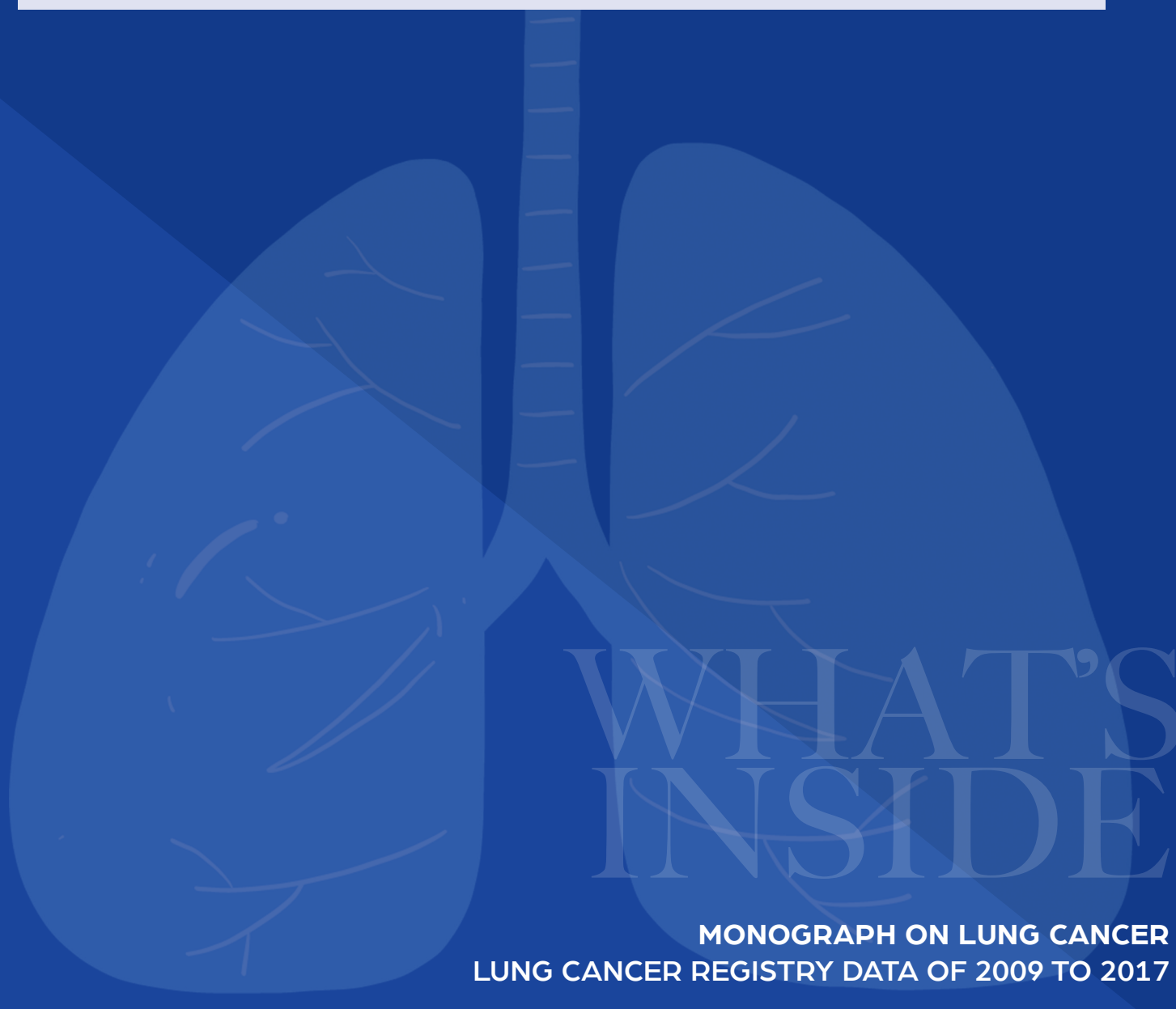


LUNG CENTER OF THE PHILIPPINES

# Scientific Proceedings

Volume 13 No. 2 | December 2025 | ISSN 0117-9322 | SPECIAL ISSUE



# WHAT'S INSIDE

**MONOGRAPH ON LUNG CANCER  
LUNG CANCER REGISTRY DATA OF 2009 TO 2017**



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## CLINICAL RESEARCH DEPARTMENT

The Clinical Research Department (CRD) oversees all research projects at the Lung Center of the Philippines (LCP). It receives, evaluates and coordinates all research activities. It establishes policies and guidelines for the development, writing, presentation and approval of research proposals. Thru its Technical Review Board (TRB), it provides guidance and technical expertise on protocol development, including sample size calculation and statistical analysis plan. It spearheads institutional researches and coordinates with other national and international agencies for clinical trials, student undergraduate and graduate research, and collaborative research. It runs the TB Research Team at the LCP's National Center for Pulmonary Research (NCPR) as well as spearheads the Lung Cancer Registry to gather and collate the comprehensive local data on pulmonary tuberculosis and lung cancer, respectively. It maintains the Clinical Research Facility (CRF), an establishment that provides room, space and storage facilities for clinical trials and research.

The CRD publishes the Scientific Proceedings, the official journal of the LCP, to share local relevant educational material in the field of pulmonary medicine. The Scientific Proceedings Journal publishes original clinical investigations, epidemiological studies, case reports, review articles, evaluation of diagnostic and surgical techniques, and latest updates on management guidelines.

In 2019, the CRD started to align with the vision and strategic direction of the LCP on research. The current challenges involve providing resources to support priority programs and projects with other departments to undertake institutional research on advanced procedures to support new clinical pathways, programs and policies and contribute to impact healthy lungs and healthy environment.

The department likewise is aligned with the National Unified Health Research Agenda 2021–2025 on [1] responsive health system [2] research to enhance and extend healthy lives [3] holistic approaches to health and wellness [4] health resiliency [5] global competitiveness and innovation in health and [6] research in equity and health.

In order to achieve these proposed strategic directions, the CRD reviews its accomplishment using the perspectives of the Balanced Scorecard in [1] learning and growth [2] internal business processes [3] customer satisfaction and [4] financial perspective. From these perspectives, the CRD hopes to monitor the outcomes of all action plans and to evaluate the implementation of such plans.

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## **A Legacy of Progress and the Vision for Survival**

### **Reflecting on Five Years of Transformation**

As I step down as Editor-in-Chief, I'm filled with gratitude for the privilege of leading Scientific Proceedings. Five years of growth have shaped not just a journal, but a community. We began with the Book of Abstracts revival in 2021 and have completed a meaningful digital transformation, culminating in our Open Journal System rollout in 2025.

We broadened our scope to include Medical and Surgical Research alongside Nursing Research, recognizing that holistic lung care demands a multidisciplinary effort. We also invested in people—strengthening our editorial team and expanding our pool of peer reviewers to uphold rigorous science.



*Jubert P. Benedicto, MD, FPCP, FPCCP  
Editor-in-Chief*

### **A Milestone Issue: The Lung Cancer Monograph**

This issue is a landmark in our history. It represents years of careful data collection and analysis, culminating in the Lung Cancer Monograph (2009–2017). The Lung Center of the Philippines (LCP) stands as the nation's largest repository and major contributor of lung cancer cases, and this monograph testifies to that experience. My deepest thanks go to the Lung Cancer Registry Team for their dedication, and to Dr. Vincent M. Balanag Jr. (former Executive Director), Dr. Sullian Naval, and Dr. Norberto Francisco (former Deputy Executive Directors) for their foresight in establishing the registry.

### **From Data to Survival: The Path Forward**

I hope this registry, along with the forthcoming third Monograph (2018–2024), will serve as a definitive reference for future research and policy-making. Our reach extends beyond the LCP—we aim to influence lung cancer management across the Philippines and the ASEAN region.

Our vision is simple and urgent: to boost patient survival. Data moves us forward, but it is the interventions that drive change. By combining the following:

- Smoking cessation efforts (LCP Quitline)
- Early detection through LDCT screening (LCP SELCaDT Program)
- Timely, state-of-the-art diagnostics (LCP Alliance Program and Reflex IHC)
- A multidisciplinary approach to comprehensive management we can transform thoracic oncology.

### **Signing Off**

As I conclude my term, I'm confident that Scientific Proceedings will continue to be a meaningful pillar of scientific contribution—locally and globally.

Thank you for the opportunity to serve, for the hard work of my colleagues, and for the shared vision of a future where lung cancer is not a death sentence, but a challenge we are prepared to meet.

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*SPLCP-2021-EP-001: SPLCP Editorial Policies v.01.2021*

# MONOGRAPH ON LUNG CANCER

LUNG CANCER REGISTRY DATA OF 2009 TO 2017

Clinical Research Department  
Lung Center of the Philippines

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Special Acknowledgment to the Lung Cancer Registry Core Technical Working Group 2025 led by Dr. Dominador P. San Andres, Members: Dr. Guia Elena Imelda R. Ladrera, Dr. Racquel C. Ibañez, Dr. Rogelio N. Velasco, Jr., Dr. Miriam Y. Lalas

# FOREWORD

The **MONOGRAPH ON LUNG CANCER REGISTRY DATA OF 2009–2017** by the Clinical Research Department (CRD) at the Lung Center of the Philippines (LCP) is the second installment in the continuing effort to understand the burden of lung cancer in our country. The data comes from the Lung Cancer Registry of the LCP, an apex national specialty center for chest and lung diseases. Building on the foundation laid by the first registry spanning 2000–2008, this edition advances the LCP's commitment to collect high-quality and locally grounded evidence that can refine clinical practice guidelines, make policies, and ultimately improve patient outcomes in the Philippine setting.

Lung cancer remains a formidable challenge in pulmonary medicine and oncology. Aside from its high prevalence and mortality, its behavior is dynamic, shaped by an evolving interplay of environmental exposures, lifestyle factors, and the complex biology of cancer itself—including, but not limited to, the emergence of diverse genetic mutations that influence treatment response, survival, and prognosis. With increasing global knowledge comes the insight that countries must understand their local epidemiologic and molecular landscapes. Only through local data can we truly appreciate how lung cancer manifests among Filipinos, tailor treatment more precisely, and develop preventive and risk-reduction strategies grounded in our national context.

This work faced considerable challenges. Preparing the registry demanded perseverance and meticulous effort in the face of missing or incomplete data fields, the tedious retrieval of physical medical charts, and the limitations imposed by aging or fragmented medical records. Inaccuracies had to be verified by finding patients, securing their consent, and coordinating with their overwhelmed doctors. New policies governing personal medical information and data privacy, essential as they were, added layers of complexity. All of these were navigated with limited resources, time, and personnel.

Despite these challenges, this monograph represents the scientific rigor, dedication, and resilience of the entire research team. The results provide a valuable insight into lung cancer in the Philippine setting. It stands as a testament to what can be achieved with institutional commitment and collaboration. As we navigate an ever-evolving disease landscape marked by advances in diagnostic modalities, therapeutic targets, and shifting risk profiles, continuous local surveillance becomes indispensable. We need to collect data in both directions: forward as patients come in, and backward to fill in the gap caused by the revised TNM classification in 2018.



I commend the whole research team: no less than Executive Director Dr. Vincent M. Balanag, Jr., and Deputy Executive Director Dr. Sullian S. Naval, who served as Department Manager of Research and Development from 2009 to 2017, the period covered by this Monograph; to all the staff who painstakingly participated and contributed, Dr. Guia Elena Imelda Ladrera, Dr. Rogelio Velasco, Jr., Ms. Krizia Chloe Rivera, and Ms. Michaela Roque; and the current Lung Cancer Registry Committee led by Dr. Dominador San Andres. We hope that the insights provided in this monograph will contribute meaningfully to improving lung cancer care in the Philippines and further strengthen our collective efforts toward earlier diagnoses, longer survival, and better outcomes for our Filipino patients.

