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BOOK CLUB SYNOPSIS

Moonshot: Inside Pfizer's Nine-Month Race to Make the Impossible Possible

Dr. Albert Bourla

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PREFACE

LUCK NEVER COMES TO THE UNPREPARED

In early 2018, Dr. Albert Bourla was named chief operating officer of Pfizer. His focus in the position was growth, and his motto became "growth never just happens—it is created." He aimed to drive growth by positively impacting the lives of the patients Pfizer served, and to do so required transforming the company into one that was patient-centric and focused on innovation and science.

By the following year, Bourla was named CEO of the company and drove forward a massive reorganization, including selling off several of Pfizer's businesses. Despite concerns from within the organization, Bourla was dedicated to optimizing the company and had a clear vision for its future. One critical decision was to acquire several biotech companies. He also sought to digitize R&D at Pfizer to shift the company's focus to scientific innovation.

Bourla believed that for the company to succeed, Pfizer needed to be prepared to take bigger risks and to think more boldly to foster innovation. To do this, Pfizer also needed a culture change.

Bourla and top Pfizer leaders gathered two weeks after he became CEO to articulate a vision for the new Pfizer. They landed on Pfizer's purpose: "Breakthroughs that change patients' lives." They later summed up the new vision for Pfizer's culture in four simple words that were shared with employees across the world: courage, excellence, equity and joy.

This work, in turn, created the conditions necessary for Pfizer to later create a lifesaving COVID-19 vaccine in just nine months.

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CHAPTER ONE

BUSINESS NOT AS USUAL

In early March 2020, Bourla and his colleagues at Pfizer decided to focus their efforts on developing a vaccine, as opposed to solely on treatment options. They told the Trump administration about their focus on vaccine development early on, at a time when most companies in the pharmaceutical industry were focused on therapeutics.

As Bourla considered how to best combat COVID-19, he consolidated his thoughts into three priorities that would underpin Pfizer's strategy for months to come.

These priorities were:

1. Safety and well-being of employees.
2. Supply of critical medicines—hospitals.
3. Medical solutions for COVID-19: vaccine and treatments.

Articulating these priorities helped Bourla and his team make decisions quickly. He decided early to close the offices and mandate remote work for employees. He also decided to continue to pay non-Pfizer employees whose work would be impacted by office closures, such as those in the mailroom, security and the cafeteria.

Yet Bourla also recognized a tension in this decision: He had a responsibility to his employees to ensure their safety, but also a responsibility to the world as a health care company. The company relied on a crisis preparedness plan that had been developed years earlier to do what they could to protect the health of employees who would need to continue to work in-person without sacrificing the

organization's broader goals of providing lifesaving medicines to the world.

When considering medical solutions for COVID-19, Pfizer decided to pursue the development of both antiviral treatments and a vaccine; however, money was not budgeted for either of these endeavors, and both would be costly. Bourla quickly decided that financials would have to come second.

"Clearly this is not business as usual. If we miss our budget for a year, no one will remember it the year after. If we miss the opportunity to do something for the world now, we will all remember it forever."

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CHAPTER TWO

WHAT IS OBVIOUS IS NOT ALWAYS RIGHT

Deciding to pursue an mRNA vaccine was neither an obvious choice nor an easy choice for Pfizer. Bourla explains that most vaccines contain weakened, dead or noninfectious parts of a pathogen to trigger your body's defenses and prepare it if it comes in contact with the real pathogen.

But, mRNA vaccines are different. "They contain instructions on how our body could produce proteins that are part of these pathogens' construct." Bourla goes on to explain that, "In a nutshell, mRNA teaches the body to make its own vaccine. The injection is a set of instructions for how to protect yourself."

One of the primary reasons that mRNA vaccines are attractive is because of their inherent flexibility. If new strains of a virus were to arise, scientists could potentially be able to alter the vaccine accordingly.

Pfizer had worked with BioNTech in 2018 on a mRNA influenza vaccine. By early 2020, BioNTech was one of the first companies to study the sequencing of the COVID-19 virus. BioNTech was looking for a partner to pursue an mRNA COVID-19 vaccine effort and reached out to Pfizer.

