

OPINION

Celebrating PHL biotechnology

At its simplest, biotechnology is technology based on biology. It harnesses cellular and biomolecular processes to develop technologies and products that help improve people's lives and the health of our planet, said the Biotechnology Innovation Organization (BIO).

National Biotechnology Week, held every last week of November in the country, promotes the safe and responsible use of modern biotechnology and its products as a means to achieve and sustain food security, equitable access to health services, a sustainable and safe environment, and industry development.

With the theme "Responding to the Challenges: Business Opportunities in Biotechnology," the 18th edition celebrated the contributions of the country's biotechnology sector.

Biotherapeutic medicines, also called biotech drugs or biologics, are derived from proteins and other substances produced by living organisms, such as mammalian cells, viruses and bacteria. With a unique and diverse range of specific targets, biotherapeutic medicines open new avenues for delivering cutting-edge treatments for numerous diseases and wide patient populations.

In the last 30 years, biotherapeutics have become an important part of modern medicine. Insulin, used by diabetics to regulate blood sugar, was the first modern medicine produced using biotechnological methods. Since then, many biotherapeutic medicines delivered by the research-based biopharmaceutical industry have been developed and licensed to treat serious illnesses including cancer, heart disease, multiple sclerosis, anemia, and rheumatoid arthritis.

The International Federation of Pharmaceutical Manufacturers and Associations (IFPMA) said that biotherapeutic medicines benefit more than 350 million patients worldwide, treating widespread diseases such as cancer and diabetes, as well as rare illnesses. Being similar in structure to molecules naturally produced in the human body, biotherapeutic medicines have great therapeutic impact in many disease areas and can additionally serve to diagnose other diseases. They have moreover proven to be effective in the treatment of conditions that had not been positively addressed by chemically synthesized small molecule medicines.

Over the past 30 years, medical advances in biotherapeutic medicines have focused on treating many chronic diseases — including cancer, diabetes, hepatitis C, and chronic renal failure — as well as less common ones such as hemophilia, Fabry's disease, growth deficiency, multiple sclerosis and Crohn's disease.

Until the 1980s, insulin extracted from animals was used to treat diabetes. In 1982, researchers produced human insulin of superior quality by

recombinant DNA technology using a culture of *E. coli* bacteria. This became the first approved biotherapeutic product. Human insulin benefits today the vast majority of diabetic patients who require insulin treatment.

Major strides in fighting cancer successfully go hand in hand with improved diagnostics, treatments and prevention methods. Biotherapeutic medicines play a role in the discovery and development of biomarkers. Today, biomarkers help in predicting the risk of cancer, diagnosing it, and indicating a potential effective course of treatment.

If left untreated, autoimmune diseases such as Crohn's disease and rheumatoid arthritis can lead to early mortality. Biotherapeutic medicines have proved successful and have had a highly positive impact in the treatment of these diseases.

As with all medicines, the research and development process for biotherapeutics involves a high degree of scientific and economic risk, so there is a need for strong intellectual property rights, to stimulate the incentive to innovate. When developing biotherapeutics, years of research focus on finding the right organism and manufacturing conditions to produce the required protein or antibody. A small change in the manufacturing process can affect the final product. That's why precision and conformance to scientific requirements are necessary to ensure their quality, safety, and efficacy. In this context, scientists must create the right environment for cells to isolate and purify the biotherapeutic protein so it's exactly the right product every time.

Examples of available biotherapeutic medicines include Anti-CD20 for cancer and rheumatoid arthritis; Anti-HER2 for cancer; Anti-TNFs for rheumatoid arthritis, psoriasis, Crohn's disease, and ulcerative colitis; Anti-VEGF for cancer and macular degeneration; Bone Morphogenic Protein-7 for bone repair; Consensus Interferon for hepatitis C; Erythropoietin for chronic anemia; and Follicle-Stimulating Hormone (FSH) for infertility among many others. And biotechnology has recently been used for coronavirus disease 2019 (COVID-19) treatments.

With biotechnology applied to health, patients are leading healthier lives — often without realizing the source of biotherapeutic medicines.

TEODORO B. PADILLA is the executive director of the 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.



Five tips to stay healthy amid the holiday feasting

THE HOLIDAYS shouldn't be used as an excuse to binge-eat, warned a dietician.

