markets and can reach more patients. Healthcare still tends to be localized and UHG and HCA will respect that as they re-shape healthcare."

The dialogue shifted to UHG and HCA's long-term goals and how their collaboration will contribute to a better healthcare system. "We have to drive a better partnership and greater alignment to get there," said Wichmann, who is driving his organization to focus on a Net Promoter Score of 70 in the near-term. "The partnership will be essential – we have to drive towards a materially lower cost healthcare system. Cost per capita is way too high in the U.S., and we need to bring that down to address both patients and cost outcomes," said both Hazen and Wichmann. Hazen discussed that the future will involve taking care of sicker and poly-chronic patients. "We are the largest provider of trauma care in the U.S. We can be a solution set for patients everywhere," said Hazen.

From a value-based healthcare standpoint, the panel agreed that digital technologies and mobility delivered via highly skilled providers will play a big role in executing value-based payment and clinical models. "Our highest performing practices within the Medicare Advantage plan are those that are designed on value-based healthcare," said Wichmann.

The panel concluded with a discussion on political influence in healthcare. Government will be a larger purchaser of healthcare plans and politics will grow naturally because of the sponsorship of more people being covered by healthcare. In general, American consumers are not satisfied with healthcare and public-private partnerships can drive meaningful solutions in this space. Focusing on patient outcomes was identified as the single most important goal for UHG and HCA's partnership to drive meaningful change in healthcare.



Sam Hazen, HCA Healthcare, Inc.; Dave Wichmann, UnitedHealth Group Incorporated; Jon Salveson, Piper Jaffray

Piper Jaffray Analyst Rapid Roundtable: Leading Trends and Emerging Companies by Sector

Panelists: David Amsellem, Senior Research Analyst, Piper Jaffray
Bill Quirk, Senior Research Analyst, Piper Jaffray
Tyler Van Buren, Senior Research Analyst, Piper Jaffray
Sean Wieland, Senior Research Analyst, Piper Jaffray

Moderator: Mike Cox, Co-Head of Global Equities, Piper Jaffray

The analyst rapid roundtable began with a discussion about key emerging themes within various sectors of healthcare. **David Amsellem, senior research analyst, Piper Jaffray**, who covers pharmaceuticals and generics, began by highlighting younger consumers' growing willingness to pay for medical aesthetics. "We thought medical aesthetics historically was Botox and Neuromodulators [...] over time you're going to see the technology used for aesthetics and wellness broaden considerably, as the audiences that want to consume these products widens." This has led an increasing number of companies to pivot into consumer facing cash pay businesses, a trend he believes will continue. With a wider audience of consumers willing to spend, he forecasted that the pace of innovation will grow and products that allow body contouring, have medical dermatological aspects, or incorporate the use of cannabis for a range of ailments will become more common.

Bill Quirk, senior research analyst, Piper Jaffray, who covers medical diagnostics, turned the discussion to the growing importance of synthetic biology. Quirk stated, "I think [synthetic biology] can be very disruptive for multiple industries". Technology like next generation sequencing and DNA synthesis has already had an important impact on the health industry, and as the field



David Amsellem, Piper Jaffray



Bill Quirk, Piper Jaffray

continues to grow, he believes that many of the synthetic biology industry's private companies will go public. "We view this as a multi-hundred-billion-dollar opportunity domestically by 2022."

Tyler Van Buren, senior research analyst, Piper Jaffray, who covers biotech, followed Quirk by reemphasizing the growing importance of cell therapy. Today, there are nearly 300 public and private companies in the cell therapy market. Additionally, it is estimated that \$30 billion has been invested in the cell therapy market. Three critical themes are currently emerging in the cell therapy market. First, a tremendous number of cell types are being explored. This has broad ranging implications for both the efficacy and the safety of medical solutions. Second, Van Buren stated that he estimates that "of the 300 public and private companies only a handful have the resources to scale-up and launch a commercial stage product". Lastly, there is a significant potential for growth in the solid tumor space. Cell therapy has already had some success addressing solid tumors, and given the myriad of approaches, Van Buren stated he is "optimistic that the space will be opened up."