*Norberto A. Francisco, MD, FPCP, FPCCP*

# MESSAGE

The **Monograph of the Lung Cancer Registry (2009–2017)** in the **LCP Scientific Proceedings** marks an important milestone in the history of the Lung Center of the Philippines, contributing significantly to the literature and manifesting our collaborative spirit.

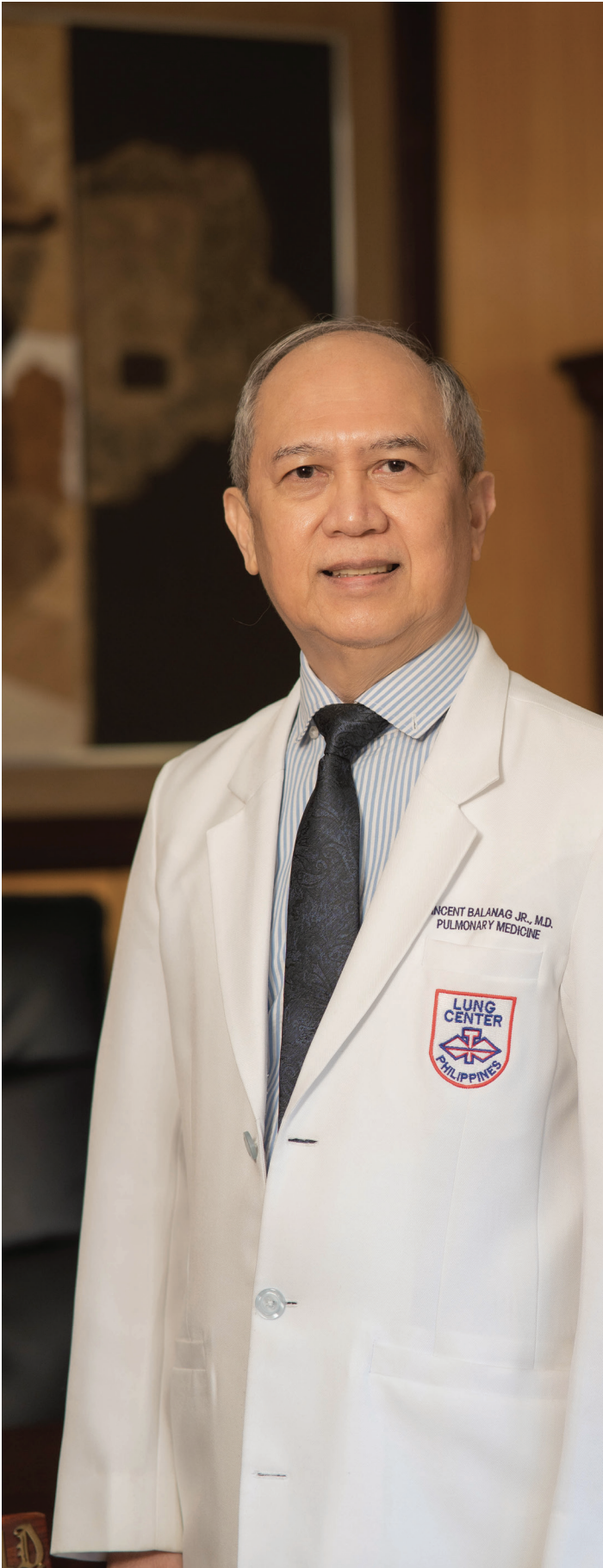
We recall the pioneering efforts of the past Executive Director of LCP, Dr. Calixto Zaldivar, and the prominent cancer expert, the late Dr. Robert Montevirgen, in establishing the Lung Cancer Registry in the early years of our institution, cognizant of the importance of accurate data in developing policies to manage this prevalent and deadly disease. Their vision was further expanded by the Research and Development Department in the years that followed, culminating in 2016, when the first **Monograph** on the Lung Cancer Registry (2000 to 2008) was published. The second **Monograph** cements this institutional tradition.

This second edition is the product of the collaborators' many, many hours spent collecting, encoding, organizing, cleaning, and analyzing the data, before writing, editing, and finally publishing the final form. Recent changes in the classification and staging of lung cancer, new diagnostics and therapies, the rapid turnover of staff, and new data privacy policies were some of the challenges encountered and hurdled during the process.

We recognize the leadership of Dr. Sullian Naval and Dr. Norberto Francisco, previous Department Managers of Research and Development (reorganized in 2018 into the Clinical Research Department). We acknowledge as well the recent contributions of the newbloods, so to speak, of the Department, namely Dr. Racquel Ibañez, Dr. Miriam Lalas, and Dr. Rogelio Velasco, in the completion of the current **Monograph**.

The quest for improved outcomes and survival among lung cancer patients continues. We are encouraged by new screening and diagnostic tests, the use of biomarkers, and the emergence of personalized medicine in the field of oncology. These, together with robust and accurate information on lung cancer, the dream of longer survival and lasting cure in lung cancer will become a reality in the very near future.

*Vincent M. Balanag, Jr., MD, MSc, FPCP, FPCCP*





## MONOGRAPH ON LUNG CANCER LUNG CANCER REGISTRY DATA OF 2009 TO 2017

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### ABSTRACT

**Background.** Virtual inhaler education is increasingly being explored as Lung cancer is the second-most commonly diagnosed malignancy and is the leading cause of cancer-related deaths. Continuous advancement in diagnostic and treatment modalities aims to improve this trend.

**Objective.** To present the demographic and clinical profile, diagnosis, management, and in-hospital outcomes of lung cancer patients seen at the Lung Center of the Philippines between 2009 to 2017

**Methods.** This was a retrospective cohort review among all patients with lung cancer registered at the Lung Center of the Philippines from January 1, 2009, to December 31, 2017. The data were extracted from the medical records of lung cancer patients and recorded in the Lung Cancer Registry forms. The data recorded in the Lung Cancer Registry data collection forms were encoded using EPI INFO.

**Results.** A total of 3,969 lung cancer patients were included in the study. The majority were male (66.0%, n = 2,618), were aged 60 years and older (59.0%, n = 2,331), came from National Capital Region (45.2%), had a smoking history (63.2%, n = 2,507), were classified as Stage IV (66%), had non-small cell carcinoma (NSCLC) (89.3%, n = 3,586), had a sub-type of adenocarcinoma (62.7%, n = 225), and underwent diagnostic and staging procedures (75.7%) during the year of first admission (supportive care 56.6%, surgery 17.8%, radiotherapy 5.7%, and chemotherapy 7.5%). Among the patients included in the study, 719 (18.2%) died in-hospital during their first admission. However, the mortality data among patients whose deaths may have occurred outside the hospital were not available.

**Conclusion.** In this cohort from 2009 to 2017, 3,969 patients with lung cancer were included, similar to the number of patients with lung cancer included in the previous 2000 to 2008 cohort. The majority were diagnosed in their late stage, received supportive therapy, and had a high rate of in-hospital mortality on admission.

**Keywords.** Lung cancer, survival, adenocarcinoma

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## INTRODUCTION

Lung cancer is the second-most commonly diagnosed malignancy in 2022, following breast cancer. It is also the leading cause of cancer-related mortality.<sup>1</sup> In the Philippines, 23,728 new cases and 20,953 deaths were recorded in the same year. Although notable advancements in the past decades have significantly improved the treatment landscape, the five-year prevalence of lung cancer across all ages was 29.3 per 100,000 population.<sup>1</sup> New cases of lung cancer continue to rise, especially in low-income countries, mainly due to limitations in resources.<sup>2</sup>

Lung cancer can be histologically classified into non-small cell (85% of cases) or small cell (15% of cases). Adenocarcinomas and squamous cell carcinomas comprise the majority of non-small cell cases. The discovery of novel biomarkers (such as EGFR mutations, ALK and ROS-1 rearrangements, BRAF mutations, MET exon 14 mutations, and PDL-1) has revolutionized the treatment of lung cancer and improved patients' survival. Stage I to IIIA non-small cell lung cancer can be treated with surgery and adjuvant chemotherapy. Unresectable stage III disease is usually treated with a multimodal approach (chemotherapy and radiotherapy followed by consolidation immunotherapy). Targeted therapy, immunotherapy, and chemotherapy remain the cornerstones of systemic therapy in metastatic disease.<sup>2,3</sup> Small cell lung cancer is classified into limited-disease or extensive-disease. The former is treated with surgery and concurrent chemoradiotherapy, while the latter is treated with chemoimmunotherapy.<sup>4,5</sup>

The Lung Center of the Philippines (LCP), a national specialty institution established in 1981, has provided high-quality health services and state-of-the-art facilities for the diagnosis and management of lung cancer since its inception. This monograph was conceptualized in the early 1990s by the Hospital Tumor Board, steered by then Director Calixto A. Zaldivar, and the Pulmonologist-Oncologist, Dr. Roberto Montevirgen.

The first version of the monograph covering 2000 to 2008 was spearheaded by Dr. Sullian Sy-Naval and Dr. Vincent M. Balanag, Jr. A total of 3,950 cases of lung cancer were recorded and treated in the institution. Most were males, and more than half were diagnosed after the 6th decade of life. Most (87%) were non-small cell carcinoma, predominantly adenocarcinoma, and were diagnosed at stage IV.<sup>6</sup> Due to late diagnosis, the 3-5 year survival was 3% with a median survival of 121 days.<sup>7</sup>

The second version of the manuscript marks the advent of new diagnostic modalities (immunohistochemistry and biomarkers), surgical techniques, interventional pulmonology, and interventional radiology. Experimental approaches such as the use of stem cell therapy are also explored in this version.

Lung cancer should be diagnosed early to improve patients' survival. The National Lung Screening Trial (NLST) showed

that annual screening with low-dose computed tomography (LDCT) in a high-risk population was associated with a 20% reduction in lung cancer-specific mortality, compared with conventional chest radiography.<sup>8</sup> The NELSON Trial showed a 24% reduction in lung cancer mortality.<sup>9</sup> The institution recently embarked on a lung cancer screening program, "Screening for Early Lung Cancer and Detection and Treatment (SELCaDT)" in collaboration with the Department of Health. This program aims to identify and screen high-risk individuals, detect lung cancer early, and treat with the intent to cure (lcp.gov.ph), to improve lung cancer survival in cases seen at the LCP.<sup>10</sup>

### General objective:

This monograph aimed to present the demographic and clinical profile, diagnosis, management, and in-hospital outcomes of lung cancer patients seen at the Lung Center of the Philippines between 2009 to 2017.

Specifically, it aimed to:

- a) Describe the clinicodemographic profile of lung cancer patients between 2009 to 2017;
- b) Describe the diagnostic and treatment modalities received by lung cancer patients between 2009 to 2017;
- c) Describe the in-hospital outcome of lung cancer patients between 2009 to 2017.

## METHODOLOGY

### Study design and setting

This was a retrospective cohort review of all patients with lung cancer registered at the Lung Center of the Philippines.

### Inclusion and exclusion criteria

This research study included all eligible adult patients diagnosed with lung cancer confirmed histologically through tissue or cytologic analyses from January 1, 2009, to December 31, 2017. All admitted patients with a histopathologic diagnosis of lung cancer, including small cell carcinoma, non-small cell carcinoma, and subtypes, diagnosed through tissue or cytology from respiratory samples, were included. Patients with metastatic lung disease from non-lung primary, those with lung masses not subjected to diagnostic work-up, and those with incomplete information regarding imaging or staging procedures were excluded.

### Data collection

Socio-demographic and clinical profiles, including medical, social, family history, histopathologic classification, tumor-related characteristics, and management, were extracted from the patient records and recorded. Date of symptom recognition, type and number of health care providers visited, date of visit, date of definitive diagnosis, and treatment were recorded using a structured questionnaire.

