





Situation Assessment of

Mercury-Containing Medical Measuring Devices in the Philippines

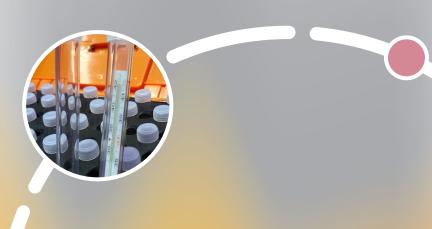


















Published in Pathumthani, Thailand 2021 By Asian Institute of Technology

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Recommended citation:

Jashaf Shamir Lorenzo, Myline Macabuhay, Ronald Decano, D. Wardhana Hasanuddin Suraadiningrat, Guilberto Borongan, Solomon Kofi Mensah Huno (2021). Situation assessment of mercury-containing medical measuring devices in the Philippines. Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific. Pathumthani, Thailand.

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Acknowledgement

Financial Support

This project is funded by the Government of Japan. The Government of Japan is gratefully acknowledged for providing the necessary funding that made the Japan-ASEAN Integration Fund (JAIF 2.0) project ENV/EVN/18/009/REG on Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-Containing Medical Measuring Devices, and of this publication possible.



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Foreword

Now identified as a global problem, mercury pollution poses toxic effects on the environment and human health. A naturally occurring element, Mercury exists in various forms namely elemental mercury, inorganic mercury compounds and methyl mercury, and other organic compounds. It is considered by WHO as one of the top ten chemicals or groups of chemicals of major public health concern.

Mercury is contained in a variety of products, including medical measuring devices such as thermometers and sphygmomanometers. Emissions and releases of mercury in healthcare settings are mainly attributed to damaged equipment and poor waste management practices.

In response to the continued release of mercury into the environment, governments agreed to the Minamata Convention on Mercury. The Minamata Convention on Mercury is an international treaty that aims to protect human health and the environment from the adverse effects of anthropogenic emissions and releases of mercury and mercury compounds. The Philippines was among the 128 countries that signed the Convention during the Conference of Plenipotentiaries on 10 October 2013 in Kumamoto, Japan. The Convention entered into force on 16 August 2017 and was ratified by the country on 08 July 2020. Being a party to the Convention, the Philippines pushes for the phase-out of manufacturing, importing, and exporting mercury-added products.

The Philippines' commitment to the Convention is anchored to the Republic Act (RA) No. 6969 otherwise known as the Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990. This is the national framework for the issuance of DAO 2013-22 (Revised Procedures and Standards on the Management of Hazardous Wastes) and DAO 2019-20 [Revised Chemical Control Order (CCO) for Mercury and Mercury Compounds (Revising DAO 1997-38)]. DAO 2019-20 provides for the regulation on the importation, manufacture, processing, use, and distribution of mercury, mercury compounds, and mercury-added products and their storage while DAO 2013-22 prescribes detailed requirements and procedures for the management of hazardous wastes, including mercury-containing medical measuring devices.



In line with this thrust, the project "Development of Capacity for the Substitution and the Environmentally Sound Management of Mercury-Containing Medical Devices" addresses the development or updating of an inventory of the use, substitution, collection, storage, and disposal of mercury-containing measuring devices. This project is a Japan-ASEAN Integration Fund (JAIF) project endorsed by the ASEAN Working Group on Chemicals and Wastes. It aims to assist the Philippines, an ASEAN Member State, in achieving its obligations as a Party to the Minamata Convention of Mercury, through the promotion of the environmentally sound management of used thermometers and sphygmomanometers in the region.

The two main outputs of the project are the Situation Assessment of Mercury-Containing Medical Measuring Devices in the Philippines and the Technical Guidelines for the Environmentally Sound Management of Mercury-Containing Medical Measuring Devices.

This Assessment aims to analyze and improve the capacity of governments, industry, and the general public to manage Mercury-containing Medical Measuring Devices in an environmentally sound manner by collecting all relevant statistical data on the management of MCMMDs, analyzing existing policy framework, identifying the gaps and implementation challenges, and formulate improvements on guidelines, policy, and implementation.