Sean Wieland, senior research analyst, Piper Jaffray, who covers healthcare information technology, concluded the opening

round of questions by highlighting potential uses of data in the healthcare space. “I think the opportunity in the health IT space is around taking the immense amount of data that’s being generated [...] and putting it into ways that are accessible and integrating it into the clinical workflow, and have it form the system.”

The discussion then shifted from key emerging themes in healthcare to the opioid crisis. When asked who is to blame for the opioid crisis, Amsellem emphasized that the crisis was a broad societal failure rather than exclusively due to pharmaceutical companies. Within the pharmaceutical space, Amsellem drew a distinction between companies that actively promote brand opioid products and companies that distribute generic opioid products. “Both kinds of companies are now in the legal crosshairs. On the generic side [...] they are not perpetuating demand for opioid products and are not in a whole lot of trouble so to speak.” Wieland built on Amsellem’s answer by addressing how healthcare IT companies could work to fix the problem. “There are interesting AI capabilities in terms of analyzing social determinants and figuring out who could be susceptible to [addiction].” In addition to this, Wieland added that healthcare IT companies could help prevent opioid deaths from occurring by identifying the additional adverse effects the drugs might have. Addressing the top of precision oncology, Van Buren emphasized how important broadened testing would be to the market opportunity of different companies within the space. Quirk added that roughly 50% of oncology patients are treated at medical centers and of those patients 20-25% have access to new sequencing technologies. Quirk also added that more FDA approvals of oncology panels and Medicare as well as Medicaid’s new coverage of testing for Next Generation Sequencing tests would create tremendous market opportunity for oncology in the future.

Quarterly trial enrollment is crucial for development stage biotech and pharmaceutical companies. Wieland noted that trial enrollment is often where trials fails, because for specialty drugs



Sean Wieland, Piper Jaffray

it can be difficult to find the right patients. Wieland continued by emphasizing the importance that data plays in helping companies find the right patients for trials. “The key is having enough of a granular data set to be able to find [...] the needle in the haystack for what the emerging pipeline looks like.” Van Buren added that from a therapeutics perspective, the pace of enrollment in trials is something that investors often look at to gauge market opportunity for different drugs. Amsellem agreed and suggested that the pace of enrollment in trials serves as a proxy for how pressing the unmet needs of a company is trying to address is. “If the pace of enrollment slows, there is an inherent disconnect between what the management team is saying and reality.”

The panel concluded with a series of quick top stock ideas from each panelist:

- Wieland selected Tabula Rasa, which he believes has positioned itself on the right side of history by addressing adverse drug events and with the right execution has a bright outlook.
- Van Buren chose Biohaven Pharmaceutical and emphasized the tremendous size of the market for migraine solutions. Additionally, he pointed to the fact that there is currently only a single class of drugs on the market to address patient demands. Further, Biohaven has tremendous potential to capitalize on this unmet market need when they launch in six months.
- Quirk selected CareDx, which tests for kidney transplant rejection. He believes the company can become “the transplant company from a diagnostic standpoint,” and with that become profitable.
- Amsellem chose Horizon Pharma and praised their reinvention from focused on older, reformulated drugs to more novel rare disease assets. He believes they have positioned themselves for significant growth. This example highlights “how a company can reinvent themselves in a challenging environment.”



Tyler Van Buren, Piper Jaffray

International Perspectives on Investing and Partnerships

Panelists: Abhijeet Lele, Managing Director, Life Sciences, Temasek Holdings (private)
Abdulla Al Shamsi, Head of Healthcare, Mubadala Investment Company (private)
Dave King, Chairman, CEO & President, Laboratory Corporation of America Holdings (LH)

Moderator: J.P. Peltier, Global Group Co-Head, Healthcare Investment Banking, Piper Jaffray

“How can we provide healthcare to the masses, and really drive the opportunity for access and the quality of care that every human life should be able to get a hold of?”