### Data Collection and Forms Used

The data were extracted from the medical records of lung cancer patients admitted at the Lung Center of the Philippines (LCP) from 2009 to 2017 and recorded in the Lung Cancer Registry forms. The data were collected using LCP Form No. 63-001 (Appendix 1) and LCP Form No. 63-003 (Appendix 3). For the first admission, data were recorded in Form No. 63-001 and Form No. 63-002 (Appendix 2). The data of the succeeding admission/s, if any, were recorded in Form No. 63-002 and Form No. 63-003.

### Data Encoding, Validation, and Cleaning

The data recorded in the Lung Cancer Registry data collection forms were encoded using the EPI INFO data entry program prepared by the LCP Department of Research and Development (renamed to Clinical Research Department in 2018).

Data were validated and cleaned to ensure the quality before analysis. To select records for validation, we did stratified random sampling of 364 patient ID numbers, with proportional allocation by year of admission. These patients' paper data collection forms were retrieved by the staff-in-charge and a biostatistician. The encoded data was compared with the patient information in the data collection forms. When missing data, inconsistencies, and issues on the plausibility of the data were found, the data were edited based on consultations with the data encoder, staff-in-charge, and the biostatistician.

### Data Analysis

Data were analyzed using the STATA 14 software. Frequency and percentage distribution were obtained for the qualitative data, while means and standard deviations were calculated for age, which was the only quantitative data in the study. We described the frequency and distribution of lung cancer cases according to age, sex, year of first hospital admission, place of residency, smoking status, comorbidities, alcohol intake, histology, and management during admission.

Survival analysis of the 2009-2017 cohort is still ongoing at the time of printing of this Monograph and will be reported in a future publication of the LCP Scientific Proceedings.

## RESULTS

A total of 3,969 lung cancer patients were included in the study. Most patients were males (66.0%, n = 2,618); this proportion was consistent across the time frame. Most cases were detected at age 60 years and older (58.7%, n = 2,331), followed by between 40 and 59 years (36.2%, n = 1,437). The number of cases of lung cancer had started to increase beginning at age 40 years, with the mean age recorded at 61.1 years old. Only approximately 4% of cases occurred before the age of 40 years (Tables A1 & A2). Most (76.4%, n = 3,032) patients were married at the time of first admission. There were more males diagnosed across all age categories. The proportions of those who were widowed and single were 12.5% and 8.1%, respectively. (Tables A3 & A4).

**Table A1.** Frequency and percentage distribution of incident cases according to patients' sex and year of first hospital admission.

Sex	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Male	295 (66.6)	272 (64.8)	305 (68.4)	310 (67.4)	282 (68.8)	335 (67.4)	380 (67.4)	286 (64.3)	153 (53.9)	2,618 (66.0)
Female	148 (33.4)	148 (35.2)	139 (31.2)	148 (32.2)	128 (31.2)	162 (32.6)	184 (32.6)	157 (35.3)	131 (46.1)	1,345 (33.9)
No information	0 (0.0)	0 (0.0)	2 (0.5)	2 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.5)	0 (0.0)	6 (0.2)
Total	443	420	446	460	410	497	564	445	284	3,969

\*Column percentage

**Table A2.** Frequency and percentage distribution of incident cases according to patients' age and year of first hospital admission.

Age	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
≤ 39	29 (6.6)	23 (5.5)	16 (3.6)	15 (3.3)	21 (5.1)	21 (4.2)	18 (3.2)	14 (3.2)	12 (4.2)	169 (4.3)
40-59	175 (39.5)	165 (39.3)	168 (37.7)	143 (31.1)	157 (38.3)	168 (33.8)	196 (34.8)	151 (33.9)	114 (40.1)	1,437 (36.2)
≥ 60	236 (53.3)	228 (54.3)	261 (58.5)	298 (64.8)	228 (55.6)	304 (61.2)	346 (61.4)	276 (62.0)	154 (54.2)	2,331 (58.7)
No information	2 (0.5)	0 (0.0)	1 (0.2)	2 (0.4)	1 (0.2)	1 (0.2)	2 (0.4)	2 (0.5)	2 (0.7)	13 (0.3)
<b>Total</b>	<b>443</b>	<b>420</b>	<b>446</b>	<b>460</b>	<b>410</b>	<b>497</b>	<b>564</b>	<b>445</b>	<b>284</b>	<b>3,969</b>

\*Column percentage

**Table A3.** Frequency and percentage distribution of incident cases according to patients' age and sex.

Sex	AGE GROUP				
	≤ 39	40-59	≥ 60	No information	Total
Male	99 (58.6)	870 (60.5)	1626 (69.8)	10 (76.9)	2,605 (65.6)
Female	70 (41.4)	564 (39.2)	702 (30.1)	3 (23.1)	1,339 (33.7)
No information	0 (0.0)	3 (0.2)	3 (0.1)	0 (0.0)	6 (0.2)
<b>Total</b>	<b>169</b>	<b>1,437</b>	<b>2,331</b>	<b>13</b>	<b>3,969</b>

\*Column percentage

**Table A4.** Frequency and percentage distribution of incident cases according to patients' civil status and year of first hospital admission.

Civil Status	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Married	336 (75.9)	327 (77.9)	334 (74.9)	375 (81.5)	322 (78.5)	372 (74.9)	415 (73.6)	336 (75.5)	215 (75.7)	3,032 (76.4)
Single	42 (9.5)	32 (7.6)	35 (7.9)	34 (7.4)	32 (7.8)	35 (7.0)	46 (8.2)	37 (8.3)	27 (9.5)	320 (8.1)
Widowed	57 (12.9)	50 (11.9)	57 (12.8)	44 (9.6)	49 (12.0)	66 (13.3)	79 (14.0)	60 (13.5)	32 (11.3)	494 (12.5)
Separated	3 (0.7)	4 (1.0)	12 (2.7)	4 (0.9)	4 (1.0)	5 (1.0)	10 (1.8)	3 (0.7)	3 (1.1)	48 (1.2)
No information	5 (1.1)	7 (1.7)	8 (1.8)	3 (0.7)	3 (0.7)	19 (3.8)	14 (2.5)	9 (2.0)	7 (2.5)	75 (1.9)
<b>Total</b>	<b>443</b>	<b>420</b>	<b>446</b>	<b>460</b>	<b>410</b>	<b>497</b>	<b>564</b>	<b>445</b>	<b>284</b>	<b>3,969</b>

\*Column percentage

The National Capital Region (NCR) accounted for 45.3% of all patients who were admitted due to lung cancer from 2009 to 2017 (>40% every year). On the other hand, Regions III and IVA accounted for almost 40% of the total

cases. During the year of first admission, 317 (8.0%) were unemployed. Among patients with recorded occupational data, skilled agricultural, forestry, and fishery work were the most frequent at 8.9%, followed by elementary occupations at 8.8% (Tables A5 & A6).

**Table A5.** Frequency and percentage distribution of incident cases according to permanent address (region) and year of first hospital admission.

Region	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>I – Ilocos</b>	11 (2.5)	9 (2.1)	8 (1.8)	11 (2.4)	9 (2.2)	13 (2.6)	18 (3.2)	8 (1.8)	8 (2.8)	95 (2.4)
<b>II – Cagayan Valley</b>	8 (1.8)	15 (3.6)	13 (2.9)	9 (2.0)	8 (2.0)	14 (2.8)	9 (1.6)	12 (2.7)	3 (1.1)	91 (2.3)
<b>III – Central Luzon</b>	76 (17.2)	82 (19.5)	80 (17.9)	91 (19.8)	81 (19.8)	100 (20.1)	111 (19.7)	87 (19.6)	57 (20.1)	765 (19.3)
<b>IVA – CaLaBaRZon</b>	87 (19.6)	86 (20.5)	86 (19.3)	88 (19.1)	83 (20.2)	107 (21.5)	107 (19.0)	80 (18.0)	52 (18.3)	776 (19.6)
<b>IVB – MiMaRoPa</b>	7 (1.6)	4 (1.0)	3 (0.7)	16 (3.5)	7 (1.7)	10 (2.0)	7 (1.2)	6 (1.4)	6 (2.1)	66 (1.7)
<b>V – Bicol</b>	13 (2.9)	10 (2.4)	7 (1.6)	10 (2.2)	4 (1.0)	15 (3.0)	13 (2.3)	16 (3.6)	7 (2.5)	95 (2.4)
<b>VI – Western Visayas</b>	5 (1.1)	3 (0.7)	1 (0.2)	5 (1.1)	6 (1.5)	6 (1.2)	6 (1.1)	1 (0.2)	0 (0.0)	33 (0.8)
<b>VII – Central Visayas</b>	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	1 (0.2)	2 (0.4)	0 (0.0)	0 (0.0)	5 (0.1)
<b>VIII – Eastern Visayas</b>	8 (1.8)	5 (1.2)	11 (2.5)	9 (2.0)	5 (1.2)	10 (2.0)	4 (0.7)	9 (2.0)	2 (0.7)	63 (1.6)
<b>IX – Zamboanga Peninsula</b>	1 (0.2)	3 (0.7)	2 (0.5)	1 (0.2)	0 (0.0)	2 (0.4)	1 (0.2)	0 (0.0)	1 (0.4)	11 (0.3)
<b>X – Northern Mindanao</b>	1 (0.2)	0 (0.0)	0 (0.0)	2 (0.4)	1 (0.2)	1 (0.2)	3 (0.5)	0 (0.0)	0 (0.0)	8 (0.2)
<b>XI – Davao</b>	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.0)
<b>XII – SOCCSK-SAR GEN</b>	1 (0.2)	2 (0.5)	2 (0.50)	3 (0.7)	0 (0.0)	1 (0.2)	1 (0.2)	0 (0.0)	1 (0.4)	11 (0.3)
<b>XIII – Caraga</b>	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	3 (0.1)

Region	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>NCR</b>	209 (47.2)	184 (43.8)	210 (47.1)	207 (45.0)	188 (45.9)	203 (40.9)	255 (45.2)	210 (47.2)	130 (45.8)	1,796 (45.3)
<b>CAR</b>	0 (0.0)	2 (0.5)	2 (0.5)	2 (0.4)	1 (0.2)	4 (0.8)	4 (0.7)	4 (0.9)	2 (0.7)	21 (0.5)
<b>BARMM</b>	0 (0.0)	2 (0.5)	0 (0.0)	0 (0.0)	1 (0.2)	0 (0.0)	1 (0.2)	0 (0.0)	0 (0.0)	4 (0.1)
<b>Cannot be determined</b>	8 (1.8)	9 (2.1)	9 (2.0)	2 (0.4)	9 (2.2)	6 (1.2)	6 (1.1)	7 (1.6)	5 (1.8)	61 (1.5)
<b>No information</b>	7 (1.6)	4 (1.0)	11 (2.5)	4 (0.9)	5 (1.2)	3 (0.6)	15 (2.7)	5 (1.1)	10 (3.5)	64 (1.6)
<b>Total</b>	443	420	446	460	410	497	564	445	284	3,969

\*Column percentage

**Table A6.** Frequency distribution of incident cases according to patients' occupation and year of first hospital admission.