Christmas is just around the corner and with it comes an abundance of delicious food, whether it's at the family *noche buena*, a gathering with friends, or an office Christmas party.

"To eat smart, you have to have a balanced diet and be mindful of your body's needs. This should stay the same even during the holidays," said Dr. Virgith B. Buena, a dietician and nutritionist at the Cardinal Santos Medical Center, who shared healthy eating tips for this year's festivities in a Dec. 2 webinar hosted by the University of the Philippines.

Drink lots of water.

Water, which makes up about 60 to 70% of the human body, serves as a solvent for all nutrients and aids in the transport of these nutrients to the different parts of the body.

Even if one eats lots of food, water is still needed for the body to get as much nutrients from the food as possible, said Dr. Buena.

Drinking water will also avoid dehydration.

Learn to read a nutrition label.

The nutrition facts printed on containers of food items can be a guide to ensuring a balanced diet. Dr. Buena suggested starting with the serving size and number of calories to know how much an item contributes to one's daily intake.

Next up is to try and limit eating food with high levels of fat and cholesterol, which are weighted in grams on the nutrition facts label.

"The nutrients you have to get a lot of are vitamins like Vitamin A and C," she said. These are found in fruits and vegetables.

Stick to regular mealtimes.

"Eat a variety of nutritious foods in moderate amounts and stick to regular mealtimes," Dr. Buena said.

Variety and regularity will provide the body with what it needs during the energy-intensive season.

Skipping meals, usually breakfast, just to feast on a large meal for lunch and/or dinner is a common unhealthy habit. Since the body seeks regular nutrition, depriving it of food will encourage gorging later on.

Instead, practice mindful eating, which is a form of "loving yourself," she said.

Eat vegetables and fruits first.

When a spread includes salad, it's always best to eat greens first.

"When you eat this ahead of heavier portions of a meal, it reduces your food intake. You end up eating less of what comes after," said Dr. Buena.

This is also true for fruits served as snacks before mealtimes.

Think small and frequent, and enjoy.

It's bad to think of holiday eating as long periods of fasting followed by large, sumptuous feasts. The key to staying healthy is to stick to small and frequent meals, neither dieting excessively nor eating dieting.

Don't obsess over avoiding carbs, Dr. Buena added.

"There's no such thing as zero carbohydrates. Fruits have carbs, vegetables have carbs. It's important because it's our main source of energy," she said.

She recommended that diabetics who need to control sugar levels but still crave sweet Filipino desserts should only have a taste, to satisfy the craving but not gorge on it.

"Eat better, not less," she said. — **Brontë H. Lacsamana**

The role of spirituality in the care of terminally ill patients

END-OF-LIFE CARE will benefit from conversations about spirituality and the limits of the human body, according to a priest.

"If we want to really take care of the patient, we take care of the patient as body and spirit, and not only as body," said Fr. Gregory Ramon D. Gaston, rector of the Pontificio Collegio Filippino in Rome, Italy. "That is the reality of our human nature that we have to communicate with others, and in healthcare."

While modern medicine has increased the longevity of human beings, there is still a limit to what it can do, he said at a Nov. 25 event hosted by UP Med Webinars. "Sometimes, procedures and operations, what they do is not really prolong life, but delay the dying process," he said.

The debate among doctors should not be whether or not to communicate the truth of a patient's medical condition but the "how, when, and in what manner" it should be shared, said Fr. Gaston.

"That changes the reality of the patient's view, the patient's world," he said.

According to a Social Weather Survey conducted in November 2020, 73% of adult Filipinos said that religion is very important in their lives.

Religious commitments, such as church attendance, have been found to yield health benefits such as a lower risk of depression and anxiety, as well as a reduced risk of cardiovascular disease and death from cancer.

Religion can also reduce anxiety surrounding death, according to studies in the *Journal of Palliative Medicine* and the *Journal for the Scientific Study of Religion*.

Fr. Gaston encouraged respecting the patient's religiosity without imposing one's own beliefs.

Meanwhile, Dr. Michael Angelo L. Wambangco, a home care specialist, said that patient comfort and empowerment are the by-products of effective communication and ministering.

"As a Catholic, our faith teaches us that there is a beyond after this earthly life," Dr. Wambangco said. "A health professional has that crucial role, especially in cases where the patient is terminally ill." — **Patricia B. Mirasol**

NEDA Board,
from S1/1

However, PPP projects undertaken by local governments that would affect national development or master plans and national projects should "secure the endorsement of the National Government."