– ABDULLA AL SHAMSI, HEAD OF HEALTHCARE,
MUBADALA INVESTMENT COMPANY

J.P. Peltier, global group co-head, healthcare investment banking at Piper Jaffray kicked off the panel by asking the three guests to comment on how they view partnership, and how it factors into the success of their business. For **Abdulla Al Shamsi, head of healthcare at Mubadala Investment Company**, partnership is all about the long-term vision. In order to bring quality care to the United Arab Emirates (UAE), Al Shamsi and his team look to specific markers for partnership; namely having shared values, like mindedness and being driven to do good for humanity. There has to be a desire to solve problems, not just earn profit.

So, what does this look like? The partnership formed between Mubadala Investment Company (Mubadala) and Laboratory



Abdulla Al Shamsi, Mubadala Investment Company



Dave King, Laboratory Corporation of America Holdings

Corporation of America Holdings (LabCorp) serves as a prime example. The two companies joined forces after LabCorp demonstrated their interest in learning what it is like to work in a region that is developing its healthcare infrastructure. At that time, the UAE was spending somewhere between \$2 – 3 billion a year to send citizens abroad to get access to healthcare. Al Shamsi explained that this was not an issue of care being too expensive, or there being a demand surplus—simply just a lack of supply. Shortly after forming the partnership, LabCorp opened a state-of-the-art facility in Abu Dhabi in efforts to bring the highest quality of care to patients. Since then, as **Dave King, chairman, president & CEO of Laboratory Corporation of America Holdings**, puts it, the focus has been on, “how do you serve physicians and patients in an environment, which, in many ways, is very similar to the United States, and in just so many ways is fundamentally different?” The solution to this question is not simple. Digital health records are something Americans have come to understand as standard when receiving healthcare. In regions such as the UAE, electronic health records are virtually non-existent. Furthermore, direct engagement with patients is relatively unknown and demands for testing are different from in the U.S. How do leaders such as King and Al Shamsi get around this? Through partnership and effective intellectual capital transfer.

The process of intellectual capital transfer involves having a local partner, explains King. For the first few years in the UAE, LabCorp had a local general manager that worked closely with the local team. This “boots on the ground” strategy was critical towards getting the trust and buy-in from the local people. It also played a crucial role in ensuring quality was meeting the highest standards. Something they noticed in one of their early reviews was clinicians using the laboratory water baths to cook rice for lunch. As a result of fostering a relationship with a local partner, King and his team were able to manage the best practices within the labs and make sure effective transfer of intellectual capital occurred – generating consistency and the highest standard of quality.

Abhijeet Lele, managing director, life sciences at Temasek Holdings, expressed similar priorities when looking at the landscape in China and India. “There is tremendous regional variation between China and India – so having a presence on the ground to help companies find quality/reliable local partners is, [...] a key source of the value we add.”

At the end of the day, one of the most important principles towards a successful partnership is patience. As Al Shamsi puts it, “like in any good marriage, patience is a very important part of the discussion.” Further when investments are made, there needs to be an aspect of patience coupled with transparency. Not all investments have been so fruitful for Mubadala—the ones that were not successful can more times than not be pointed to a lack of transparency between the two parties.

When dealing with foreign countries, there is obviously going to be a “lost in translation” moment ... or two. All three panelists emphasized that good investments, created from solid partnerships, require a considerable amount of time to ensure both sides are fully aligned.



Abhijeet Lele, Temasek Holdings; Abdulla Al Shamsi, Mubadala Investment Company; Dave King, Laboratory Corporation of America Holdings; J.P. Peltier, Piper Jaffray



Abhijeet Lele, Temasek Holdings

Digital Disruption in Healthcare: How Do Leaders Find the Right Balance Between Partnerships, Investments and Developing Their Own Capabilities?

Panelists: Andy Conrad, CEO, Verily Life Sciences LLC (Part of Alphabet Inc.)
Mark Ganz, CEO & President, Cambia Health Solutions, Inc. (private)
Steve Rusckowski, Chairman, President & CEO, Quest Diagnostics (DGX)

Moderators: Stacy Enxing Seng, Lightstone Ventures, former President, Vascular Therapies, Covidien (private)
Steve Oesterle, M.D., NEA, former SVP, Medicine and Technology, Medtronic plc (MDT)