Occupation	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Managers</b>	22 (5.0)	21 (5.0)	22 (4.9)	25 (5.4)	30 (7.3)	19 (3.8)	22 (3.9)	14 (3.2)	9 (3.2)	184 (4.6)
<b>Professionals</b>	39 (8.8)	17 (4.1)	33 (7.4)	26 (5.7)	23 (5.6)	28 (5.6)	22 (3.9)	18 (4.0)	10 (3.5)	216 (5.4)
<b>Technicians and associate professionals</b>	17 (3.8)	5 (1.2)	23 (5.2)	23 (5.0)	12 (2.9)	19 (3.8)	19 (3.4)	8 (1.8)	8 (2.8)	134 (3.4)
<b>Clerical support workers</b>	11 (2.5)	3 (0.7)	11 (2.5)	6 (1.3)	7 (1.7)	8 (1.6)	8 (1.4)	7 (1.6)	5 (1.8)	66 (1.7)
<b>Service and sales workers</b>	26 (5.9)	16 (3.8)	37 (8.3)	30 (6.5)	26 (6.3)	34 (6.8)	28 (5.0)	15 (3.4)	8 (2.8)	220 (5.5)
<b>Skilled agricultural, forestry, and fishery workers</b>	57 (12.9)	38 (9.1)	57 (12.8)	46 (10.0)	26 (6.3)	49 (9.9)	47 (8.3)	27 (6.1)	5 (1.8)	352 (8.9)
<b>Crafts and related trades workers</b>	24 (5.4)	15 (3.6)	19 (4.3)	26 (5.7)	10 (2.4)	13 (2.6)	19 (3.4)	13 (2.9)	10 (3.5)	149 (3.8)

Occupation	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Plant and machine operators and assemblers</b>	13 (2.9)	14 (3.3)	19 (4.3)	23 (5.0)	14 (3.4)	14 (2.8)	12 (2.1)	7 (1.6)	5 (1.8)	121 (3.1)
<b>Elementary occupations</b>	43 (9.7)	29 (6.9)	52 (11.7)	47 (10.2)	37 (9.0)	41 (8.3)	58 (10.3)	28 (6.3)	15 (5.3)	350 (8.8)
<b>Armed Forces occupations</b>	3 (0.7)	2 (0.5)	5 (1.1)	2 (0.4)	1 (0.2)	2 (0.4)	2 (0.4)	0 (0.0)	0 (0.0)	17 (0.4)
<b>Unemployed</b>	102 (23.0)	134 (31.9)	44 (9.9)	11 (2.4)	23 (5.6)	1 (0.2)	0 (0.0)	2 (0.5)	0 (0.0)	317 (8.0)
<b>Cannot be determined</b>	70 (15.8)	68 (16.2)	63 (14.1)	68 (14.8)	14 (3.4)	21 (4.2)	18 (3.2)	12 (2.7)	5 (1.8)	339 (8.5)
<b>No information</b>	16 (3.6)	58 (13.8)	61 (13.7)	127 (27.6)	187 (45.6)	248 (49.9)	309 (54.8)	294 (66.1)	204 (71.8)	1,504 (37.9)
<b>Total</b>	443	420	446	460	410	497	564	445	284	3,969

*Collected information on occupation was grouped according to the 2012 Philippine Standard Occupational Classification (PSOC 2012).*

\*Column percentage

### B. Medical, Social, and Family History

Most patients reported a smoking history (63.2%, n = 2,507), with only 33.5% (n = 1,330) reporting having never smoked (Table B1). In terms of alcohol intake status, 63.1% (n = 2,503) were non-alcoholic at the time of first admission, while the proportions of those who were currently and previously alcoholic were 9.1% (n = 362) and 11.2% (n = 443), respectively. Data on alcohol intake were not available for 16.7% (Table B2). Of the population, 1,176 (22.3%) had previous lung diseases, including PTB (11.8%),

COPD (6.4%), asthma (3.8%), and pneumonia or other lung diseases (0.3%). A medical history of hypertension was present in 34.1%. No known illnesses were reported for 34.1% (Table B3).

Regarding family history, 23.0% reported hypertension, 16.5% reported malignancy, 12.1% reported diabetes, 8.3% reported asthma, 4.9% reported PTB, 4.9% reported cardiac disease, while 18.7% reported no known illness (Table B4).

**Table B1.** Frequency and percentage distribution of incident cases according to patients' smoking status and year of first hospital admission.

	SMOKING YEAR OF FIRST ADMISSION STATUS									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Current Smoker</b>	227 (51.2)	215 (51.2)	204 (45.7)	164 (35.7)	101 (24.6)	130 (26.2)	110 (19.5)	59 (13.3)	32 (11.3)	1,242 (31.3)
<b>Former Smoker</b>	65 (14.7)	52 (12.4)	84 (18.8)	125 (27.2)	149 (36.3)	198 (39.8)	264 (46.8)	216 (48.5)	112 (39.4)	1,265 (31.9)

SMOKING YEAR OF FIRST ADMISSION STATUS										
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Never Smoker</b>	123 (27.8)	142 (33.8)	139 (31.2)	144 (31.3)	136 (33.2)	163 (32.8)	184 (32.6)	161 (36.2)	138 (48.6)	1,330 (33.5)
<b>No Information</b>	28 (6.3)	11 (2.6)	19 (4.3)	27 (5.9)	24 (5.9)	6 (1.2)	6 (1.1)	9 (2.0)	2 (0.7)	132 (3.3)
<b>Total</b>	443	420	446	460	410	497	564	445	284	3,969

\*Column percentage

**Table B2.** Frequency and percentage distribution of incident cases according to patients' alcohol intake and year of first hospital admission.

Alcohol Intake Status	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Alcoholic</b>	70 (15.8)	91 (21.7)	61 (13.7)	47 (10.2)	27 (6.6)	18 (3.6)	20 (3.6)	19 (4.3)	9 (3.2)	362 (9.1)
<b>Previous Alcoholic</b>	30 (6.8)	36 (8.6)	41 (9.2)	56 (12.2)	60 (14.6)	63 (12.7)	88 (15.6)	47 (10.6)	22 (7.8)	443 (11.2)
<b>Non-alcoholic</b>	230 (51.9)	219 (52.1)	205 (46.0)	191 (41.5)	220 (53.7)	382 (76.9)	442 (78.4)	369 (82.9)	245 (86.3)	2,503 (63.1)
<b>No Information</b>	113 (25.5)	74 (17.6)	139 (31.2)	166 (36.1)	103 (25.1)	34 (6.8)	14 (2.5)	10 (2.3)	8 (2.8)	661 (16.7)
<b>Total</b>	443	420	446	460	410	497	564	445	284	3,969

\*Column percentage

**Table B3.** Frequency distribution of co-existing illnesses among lung cancer patients during their first hospital admission.

Co-morbidities	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>COPD</b>	42 (6.8)	47 (8.2)	54 (8.7)	55 (8.1)	22 (4.3)	37 (5.7)	37 (5.1)	32 (5.9)	14 (3.9)	340 (6.4)
<b>PTB</b>	127 (20.5)	134 (23.5)	142 (22.8)	99 (14.5)	39 (7.6)	38 (5.9)	20 (2.8)	11 (2.0)	14 (3.9)	624 (11.8)
<b>Asthma</b>	20 (3.2)	20 (3.5)	18 (2.9)	14 (2.1)	22 (4.3)	36 (5.6)	32 (4.4)	19 (3.5)	17 (4.7)	198 (3.8)
<b>Allergy</b>	19 (3.1)	8 (1.4)	19 (3.0)	16 (2.3)	15 (2.9)	20 (3.1)	24 (3.3)	20 (3.7)	8 (2.2)	149 (2.8)
<b>Diabetes</b>	64 (10.3)	47 (8.2)	61 (9.8)	83 (12.2)	66 (12.9)	77 (11.9)	88 (12.2)	74 (13.7)	52 (14.4)	612 (11.6)
<b>Hypertension</b>	132 (21.3)	108 (18.9)	141 (22.6)	161 (23.6)	157 (30.7)	189 (29.3)	223 (30.8)	142 (26.2)	102 (28.3)	1355 (25.7)

Co-morbidities	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Cardiac Diseases</b>	38 (6.1)	16 (2.8)	30 (4.8)	42 (6.2)	14 (2.7)	28 (4.3)	32 (4.4)	21 (3.9)	18 (5.0)	240 (4.6)
<b>Other malignancy</b>	2 (0.0)	5 (0.9)	2 (0.3)	9 (1.3)	4 (0.8)	12 (1.9)	11 (1.5)	11 (2.0)	5 (1.4)	61 (1.2)
<b>Pneumonia or other lung diseases</b>	1 (0.0)	8 (1.4)	0	3 (0.4)	1 (0.2)	0	0	1 (0.2)	0	14 (0.3)
<b>Anemia</b>	0	0	0	1 (0.2)	0	0	1 (0.1)	0	0	2 (0.0)
<b>Bleeding Tendencies</b>	0	0	0	0	1 (0.2)	0	0	0	0	1 (0.0)
<b>Others</b>	22 (3.5)	33 (5.8)	16 (2.6)	14 (2.1)	5 (1.0)	17 (2.6)	23 (3.2)	14 (2.6)	12 (3.3)	156 (3.0)
<b>No Illness</b>	113 (18.2)	128 (22.4)	115 (18.4)	143 (21.0)	157 (30.7)	181 (28.1)	221 (30.6)	183 (33.8)	111 (30.8)	1352 (25.6)
<b>No Information</b>	41 (6.6)	17 (3.0)	26 (4.2)	42 (6.2)	9 (1.8)	10 (1.6)	11 (1.5)	13 (2.4)	7 (1.9)	176 (3.3)
<b>Column total</b>	621	571	624	682	512	645	723	541	360	5280

\*Column percentage

**Table B4.** Frequency distribution of medical conditions in the patients' family history according to year of first hospital admission.

Medical Conditions	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>COPD</b>	0 (0.0)	6 (1.1)	2 (0.4)	1 (0.2)	0	14 (1.9)	9 (1.0)	7 (1.0)	5 (1.3)	44 (0.8)
<b>PTB</b>	45 (8.3)	63 (11.4)	51 (8.9)	31 (5.5)	24 (4.4)	19 (2.6)	20 (2.3)	8 (1.2)	8 (2.1)	269 (4.9)
<b>Asthma</b>	35 (6.5)	38 (6.9)	49 (8.6)	38 (6.7)	55 (10.0)	78 (10.7)	71 (8.2)	61 (9.1)	26 (6.7)	451 (8.3)
<b>Allergy</b>	0	2 (0.4)	0	3 (0.5)	7 (1.3)	12 (1.6)	8 (0.9)	7 (1.0)	3 (0.8)	42 (0.8)
<b>Diabetes</b>	57 (10.5)	61 (11.0)	52 (9.1)	47 (8.3)	66 (12.0)	115 (15.8)	130 (15.0)	85 (12.7)	47 (12.1)	660 (12.1)

Medical Conditions	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Hypertension	94 (17.3)	91 (16.4)	115 (20.1)	77 (13.7)	138 (25.0)	201 (27.5)	264 (30.5)	170 (25.3)	101 (25.9)	1251 (23.0)
Cardiac Diseases	15 (2.8)	19 (3.4)	12 (2.1)	10 (1.8)	21 (3.8)	54 (7.4)	49 (5.7)	62 (9.2)	22 (5.6)	264 (4.9)
Other malignancy	72 (13.3)	75 (13.5)	93 (16.3)	95 (16.8)	101 (18.3)	85 (11.6)	158 (18.2)	134 (20.0)	84 (21.5)	897 (16.5)
Pneumonia or other lung diseases	1 (0.2)	2 (0.4)	1 (0.2)	0	1 (0.2)	2 (0.3)	2 (0.2)	1 (0.2)	1 (0.3)	11 (0.2)
Anemia	1 (0.2)	1 (0.2)	0	0	3 (0.5)	0	2 (0.2)	2 (0.3)	1 (0.3)	10 (0.2)
Bleeding Tendencies	0	0	0	0	0 (0.0)	2 (0.3)	1 (0.1)	0	0	3 (0.1)
Others	8 (1.5)	11 (2.0)	4 (0.7)	4 (0.7)	9 (1.6)	12 (1.6)	9 (1.0)	6 (0.9)	3 (0.8)	66 (1.2)
No Illness	152 (28.0)	141 (26.0)	128 (22.4)	144 (25.5)	105 (19.0)	92 (12.6)	94 (10.9)	91 (13.6)	69 (17.7)	1016 (18.7)
No Information	62 (11.4)	44 (8.1)	65 (11.4)	114 (20.2)	22 (4.0)	44 (6.0)	49 (5.7)	37 (5.5)	20 (5.1)	457 (8.4)
	542	554	572	564	552	730	866	671	390	5441

\*Column percentage

### C. Clinical Information on Admission

Most (89.3%, n = 3,546) patients had non-small cell carcinoma (NSCLC) while 8.1% (n = 322) had small cell carcinoma.

