

Republic of the Philippines
House of Representatives
Quezon City, Metro Manila

TWENTIETH CONGRESS
First Regular Session

House Bill No. 6049



INTRODUCED BY REP. PATRICK MICHAEL “PM” D. VARGAS

AN ACT
ESTABLISHING THE NATIONAL INTEGRATED CANCER BIOBANK NEXT-GENERATION SEQUENCING (NGS) REFERENCE HUB WITHIN THE PHILIPPINE CANCER CENTER (PCC) AND APPROPRIATING FUNDS THEREFOR

EXPLANATORY NOTE

Cancer remains one of the leading causes of morbidity and mortality in the Philippines, affecting hundreds of thousands of Filipino families each year. Despite advances in global oncology, access to precision and molecular testing tools essential for identifying cancer mutations and tailoring effective treatments remains limited in the country.

The establishment of a National Cancer Biobank and Next-Generation Sequencing (NGS) Laboratory Reference Hub seeks to bridge this critical gap by integrating biobanking and genomic sequencing capacities under the supervision of the Department of Health- Philippine Cancer Center (DOH -PCC). This facility will enable Filipino patients to benefit from timely and accurate molecular diagnostics, promote data-driven clinical decisions, and support equitable access to cancer care across all regions.

Through the centralized collection, processing, and analysis of cancer biospecimens, the Hub will serve as a vital infrastructure for developing a Filipino Cancer Genome Profile—a comprehensive database of cancer mutations unique to the local population. This knowledge will enhance the country’s ability

to identify risk factors, discover biomarkers, and guide the development of more effective, affordable, and targeted cancer therapies suited to Filipino patients.

Furthermore, this initiative supports the implementation of the Republic Act. 11215, or the National Integrated Cancer Control Act (NICCA), by advancing research, improving diagnostics, and ensuring equitable access to modern cancer care nationwide.

In view of the foregoing, the immediate passage of this bill is earnestly sought.



REP. PATRICK MICHAEL "PM" D. VARGAS

Fifth District, Quezon City

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THEREFOR

Be it enacted by the Senate and the House of Representatives of the Philippines in Congress assembled:

SECTION 1. *Short Title.* – This Act shall be known as the “*Filipino Cancer Genome Profile Hub.*”

SECTION 2. *Declaration of Policy.* – It is hereby the policy of the State to protect and promote the right to health of the people and instill consciousness among them, and to secure the well-being of the people by providing them with specialized health services that target the elimination of deadly and rare diseases. To this end, a world-class cancer-oriented Biobank-NGS Laboratory Reference Hub that will democratize access to precision oncology shall be established.

SECTION 3. *Creation of the Filipino Cancer Genome Profile Hub.* - There is hereby established, under the supervision of the Department of Health - Philippine Cancer Center (DOH-PCC), a National Cancer Biobank-Next Generation Sequencing (NGS), hereinafter referred to as “Filipino Cancer Genome Profile Hub”.

The Filipino Cancer Genome Profile Hub shall serve as the central, cancer-oriented biorepository and genomic reference laboratory for all public and private

hospitals, medical institutions, and research facilities across the country. It shall aim to ensure that all Filipino cancer patients are provided with accurate, timely, and equitable access to molecular diagnostics and genomic testing, regardless of their geographic location or socioeconomic status.

The Hub shall have the following objectives and functions:

- a. Strengthen cancer diagnosis and treatment through the integrated biobanking and next-generation sequencing (NGS) technologies, enabling precise tumor profiling, matched therapy selection, and improved patient outcomes;
- b. Promote inclusive and equitable cancer research by ensuring broad biospecimen collection and representation of diverse patient populations;
- c. Support data integration and surveillance through linkage with national health databases and cancer registries;
- d. Encourage collaboration and capacity-building in research, technology transfer, and clinical innovation; and
- e. Generate economic and health system benefits through cost-effective diagnostics and enhanced research capacity.

