PILMA
Pharmaceutical Industry
Labor-Management Association

One year after the first cases of COVID-19 were diagnosed in North America, vaccines from Pfizer, AstraZeneca and Moderna are on the verge of becoming widely available.

And while IBEW members are not the scientists creating those vaccines, they have been nearly as integral to the discovery, production and distribution process as any biochemist or virologist on the planet.

From decades of building and maintaining pharmaceutical research labs to setting up new production facilities practically overnight, **IBEW tradesmen and tradeswomen have been at the forefront of the pandemic response from its earliest days**, and their efforts — along with those countless others around the world — have brought us to the verge of a monumental breakthrough that will save countless lives and restore order after a year of COVID-19 chaos.

“Without a doubt the vaccine that will end this scourge has and will be brought to you by the skilled craft unions. They are every bit as important as the person working at the lab bench they built,” said Tim Dickson, director of the Pharmaceutical Industry Labor-Management Association.

The vaccines from Pfizer, AstraZeneca and Moderna are scientific achievements with few parallels in human history, victories won by researchers and the craft and trade workers who know how to take their ideas and transform them into enough medicine to heal an entire world.

According to a 2018 PILMA study, union density in pharmaceutical jobs in the U.S. is 80-90%, and the reason is clear: quality.

“It’s intuitive. Millions of lives and billions of dollars hang on the effectiveness, the reliability of these facilities. These clean rooms and fume hoods — there are tons of inert and active molecules. You can’t go cheap,” Dickson said. “You don’t go to Piggly Wiggly and get day workers to build a clean room.“

Between 2012 and 2018, nearly $14 billion was spent on pharmaceutical construction, and nearly one-third of those man-hours were electrical. And construction has exploded with emergency vaccine funding. Industrial Info Resources, a clearinghouse for construction projects, listed 70 active jobs in December that were COVID-related worth nearly $2 billion.

Across North America, IBEW members are making the vaccine possible and bringing it to the world.

FINDING A VACCINE

By the time herd immunity is achieved and life returns to whatever the new normal will be, many companies will be producing many vaccines. According to the New York Times, 57 vaccines are in clinical trials around the globe with several different strategies.

How to get the vaccines from the labs to 7 billion people is incredibly complex. But it can be better understood through the work IBEW members have done on the Pfizer/BioNTech vaccine, the first one announced and the one furthest along in early December.

The vaccine itself was developed by BioNTech, a small biotech firm in Germany with no real production capacity of its own. It partnered with the U.S. biotech and pharmaceutical colossus Pfizer to help run the elaborate human trials, take the experimental vaccine and turn out hundreds of millions of doses and distribute them around the world.

Making the COVID-19 vaccine project even more astounding is that the Pfizer/BioNTech vaccine uses an entirely new technology. Vaccines don't cure diseases; they give the body a head start fighting off a disease by teaching the immune system how to combat a virus that may never arrive.

Traditionally, vaccines have worked by injecting bits of proteins stripped off dead or shattered viruses to introduce the immune system to its potential foe before an actual invasion.

Pfizer and Moderna are instead injecting designer genetic material into muscle cells, converting those cells into infinitesimal biotech factories, pumping out the proteins that form the coronavirus' shell. The body teaches itself what to look for. This would have been impossible as recently as five years ago.

AMERICA'S RESEARCH HEARTLANDS

While the Pfizer vaccine was developed overseas, the IBEW has built most of, if not all of, the major pharmaceutical and biotech research facilities in the U.S.

Of the $14 billion in pharma construction in the PILMA study, nearly 60% was in California and Massachusetts.

The heart of California's biotech industry is in the Bay Area, with its center just south of San Francisco in the jurisdiction of San Mateo Local 617.

"God only knows how many biotech companies there are around here," said Local 617 Business Manager Dave Mauro. "And new ones are starting all the time."

The largest — Genentech, Gilead, Amgen and AbbVie — have huge campuses, including dozens of labs and office buildings. Genentech's were first built in the 1980s and have been regularly expanded since.

Mauro estimates that for about the last 30 years, around 50% of the local's work hours have been in the biotech industry and offices. And, as other work has slowed because of the pandemic, that number is rising, he said, to 70% and possibly as high as 80%.

"I imagine we miss out on the tiniest start-ups, a kitchen remodel here and some small office remodeling there, but the labs? The research buildings? That's as close to 100% as anyone could get," he said.

The story is nearly the same on the other side of the country.

"Cambridge is like the epicenter for vaccine research and modern biotech companies," said Boston Local 103 Business Manager Lou Antonellis. The high concentration of universities spins off projects from researchers and graduates that stick close to home, he said.

Two projects in PILMA's study — Vertex's Fan Pier Biotech R&D Center and the Cambridge Vaccine and Diagnostics R&D Center Expansion — cost a combined $1.5 billion. Those were both Local 103 jobs.

There were nearly $200 million in COVID-related projects in Massachusetts as of early December. Antonellis said that while you don't think about it every second that you're on those jobs, you don't forget what is at stake either.

"You don't think, 'I am helping to find a cure for COVID or cancer,' but we know our work has great meaning," he said.

UNTIL THE VACCINE ARRIVES

Since its arrival in North America last January, more than 8,000 of our brothers and sisters have been stricken by COVID-19 and at least 180 have died.

The economic cost is not as great as the loss in lives and health, but it has been severe. Lives not lost can still be changed irrevocably.

And there are still many things that could go wrong. There could be issues in producing mass quantities of mRNA vaccines; it's never been done. There are more traditional vaccine models on the way using pieces of weakened or dead virus. They have historically been slower to develop, but Johnson & Johnson says the production and scaling is better understood and could potentially make up the time.

With the vaccine so close, International President Lonnie R. Stephenson said, now it is up to everyone to protect themselves, their brothers and sisters in the IBEW and their families. IBEW members in every branch have worked tirelessly since March to do the essential work of keeping the lights on, building hospitals, manufacturing and transporting critical goods, maintaining communications and broadcast infrastructure and more, often at great risk to their own health. Now is not the time to relax and get comfortable.

"The simple things will work, if we continue to do them: wear a mask. Socially distance. Wash hands frequently," he said. "Our members who are working on vaccine projects are indispensable, but every member and the folks in our families are all precious. Be smart, be safe, and we will get through this." – IBEW President Lonnie Stephenson

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