Among the patients with NSCLC, adenocarcinoma was the most dominant subtype (62.7%, n = 225), followed by squamous cell carcinoma (56.1%, n = 565) (Table C1).

**Table C1.** Frequency and percentage distribution of incident cases according to histological classification of lung cancer and year of first hospital admission.

Histopathology	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Non-small cell carcinoma	412 (93.0)	374 (89.1)	402 (90.1)	403 (87.6)	358 (87.6)	427 (85.9)	499 (88.5)	394 (88.5)	277 (97.5)	3,546 (89.3)
Adenocarcinoma	273 (61.6)	263 (62.6)	266 (59.6)	232 (50.4)	222 (54.2)	236 (47.5)	272 (48.2)	219 (49.2)	242 (85.2)	2,225 (56.1)
Squamous	66 (14.9)	57 (13.6)	51 (11.4)	64 (13.9)	72 (17.6)	91 (18.3)	104 (18.4)	58 (13.0)	2 (0.7)	565 (14.2)
Bronchoalveolar	5 (1.1)	1 (0.2)	5 (1.1)	2 (0.4)	0	0	0	3 (0.7)	0	16 (0.4)

Histopathology	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Large Cell	2 (0.5)	3 (0.7)	1 (0.2)	2 (0.4)	1 (0.2)	1 (0.2)	1 (0.2)	1 (0.2)	0	12 (0.3)
Adenosquamous	0	0	0	0	0	3 (0.6)	2 (0.4)	0	0	5 (0.1)
Others	17 (3.8)	6 (1.4)	9 (2.0)	3 (0.7)	3 (0.7)	10 (2.0)	15 (2.7)	6 (1.4)	2 (0.7)	71 (1.8)
Unspecified	49 (11.1)	44 (10.5)	70 (15.7)	100 (21.7)	60 (14.6)	86 (17.3)	105 (18.6)	107 (24.0)	31 (10.9)	652 (16.4)
Small Cell	27 (6.1)	43 (10.2)	43 (9.6)	42 (9.1)	36 (8.8)	46 (9.3)	43 (7.6)	41 (9.2)	1 (0.4)	322 (8.1)
Others (malignant cell and unspecified)	4 (0.9)	3 (0.7)	1 (0.2)	15 (3.3)	16 (3.9)	24 (4.8)	22 (3.9)	10 (2.3)	6 (2.1)	101 (2.5)
<b>Total</b>	<b>443</b>	<b>420</b>	<b>446</b>	<b>460</b>	<b>410</b>	<b>497</b>	<b>564</b>	<b>445</b>	<b>284</b>	<b>3,969</b>

\*Column percentage

**Table C2.** Frequency and percentage distribution of incident cases according to lung cancer stage and year of first hospital admission.

Histo-pathology	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Non-small Cell Carcinoma</b>										
IA	5 (1.1)	5 (1.2)	13 (2.9)	6 (1.3)	8 (2.0)	3 (0.6)	4 (0.7)	4 (0.9)	5 (1.8)	53 (1.3)
IB	39 (8.8)	23 (5.5)	28 (6.3)	13 (2.8)	10 (2.4)	9 (1.8)	14 (2.5)	11 (2.5)	5 (1.8)	152 (3.8)
IIA	5 (1.1)	4 (1.0)	14 (3.1)	22 (4.8)	9 (2.2)	8 (1.6)	9 (1.6)	13 (2.9)	3 (1.1)	87 (2.2)
IIB	21 (4.8)	18 (4.3)	10 (2.2)	18 (3.9)	29 (7.1)	29 (5.8)	25 (4.5)	22 (5.0)	7 (2.5)	179 (4.5)
IIIA	25 (5.7)	17 (4.0)	34 (7.6)	28 (6.1)	16 (3.9)	39 (7.8)	33 (5.9)	28 (6.3)	17 (6.1)	237 (6.0)
IIIB	15 (3.4)	14 (3.3)	11 (2.5)	13 (2.8)	31 (7.6)	35 (7.0)	35 (6.2)	29 (6.6)	21 (7.5)	204 (5.1)
IVA	223 (50.5)	208 (49.4)	223 (50.0)	203 (44.0)	181 (44.2)	205 (41.0)	244 (43.5)	151 (34.1)	139 (49.5)	1,777 (44.8)
IVB	78 (17.7)	86 (20.4)	69 (15.5)	99 (21.5)	73 (17.8)	99 (19.8)	130 (23.2)	131 (29.6)	74 (26.3)	839 (21.2)
Not known	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.4)	1 (0.2)	1 (0.2)	2 (0.4)	3 (0.7)	3 (1.1)	12 (0.3)
<b>Subtotal</b>	<b>411</b>	<b>375</b>	<b>402</b>	<b>404</b>	<b>358</b>	<b>428</b>	<b>496</b>	<b>392</b>	<b>274</b>	<b>3,540</b>

Histo-pathology	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
<b>Non-small Cell Carcinoma</b>										
<b>Small Cell Carcinoma</b>										
Limited	7 (1.6)	13 (3.1)	9 (2.0)	15 (3.3)	15 (3.7)	21 (4.2)	16 (2.9)	15 (3.4)	1 (0.4)	112 (2.8)
Extensive	20 (4.5)	30 (7.1)	34 (7.6)	25 (5.4)	17 (4.2)	25 (5.0)	26 (4.6)	25 (5.6)	0 (0.0)	202 (5.1)
Not Known	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.4)	4 (1.0)	2 (0.4)	1 (0.2)	1 (0.2)	0 (0.0)	10 (0.3)
<b>Subtotal</b>	<b>27</b>	<b>43</b>	<b>43</b>	<b>42</b>	<b>36</b>	<b>48</b>	<b>43</b>	<b>41</b>	<b>1</b>	<b>324</b>
<b>Malignant and Unspecified Cell Type</b>										
Cannot be staged	4 (0.9)	3 (0.7)	1 (0.2)	15 (3.3)	16 (3.9)	24 (4.8)	22 (3.9)	10 (2.3)	6 (2.1)	101 (2.6)
<b>Grand Total</b>	<b>442</b>	<b>421</b>	<b>446</b>	<b>461</b>	<b>410</b>	<b>500</b>	<b>561</b>	<b>443</b>	<b>281</b>	<b>3,965</b>

\*Column percentage

#### D. Histopathologic Classification

The percentage of men across all histological classifications was higher compared with women (Table D1). Most of those

with NSCLC were males (63.4%, n = 2247). Adenocarcinoma was the most common histology in both males (54.8%, n = 1,220) and females (45.1%, n = 1,003) (Table D2).

**Table D1.** Frequency and percentage distribution of incident cases according to sex and histological classification of lung cancer.

HISTOPATHOLOGY				
Sex	Non-small cell carcinoma	Small cell carcinoma	Malignant cell and unspecified cell type	Total
Male	2,247 (63.4)	292 (90.7)	79 (78.2)	2,618 (66.0)
Female	1,295 (36.5)	28 (8.7)	22 (21.8)	1,345 (33.9)
No information	4 (0.1)	2 (0.6)	0	6 (0.2)
<b>Total</b>	<b>3,546</b>	<b>322</b>	<b>101</b>	<b>3,969</b>

\*Column percentage

**Table D2.** Frequency and percentage distribution of non-small cell lung cancer cases according to sex and cell type.

NON-SMALL CELL LUNG CANCER							
Sex	Adeno-carcinoma	Squamous	Broncho-alveolar	Large Cell	Adeno-squamous	Others unspecified	Total
Male	1,220 (54.8)	476 (84.3)	7 (43.8)	10 (83.3)	4 (80.0)	530 (73.3)	2,247 (63.4)
Female	1,003 (45.1)	87 (15.4)	9 (56.3)	2 (16.7)	1 (20.0)	193 (26.7)	1,295 (36.5)
No information	2 (0.1)	2 (0.4)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	4 (0.11)
<b>Total</b>	<b>2,225</b>	<b>565</b>	<b>16</b>	<b>12</b>	<b>5</b>	<b>723</b>	<b>3,546</b>

\*Column percentage

#### E. Medical Management

Most (46.2%) underwent diagnostic and staging procedures during the year of first admission. Supportive care was received by 34.6% of patients, surgery by 10.9%,

radiotherapy by 3.5%, and chemotherapy by 4.6% (Table E1). Diagnostic and supportive management were the most frequently received type of management of cases across all histological classifications (Table E2).

**Table E1.** Frequency distribution of management options availed on patients' first admission.

Management	YEAR OF FIRST ADMISSION									
	2009	2010	2011	2012	2013	2014	2015	2016	2017	Total
Diagnostic	260 (37.2)	263 (42.4)	262 (45.6)	283 (48.9)	357 (48.4)	442 (49.3)	490 (48.1)	385 (45.8)	266 (49.4)	3,008 (46.2)
Supportive	145 (20.7)	118 (19.0)	128 (22.3)	201 (34.7)	279 (37.8)	371 (41.4)	435 (42.7)	349 (41.6)	227 (42.1)	2,253 (34.6)
Surgery	236 (33.8)	210 (33.8)	125 (21.7)	30 (5.2)	33 (4.5)	19 (2.1)	14 (1.4)	29 (3.5)	12 (2.2)	708 (10.9)
Radiotherapy	21 (3.0)	10 (1.6)	35 (6.1)	35 (6.0)	27 (3.7)	21 (2.3)	28 (2.8)	37 (4.4)	15 (2.8)	229 (3.5)
Chemotherapy	37 (5.3)	20 (3.2)	22 (3.8)	28 (4.8)	41 (5.6)	43 (4.8)	51 (5.0)	40 (4.8)	19 (3.5)	301 (4.6)
Dendritic Cell Vaccine	0	0	3 (0.5)	2 (0.3)	1 (0.1)	1 (0.1)	0	0	0	7 (0.1)

**Study population: 3,969 cases**

\*Column percentage

**Table E2.** Frequency distribution of management options availed according to histological classification of lung cancer.

Management*	HISTOLOGY			
	Non-small cell carcinoma	Small cell carcinoma	Malignant Cell unspecified cell type	Total
Diagnostic	2,686 (46.0)	233 (46.3)	89 (55.6)	3,008 (46.2)
Supportive	2,041(34.9)	152 (30.2)	60 (37.5)	2,253 (34.6)
Surgery	674 (11.5)	31 (6.2)	3 (1.9)	708 (10.9)
Radiotherapy	193 (3.3)	31 (6.2)	5 (3.1)	229 (3.5)
Chemotherapy	243 (4.2)	55 (10.9)	3 (1.9)	301 (4.6)
Dendritic Cell Vaccine Therapy	6 (0.1)	1 (0.2)	0	7 (0.1)
Column total	5,843	503	160	6,506

\*Participants may undergo multiple procedures, Column percentage

**Table E3.** Frequency distribution of incident cases according to lung cancer stage and management options availed on admission.

Stage Management	Diagnostic procedure	Supportive care	Surgery	Radiotherapy	Chemotherapy	Stem cell (immuno-therapy)
<b>Non-small cell carcinoma</b>						
IA	40 (1.3)	30	29	1	1	0
IB	130 (4.3)	55	44	3	1	0
IIA	77	37	27	0	2	0
IIB	126	61	34	4	7	0
IIIA	179	88	46	9	27	0
IIIB	154	115	17	16	23	0
IVA	1,308	1060	387	51	84	1 (7.1)
IVB	615	561	81	102	79	4 (28.6)
Not known	53	29	7	6	16	1 (7.1)
<b>Subtotal</b>	2,682	2036	672	192	240	6 (42.9)
<b>Small cell carcinoma</b>						
Limited	95	48	3	12	14	1 (7.1)
Extensive	130	98	28	19	41 (6.9)	0
Not Known	8	6	0	0	0	0
<b>Subtotal</b>	233	152	31	31	55 (9.3)	1 (7.1)
<b>Malignant cell and unspecified cell types</b>						
Cannot be staged	89	60	3	5	3 (0.5)	0

\*Column percentage

## F. In-hospital mortality

Among the patients included in the study, 719 (18.2%) died in-hospital during their first admission. However, the mortality data among patients whose deaths may have occurred outside the hospital were not available.