During the Arangkada forum, NEDA Undersecretary Rosemarie G. Edillon noted that the proposed measure ensures that the identification of PPP projects is guided by the principles set by the government, including "effectiveness in meeting government objectives; appropriateness of the chosen procurement modality; value for money, accountability, and transparency; and public, access, safety, and security."

Senator Francis N. Tolentino said at a recent budget hearing for NEDA that investors seeking to build local government transport infrastructure are deterred by the low threshold for triggering mandatory national government review.

Senator Juan Edgardo M. Angara said the process of adjusting thresholds should be indexed to inflation.

Sought for comment, Terry L. Ridon, a public investment analyst and convener of think tank InfraWatch PH, said in a phone message: "Government should limit the highest regulatory scrutiny (i.e. NEDA Board approval) only to the most important PPP projects which have threshold project costs of P10 billion and above."

"Almost all current PPPs with national significance, such as new train lines and expressways, have project costs way beyond P10 billion," he added.

Mr. Ridon said all other projects with estimated costs between P2.5 billion to less than P10 billion can then be approved at the ICC level while projects below P2.5 billion can be approved by agencies, local governments or government-owned and -controlled corporations (GOCCs).

"It should be noted that our proposal limits the approval authority of agencies, local governments and GOCCs similar to the pending bills as projects higher than P2.5 billion should be subjected to greater scrutiny by an interagency panel such as the ICC. This ensures greater transparency and accountability in conducting PPPs," he added.

Inflation,
from S1/1

Core inflation, which discounts volatile prices of food and fuel, climbed 6.5% in November from 5.9% in October and 2.4% in November 2021. In the eleven months to November, core inflation averaged 3.7%.

Divina Gracia L. Del Prado, PSA officer-in-charge and deputy national statistician, said at a briefing that November inflation quickened due to the spike in food prices, which reflected the spillover effect of the typhoon that hit the country in late October. Severe Tropical Storm Paeng (international name: Nalgae) that caused about P6.4 billion in agricultural damage.

The heavily-weighted food and non-alcoholic beverages index rose 10% in November, from 9.4% in the previous month. This was the fastest rise in food inflation since September 2018.

"Higher prices of vegetables, fruits, and rice were a result of lower production brought about by the onslaught of typhoons and higher cost of inputs. Similarly, sugar production is still reeling from the damage caused by recent typhoons," the National Economic and Development Authority (NEDA) said in a separate statement.

Vegetable inflation surged 25.8% in November (from 16% in October), while sugar, confectionery and desserts rose 38% (from 34.4% in October). Rice prices went up 3.1%, from 2.5% in the previous month.

Another driver of November inflation was the restaurants and accommodation services index, which jumped 6.5% in November, from 5.7% in the prior month, reflecting continued "revenge spending" by Filipinos.

Out of 13 commodity groups, 10 reported faster inflation in November, including alcoholic beverages (10.6% from 10.4% in October), clothing and footwear (3.6% from 3.1%), furnishings and household equipment (4.5% from 3.8%) and health (2.8% from 2.6%).

On the other hand, slower rates of increases were seen in housing, water, electricity, gas and other fuels (6.9% from 7.4% in October); and transport (12.3% from 12.5%).

Ms. Del Prado said the rise in pump prices started to slow in November.

"Inflation is decelerating for petroleum products. So, if we see the effects of food prices (slow down), that might decrease (overall) inflation," she said in a mix of English and Tagalog.

PSA data showed inflation for the bottom 30% income households, which still use the 2012-based prices, rose to 7.7% in November — the highest since October 2018. This was faster than the 7.3% print in October and 4.2% last year.

For the 11-month period, the average inflation for this income group stood at 5.1%.

"The government is continuously implementing targeted subsidies and discounts to allay the impact of the higher prices of essential goods, especially for the vulnerable sectors and low-income earners of our society," Socioeconomic Planning Secretary and NEDA chief Arsenio M. Balisacan said in a statement.

Inflation in the National Capital Region (NCR) decelerated to 7.5% in November, from 7.7% in October and 2.2% a year ago.

Outside of NCR, consumer prices rose 8%, from 7.6% in October and 4% in the same month of 2021.

INFLATION TO SLOW

Ms. Del Prado said inflation can rise as much as 8.5% in December to hit the BSP's full-year forecast of 5.8%.