Steve Rusckowski, Quest Diagnostics

As the world is transforming to digital and technology has the potential to transform the way we live, there is a growing appreciation for the need to disrupt the healthcare system. **Steve Rusckowski, chairman, president & CEO of Quest Diagnostics**, believes that the healthcare system is currently at an inflection point, and consumers and patients are demanding a different approach. The key, Rusckowski believes, will be to bring into healthcare more tailored consumer oriented delivery options. Additionally, Rusckowski explained that there is a growing expectation that the data consumers find so accessible elsewhere in their life will be required in healthcare. **Mark Ganz, president & CEO of Cambia Health Solutions, Inc.** shared the story of his brother, who recently suffered a serious accident. While Ganz was very impressed by the treatment his brother received, he mentioned there was a great deal of friction in the overall experience. Even with immense knowledge of the healthcare system and the relationships that he tried to leverage to facilitate a seamless discharge for his brother, it was still extremely difficult. The difficulty of this situation is further compounded for those individuals that lack an intimate knowledge of the healthcare system.



Mark Ganz, Cambia Health Solutions, Inc.

While there are a number of issues that are currently plaguing the healthcare system, it is clear that better harnessing the power of data will be key to its ultimate transformation. Moderator **Steve Oesterle, NEA, former SVP, medicine and technology at Medtronic plc**, told a story about who he views as being Medtronic's greatest competitor. Instead of naming a company like Boston Scientific, Oesterle speculated that Google would be the largest healthcare company in the world within the next decade. He believes that Google will dominate the healthcare arena due to their ability to harness data. Google is best positioned to disrupt the healthcare system given their exceptional ability to harness data.

Given the amount of work that is required to disrupt the healthcare system, organizations are faced with the decision to develop solutions internally or collaborate with more experienced organizations. **Andy Conrad, CEO of Verily Life Sciences LLC** (Alphabet Inc.'s research organization) has taken in billions of dollars of investments from corporations such as Johnson and Johnson. Part of the impetus for forging relationships with these established healthcare companies is the belief that technology

companies often have a sense of arrogance that technology is capable of solving all problems. Given this fact, Google has consciously tried to forge a different path. For example, Google created Google Health as a means to allow patients to store their health records. This approach was meant to replace the previous method whereby patients previously printed and hand delivered more than 50 pages of documents at a time to their doctors. Furthermore, Google felt this previous method of record sharing was completely ineffective and it was possible to see the naivety of an engineer injecting themselves into a healthcare company without any of the wisdom or knowledge that the incumbents had. Verily made a decision early on to partner with companies and stick to only their expertise. Conrad believes that technology has the tendency to think that their expertise can easily transfer into other areas outside of technology. When asked about why Verily decided to pursue partnerships instead of pursuing initiatives internally, Conrad stated, “there is something good about a company with 130 years of experience in something. We have no experience in anything. We are 20 years old so we can’t have a lot of wisdom about anything.”

Cambia Health Solutions, Inc. was founded more than 100 years ago and currently insures over 3 million people and employs numerous technology solutions. While Ganz believes that health insurance companies are not meant to be a platform for creating an end-to-end consumer experience, he does believe they can offer invaluable insights into the needs of individuals and their families. Further, a transformation in healthcare is possible when there is a sharing of expertise between healthcare giants and technology leaders like Verily.

The creation of a successful partnership within the healthcare ecosystem is challenging. To this end, Ganz discussed the importance of first understanding a company’s own recipe prior to forging a relationship. He emphasized that at a minimum a potential partner must “be pointing their north star in the general direction as Cambia’s for it to be an effective partnership.” Additionally, Ganz highlighted the need to embrace new entrants into the space and views them as potential partners instead of competitors. Furthermore, it will be important for technology and healthcare companies alike to unite and solve the issues that are plaguing the healthcare industry today.