## DISCUSSION

This cohort from 2009 to 2017 included 3,969 patients with lung cancer, similar to the population in the previous monograph ( $n = 3,950$ ). Most were males (66.0%), and this proportion was consistent through the years (Table A1). Being male was a risk factor for worse survival based on the analysis of the cohort between 2000 and 2008.<sup>7</sup> Notably, there was a steady increase in the proportion of females diagnosed with lung cancer in the latter years, approaching 46.1% in 2017. The proportion of females with lung cancer in this cohort was higher when compared with the previous cohort with 33.9% versus 27.3%, respectively. This is consistent with the global trend showing the increasing incidence of lung cancer among females, especially in the Asian population.<sup>11</sup>

Most cases were detected in patients aged 60 years and older (58.7%), followed by those aged 40 and 59 years (36.2%), and those 39 years and younger (4.3%). The proportion of patients aged at least 60 years was higher in this cohort compared to the earlier cohort (58.7% versus 54.7%). As seen in Table A3, the total proportion of females in the earlier cohort (27.3%) compared to this cohort (33.7%). The proportion of females with lung cancer among those under 40 years was higher in this cohort (41.4%) compared to the earlier cohort (20.5%) (Include citation on 2000 to 2008 monograph). Patients diagnosed at age 50 years or younger have a 59% increased likelihood of having targetable alterations such as epidermal growth factor receptor (EGFR) mutations and anaplastic lymphoid kinase (ALK) rearrangements.<sup>12</sup>

Most patients were married (76.4%) and were from the National Capital Region (45.3%) (Tables A4 & A5). Moreover, Regions III and IVA accounted for almost 40% of the total cases. The Lung Center of the Philippines remained a major catchment hospital for nearby regions. Finally, most patients with lung cancer belonged to the skilled agricultural, forestry, and fishery industry (8.9%) (Table A6).

Smoking history was still a critical factor in lung cancer risk. Most patients reported a smoking history (63.2%), while the rest never smoked (33.5%) (Table B1). Smoking remains a significant risk factor globally. Smoking was also shown to be a risk factor for lower survival in the 2000–2008 cohort.<sup>7</sup> Thus, tobacco control and smoking cessation programs should be upscaled. The Lung Center of the Philippines continues to help smokers quit nicotine through pharmacological and behavioral approaches.

The percentage of non-smokers or never-smokers with lung cancer in this cohort (33.5%) was higher compared

with the earlier cohort (23.9%).<sup>6</sup> According to a systematic review, around 60–80% of lung cancers in non-smokers are adenocarcinomas, compared with a 40% rate among current or former smokers.<sup>13</sup> Studies have shown that EGFR and P53 are common driver mutations among patients with lung cancer who never smoked. These mutations have also been linked to environmental pollutants, highlighting the role of the environment as a trigger.<sup>14,16</sup> Global cohorts have shown an association between long-term exposure to ambient PM<sub>2.5</sub> pollutants and lung cancer mortality or morbidity.<sup>17</sup> Other risk factors include exposure to smoking, radon, asbestos, and a history of lung cancer in a first-degree family member. Advances in targeted therapy for EGFR and ALK have improved the survival of these patients.<sup>13</sup>

In this cohort, the most common comorbidity was hypertension (25.7%), followed by PTB (11.8%), diabetes (11.6%), COPD (6.4%), and asthma (3.8%) (Table B3). This is in contrast to the data in the 2008 to 2009 cohort, where PTB was the most common comorbidity reported, followed by hypertension, COPD, and diabetes. Programs effectively controlling TB at the LCP and in the Philippines may have possibly contributed to the decreased incidence of PTB among patients with lung cancer.

Most lung cancer patients had NSCLC (89.3%), with 56.1% of adenocarcinoma subtype (Table D1–2) which was higher compared with the previous cohort (41.7%). The proportions of early-stage lung cancer (IA to IIB) were similar between the current and previous cohort, 11.8% vs. 11.4%, respectively (Table C2). Among patients with NSCLC, 73.9% had stage IV disease, which was higher compared with the previous cohort (67.5%, Table C2).

Among those with NSCLC, the proportion and number of females with lung adenocarcinoma histology were higher in the current cohort, 45.1% vs. 18.8%, respectively (Table D2). The increase in adenocarcinoma cases in Southeast Asia is consistent with the global increase in this pathologic subtype.<sup>18</sup> In addition, more subtypes are being diagnosed and treated thanks to the availability of immunohistochemistry tests.

Efforts should be made to improve early cancer detection and treatment. The LCP recently embarked on a lung cancer screening program, "Screening for Early Lung Cancer Detection and Treatment (SELCaDT)" in collaboration with the Department of Health. This program aims to detect and treat early-stage lung cancer by screening high-risk individuals with low-dose chest CT scans.<sup>10</sup>

This cohort reflects the emergence of new diagnostics and advances in surgery, interventional pulmonology, and interventional radiology (Table E3). It also reflects the wider availability of immunohistochemistry and the introduction of biomarker testing. Additionally, experimental strategies, including the exploration of stem cell-based therapies, were received by some patients in this cohort.

## Limitations and recommendations

Although this is the largest cohort of reported cases of lung cancer in a single institution in the Philippines, clinicodemographic factors and survival outcomes can be further investigated. In addition, the generalizability of the findings is limited and may not reflect the profile of patients with lung cancer in the whole Philippines, since this is based on single-institution data of a tertiary specialty referral center for chest and lung diseases. As data were extracted from hospital records, information may be incomplete. Data on the molecular profile and systemic treatment received (targeted, immunotherapy, or chemotherapy) may also be reflected in further updates of the monograph.

The impact of institutional programs like the Smoking Cessation Program and the Screening for Early Lung Cancer Detection and Treatment (SELCaDT) can also be evaluated in further studies. The ongoing Lung Cancer Registry of the LCP can also be utilized to enroll all possible patients and determine their clinical profile and treatment outcomes.

## CONCLUSION

This cohort from 2009 to 2017 studied 3,969 patients with lung cancer, similar to the number of patients in the 2000 to 2008 cohort. Most patients were males, smokers, and diagnosed with stage IV disease. The number and proportion of patients with concomitant PTB were lower

compared with the cohort in 2000 to 2008. The percentage of non-smokers with lung cancer for this cohort was higher compared with the earlier cohort from 2000 to 2008. There was also a rise in the proportion of females with lung cancer and an increase in adenocarcinoma histology consistent with global trends. The in-hospital mortality remains high. Programs to improve lung cancer detection and survival, such as the Lung Cancer Registry and the SELCaDT, have been institutionalized.

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## CONFLICT OF INTEREST

The authors were members of the Lung Center of the Philippines Executive Committee at the time of data collection and writing of the manuscript.

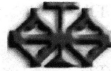
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## APPENDICES

### Appendix 1. LCP Form No. 63-001

LCP Form No. 63-001



**LUNG CENTER OF THE PHILIPPINES**  
(Quezon Avenue, Quezon City)  
**LUNG CANCER REGISTRY FORM**

#### PATIENT'S PROFILE

**TUMOR REGISTRATION #:** \_\_\_\_\_ **PT ID #/HOSPITAL #:** \_\_\_\_\_ **PHILHEALTH #:** \_\_\_\_\_  
**PATIENT'S NAME:** \_\_\_\_\_  
**SEX:**  1-Male  2-Female **DATE OF BIRTH (mm/dd/yyyy):** \_\_\_\_\_ **AGE IN YEARS:** \_\_\_\_\_  
**PERMANENT ADDRESS:** \_\_\_\_\_  
**TEL NO:** \_\_\_\_\_ **CELLPHONE NO.:** \_\_\_\_\_  
**TEMPORARY ADDRESS:** \_\_\_\_\_  
**TEL NO:** \_\_\_\_\_ **CELLPHONE NO.:** \_\_\_\_\_  
**OCCUPATION:** \_\_\_\_\_ **BIRTHPLACE:** \_\_\_\_\_  
**CIVIL STATUS:**  1-Married  2-Single  3-Widow  4-Separated  99-Missing  
**MOTHER'S MAIDEN NAME:** \_\_\_\_\_ **FATHER'S NAME:** \_\_\_\_\_

#### HISTORY

**SMOKING STATUS:**  1-Current Smoker:  Light  Moderate  Heavy **PACK YEARS:** \_\_\_\_\_ **# OF STICKS/DAY:** \_\_\_\_\_  
 2- Former smoker  3- Never smoker  99-Missing **AGE STARTED:** \_\_\_\_\_ **AGE STOPPED:** \_\_\_\_\_  
**ALCOHOL INTAKE HISTORY:**  1-Alcoholic  2-Previous Alcoholic  3-Non-alcoholic  99-Missing  
**# OF BOTTLES/DAY:** \_\_\_\_\_ **in grams:** \_\_\_\_\_  
**FAMILY HISTORY:**  Malignancy/Cancer  No information  No Illness  Others: \_\_\_\_\_  
**CO-MORBIDITIES:**  COPD  PTB  Asthma  Allergy (PLS. SPECIFY)  
 Diabetes  Hypertension  Cardiac Diseases  Malignancy/Cancer  
 No information  No Illness  Others: \_\_\_\_\_ (PLS. SPECIFY)

#### INFORMATION ON CONSULTATION

**CATEGORY OF PATIENT:**  1-Admitted  2-Out-patient  3-Radiotherapy  4-Others: \_\_\_\_\_  
**DATE OF FIRST DIAGNOSIS BY A PHYSICIAN (mm/dd/yyyy):** \_\_\_\_\_  Unknown (PLS. SPECIFY)  
**BASIS OF FIRST DIAGNOSIS:**  Clinical  Biopsy  Cytology  Unspecified  
**PREVIOUS CONSULTATION PRIOR TO THIS ADMISSION:**  Yes  No If yes, where: \_\_\_\_\_  
**PREVIOUS ADMISSION:** \_\_\_\_\_ :  Yes  No If yes, where: \_\_\_\_\_  
**PREVIOUS TREATMENT ELSEWHERE:**  Chemotherapy  Radiotherapy  Surgery  None  Others: \_\_\_\_\_  
**DATE OF ADMISSION/CONSULTATION (mm/dd/yyyy):** \_\_\_\_\_ **REFERRAL FROM:** \_\_\_\_\_ (PLS. SPECIFY)  
**DATE OF DISCHARGE (mm/dd/yyyy):** \_\_\_\_\_ **ATTENDING PHYSICIAN:** \_\_\_\_\_  
**ADMITTING DIAGNOSIS:** \_\_\_\_\_ **ICD CODE:** \_\_\_\_\_  
**FINAL DIAGNOSIS:** \_\_\_\_\_ **ICD CODE:** \_\_\_\_\_

#### CLASSIFICATION

**HISTOPATHOLOGY:**  **NON-SMALL CELL:**  Squamous Cell  Adenocarcinoma:  Bronchioloalveolar  
 Large Cell  Others \_\_\_\_\_  
 **SMALL CELL:**  Combined Small Cell (PLS. SPECIFY)  
 Malignant Cell (+Cytology)  Not specified  
 Equivocal  None

#### STAGING BEFORE TREATMENT AT LUNG CENTER:

**Clinical Stage:**  Known  Not Known  
**NSCLC:** T [ ] N [ ] M [ ]  
 Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A  
                   [ ] B           [ ] B           [ ] B           [ ] B  
**SCLC:** [ ] Limited [ ] Extensive