"If headline (inflation) is lower than that, then average inflation for the year should also be lower," she said, adding that inflation does not always peak in December.

The Development Budget Coordination Committee (DBCC) on Monday also raised its average inflation rate assumption to 5.8% this year, from 4.5-5.5%.

"Inflation is projected to decelerate in the subsequent months due to easing global oil and non-oil prices, negative base effects, and as the impact of BSP's cumulative policy rate adjustments work its way to the economy," the central bank said in a statement.

The BSP maintained it "remains prepared to take all further monetary policy actions necessary to bring infla-

tion back to a target-consistent path over the medium term."

The BSP has raised the key policy rate by 300 basis points (bps) to 5% since May to curb soaring inflation. The Monetary Board's last policy review meeting for the year is on Dec. 15.

Finance Secretary Benjamin E. Diokno said in a separate statement that inflation is expected to ease by the second half of 2023, averaging between 2.5-4.5%.

Bank of the Philippine Islands Lead Economist Emilio S. Neri, Jr. said the November inflation print showed that food continues to drive inflation higher amid supply issues in the agriculture sector and the impact of recent typhoons.

"Distribution of food products remains expensive given the elevated price of oil... Even if oil prices have stabilized recently, the pressure on consumer prices may not ease until the second half of 2023," he said in a note.

Despite the faster November print, Mr. Neri said inflation may be nearing its peak.

"We expect a decline in the coming months mainly due to the stabilization of oil prices recently," he said. "Given the outlook for inflation, there is a compelling reason for the BSP to continue hiking interest rates."

In a note on Tuesday, ING Bank N.V. Manila Senior Economist Nicholas Antonio T. Mapa said headline inflation could still peak in December and slow in January, but inflation will not decelerate quickly similar to what happened in 2018.

"We do believe inflation will grind lower and not repeat the quick deceleration we saw in 2018. High inflation has 'infected' roughly 60% of the CPI basket showing us that price pressures are now more broad-based," he added.

Mr. Mapa said the BSP will likely remain hawkish at its meeting next week.

"Demand-side pressures remain evident after items related to 'revenge spending' experienced quicker inflation. Thus, we expect BSP to carry out a 50-bp increase next week or matching any rate increase by the Fed," Mr. Mapa said. — **Keisha B. Ta-asan**

World Bank,
from S1/1

Higher interest rates may temper growth in private lending and investments at a time when the government is expected to implement measures to rein in the deficit and slash debt, the World Bank said.

Since May, the BSP has raised borrowing costs by 300 bps, bringing its key policy rate to 5%.

"Continued near-term monetary tightening is appropriate to prevent a de-anchoring of inflation expectations," the World Bank said.

The World Bank recommended that the Philippine government focus its policies on addressing the immediate challenge of elevated inflation, staying the course on fiscal consolidation, sustaining investments in health and education, and reversing the low agricultural productivity.

"The immediate challenge is to address rising inflation. This means employing both monetary and non-monetary measures, like lower tariff barriers, supporting agriculture production, and rate hikes to prevent the de-anchoring of inflation," Mr. van Doorn said.

For fiscal consolidation, he said targeted social measures are important to manage spending.

"It's important to eliminate spending inefficiency and add new tax measures to mobilize revenues," he added.

Mr. van Doorn said that sustaining investments in health and education to reduce vulnerabilities from the scarring impact of the pandemic remains important.

Agriculture is also a key sector that the government must prioritize if it seeks to accomplish its development goals.

"Over the medium term, public spending on agriculture will address low productivity and food security in the country. While agriculture is only 10% of GDP, it deploys a disparate share to labor force and food production is influential to bringing down inflation," Mr. van Doorn said. — **Luisa Maria Jacinta C. Jocsos**

JOB HIRING

10 – CUSTOMER SERVICE REPRESENTATIVE
10 – TECHNICAL SUPPORT SPECIALIST
5 – CONSULTANT MANAGER
5 – MARKETING MANAGER
5 – SALES REPRESENTATIVE

Qualifications:
• Graduate of Bachelor's/College Degree in any field
• At least 1 year of working experience in a related position
• Flexible, trustworthy and willing to work under pressure
• Proficient in speaking and writing in English & Korean Hangul
• Good interpersonal and communication skills
• Can work with minimum supervision

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