Simultaneously, internally at Pfizer, the team was trying to decide what vaccine option to pursue. While Bourla found the mRNA technology promising, it was not proven. There were other complications: They would need to negotiate an agreement with BioNTech, which is usually a lengthy process. Even if that could be

done, BioNTech was a small company, meaning that Pfizer would have to take on many of the costs associated with the research, development and manufacturing of the vaccine. If the vaccine failed, Pfizer would take on the losses alone, and if they succeeded, they would have to share the profits.

Ultimately, the Pfizer team decided to pursue the mRNA option. It was riskier and more complicated but also the fastest way to a solution. Bourla called the CEO of BioNTech, Uğur Şahin, and the two decided to begin work immediately, without all the agreements finalized. The two parties simply started with a collaboration agreement, which stated that Pfizer would cover all costs up front but that all costs and profits would later be split 50-50.

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CHAPTER THREE

THINKING BIG MAKES THE IMPOSSIBLE POSSIBLE

Developing a vaccine typically takes years. This includes development, approval, manufacturing and distribution—all of which must follow a tightly regulated process. All vaccines undergo a number of studies before even being tested in humans.

Human clinical trials take place in three phases. By Phase 3, the aim is to get the data needed to receive regulatory approval, which includes measuring the efficacy of the vaccine. Based on the results of Phase 3, a company will either continue the study or stop the study for either futility or efficacy. Once the vaccine's safety and efficacy are established, the team must prepare the necessary documentation for regulatory approval and make preparations for industrial production of the vaccine.

In April 2020, a member of Bourla's team presented a plan that would have the Phase 3 study completed by the second half of 2021. This would mean condensing what usually takes years into 18 months. Another team member, responsible for the manufacturing process, presented an 18-month timeline, as well. But Bourla knew the 1918 influenza pandemic had produced a more lethal second wave, and he feared the "double danger" of flu season occurring during the COVID-19 pandemic. Thus, he pursued an even more aggressive approach, telling his team that they needed the vaccine ready by October 2020.

His team was shocked and felt this was impossible. In an effort to make the seemingly impossible possible, Bourla told his team that money would be no object and that they should rethink everything.

Within a week, the team came back with a new plan that fit his October 2020 timeline.

Several things would look different to make this ambitious plan possible. This included quickly omitting vaccine candidates that didn't seem promising and using a very large number of test participants to ensure they could prove efficacy as quickly as possible. They also selected research sites that would have a heavier COVID-19 disease burden, so the number of participants coming into contact with the virus would naturally be higher and so Pfizer could more accurately determine efficacy and protection.

At the same time, the manufacturing team would start scaling up the manufacturing process even before they knew which vaccine would be chosen. This meant ordering material for all the possible vaccine candidates, even though that might lead to discarding whatever wasn't used.

The manufacturing team also needed to invent and design new equipment that didn't exist and account for the challenge that mRNA vaccines needed to be stored at ultracold temperatures. They came up with innovative solutions for this, as well: They would convert some warehouses into "freezer farms" and would use boxes filled with dry ice for transportation. Recognizing that sourcing that much dry ice could also be a challenge, the team decided Pfizer would manufacture it within its own facilities.

Finally, they would create electronic devices for the boxes that would include GPS, a thermometer and a light detector, allowing the control center to have access to real-time location and temperature information for each box.

Bourla thanked the team for their plans and gave them the go-ahead. "It was a very expensive bet," he writes, but "it was the right thing to do."

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CHAPTER FOUR

LIGHTSPEED

For Pfizer's vaccine efforts to be successful, the team needed to work together and work quickly. Bourla created a team he called "Project Lightspeed." He says, "We needed to replace hierarchical processes, simplify the chain of command, and merge three to four layers of management into one fast-moving project team that could make decisions on the spot." He included members of the research, manufacturing, finance, legal and corporate affairs functions, and the group met twice weekly to allow decisions to be made quickly and efficiently.

Bourla served as "project manager" for the team, asking questions and challenging timelines. He made it clear to his team that time was the issue, not money. He repurposed the adage, "Time is money," into a new phrase: "*Time is life*," which he frequently told his team. "Looking back, I think this attitude—Time is life—was the most important success factor for this project. Setting goals that are very aspirational, goals that someone has never achieved before, can unleash human creativity in phenomenal ways." Bourla believes that by forcing people to completely rethink the way things had been done in the past, they were able to come up with creative solutions.

By May 2020, Pfizer began testing four vaccine candidates in parallel, instead of sequentially as is normally done. By the end of July 2020, they were ready for a combined Phase 2 and 3 trial with more than 46,000 patients in more than 100 sites across six countries.