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Abbreviations and Acronyms

ADB Asian Development Bank

AIT RRC.AP Asian Institute of Technology, Regional Resource Centre for Asia and the

Pacific

AMS ASEAN Member States

AO Administrative Order

ASEAN Association of Southeast Asian Nations

ASGM Artisanal and Small-Scale Gold Mining

BARMM Bangsamoro Autonomous Region of Muslim Mindanao

Bureau of Philippine Standards (DTI)

CAR Cordillera Administrative Region

CCO Chemical Control Order

CMS Chemical Management Section (EMB)

COVID-19 Coronavirus disease

DAO Department Administrative Order

DENR Department of Environment and Natural Resources

DM Department Memorandum

DOH Department of Health

DOJ Department of Justice

DPCB Disease Prevention and Control Bureau (DOH)

DTI Department of Trade and Industry

EMB Environmental Management Bureau (DENR)

EPA US Environmental Protection Agency

ESM Environmentally Sound Management

FDA Food and Drug Administration

GDP Gross Domestic Product

HCF Healthcare Facilities

HWMC Hospital Waste Management Committee

IRR Implementing Rules and Regulations

JAIF Japan-ASEAN Integration Fund

HWMS Hazardous Waste Management Section (EMB)

MCMMD Mercury-Containing Medical Measuring Devices

MMC Mercury Management Committee

MMP Mercury Minimization Program

NCR National Capital Region

PSA Philippine Statistics Authority

RA Republic Act

SAICM Strategic Approach to International Chemicals Management

TSD Temporary Storage and Disposal

UN United Nations

UNDP United Nations Development Programme

UNEP United Nations Environment Programme

UNIDO United Nations Industrial Development Organization

WHO World Health Organization

PROJECT INFORMATION

"Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-Containing Medical Measuring Devices" is a Japan-ASEAN Integration Fund (JAIF) project endorsed by the Association of Southeast Asian Nations (ASEAN) Working Group on Chemicals and Waste and the ASEAN Senior Officials on the Environment. The project aims to contribute to the prevention of the adverse health and environmental impacts of mercury through the environmentally sound management of used thermometers and sphygmomanometers in ASEAN Member States.

Under the project, the main activities include:

- The development or updating of an inventory of the use, substitution, collection, storage, and disposal of mercurycontaining medical measuring devices (MCMMDs);
- Review and development of existing guidelines, evaluate the gaps in their application and propose recommendations on ESM of mercury waste from MCMMDs in the Philippines; and
- Raise awareness among stakeholders through knowledge sharing in-country and among stakeholders in the ten ASEAN Member States (AMSs).

Primary expected outputs for the project include:

Output 1.2. Development or updating of an inventory of the use, substitution, collection, storage, and disposal of mercury-containing medical measuring devices.

Activity 1.2.1. In-country kick-off meeting with participation of the project proponent (EMB-DENR) and relevant stakeholders including the Department of Health of the Philippines.

Activity 1.2.2. Situation analysis and data gathering about used thermometers and sphygmomanometers discarded by or stored in large-size (number of beds) health care facilities (both public and private)

Activity 1.2.3. Conduct a two-day Inception cum Stakeholder Consultation Workshop

Activity 1.2.4: Development or updating of an inventory from the information gathered in Activity 1.2.2.

Output 2.2. Review the existing guidelines, evaluate the gaps in their application and propose recommendations on ESM of mercury waste from medical measuring devices (thermometers and sphygmomanometers) in the Philippines.

Activity 2.2.1. Mapping of the existing guidelines and best practices on ESM of mercury waste from medical measuring devices, including measures for phase out of mercury in product and promoting mercury-free alternatives.

Activity 2.2.2. Develop an outline for the gap analysis between the existing guidelines and current practices for discussion with stakeholders in the Inception Workshop (activity 1.2.3).

Activity 2.1.3. Gap analysis between (i) the existing policy framework and actual practices in the field and (ii) the requirements of the Convention, technical guidelines of the Basel Convention and other relevant internationally recognized guidelines

Activity 2.2.4. Propose recommendations based on the gap analysis (activity 2.2.3) and propose revised guidelines, if deemed necessary on ESM of mercury waste from medical measuring devices.

Activity 2.2.5. Conduct a two-day Second National Stakeholder Consultation Workshop to review and finalize the guidelines on ESM of mercury wastes from medical measuring devices and discuss way forward on the implementation of the outline of Phase 2.

The outcomes of these activities will contribute towards the promotion of ESM of MCMMDs, which will eventually support the attainment of goals of the Minamata Convention on Mercury to protect human health and the environment from anthropogenic emissions and releases of mercury.

Presented in this document are the results of the development of the national inventory for MCMMDs in the Philippines and the legal gap analysis conducted to assess the effectivity of current policies and implementation. This project is conducted in partnership with the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) and is implemented by project executing agency BAN Toxics, with guidance from overall project implementing agency the Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific (AIT RRC.AP) and support from the Department of Health (DOH).



The Situation Assessment of Mercury-Containing Medical Measuring Devices (MCMMDs) in the Philippines presents 1) relevant statistical information on the use, storage, and disposal of mercury-containing thermometers and sphygmomanometers in licensed hospitals in the Philippines and 2) an analysis of the current policy framework for the management of MCMMDs and its implementation gaps in accordance with international and national guidelines and national targets for the phase-out of MCMMDs.