Andy Conrad, Verily Life Sciences LLC; Mark Ganz, Cambia Health Solutions, Inc.; Steve Rusckowski, Quest Diagnostics; Stacy Enxing Seng, Lightstone Ventures; Steve Oesterle, M.D., NEA



Andy Conrad, Verily Life Sciences LLC

Innovations and Breakthroughs in Medical Device Technologies

Panelists: Mike Mahoney, Chairman & CEO, Boston Scientific Corporation (BSX)
Kevin Lobo, Chairman & CEO, Stryker Corporation (SYK)
Scott Drake, President & CEO, ViewRay, Inc. (VRAY)
Vince Forlenza, Chairman, President & CEO, Becton Dickinson & Company (BDX)

Moderator: Matt O'Brien, Senior Research Analyst, Piper Jaffray

There has been significant change in the medical device industry over the last decade. In many respects, there has been more change within the medical device industry in the last decade than over any period previously. Given this rapid period of change, how do longstanding, industry titans, like Boston Scientific, Becton Dickinson and Stryker continue to adapt to the changing system? How does an up-and-coming company like ViewRay break into the industry? What drives innovation from within a company? Given today's start-up culture, how does a company know when to look externally to acquire innovation? On this panel, moderated by **Matt O'Brien, senior research analyst, Piper Jaffray**, the panelists sought to answer these questions and explain their strategies of both surviving and thriving in an era of rapid change.

Large multinational corporations employ a number of strategies to spur innovation. Chief among these is a mixed model of external acquisitions and internal research and development (R&D). **Vince Forlenza, chairman, president & CEO of Becton Dickinson & Company**, stated that when Becton Dickinson looked to expand their point-of-care diagnostics program, they turned outward to evaluate 76 start-ups in the space. To evaluate each of these opportunities, it was essential for Becton Dickinson to have a strong internal point-of-care diagnostics program, themselves. **Kevin Lobo, chairman & CEO of Stryker Corporation**, also



Vince Forlenza, Becton Dickinson & Company



Kevin Lobo, Stryker Corporation

illustrated how Stryker has been using this model well – Stryker Corporation has completed over 50 acquisitions in the past six years, while simultaneously increasing internal R&D expenditure. The panelists seemed to agree, a company's internal R&D engine and ability to analyze external opportunities work hand-in-hand.

The mixed model strategy unsurprisingly works for Stryker, because Stryker Corporation has been methodically improving their R&D program. Recently, Lobo explained, Stryker Corporation began systematically tracking R&D spend, while using a decentralized R&D model. In this model, each of Stryker's businesses receives an R&D budget that is in-line with its competitors. A portion of this R&D spend is allocated towards making incremental product improvements, while a portion is set aside to digitize the business and to make game-changing product developments. This allows Stryker's business units to make both incremental improvements and to make disruptive advances.

The panelists also discussed the importance of enforcing a culture of innovation. Forlenza laid out the key ingredients, to fostering a culture of innovation at Becton Dickinson & Company. First, it is important to start with a purpose driven culture and help employees realize the impact they are having on the world's

healthcare system. Second, it is important to not innovate sporadically, but instead to create a portfolio of innovative projects. Third, it is management's responsibility to decide when to scale back and when to scale up on each of those projects. Fourth, it is critical to never punish the failures. Rather Forlenza noted that, "you [have] to celebrate the hell out of it when you get it right."

Another strategy, championed by **Mike Mahoney, chairman & CEO of Boston Scientific Corporation**, is to create a disruptive technology in one industry and use that new capability to disrupt adjacent industries. Recently, Boston Scientific created disposable scope capabilities in their urology business. Boston Scientific now feels that they can utilize their unique single-use scope capabilities created in the urology business, to disrupt the \$2 billion rigid endoscope market.

Given the toolkit utilized by large industry incumbents, it can make the medical device industry's competitive barriers to entry seem impossibly high for entrants. However, **Scott Drake, president & CEO of ViewRay, Inc.**, explained how a once small startup like ViewRay, is finding growth in this fiercely competitive industry. A year ago, Drake explained that ViewRay, Inc. was able to answer yes to both of these questions: 1) is their technology a step function greater than the current state of play? 2) Can the company break into the market place commercially? After answering yes to both questions, Drake felt ViewRay was well positioned to develop their innovative technology further.

The panelists suggested that the rapid rate of change in medical devices would continue for the near future. When asked what we should expect for the future of medical devices, the panelists indicated that tomorrow's world would be full of innovation. It will include more 3D printing, robotics, advanced imaging, digitization and better use of data. The strategies that these companies implement, in order to spur this innovation internally, and to deal with external innovation, will dictate who fails, survives, and thrives in tomorrow's world.