But before they could proceed with this step of the process, they had to make another difficult decision: They had two promising

vaccine candidates. While one option appeared to be "good enough," the other had less data yet had the potential to be even better. There would be no turning back once a decision was made. Bourla chose the second, riskier option once again.

Then they began the Phase 3 study. With certain minority groups regularly underrepresented in research, Pfizer made it a priority to emphasize diversity in trial participants. They also hoped that this would help overcome vaccine hesitancy. There was yet another reason to prioritize diversity: "to better understand how a therapy or vaccine affects people of different ages, races, ethnicities, and genders, in order to detect any safety or efficacy differences in particular populations."

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CHAPTER FIVE

THE ULTIMATE JOY

In early November 2020, a small team of leaders from Pfizer met in person. The team would learn that day whether they had enough data from the trial to move forward with an Emergency Use Authorization application with the FDA.

Not only were the results promising, but the data also suggested that the efficacy of the vaccine was even higher than they had been targeting: greater than 90% effective, rather than simply north of 60%. With results even better than they imagined, Bourla decided to share the results not only internally with Pfizer and BioNTech leadership, but also with the world.

Before releasing the news publicly, Bourla also contacted Dr. Peter Marks, director of the Center for Biologics Evaluation and Research of the FDA, as well as Dr. Anthony Fauci. The good news, Bourla explains, was particularly impactful for Fauci.

“For all these months, he had stood tall and taken so many blows from the White House and the Department of Health and Human Services. At times it felt that he was the only reliable official voice during this crisis, the one person we could all trust. Now he knew that he had the tools in his hands to turn this pandemic around.”

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CHAPTER SIX

PAST, PRESENT, FUTURE

Bourla is a Jewish Greek immigrant to the U.S. Each of his parents was one of few family members to survive the Holocaust. He retells his family history, noting that it carried increased importance not only because of growing racism and hatred in the world, but also because he wished he could share with them the triumph of creating a COVID-19 vaccine.

On November 9, 2020, Pfizer issued a press release announcing the success of the vaccine trials. The Project Lightspeed team immediately began focusing on filing with the relevant regulatory authorities worldwide and manufacturing the vaccine.

While Bourla received dozens of congratulatory calls from heads of state and other politicians, there were rumors that President Trump was dissatisfied that Pfizer had announced the results just days after the presidential election.

Meanwhile, Bourla saw negative press shortly after the announcement due to a pre-existing plan to sell Pfizer stock once it crossed a certain price. “CEOs can’t just easily sell their shares of the company they run. Because they are aware of so much material information, they may be faced with allegations that their sale is being driven by inside information that is not available to the public.” Bourla’s predetermined limit price was crossed on November 9, and the sale was automatically triggered. But when the media caught wind of the sale, the news portrayed Bourla as having known something ahead of time, casting doubts on his integrity.

Pfizer began filing with relevant regulatory authorities throughout November 2020. The U.K. became the first to authorize the vaccine on December 2, 2020, followed by the U.S., Israel, and the EU. The Pfizer vaccine was the first approved by each of these governments.

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CHAPTER SEVEN

MANUFACTURING, THE SECOND MIRACLE

"Discovering the vaccine in record time felt like a miracle. The second miracle would be our ability to quickly manufacture and distribute it at such scale." While the vaccine was a moonshot, Bourla calls the intricacies of manufacturing a moonshot, as well.

R&D and manufacturing typically happen sequentially. But like testing the vaccine options, Pfizer decided to undertake these two activities in parallel. While more costly, it would allow them to manufacture and distribute the vaccine much faster once a candidate had been chosen and approved.

And while Pfizer's average annual total vaccine production had been 200 million doses, the company would need to produce more, in less time, on a platform that had never been used before. The manufacturing team managed to choose and prepare sites for manufacturing the vaccine—and tried to ensure that there were two facilities doing every step of the process so that production would not be interrupted.

Yet there was another complication that Pfizer did not necessarily anticipate: Rising nationalism meant that some countries blocked the export of ingredients that were needed to manufacture the vaccine. As a result, the manufacturing team also needed a redundant supply chain to ensure there would be no supply chain interruptions.

Pfizer also needed four new kinds of lipids to create the vaccine. To ensure supply, they developed strong working relationships with the companies that produced them, and they also produced some

themselves. Bourla says, "We usually do not produce raw materials ourselves, but this was not business as usual."