#### Pathologic Stage (Post Op/Autopsy):

Known  Not Known  
**NSCLC:** T [ ] N [ ] M [ ]  
 Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A  
                   [ ] B           [ ] B           [ ] B           [ ] B  
**SCLC:** [ ] Limited [ ] Extensive

#### STAGING DURING TREATMENT AT LUNG CENTER:

**Clinical Stage:**  Known  Not Known  
**NSCLC:** T [ ] N [ ] M [ ]  
 Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A  
                   [ ] B           [ ] B           [ ] B           [ ] B  
**SCLC:** [ ] Limited [ ] Extensive

#### Pathologic Stage (Post Op/Autopsy):

Known  Not Known  
**NSCLC:** T [ ] N [ ] M [ ]  
 Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A  
                   [ ] B           [ ] B           [ ] B           [ ] B  
**SCLC:** [ ] Limited [ ] Extensive

#### SITE OF METASTASIS:

M1a (intrathoracic):  Malignant pleural/pericardial effusion  Parietal Pleural Nodules  Contralateral Lung  
 M1b (extrathoracic):  Brain  Bone  Liver  Adrenal  Others: \_\_\_\_\_ (PLS. SPECIFY)

**Form completed by:** \_\_\_\_\_ **Date completed(mm/dd/yyyy):** \_\_\_\_\_

**The New TNM Staging System for Lung Cancer 7<sup>th</sup> Edition**  
**(Small cell, non-small cell and carcinoid tumors of the lung)**

**Primary Tumor (T)**

**T1** Tumor ≤ 3cm in greatest dimension, surrounded by lung or visceral pleura without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus)\*

**T1a** Tumor ≤ 2cm in greatest diameter

**T1b** Tumor > 2cm but ≤ 3cm in greatest diameter

**T2** Tumor > 3cm but ≤ 7cm or tumor of any of the following features (T2 tumors with these features are classified T2a if ≤ 5cm)  
 Involves main bronchus ≥ 2cm distal to the carina  
 Invades the visceral pleura (PL1 or PL2)  
 Associated with atelectasis or obstructive pneumonitis that extends to the hilar region but does not involve the entire lung

**T2a** Tumor > 3cm but ≤ 5cm in greatest dimension

**T2b** Tumor > 5cm but ≤ 7cm in greatest dimension

**T3** Tumor > 7cm or one that directly invades any of the following: parietal pleural (PL3) chest wall (including superior sulcus tumors), diaphragm, phrenic nerve, mediastinal pleura, parietal pericardium; or tumor in the main bronchus (<2cm distal to the carina\* but without involvement of the carina; or associated atelectasis or obstructive pneumonitis of the entire lung or separate tumor nodule(s) in the same lobe

**T4** Tumor of any size that invades any of the following: mediastinum, heart, great vessels, trachea, recurrent laryngeal nerve, esophagus, vertebral body, carina, separate tumor nodule(s) in a different ipsilateral lobe

\*The uncommon superficial spreading tumor of any size with its invasive component limited to the bronchial wall, which may extend proximally to the main bronchus, is also classified as T1a

**Regional Lymph Nodes (N)**

**NX** Regional lymph nodes cannot be assessed

**N0** No regional lymph node metastasis

**N1** Metastasis in ipsilateral peribronchial and/or ipsilateral hilar lymph nodes and intrapulmonary nodes, including involvement by direct extension

**N2** Metastasis in ipsilateral mediastinal and/or subcarinal lymph node(s)

**N3** Metastasis in contralateral mediastinal, contralateral hilar, ipsilateral or contralateral scalene, or supraclavicular lymph node(s)

**Distant Metastasis (M)**

**M0** No distant metastasis (no pathologic M0; use clinical M to complete stage group)

**M1** Distant metastasis

**M1a** Separate tumor nodule(s) in a contralateral lobe; tumor with pleural nodules or malignant pleural (or pericardial) effusion\*\*

**M1b** Distant metastasis

\*\*Most pleural (and pericardial) effusions with lung cancer are due to tumor, in a few patients, however, multiple cytopathologic examinations of pleural (pericardial) fluid are negative for tumor, and the fluid is nonbloody and is not an exudates. Where these elements and clinical judgement dictate that the effusion is not related to the tumor, the effusion should be excluded as a staging element and the patient should be classified as M0.

**Stage Grouping**

<b>Stage I A</b>	T1a	N0	M0
	T1b	N0	M0
<b>Stage I B</b>	T2a	N0	M0

<b>Stage II A</b>	T2b	N0	M0
	T1a	N1	M0
	T1b	N1	M0
	T2a	N1	M0

<b>Stage II B</b>	T2b	N1	M0
	T3	N0	M0

<b>Stage III A</b>	T1a	N2	M0
	T1b	N2	M0
	T2a	N2	M0
	T2b	N2	M0
	T3	N1	M0
	T3	N2	M0
<b>Stage III B</b>	T4	N0	M0
	T4	N1	M0
	T1a	N3	M0
	T1b	N3	M0
<b>Stage III B</b>	T2a	N3	M0
	T2b	N3	M0
	T3	N3	M0
	T4	N2	M0
<b>Stage III B</b>	T4	N3	M0

**Stage IV A** Any T Any N M1a

**Stage IV B** Any T Any N M1b

**DEFINITION OF TERMS:**

**\*ADDRESS\***

**Temporary Address:** temporary residence of the patient during treatment and/or hospitalization

**Permanent Address:** main or principal residence of the patient

**\*SMOKING STATUS\***

**Current Smoker:**

Light smoker: 1-10 sticks/day  
 Moderate smoker: >10 but <20 sticks/day  
 Heavy smoker: >20 sticks/day

**Former smoker:**

Person who has smoked ≥ 100 cigarettes in their lifetime but currently do not smoke ≥ 1 year

**Never smoker:**

Never smoked a cigarette or who smoked <100 cigarettes in their lifetime

**Source:** US Centers for Disease Control and Prevention (2010)

**\*ALCOHOL INTAKE STATUS\***

**Alcoholic:**

For women, more than 1 drink (or >14g) per day  
 For men, more than 2 drinks (or >28g) per day  
 Alcohol consumption=# of bottles x amount in grams  
 0.6 ounces=14 g

**Previous Alcoholic:**

Person who has stopped drinking alcoholic beverages ≥ 1 year

**Non-alcoholic:**

Person who doesn't drink alcoholic beverages or who drink ≤ 14g for women and ≤ 28g for men

**Source:** US Centers for Disease Control and Prevention (2008)

**\*HISTOPATHOLOGY\***

**Malignant Cell:**

Words that are considered vague such as "probable", "suspect", "suspicious", "compatible with" or "consistent with" are interpreted as involvement by the tumor.

**Equivocal:**

Not definite; Needs further evaluation/confirmation

**Not specified:**

For diagnosed lung cancer case outside Lung Center with no attached histopathology result

**None:**

No procedure done to confirm malignancy

LCP Form No. 63-003



**LUNG CENTER OF THE PHILIPPINES**  
 (Quezon Avenue, Quezon City)  
**LUNG CANCER REGISTRY (MANAGEMENT FORM)**

TUMOR REGISTRATION #: \_\_\_\_\_ PT ID #/ HOSPITAL #: \_\_\_\_\_ PHILHEALTH #: \_\_\_\_\_  
 PATIENT'S NAME: \_\_\_\_\_ ADMISSION/FOLLOW-UP NO.: \_\_\_\_\_

**MANAGEMENT DURING PRESENT CONSULTATION**

- Diagnostic** \_\_\_\_\_  **Supportive** \_\_\_\_\_  
(PLS. SPECIFY) (PLS. SPECIFY)
- Surgery** \_\_\_\_\_  
(PLS. SPECIFY)
- Radiotherapy:**  Cobalt  
 Linear Accelerator:  2D  3D-CRT  IMRT  IGRT  SBRT  
 Brachytherapy:  Intracavitary  Intraluminal  Interstitial  
 Others: \_\_\_\_\_  
(PLS. SPECIFY)
- Chemotherapy** Regimen: \_\_\_\_\_ Cycle #: \_\_\_\_\_  
(PLS. SPECIFY)
- Stem Cell (Immunotherapy)**  **Others** \_\_\_\_\_  
(PLS. SPECIFY)
- No information**

**VITAL STATUS ON DISCHARGE:**  Alive  Dead Date of Death (mm/dd/yyyy): \_\_\_\_\_

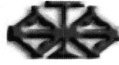
**CAUSES OF DEATH:**

Immediate Cause: \_\_\_\_\_  
 Antecedent Cause: \_\_\_\_\_  
 Underlying Cause: \_\_\_\_\_  
 Significant Conditions: \_\_\_\_\_

**Form completed by:** \_\_\_\_\_ **Date completed(mm/dd/yyyy):** \_\_\_\_\_

**Encoded by:** \_\_\_\_\_ **Date encoded(mm/dd/yyyy):** \_\_\_\_\_

LCP Form No. 63-002



LUNG CENTER OF THE PHILIPPINES  
LUNG CANCER REGISTRY (FOLLOW-UP/RE-ADMISSION FORM)

TUMOR REGISTRATION #: \_\_\_\_\_ PT ID #/HOSPITAL #: \_\_\_\_\_ PHILHEALTH #: \_\_\_\_\_

PATIENT'S NAME: \_\_\_\_\_ ADMISSION/FOLLOW-UP NO.: \_\_\_\_\_

DATE OF ADMISSION/CONSULTATION (mm/dd/yyyy): \_\_\_\_\_ DATE OF DISCHARGE (mm/dd/yyyy): \_\_\_\_\_

ATTENDING PHYSICIAN: \_\_\_\_\_

ADMITTING DIAGNOSIS: \_\_\_\_\_ ICD CODE: \_\_\_\_\_

FINAL DIAGNOSIS: \_\_\_\_\_ ICD CODE: \_\_\_\_\_

PREVIOUS INTERVENTION: **Chemotherapy:**  Neoadjuvant  Adjuvant  Palliative Cycle #: \_\_\_\_\_

Surgery  Radiotherapy  Immunotherapy

RESPONSE TO PREVIOUS TREATMENT:  Stable  Complete Response  Partial Response  Progressive

Resection:  Complete  Partial

STATUS ON CONSULTATION:  Cured  Control  Remission

CO-MORBIDITIES:  COPD  PTB  Asthma  Allergy

Diabetes  Hypertension  Cardiac Disease  Second malignancy

No information  No Illness  Others: \_\_\_\_\_ (PLS. SPECIFY)

STAGING

Clinical Stage:  Known  Not Known

Pathologic Stage (Post Op/Autopsy):  Known  Not Known

NSCLC: T [ ] N [ ] M [ ]

NSCLC: T [ ] N [ ] M [ ]

Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A

Stage I [ ] A Stage II [ ] A Stage III [ ] A Stage IV [ ] A

[ ] B [ ] B [ ] B [ ] B

[ ] B [ ] B [ ] B [ ] B

SCLC: [ ] Limited [ ] Extensive

SCLC: [ ] Limited [ ] Extensive

Form completed by: \_\_\_\_\_ Date completed(mm/dd/yyyy): \_\_\_\_\_

DEFINITION OF TERMS:

\*TUMOR RESPONSE BASED ON IMAGING (RECIST 1.1) AFTER PREVIOUS TREATMENT:\*

**Progression**-substantial worsening of the over-all tumor burden coupled with persistence of 1 or more maintenance of tumor marker level above the normal limits sufficiently to merit discontinuation of therapy

**Stable**-no absolute increase of more than 20% in the size of the lesion taking into consideration the smallest target lesion as reference

**Partial Response**-subsequent decrease in the size of the target lesion after treatment measured through an imaging technique. Any pathological lymph nodes (whether target or non-target) must have reduction in short axis to <10 mm

**Complete Response**-disappearance or absence of all the target lesion and normalization of tumor marker level at a subsequent time point after therapy through the use of imaging modality employed. Any pathological lymph nodes (whether target or non-target) must have reduction in short axis to <10 mm

\*STATUS ON CONSULTATION AFTER COMPLETION OF THERAPY:\*

**Cured** - no evidence of disease (≥ 10 years)

**Control stage** - stability at present disease ≥ 6 months to < 5 years

**Remission** - no evidence of disease >5 years to <10 years

Source: NGELANGEL, et al. *Handbook on Basic Medical Oncology 2<sup>nd</sup> edition*. 2001, p.47.