Background of the Assessment

This assessment is conducted as part of the Philippine government's efforts to protect human health and the environment from the adverse impacts of mercury and mercury compounds. Since the enactment of Republic Act 6969, otherwise known as the Toxic Substances and Hazardous and Nuclear Waste, the national government has conducted various efforts to regulate and control mercury and mercury compounds.

In relation to the management of MCMMDs, the country enacted Administrative Order 2008-0021 in 2008. The AO effectively bans the use of MCMMDs in healthcare facilities and encourages the shift to mercury-free alternatives. Furthermore, the issuance of Department Administrative Order 2019-20 or the revised

Chemical Control Order for Mercury and Mercury Compounds effectively bans the production and trade of mercury-containing sphygmomanometers and thermometers in the Philippines, even for sectors outside of healthcare.

The assessment is part of the Philippines' efforts to comply with the Minamata Convention on Mercury which the country ratified in 2020.

What is Mercury?

Mercury and mercury compounds are highly toxic substances that pose significant risks to human and environmental health. According to the World Health Organization (WHO), ¹ mercury is considered one of the top ten chemicals of major public health concern. Mercury exposure can severely impact the nervous, digestive, and immune systems, as well as the kidneys and the lungs, among others. At times, mercury-related illnesses can be fatal.

Mercury in its most toxic forms is capable of bio-accumulating in living organisms, and bio-magnifying through the food chain. As predators eat other organisms containing mercury over time, mercury can accumulate within them in levels that are greater than in their habitats or their food. As it bio-magnifies through the food chain, mercury can also potentially be transported across wide distances.² These transport and transformation

mechanisms allow mercury to pollute long distances and contaminate global food supplies at levels which pose significant risks.

Mercury-Containing Medical Measuring Devices

Mercury is the only metal that retains its liquid form at room temperatures. It expands and contracts evenly with changes in temperature and pressure, making it highly effective in measuring these properties.³ MCMMDs such as thermometers and sphygmomanometers, for decades, have been popular in various settings due to their affordability and accessibility.

Thermometers are devices used to measure temperature or a temperature gradient. Glass tubes are filled with mercury and are marked with a standard temperature scale. Mercury thermometers are commonly used to determine body, liquid, and vapor temperature.⁴

Sphygmomanometers are a kind of manometers that are used to measure blood pressure. These devices measure both maximum and minimum arterial pressure of the heart, and may either be hand-held, wall-mounted, or mobile.⁵

Along with **dental amalgam**,¹ MCMMDs such as thermometers and sphygmomanometers have become significant contributors to mercury pollution. The 2017 Global Mercury Assessment report⁶ states that measuring and control devices (which include thermometers and sphygmomanometers) consumed globally in 2015 contained an estimated amount of 330 tonnes of mercury.

The use and disposal of MCMMDs can lead to mercury emissions and releases through various means. The incineration of MCMMDs is a source of mercury releases into the atmosphere. In 1997, medical waste incineration accounted for as much as 10% of the total mercury emissions recorded in the United States. Similarly in 2002, medical waste incineration was reported as the 4th largest

contributor to mercury pollution in Ontario, Canada.⁸

The breakage of thermometers and sphygmomanometers can also result in mercury exposure for workers and patients, among others.
9 In the Philippines, it was estimated that around 100 mercury-containing thermometers were broken each month per hospital in 2008.
10 These incidences, however, are not limited to health care facilities. As recent as 2017, teachers and students from the Manila Science High School (MSHS) were exposed to mercury when mercury-containing thermometers and chemical vials were accidentally broken in the school laboratory.

Key Issues in the Management of MCMMDs in the Philippines

Despite the enactment of national policies such as AO 2008-0021 which effectively bans the use of MCMMDs in healthcare facilities, there remains a number of issues related to its management. A study conducted by Zordilla in 2018¹² covering ten hospitals in the National Capital Region provides a picture of the extent of implementation of the ban on MCMMDs. Specifically, the study aimed to determine the amount of mercury stored in the selected DOH-retained hospitals in the region; describe the current status of implementation of the phase out; determine factors affecting implementation; and document and describe the various gaps and recommended solutions identified. Below is a summary of the results of the study:

- The study noted a decrease in the amount of mercury-containing materials stored in the hospitals—from a total of 312.7 kg in 2010, down to 213.5 kg in 2018.
- Six of the 10 hospitals were able to participate in a mercury management seminar, however, only two regularly conducts hospitalwide information campaigns on mercury management.

The following factors were found to affect mercury minimization program:

¹ Dental amalgam refers to a filling material for cavities which contain mercury.