The manufacturing complications were numerous, but the team found innovative solutions for all of them. Pfizer started out with an annual goal of 200 million doses, then increased that to 500 million, and then Bourla asked the team for even more. By early 2021, Pfizer made a public commitment to produce 2.5 billion doses by the end of that year.

"If I've learned anything during my twenty-eight years with Pfizer, it is that people will tend to underestimate what they can achieve, and in an organization like ours, the people below them will underestimate a little more. You have to extend yourself. You can do more than you think you can."

After the manufacturing team solved all the production challenges, the global supply chain team had to tackle how to deliver a delicate vaccine that required subzero temperatures. They developed a temperature-controlled thermal shipper that could hold as many as 5,850 doses. Pfizer could track each shipper's location, temperature and light exposure. They used a global security team to monitor risks to the shipment and relied on a variety of shipping companies.

But then there was the "last-mile problem" of actually getting the vaccine into cities or remote areas and then to hospitals or pharmacies and finally into patients' arms. Just 269 days after Pfizer started development, the first person got her COVID-19 vaccine in December 2020.

The Pfizer team didn't stop optimizing there. They realized that there was a small amount of wasted vaccine in each vial and spent considerable time testing dozens of syringe and needle combinations to find a way to consistently get six—rather than five—doses out of each vial. Once they found the right combination, they had to persuade suppliers to increase production so that facilities worldwide could have the syringes and needles needed to access the extra dose. Once they did, Pfizer returned to the regulatory bodies to get approval for a six-dose vial.

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CHAPTER EIGHT

EQUITY: EASIER SAID THAN DONE

Medicine pricing is determined by calculating a medicine's value to patients, the health care system and society. When Bourla asked the pricing team to use their typical model to determine the price of the COVID-19 vaccine, they came back with "staggering numbers." He says, "I realized that this could become a gigantic financial opportunity for us but also that in the middle of a pandemic we could not use the standard value calculation for setting the price."

What's more, Bourla recognized this moment as an opportunity for Pfizer to begin to turn around the poor reputation of the pharmaceutical industry. So, he asked the pricing team to give him the prices of the cheapest commodity vaccines. He decided that the price for high-income countries would coincide with the low end of the cheapest vaccines in an effort to increase access to the COVID-19 vaccine.

"Equity doesn't mean that we give everyone the same. Equity means that we give more to those who need more." With this in mind, Pfizer implemented a three-tier pricing approach: High-income countries would pay the most; upper-middle-income countries would pay approximately half that price; and lower-middle-income and low-income countries would have access to the vaccine at a not-for-profit price. Governments, in turn, had to make the vaccine available to their citizens for free.

"In pandemics you are only as protected as your neighbor. And it is extremely important that we not let price be an obstacle to anyone. Not only because it is the right thing to do, but also because it will be a threat—not only to these countries, but to all."

Despite Bourla's efforts, while many of the high-income countries put in large orders for Pfizer's COVID-19 vaccine, many of the lower-income countries did not. He spoke to many of these countries' leaders in an effort to convince them but was not successful.

When it became clear that Pfizer would be one of the first to bring vaccines to patients, a number of governments began to act out, either by imposing export restrictions or by attempting to get more doses than they had ordered. Through manufacturing heroics and acts of diplomacy, many of these issues were resolved.

Bourla then details other struggles, including with COVAX, who he believed did not adequately focus their efforts on the needs of poorer countries and did not order enough of the Pfizer vaccine. India's regulators did not approve the Pfizer vaccine. As the public health crisis grew in India, the Pfizer team sought to help by providing other medicines that could be used in hospitals in India.

Another unexpected challenge was an announcement that the U.S. would support a waiver of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement for COVID-19 vaccines. Bourla believed that a TRIPS waiver would not solve the need for more vaccines more quickly.

Bourla spoke to U.S. Trade Representative Katherine Tai about the matter. He says, "I explained that intellectual property is not an obstacle to produce more and that the reasons we cannot manufacture even more doses faster is not the lack of enough manufacturing infrastructure but the lack of enough raw materials. Waiving intellectual property protections could only disrupt the supply chain and make it dangerous for all." Instead, he believed that the U.S. should allow the export of American-produced doses to address global supply issues.

Bourla had a secondary concern regarding a TRIPS waiver: Waiving patent protections, he feared, would disincentivize the risk-taking necessary for real innovation.