Lung Center of the Philippines

# ALLIANCE-CARE PROGRAM

*Advanced Lung Integrated Interventions and Networking  
for Comprehensive Endoscopy and Patient Care*

## One-Stop Strategy for Screening and Early Lung Cancer DETECTION and TREATMENT

Early Screening

✓ Minimally Invasive Treatment

Quick Diagnosis

✓ Multidisciplinary



**"Maagang Pagsusuri, Agarang Lunas: Kalusugan sa bawat Pilipino"**





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 Lung Center of the Philippines - OPD



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## ADVANTAGES

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## QUESTIONS? CONTACT US!

Pathology and Laboratory Medicine Department

Division of Anatomic Pathology

Tel No: (02) 8924-6101  
loc 1181, 1182, 1191  
Mobile: 0995-483-6961

# Opt-Out Reflex IHC Testing

LUNG CENTER OF THE PHILIPPINES  
PATHOLOGY AND LABORATORY MEDICINE DEPARTMENT

## OPT-OUT REFLEX IHC TESTING

**ALL cases with cell block and/or tissue shall be subject to automatic reflex IHC testing.**



**NOT applicable for:**

- When only slides are submitted (ex. bronchial brushing, Pap smears)
- CSF cytology for cytospin

The number of stains (2-panel or 4-panel) depends on the case, and will be checked by the physician on the request form.

**REFLEX IHC TESTING:**  
(please tick ONE (1) panel)

- 2-panel
- T/C TB
  - TB vs pneumonia
  - Benign tumors
  - Others
- 4-panel
- Lung carcinoma
  - Mesothelioma
  - Mediastinal mass
  - Lymphoma
  - Soft tissue sarcoma
  - Breast carcinoma
  - Metastatic carcinomas
  - Others

Opt-out of Reflex IHC  
(If yes, please submit with signed waiver form.)

The pathologist decides what stains will be used for each case.



Additional stains may still be requested depending on the case.



If clinicians opt-out of reflex IHC testing, please submit a signed waiver form.



If specimen is **NOT** adequate, IHC stains may be performed on subsequent samples



**Submissions**

All manuscript submissions to the **Scientific Proceedings** shall be online. The manuscript and other documentary requirements shall be e-mailed to scientificproceedings@lcp.gov.ph. A manuscript submission checklist (Form SPLCP-2021-ASC-001) is provided to guide the submission as to the journal's requirements.

**Cover Letter**

A cover letter addressed to the Editor-in-Chief of the **Scientific Proceedings** should be prepared, stating the complete title of the work, list of all authors, and the intention to submit to the **Scientific Proceedings**. The corresponding author with complete contact information (institutional mailing address, work telephone, fax number [if any], and work e-mail address) should be clearly indicated. Presentation of the study findings as an abstract or poster in previous conferences should be mentioned in the letter, to include information on the title and dates of the conference, as well as awards won, if any.

**Author Form**

The **Scientific Proceedings** Author Form (SPLCP-2021AF-001) includes a certification of fulfillment of authorship criteria for all authors listed, declaration of conformity to publication ethics and ethical standards for experiments on human/animal subjects and approval by the appropriate ethics committee, disclosure of conflicts of interest where existing, and agreement to copyright transfer. Complete names of the authors, title indicating the highest educational attainment (e.g., MD, MSc, PhD), and name and location of not more than one (1) institutional affiliation, should be indicated.

**Ethical Review Board Approval**

For all original articles, the authors shall submit a scanned copy of the ethical review board approval of the study performed on which the manuscript is based.

**Informed Consent Form**

For case reports, the authors shall submit a scanned copy of the written/informed consent for publication from the involved patient/subject. The **Scientific Proceedings** requires the use of its standard Informed Consent Form (SPLCP-2021-CF-001), duly accomplished and submitted with the other requirements. For case series whose patient data are reported in aggregate, informed consent is not required. However, if the case series includes patient details that contain individual information which make them identifiable (e.g., individual case histories, photos, x-rays, etc.), an informed consent form for publication must be submitted. In case the involved subject/s and/or relative/guardian can no longer be contacted after all means have been undertaken by the author, the author should state so in the cover letter with a description on the efforts made to secure consent.

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The **Scientific Proceedings** publishes articles in the following categories:

<b>Original Articles</b>	Original articles include clinical trials, laboratory investigations, clinical epidemiology, and evaluations of diagnostic and surgical techniques. Original articles should not exceed 25 typewritten pages (8.5 x 11 in., 1 in. margins at both sides, double spaced, excluding tables, figures, illustrations and references) or 6,000 words.
<b>Systematic Review and Meta-Analysis</b>	Review articles summarize and critically appraise current and relevant information on a particular topic. Reviews should not exceed 15 typewritten pages (8.5 x 11 in., 1 in. margins at both sides, double spaced, excluding tables, figures, illustrations and references) or 4,000 words.
<b>Lectures, Symposium Proceedings, or Grand Rounds</b>	Special articles summarizing and documenting lectures or symposium proceedings, as well as grand rounds, which include presentation of medical problems of a particular patient, evaluation and work-up, treatment and clinical course, discussion of key diagnostic and management points, and commentaries by specialty experts. A manuscript for grand rounds should not exceed 25 typewritten pages (excluding tables, figures, illustrations and references) or 6,000 words.
<b>Case Reports and Case Series</b>	Case reports or series focus on reportable cases encountered in practice, representing unusual or rare manifestations, presentations, or clinical course of disease. Case reports should not exceed 10 typewritten pages (8.5 x 11 in., 1 in. margins at both sides, double spaced, excluding tables, figures, illustrations and references) or 3,000 words.
<b>Brief Reports</b>	A brief report is an original contribution (generally an interesting case, a series case, surgical technique, or experimental study) with a concise message. Brief reports should not exceed 5 typewritten pages (8.5 x 11 in., 1 in. margins at both sides, double spaced, including tables, figures, illustrations, and references) or 1,000 words. References should be limited to 5.

<b>Letters and Correspondence</b>	Scientific Proceedings welcomes feedback and comments on previously published articles in the form of Letters to the Editor. No abstract or keywords are necessary. A Letter to the Editor must not exceed 2 typewritten pages or 500 words and may include references following the Guide to Authors.
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<b>Special Announcements</b>	Special announcements may include promotional materials for upcoming conventions, seminars or conferences relevant to the scope of Scientific Proceedings, acceptance of which for publication shall be subject to the decision of the Editorial Board.

## Manuscript

### Title Page

The title page should include:

- Complete title of the article which should be informative, concise, meaningful, and as brief as possible (no more than 20 words)
- Name of each author with highest academic degree(s) and complete address of one (1) institutional affiliation.
- Listing of any meeting(s)/conference(s) where the material is under consideration for presentation, has been previously presented, and/or has been awarded. Indicate title, place month and year of the meeting/conference.
- Corresponding author's name, mailing address, telephone, fax, and e-mail address. The corresponding author will be responsible for all questions about the manuscript. Only one author is to be designated as corresponding author and he/she does not need to be the first author on the manuscript.
- Appropriate footnotes for explanatory purposes or additional information may be placed with proper cross-referencing to the main text, in the following order of usage: \*, \*\*, \*\*\*
- Financial support, if any. Provide the agency name and city, company name and city, fellowship name and/or grant number.

### Abstract

- Original Articles, Review Articles require a structured abstract of not more than 500 words, with the following four headings:
  - Objective/s: Briefly state the purpose/s or aim/s of the study.
  - Methodology: State the study design (e.g., randomized clinical trial, case-control study, cross-sectional study, systematic review), setting (multi-center, institutional, et

cetera), study population. Additional modifiers can be stated (consecutive, retrospective, prospective, observational, interventional, non-consecutive, etc.)

- **Results:** Briefly summarize the principal outcome measurements/data obtained. Results should be accompanied by data with confidence intervals and the exact level of statistical significance.
  - **Conclusions:** Provide brief and concise conclusion(s) directly supported by the data.
- Case Reports or Case Series do not require a structured abstract, with a maximum of 300 words.

### Keywords

- At least 5 keywords listed in the Medical Subject Headings database ([MeSH] of the National Center for Biotechnology Information [NCBI] [<https://www.ncbi.nlm.nih.gov/mesh/>]) should be provided.

### Body of the Text

- The manuscript should be written in IMRAD format (Introduction, Methodology, Results and Discussion, Conclusion).
- Organize and prepare the manuscript to include the following sections:
  - **Introduction:** The Introduction, without a heading, should refer only to the most pertinent past publications and should not be an extensive review of the literature. Include a brief background, the research question and/ or rationale, objectives/purposes of the study, and major hypothesis to be tested if any.
  - **Methodology:** Methods should be written with sufficient detail to permit others to duplicate the work. Study Design: State the study design using a phrase such as randomized or nonrandomized clinical trial, case-control study, cross-sectional study, cohort study, case series, case report, systematic review, meta-analysis, review, experimental study, or historical manuscript; Setting: (e.g., multicenter, institutional, clinical practice); Participants, Patients, or Study Population: Number of patients, selection procedures, inclusion/exclusion criteria, randomization procedure and masking; Intervention or observation procedure(s); Main and secondary outcome measure(s); Data and statistical analyses, to include what software was used for the computations. For original articles, statements regarding adherence to the Declaration of Helsinki, approval by the Institutional Review Board (IRB)/Ethics Committee, and description of the informed consent process should be included.
  - **Results:** Results must be concise. Provide demographic data of the study population. Describe outcomes and measurements in an objective sequence with minimum discussion. Data should be accompanied by confidence intervals (usually at the 95% interval) and exact p-values or other indications of statistical significance.

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Meltzer PS, Kallioniemi A, Trent JM, Chromosome alterations in human solid tumors. In: Vogelstein B, Kinzler KW, editors. *The genetic basis of human cancer*. New York: McGraw-Hill; 2002. p. 93-113.

*Book*

Murray, PR, Rosenthal KS, Kobayashi GS, Pfaller MA. *Medical microbiology*. 4th ed. St. Louis: Mosby; 2002.

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*We provide high quality health services and state of the art facilities for the diagnosis and management of respiratory and chest diseases, and promotion of lung health for the Filipino people with excellence and compassion, regardless of creed, color, sex, socio-economic status, and political affiliation.*

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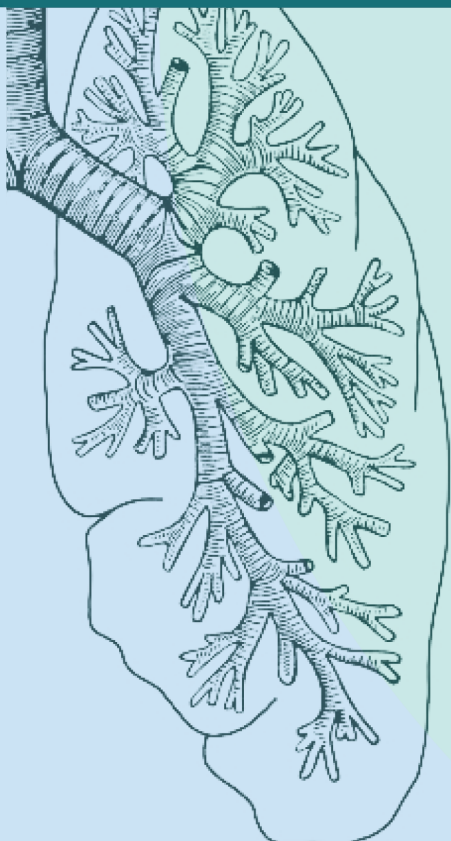
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