Biotech firm brings AI cancer diagnostics to local market

By Brontë H. Lacsamana *Reporter*

INTERVENN BIOSCIENCES, a Filipino-founded biotechnology company based in the US, is bringing its early cancer detection tests powered by artificial intelligence (AI) to the Philippines.

The San Francisco-based firm — which recently opened its local headquarters in The Podium in Ortigas business district, Mandaluyong City — aims to recruit more local talent.

"We are bringing resources into the Philippines. We expect that, by the end of 2022, InterVenn will have brought over half a billion pesos into the Philippine economy," said Axel Kornerup, InterVenn's general manager, at the July 22 launch.

"As of today, we have over 150 Filipino employees based in the Philippines, majority of which are software developers," he added.

A DROP OF BLOOD

The InterVenn Ovarian Cancer Liquid Biopsy (VOCAL) testing program is an ongoing collaboration with local oncologists from the National Kidney and Transplant Institute, The Medical City, and the Philippine General Hospital.

InterVenn's goal is for the next-generation liquid biopsy diagnostic test to determine whether a person has cancer with only a drop of blood. Though it's being developed for ovarian cancer, there are earlier stage studies being done for liver cancer.

According to Dr. Beatrice J. Tiangco, oncologist and InterVenn consulting scientist, a traditional biopsy, requested by a doctor after finding an abnormal mass in a person, requires invasive surgery.

A quick finger prick is an easier option in comparison, especially for Filipinos who may have a fear of surgical procedures, she said.

"While traditional tests would take at least seven days to get a result, the new liquid biopsy test may be able to reduce that to minutes or seconds," Dr. Tiangco added.

InterVenn aims to make the test available soon, with significant progress by the middle of next year. Though it may be made into a home testing kit or added to annual physical exams in the future, the company is focused for now on ensuring high testing accuracy.

'ASIAN-CENTRIC'

In 2021, the company received P10 billion in funding to develop Dawn, a blood-based test that can assist doctors in matching cancer patients to immuno-oncology therapies.

Previously, it had developed Glori, a test that can determine whether pelvic tumors in women are benign or malignant with 86% accuracy. Both tests are possible through an AI-enabled software platform that can perform glycoproteomic analysis.

Aldo Carrascoso, the Filipino co-founder and chief executive officer of InterVenn, explained that glycoproteomics is basically the study of sets of proteins in the body and the sugars attached to them. Analyzing these helps in identifying cancer biomarkers and developing liquid biopsy cancer detection tests.

The fact that 90% of drugs and diagnostics were created primarily for a Western demographic motivated InterVenn to be an "Asian-centric company," he added.

Mr. Carrascoso founded the firm in 2017 with two multi-awarded scientists: Dr. Carolyn Bertozzi, a chemist and professor at Stanford University in California; and Dr. Carlito LeBrilla, a researcher and distinguished professor of chemistry at University of California, Davis.

OPINION

Twenty million lives

MEDICINE CABINET
TEODORO B. PADILLA

In the first year of global vaccination programs, close to 20 million out of a potential 31 million coronavirus disease 2019 (COVID-19) deaths were prevented worldwide, according to a study.

Researchers from the Imperial College London MRC Centre for Global Infectious Disease Analysis estimated the impact of global vaccination programs by using an established model of COVID-19 transmission facilitating country-level data for officially recorded COVID-19 deaths in 185 territories.

Published this June in *The Lancet*, the study covered the first year that COVID-19 vaccination programs were implemented around the world, from Dec. 8, 2020, to Dec. 8, 2021.

To account for under-reporting of deaths in countries with weaker surveillance systems, they carried out a separate analysis based on the number of excess deaths recorded above those that would have been expected during the same time period.

Where official data was not available, the researchers used estimates of all-cause excess mortality. These analyses were compared with an alternative hypothetical scenario in which no vaccines were delivered.

The model accounted for variation in vaccination rates between countries, as well as differences in vaccine efficacy in each country based on the vaccine types known to have been predominantly used in those areas.

Health data company Airfinity added further analysis to the Imperial College London study using its unique time series data set on vaccine distribution. Taking the study's findings on deaths averted per country, Airfinity examined which vaccines were administered in each country to determine the breakdown of lives saved per vaccine.

Using this methodology, Airfinity calculated that AstraZeneca saved 6.3 million lives; Pfizer, 5.9 million lives; Sinovac, 2 million lives; and Moderna, 1.7 million lives.

Airfinity analytics director, Dr. Matt Linley, noted that AstraZeneca and Pfizer both succeeded in scaling up their vaccine production quickly and delivering doses before other manufacturers.

"AstraZeneca may have saved the most lives due to where its primary series was distributed and who received it. Its vaccines first went to older age groups in high income countries and nations with less robust healthcare systems. Both factors would have resulted in averting more deaths in the first year of vaccinations," he said.