Scott Drake, ViewRay, Inc.



Mike Mahoney, Boston Scientific Corporation

How Should the Healthcare Industry Adapt to the Cyclical Politicization of Healthcare?

Panelists: Erik Paulsen, former U.S. House of Representatives
Stephen Ubl, President & CEO, PhRMA (private)
Scott Whitaker, President & CEO, AdvaMed (private)

Moderator: Cory Alexander, EVP, Corporate Affairs, UnitedHealth Group Incorporated (UNH)

Healthcare access, coverage and cost are at the forefront of public debate. Establishing an ecosystem focused on innovation is paramount to regaining trust in a political system built for targeted reforms that may not necessarily identify solutions to broader issues. Promoting partnership between elected officials and those developing cures is a key ingredient toward enacting meaningful incremental policy change. The panel moderated by **Cory Alexander, EVP of corporate affairs at UnitedHealth Group Incorporated**, addressed the ability of Congress to enact incremental change, promote collaboration between government officials and the private sector, and identify areas of focus during times of political paralysis.

Scott Whitaker, president and CEO of AdvaMed, addressed the question of how do we bring healthcare industry participants to the table to better understand what they are doing so that government can work with them to find solutions. Whitaker pointed to Medicare Part D as an example where stakeholders partnered together to implement meaningful policy. Medicare Part D originated from the realization that prescription drug cures for the most complex diseases were not available to most seniors. To find a solution, Whitaker stated, “first, you have to set-up a government funded program and secondly, a partnership with people who are actually creating the cures in order to make it



Scott Whitaker, AdvaMed



Stephen Ubl, PhRMA

work for both [manufacturer and the end-patient].” Whitaker expressed that a successful policy creation approach, as in the case of Medicare Part D, is private sector based with government oversight, monitoring, and funding and individual interest. Further Whitaker said, the politics of this process are rough, but often produce the best outcomes. Whitaker has found with regards to the medical device industry, the people surrounding the President have been understanding and open to hearing what issues exist with not only government agencies but also from the FDA regulatory process and CMS with the reimbursement process.

The conversation shifted to addressing the healthcare industry’s challenges with public perception. **Stephen Ubl, president and CEO of PhRMA**, addressed the negative public perception of drug companies. Ubl stated that improving the biopharmaceutical industry’s public perception depends on setting cultural expectations that industry leaders and elected officials can work together. **GOBOLDLY**, a campaign PhRMA with the help of Ubl initiated in early 2017, displays the biopharmaceutical industry’s scientists driving advances in cures for the most complex diseases. The campaign has made strides in convening healthcare dialogue on a national stage by educating actors of the work and resources dedicated to developing the next standard

of care. Ubl expressed the importance of company executives coming together with Congress members and scientists that are developing the cures to find the best solution to the pocket-book issue in the healthcare industry.

Panelists commented on which players are most likely to enact policy change in the coming decade. **Erik Paulsen, former U.S. House of Representatives**, believes “you are going to see the states come up with more ideas in terms of being the laboratories.” Paulsen expressed that Congress members at the federal level who are exposed to stakeholders pointing fingers are more likely to enact policy that is aimed in the wrong direction. Rather, Paulsen proposed that the real solution is that the federal government should play a role in properly aligning incentives at the state-level and promote a similar structure under which Medicare Part D was passed with state and private sector participation. Ubl expressed that the system today is built for targeted reforms meant to satisfy a specific issue or unmet need. “Of the targeted reforms that have gained traction both at the federal and state-level, the common-denominator is what patients pay out of pocket”, Ubl explained. Ubl highlighted the “surprise billing” discussion in Washington where policy can address the misalignments in the supply chain whereby hundreds of millions of dollars in discounts and rebates are not realized by patients at the pharmacy counter. Ubl continued in stating that such issues will drive targeted policy at the edges over the next decade. Whitaker defended that the most incremental change in the next decade will be seen in the regulatory process. Appropriations bills are passed and regulations bills are issued regardless of political gridlock. According to Whitaker, much of the monumental policy is reactive to regulatory bills which are passed out of a necessity as healthcare innovation unfolds.