But Bourla recognized that the U.S. was acting because of the pressure they faced for not exporting or sharing American-produced vaccines with less wealthy countries. Pfizer offered a solution. Bourla suggested that Pfizer and the U.S. government work together to develop hundreds of millions of doses, which Pfizer would then make available at cost to the U.S. government. The government, in turn, would be able to donate them to countries in need.

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CHAPTER NINE

NAVIGATING A POLITICAL MINEFIELD

After the vaccine was approved, Bourla regularly spoke with various heads of state, ambassadors and other leaders around the world. He often spent time helping them with orders and ensuring vaccines got to people who needed it.

One thing Bourla did was donate vaccines to the Olympic athletes and their delegations ahead of the Tokyo Olympic Games to ensure that the games could go forward after having been postponed for a year. He writes, “I was seriously concerned that canceling the Olympics would signal that a virus had won, had beaten our global civilization.”

Not all interactions were positive. In the early days after Pfizer began distribution of the vaccine, the team accidentally miscalculated available doses and had over-promised supply to the U.K. While the team quickly worked on a plan to rectify the error and meet the supply request, Bourla took it as an important lesson: “Take responsibility. Be accountable. Don’t try to hide. Figure out how to fix it and apologize directly. Explain what you have learned.”

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CHAPTER TEN

A BEACON OF HOPE

Even though Pfizer hit its ambitious vaccine development timeline, supply initially outstripped demand, as countries struggled to administer available doses. This quickly reversed, and demand outpaced supply. Because of this imbalance, Bourla realized it would take time before the world would see the measurable results of widespread vaccination. He wanted an example to give hope to the world.

"The idea was to select a country that, if it was given uninterrupted supply, could ensure quick vaccinations all the way to herd immunity and demonstrate the impact on health and economic indices." Pfizer had to choose a country that was small enough for this to be feasible, but also had high health standards and good electronic medical records. Israel fit the bill.

Pfizer ended up developing a research collaboration agreement with Israel: The company would provide the country with vaccines, and Israel, in turn, would share real-world efficacy data.

The approach worked. In March 2021, Israel lifted its lockdown. Nearly 70% of Israelis ages 16 and up had received two doses by mid-April. The data showed that vaccination prevented hundreds of thousands of infections, tens of thousands of hospitalizations, and thousands of deaths.

"Our research collaboration with Israel became the most reliable scientific tool the world had to assess the safety and efficacy of our vaccine and the impact of vaccination programs on the health and socioeconomic indexes of a country."

With this data, Pfizer was able to gain insights into changing efficacy rates and began to study the impact of a booster dose. Based on the findings in Israel, Pfizer shared publicly in July 2021 that efficacy appeared to wane after six months and suggested that a booster dose may be necessary.

They began to discuss the prospect of a booster campaign with authorities in the U.S. and EU, but Israel was the first to begin a booster program. By starting so early, Israel served as an example for the world again, providing data on the effectiveness of boosters.

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CHAPTER ELEVEN

THE SCIENCE OF TRUST

"Our messages, to trust science and to understand that science would win, became the centerpiece of our public positioning, and felt like a sacred duty to uphold. But threats to undermine trust were very real."

Bourla recognized that public perception of the vaccine was paramount to its success and that Pfizer needed to build trust with the public. But there were several factors going against the company. There were stories circulating that President Trump would seek to bypass normal approval measures to fast-track a vaccine to improve his reelection efforts. Vaccine misinformation was rampant, and Pfizer faced a society that was already distrustful of the pharmaceutical industry.

Pfizer was determined to reassure the public that the company was working quickly but would not cut corners. Following a tweet by Trump that questioned the integrity of the FDA, Bourla saw that the vaccine was swiftly becoming politicized. To overcome this, he, along with the CEO of Johnson & Johnson, worked together to draft a public pledge from biopharma leaders to demonstrate their commitment to science and to regulators charged with ensuring public safety. They got the other biopharma CEOs to sign and shared it publicly.

Bourla and Pfizer took other measures to increase trust, as well. He made transparency a priority, and for this reason, the company decided to publish the results from its clinical trials—an uncommon move. Bourla also increased his public profile and

took on more media interviews. Pfizer launched a public service campaign, aired ads and short documentaries, and shortly before the Phase 3 results were released, Bourla issued another open letter reemphasizing the company's commitment to safety.