SECTION 4. *Definition of Terms.* – For purposes of this Act,

- (1) **Biobank** shall refer to a facility that systematically collects, processes, stores, and manages biospecimens—from cancer patients, along with associated clinical, lifestyle, and genetic data, specifically for cancer research purposes. These biobanks support a wide range of studies focused on cancer prevention, diagnosis, prognosis, and the development of personalized treatments. Cancer biobanks are essential for: investigating the genetic, molecular, and environmental factors driving different cancers, enabling biomarker discovery and validation for early detection, therapy response, and disease monitoring, and facilitating translational research that bridges laboratory findings with patient care and treatment innovations. A cancer-oriented biobank is a foundational resource for modern cancer research, accelerating discoveries and supporting individualized approaches to cancer prevention, diagnosis, and treatment.

- (2) **Biospecimen** shall refer to a sample of biological material—such as blood, tissue, urine, saliva, cells, DNA, or RNA—collected from humans, animals, or plants for use in research, clinical diagnostics, or medical studies. These specimens are essential for understanding disease mechanisms, discovering biomarkers, developing new treatments, and advancing precision medicine—especially in fields like cancer research, genomics, and drug development.
- (3) **National Next-Generation Sequencing (NGS)** shall refer to specifically to a group of advanced technologies or laboratory techniques that allow for the rapid sequencing of large amounts of DNA or RNA, which enables precise diagnosis, personalized therapy selection, and monitoring of disease progression. It reads genetic material, enabling the sequencing of entire genomes, exomes, targeted genes, or even transcriptomes. It identifies specific genetic mutations in tumors, which can be used to choose the most effective treatments and predict patient response. NGS technology enables comprehensive and high-resolution mapping of genetic alterations in various cancers, allowing researchers to identify unique mutations, gene expression changes, and biomarkers specific to Filipino patients.
- (4) **NGS (Next Generation Sequencing) systems** shall refer to advanced platforms that rapidly and accurately sequence large quantities of DNA (or RNA), facilitating high-throughput, massively parallel analysis—a revolutionary advance over traditional sequencing methods. The term frequently covers both the instruments themselves and the technologies they employ.
- (5) **Cancer genome profiling** shall refer to the process of analyzing DNA from cancer cells to identify unique genetic changes associated with a specific cancer.
- (6) **Genomics** shall refer to a field of science focused on the study of the complete set of genes (the genome) of an organism. It encompasses everything from the structure, function, and mapping of genomes to understanding genetic variation, disease associations, and evolutionary relationships. It is the broader scientific discipline, and NGS is one of the most important methodologies revolutionizing this field.

- (7) **Omics** shall refer to a collective term used in biological sciences to refer to the comprehensive study and analysis of entire sets of related molecules in living systems. These are fields whose names typically end with "-omics," and each focuses on a particular category of molecules, aiming to characterize and quantify their entirety in a cell, tissue, or organism to understand its structure, function, and behavior.
- (8) **Bioinformatics** shall refer to an interdisciplinary field that combines biology, computer science, mathematics, and statistics to collect, store, analyze, and interpret large-scale biological data—such as DNA, RNA, and protein sequences, as well as other molecular and clinical information.
- (9) **Biomarkers** or biological markers shall refer to measurable indicators of some biological state, process, or condition in the body. They can be cellular, molecular, biochemical, or physiological characteristics that help inform health and disease status. Biomarkers may be detected in blood, body fluids, tissues, or through imaging and laboratory methods.
- (10) **Precision oncology** shall refer to a cancer treatment approach that tailors therapies based on the unique genetic profile of a patient's tumor. It involves analyzing a patient's tumor to identify specific genetic alterations, allowing for the selection of drugs that are most likely to be effective and minimizing potential side effects. By targeting specific genetic alterations, precision oncology can lead to more effective treatments with fewer side effects.
- (11) **Biopsy** shall refer to a medical procedure in which cells, tissue, or fluid are removed from the body for examination by a pathologist. The main purpose is to analyze the sample to detect the presence or extent of disease, such as cancer or other medical conditions. The sample can be taken from almost any part of the body and may be collected by a variety of methods, including needle biopsy, surgical biopsy, or aspiration biopsy. After removal, the tissue is usually examined under a microscope, and sometimes additional laboratory tests are performed to aid in diagnosis and guide treatment decisions.