In closing, Alexander asked Ubl and Whitaker what the urgency is in redefining the industry’s image and aligning incentives as “Medicare for all” gains traction? Ubl expressed that when the government sets the price, investment in research and development dries up as was the case in the U.K. Whitaker expressed that most believe “Medicare for all” will not be implemented. “Aligning on solutions is much harder than aligning in opposition to a bad idea” Whitaker stated that, “solutions start by aligning around the bad idea and then finding a solution that is not quite as bad.” More likely the debate will shift back toward one that defines what a public auction is for individuals without access to healthcare now.

Final panelist remarks expressed a common theme that public policymakers and industry leader partnership is critical to expanding affordable healthcare access and coverage to the end-user.



Erik Paulsen, former U.S. House of Representatives

How is Pharma-Grade Cannabis Impacting Healthcare Today and How May This Evolve in the Coming Years?

Panelists: Mark Castaneda, CFO & Treasurer, Tilray, Inc. (TLRY)
Jeff Chen, M.D., Executive Director, UCLA Cannabis Research Initiative
Kyle Kingsley, M.D., Chairman & CEO of Vireo Health International Inc. (VREO)

Moderator: Rita Wang, Director, Investment Banking, Piper Jaffray



Jeff Chen, M.D., UCLA Cannabis Research Initiative

Although the regulatory environment continues to evolve, the healthcare industry still faces significant challenges in their ability to bring the benefits of pharma-grade cannabis to market. **Jeff Chen, M.D., executive director of UCLA Cannabis Research Initiative** explained, “restrictions around research have been due to the classification of cannabis as a class 1 drug which limits funding and makes conducting research very difficult.”

The panel began with a discussion on the challenges when conducting research and clinical trials in addition to how the panelists view the future regulatory framework governing the cannabis industry. **Kyle Kingsley, M.D., chairman & CEO of Vireo Health International Inc.** described his company having, “an aggressive approach on the research side which will continue to expand as the government regulations change.” Research to date is indicative of cannabis providing numerous benefits but it was clear from various discussions that we are at the forefront of widespread adoption of cannabis as a medical product.

The discussion shifted focus from policy to product as our panelists described the potential benefits cannabis can bring to patients. All three panelists were aligned in their belief that cannabis can serve as a replacement to opioids. Outside of



Kyle Kingsley, M.D., Vireo Health International Inc.

addiction treatment, **Mark Castaneda, CFO & treasurer of Tilray, Inc.** listed his view on the three largest opportunities for cannabis to make a difference in the lives of patients:

1. Pain and pain management
2. Cost savings
3. Quality of life

Chen expanded on these opportunities and highlighted the potential benefits and therapeutic effects to cluster within the neurological and psychiatric realm. Mood disorders and anxieties are the second or third most commonly reported reason for using medical cannabis. In the neurologic space, cannabis based treatments consist of treating symptoms caused by traumatic brain injuries in addition to slowing down and/or preventing neurodegenerative diseases.

The discussion progressed further into other areas that will be heavily influenced by innovation. Chen explained how the development of delivery methods will experience significant growth specifically around creating meter dose inhalation devices that provide a consistent and predictable dose. Oral dosage forms tend to be erratic and variable, which will focus development

efforts towards creating these inhalation devices. In addition to delivery device innovation, Castaneda added that in the long-term we will want different products for different things and there advancements to be made in product research and development to gain understanding of how to dial in certain types of responses which will increase the applications of cannabis as a medical product.

Specifically in the United States market, one of the biggest challenges facing the industry is derived from an undeveloped product manufacturing infrastructure. Products across the United States are not consistent which causes patients and consumers to have different product experiences. Consumers want predictability and consistency both in how it's delivered and absorbed which can be developed through standardizing the underlying formulation. Products that can provide a predictable experience will be a key characteristic of a successful product in this space. A regulatory framework that supports the development of cannabis as a medical product will create consistent product standards and help build a stable manufacturing footprint.