These efforts were effective. One study found that the pharmaceutical industry's reputation had become much more positive between 2019 and 2021, while *AdAge* suggested that Pfizer was "the big winner in vaccine brand popularity."

"If the vaccine taught us anything about public perception, it is that our purpose—Breakthroughs that change patients' lives—is the only pathway to a sound reputation. And we will guard it with vigilance."

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CHAPTER TWELVE

A PRO-PATIENT, PRO-INNOVATION AGENDA

Pfizer didn't just exceed its pledge for vaccine production in 2021. The company also saw revenue growth excluding COVID-19 vaccine revenue in Q1 2021 and achieved other clinical, regulatory and commercial successes, as well.

Yet Bourla also recognizes that COVID-19 posed a unique risk and opportunity: Everyone was vulnerable, so everyone wanted to find a cure. This is not the case with many other diseases, and as a result, efforts to find treatments or cures are often less efficient and equal.

Bourla hopes to use what he and his team learned from the process of developing the COVID-19 vaccine to make recommendations for future innovations, which he presents in five points.

1. Improve access and reimbursement practices.
Bourla believes that the cost burden has become too high for patients. As such, he recommends reducing out-of-pocket expenses for patients, increasing participation by patient advocacy groups in health technology assessment (HTA) decisions, and advancing use of value-based pricing and payment models. He also believes that infrastructure to fund health care in many lower-income countries is lacking, and he recommends closer collaboration between governments and the private sector to close the financing gap.

2. Build support for intellectual property.
As outlined earlier in the book, Bourla believes that intellectual property laws must be protected to continue to incentivize innovation. These innovations, he believes, will be critical to addressing new global health needs as they arise. He recommends better, broader education on the importance of patents.

3. Nurture the future of technology and artificial intelligence.
Bourla suggests that there are numerous opportunities to make better use of technology to increase innovation in medicine, particularly in clinical trials; however, he also sees opportunities for technology to improve R&D, manufacturing and life cycle management. Science and technology could create better health outcomes for all.

4. Empower patients.
Bourla recommends giving patients better access to their own health information, as well as coaching them to maximize their own health. He suggests that digital solutions offer great promise, such as generating automated alerts to doctors or patients, or for helping patients on their care or treatment journeys.

5. Never stop innovating.
Rod MacKenzie, Pfizer's chief development officer, often asked the team, "Why just COVID-19?" Bourla draws on this question for his last recommendation, suggesting that the medical community should build on what they learned during the pandemic—and how they developed medical advancements with "speed, quality, and scale"—to help solve other challenges, like cancer and other diseases.

He believes that the medical community is faced with a huge opportunity. "If we keep only a fraction of the speed of COVID-19 vaccine and therapeutic development that we are striving for, just a mere 10 percent, we estimate that the biomedical enterprise could deliver breakthroughs serving ten to twenty million more patients in the next decade."

EPILOGUE

The Pfizer vaccine received full FDA approval on August 23, 2021. Following that final hurdle and major achievement, Bourla reflected on two big truths.

"The first truth is that our breakthrough vaccine was the result of the rare combination of brilliant, cutting-edge science powered by the private sector alongside collaborative engagements with governments." Society must continue to respect and honor science, and the data suggests that this is the case: The U.S. has seen an increase in medical school applications, and more graduates are choosing careers in medicine and science in response to COVID-19.

Bourla believes that business has the power to make a positive difference. Addressing fellow business leaders, he says, "None of us has a permanent lease on the corner office we inhabit. We must always stretch our thinking on how we can contribute to the greater good. We must demand major commitments for our companies and sacrifices of ourselves."

Business should also look for opportunities for collaboration. Instead of falling prey to partisanship and politics, businesses should work with governments. Bourla believes it was the alignment of science, the private sector and governments that led to Pfizer's success with the COVID-19 vaccine and that this alignment will be crucial for solving future challenges, as well.

"The second truth is that the epic approval achieved on August 23, 2021, was thanks to all the changes we made to strengthen Pfizer's culture in the years leading up to the vaccine, before we knew about

the pandemic." A focus on innovation and investment was important, but developing a purpose-driven culture, he believes, really made all the difference. This purpose gave employees clarity and something to rally around.

For others to check in about their own purpose, Bourla recommends internally posing three questions each day: "Am I being true to my purpose? Have I aimed high enough? Do I have the right mindset?"

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