- (12) **Cold-Chain Logistics** shall refer to the systematic process of transporting, storing, and handling temperature-sensitive goods—such as biological samples —under controlled, refrigerated, or frozen conditions to maintain their quality, safety, and efficacy throughout the supply chain. This involves specialized equipment (like refrigerated trucks, temperature-controlled warehouses, and monitoring systems) and strict adherence to standards ensuring that products are preserved at specific temperature ranges from the point of origin to their final destination, preventing spoilage or loss of effectiveness.

SECTION 6. *State-of-the-Art Cancer Biobank-NGS Laboratory Reference Hub Capabilities.* - The Filipino Cancer Genome Profile Hub is an integration of a biobank and an NGS (Next-Generation Sequencing) laboratory reference hub requiring harmonized infrastructure—offering seamless workflows for biospecimen management, high-throughput genomics, and secure data integration for translational and clinical research. This unified hub manages patient consent, sample lifecycle, and molecular and clinical annotation, supplying core infrastructure and governance to underpin translational research and support national or multi-center precision medicine initiatives. The state-of-the-art Biobank-NGS shall:

1. Collect, process, and store cancer biospecimens and associated data under ethical and quality standards;
2. Conduct NGS-based tumor profiling for diagnostic and research use;
3. Maintain secure databases integrating genomic, clinical, and epidemiological data;
4. Provide reference testing and technical support to regional hospitals and laboratories;
5. Facilitate collaborative research programs and capacity-building initiatives; and
6. Ensure compliance with ethical, legal, and data privacy requirements.

SECTION 7. *Operational Framework.* - The Hub shall implement standardized national procedures for:

1. Collection and transport of biopsy samples through approved cold-chain systems;
2. Sequencing and analysis using validated NGS platforms;
3. Integration of clinical and genomic data for evidence-based patient care; and
4. Timely reporting of validated results to referring institutions.

SECTION 8. *Data Governance and Research Collaboration.* The DOH-PCC shall oversee the ethical management of biospecimens and genomic data consistent with the Data Privacy Act of 2012, the National Ethical Guidelines for Health and Health-Related Research, and international best practices.

Collaboration with public and private entities, both local and international, may be entered into for research and capacity development, provided that patient rights and data confidentiality are strictly upheld.

SECTION 9. *Tax Exemption on Donations.* - All donations, contributions, and endowments that may be made by entities or persons to the Filipino Cancer Genome Profile Hub shall be exempt from income and gift taxes.

The Filipino Cancer Genome Profile Hub shall be exempt from the payment of all taxes, charges, and fees imposed by the government or any political subdivision or instrumentality thereof.

SECTION 10. *Assistance from Government Offices.* - The Filipino Cancer Genome Profile Hub may call upon any department, bureau, office, and agency or instrumentally of the Government, including government-owned or controlled corporations, for such assistance as it may need in the pursuit of purposes and objectives.

SECTION 11. *Appropriations.* - An amount of PHP 500,000,000.00 is hereby appropriated for the initial operation of the Filipino Cancer Genome Profile Hub, which shall be charged to the appropriations of the Department of Health under the current General Appropriations Act. Thereafter, the necessary amount to support the continued operation and maintenance of the Filipino Cancer Genome Profile Hub shall be included in the annual General Appropriations Act.

SECTION 12. *Auditing.* - The books of accounts of the Filipino Cancer Genome Profile Hub shall be subject to periodic auditing by the Commission on Audit.

SECTION 13. *Annual Report.* - The Filipino Cancer Genome Profile Hub shall render to the DOH-PCC an annual report on its operations and accomplishments.

SECTION 14. *Implementing Rules and Regulations.* Within sixty (60) days from the promulgation of this Act, the implementing rules and regulations for the proper implementation of its provisions shall be formulated by the DOH-PCC in coordination with other relevant government agencies.

SECTION 15. *Separability Clause.* – If any provision of this Act shall be declared unconstitutional or invalid, the other provisions not otherwise affected shall remain in full force and effect.

SECTION 16. *Repealing Clause.* – All laws, orders, rules, and regulations, other issuances, or parts thereof, inconsistent with any provision of this Act, are hereby repealed or modified accordingly.

SECTION 17. *Effectivity.* – This Act shall take effect fifteen (15) days after its publication in the Official Gazette or in two (2) newspapers of general circulation.

Approved,