The final discussion topic our panelists provided insight into was their view on the biggest risks and challenges to the development of the pharma grade market for cannabis. Kingsley reiterated his view that regulatory issues, specifically in the United States, will continue to hinder the growth of this market. Another challenge discussed was standardizing the cultivation and the industry's ability to grow and extract the compound in a consistent fashion.

It is clear this industry faces near-term regulatory challenges but the widespread adoption of cannabis will grow as the benefits of medical cannabis continue to be explored and discovered.



Mark Castaneda, Tilray, Inc.



Mark Castaneda, Tilray, Inc.; Jeff Chen, M.D., UCLA Cannabis Research Initiative; Kyle Kingsley, M.D., Vireo Health International Inc.; Rita Wang, Piper Jaffray

A Special Thank You to All Our Panel Participants

- Bahram Akradi, Founder, Chairman & CEO, LIFE TIME (private)
- Abdulla Al Shamsi, Head of Healthcare, Mubadala Investment Company (private)
- Cory Alexander, EVP, Corporate Affairs, UnitedHealth Group Incorporated (UNH)
- Jack Bailey, President, US Pharmaceuticals, GlaxoSmithKline plc (GSK)
- George Barrett, former Chairman & CEO, Cardinal Health, Inc. (CAH)
- Robert Bradway, Chairman, President & CEO, Amgen, Inc. (AMGN)
- Giovanni Caforio, M.D., Chairman & CEO, Bristol-Myers Squibb (BMY)
- Mark Castaneda, CFO & Treasurer, Tilray, Inc. (TLRY)
- Jeff Chen, M.D., Executive Director, UCLA Cannabis Research Initiative
- Andy Conrad, CEO, Verily Life Sciences LLC (Part of Alphabet Inc.)
- Scott Drake, President & CEO, ViewRay, Inc. (VRAY)
- Ken Ehlert, Chief Scientific Officer, UnitedHealth Group Incorporated (UNH)
- Stacy Enxing Seng, Lightstone Ventures, former President, Vascular Therapies, Covidien (private)
- Vince Forlenza, Chairman, President & CEO, Becton Dickinson & Company (BDX)
- Mark Ganz, CEO & President, Cambia Health Solutions, Inc. (private)
- Jason Gorevic, Director & CEO, Teladoc Health, Inc. (TDOC)
- Alex Gorsky, Chairman & CEO, Johnson & Johnson (JNJ)
- Alexander Hardy, CEO, Genentech, Inc. (Division of Roche Holding AG)
- Sam Hazen, CEO, HCA Healthcare, Inc. (HCA)
- Sami Inkinen, Founder & CEO, Virta Health, Inc. (private)
- Bret Jorgensen, Chairman & CEO, MDVIP Inc. (private)
- Dave King, Chairman, CEO & President, Laboratory Corporation of America Holdings (LH)
- Kyle Kingsley, M.D., Chairman & CEO of Vireo Health International Inc. (VREO)
- Abhijeet Lele, Managing Director, Life Sciences, Temasek Holdings (private)
- Kevin Lobo, Chairman & CEO, Stryker Corporation (SYK)
- Mike Mahoney, Chairman & CEO, Boston Scientific Corporation (BSX)
- William McKeon, President & CEO, Texas Medical Center (private)
- Steve Oesterle, M.D., NEA, former SVP, Medicine and Technology, Medtronic plc (MDT)
- James Park, Co-Founder, Chairman & CEO, Fitbit, Inc. (FIT)
- Erik Paulsen, former U.S. House of Representatives
- John Prince, CEO, OptumRx, Inc. (Part of UNH)
- Steve Rusckowski, Chairman, President & CEO, Quest Diagnostics (DGX)
- Kevin Sayer, Chairman, President & CEO, DexCom, Inc. (DXCM)
- Stephen Ubl, President & CEO, PhRMA (private)
- Grant Verstandig, Founder, President & CEO, Rally Health, Inc. (Part of UNH)
- Penny Wheeler, M.D., President & CEO, Allina Health Systems, Inc. (private)
- Scott Whitaker, President & CEO, AdvaMed (private)
- Dave Wichmann, CEO, UnitedHealth Group Incorporated (UNH)