The largest real-world evidence study for a COVID-19 vaccine reported to date in the US showed that the single-shot Johnson & Johnson (J&J) COVID-19 vaccine has a stable vaccine effectiveness of 79% for COVID-19-related infections and 81% for COVID-19-related hospitalizations.

There was no evidence of reduced effectiveness over the study duration, including when the Delta variant became dominant in the US Sequencing data were not available for analysis. The study included 390,000 people who received the J&J COVID-19 vaccine versus approximately 1.52 million unvaccinated people matched on age, sex, time, three-digit zip code, and comorbidities and predictors for COVID-19 infection severity conducted from March to late July 2021.

A booster shot of the J&J vaccine given 2 months after the first vaccine provided 94% protection against symptomatic (moderate to severe/critical) COVID-19 in the US.

An expert review has concluded that the most-studied COVID-19 vaccines provide consistently high (over 90%) protection against hospitalizations and deaths, regardless of variant.

Conducted by experts from Southeast Asia including Filipino infectious disease specialist Dr. Rontgene M. Solante and supported by analysis of Asian and relevant international data, the expert review also found that this protection appears equivalent for mRNA vaccines (Pfizer and Moderna) and vector vaccines (AstraZeneca).

According to the Imperial College London research team, COVID-19 vaccination has substantially altered the course of the pandemic, saving tens of millions of lives globally.

However, they pointed out that inadequate access to vaccines has limited the life-saving impact of COVID-19 vaccination in low-income countries, reinforcing the need for global vaccine equity and coverage.

The International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) calls on manufacturers, governments, and non-governmental organizations to work together and take urgent steps to address vaccine inequity. Immediate action must focus on stepping up responsible dose sharing and maximizing production without compromising quality or safety.

According to the study, 20 million lives have been saved because vaccines work. COVID-19 vaccines lower the chance of getting the virus. They can also protect a person from getting seriously ill. Finally, they make a vaccinated person less likely to infect others. However, vaccines won't work if people don't take them.

TEODORO B. PADILLA is the executive director of Pharmaceutical and Healthcare Association of the Philippines (PHAP), which represents the biopharmaceutical medicines and vaccines industry in the country. Its members are at the forefront of research and development efforts for COVID-19 and other diseases that affect Filipinos.

Jollibee's Dr. Tony Tan Caktiong named 2022 RVR Award for Nation Building Awardee

Photo shows Dr. Tony Tan Caktiong and Mrs. Grace Tan Caktiong receiving the award from former Chief Justice Artemio V. Panganiban, PHINMA Chairman and CEO Ramon R. del Rosario, Jr., Ambassador Jesus P. Tambunting (2010 RVR Awardee), Ambassador Jose L. Cuisia, Jr., Asian Institute of Management President and Dean Dr. Jikyeong Kang, and JCI Manila President Richard Lim.

Jollibee Founder and Chairman Dr. Tony Tan Caktiong was honored with the 2022 Ramon V. del Rosario (RVR) Award for Nation Building at a recently concluded ceremony on July 25, 2022 at the Manila Polo Club.

Dr. Tan Caktiong was recognized for his contributions to globalizing the Filipino brand, bringing pride to the country by serving the iconic Chickenjoy to more than 3,300 locations in the Philippines and more than 2,500 stores overseas, and for the Jollibee Group Foundation's COVID-19 pandemic response initiatives.

PHINMA Chairman and CEO Ramon R. del Rosario, Jr., welcomed distinguished business personalities, young entrepreneurs, and civic leaders gathered at the Manila Polo Club and online viewers tuned in to the event livestream.

"In honoring outstanding nation builders, we are helping build a business constituency for good. We do not see this as just another recognition ceremony but rather, a recommitment event as well as a continuing clarion call to make business a genuine force for good! I am confident that tonight's honoree will join his fellow awardees in multiplying this force," he said.

The RVR Award for Nation Building is bestowed upon individuals who have contributed to nation building through their businesses and social enterprises, and who have proven themselves worthy of honor and emulation by their peers and by emerging young entrepreneurs. Nominees go through a screening process by a committee consisting of representatives of JCI Manila, PHINMA, AIM RVR Center, and the del Rosario Family, before the final selection by the award's Board of Judges led by former Chief Justice Artemio V. Panganiban and Ramon R. del Rosario, Jr.

In his acceptance speech, Dr. Tan Caktiong said, "the work of nation-building is the responsibility of all — each and every one of us — it is a shared task. Now, more than ever, our strong participation is needed."

The Ramon V. del Rosario Awards acknowledges the support of the following companies: Alibaba Cloud, Naomi Jewelry, Coca-Cola, Starport, Union Galvasteel Corp., Philcement Corp., PHINMA Solar, PHINMA Education, PHINMA Properties, PHINMA Hospitality, and PHINMA Foundation.