- Lack of funding for temporary mercury storage. However, a subsequent spill which happened in one of the hospitals saw cleanup cost that is four times higher than the amount needed to set up a temporary storage facility. This did not include the cost for biomonitoring of affected personnel and the evacuation of informal settlers living near the accident site.
- The surveyed hospitals lacked mercury-free policies. Those which suggested that they have one only had an "Environment Plan". Hospitals that no longer store mercury consequently have no existing policies concerning mercury.
- Emergency spillage plans are present in most of the surveyed hospitals protocol. However, these plans focus on minor spills only.
- Most hospitals performed a one-time collection of MCMMDs. However, compliance with storage requirements were low (e.g., lack of spill kits, lack of proper labeling, lack of mercury vapor sniffer, bund walls and sink traps, improper record keeping practices, etc.).

Essentially, the study asserts that the ban has led to the reduction of MCMMDs in HCFs, but key issues related to its storage and disposal still remain.

Objectives of the Project

The overall goal of the project is to contribute to the prevention of the adverse impacts of mercury on health and the environment through the ESM of mercury-containing sphygmomanometers and thermometers in the ASEAN Member States. The project is conducted in two countries, Indonesia and the Philippines. Specific project objectives include:

- To understand the present status of the usage, substitution, collection, storage, and disposal of MCMMDs as well as their substitution in the target countries as a basis for decision-making by key stakeholders
- To develop guidelines or evaluate the existing gaps in the application of existing policies for the environmentally sound management

- (including collection, storage, recycling and disposal) of used MCMMDs discharged by health care facilities in the target countries
- To promote the ESM of mercury wastes from MCMMDs through capacity building and awareness-raising activities in the target countries along with dissemination of the results of the project which may lead to its potential replication in the other ASEAN Member States.

Objectives of the Assessment

A situational assessment is conducted in accordance with the overall goals of the project. Specifically, the assessment aims to provide comprehensive information on the status of the management of MCMMDs in the Philippines in relation to national targets for the management of MCMMDs. As part of the assessment, a national inventory of MCMMDs in healthcare facilities as well as a legal gap analysis is conducted.

- To provide information on the current situation and status of achievement/progress of the Government of the Philippines in eliminating the mercury-containing medical measurement devices of concern (thermometers and sphygmomanometers) against the specified target, including the safety, health and environmental aspects of the elimination implementation.
- To serve as a basis in providing a set of practical technical guidelines to the users on the environmentally sound management of discarded mercury-containing medical measuring devices of concern.

Scope of the Assessment

The project primarily targets licensed hospitals in the Philippines, as well as other healthcare facility types which serve as the main healthcare providers in their respective areas. In total, 1,466 respondents were contacted for the study, with a total of 507 responses.² The assessment presents

² Refer to Chapter III for a detailed description of the assessment methodology and data-collection activities

Table 1 Project Stakeholders		
Entity	Role	Specific Tasks
Association of Southeast Asian Nations (ASEAN) Secretariat The ASEAN Secretariat was established to provide for greater efficiency in the coordination of ASEAN organs and for more effective implementation of ASEAN projects and activities.	Project Endorser	Endorsement of the project through the ASEAN Working Group on Chemicals and Wastes and the ASEAN Senior Officials on the Environment
Japan-ASEAN Integration Fund	Project Funding	Project development, supervision,
The JAIF was established by the Government of Japan to support the efforts of ASEAN member states towards the realization an open, dynamic, and resilient ASEAN community.	Agency	and support under the JAIF 2.0 program
Asian Institute of Technology, Regional Resource Centre for Asia and the Pacific (AIT, RRC.AP) The AIT is an international institute of higher learning established in 1959 to help meet the region's growing needs for advanced learning in engineering, science, technology and management, research, and capacity-building. The RRC.AP is an institute-wide centre that works throughout the region by helping key stakeholders adapt cutting edge science into practical solutions for improved environmental outcomes.	Implementing Agency	Overall management and guidance for the conduct of the project in the target countries of Indonesia and the Philippines
International Consultant Mr. D. Wardhana Hasanuddin Suraadiningrat serves as the international consultant for the conduct of the project.	Programme Adviser	Technical support and assistance for country project executing partners
BAN Toxics BT is a Philippine-based independent non-government environmental organization that works for the advancement of environmental justice, health, and sustainable development in chemicals and wastes with a special focus on women, children, and other marginalized sectors.	Project Executing Partner	Primary country project implementing organization for the Philippines
Environmental Management Bureau – Department of Environment and Natural Resources The EMB is the national authority responsible for pollution prevention and control as well as environmental impact assessment in the Philippines.	Supporting Government Agency	Provision of technical support to project executing partner and coordination with national stakeholders
Department of Health The Department of Health (DOH) is the principal health agency in the Philippines. The agency is responsible for ensuring access to basic public health services to all Filipinos through the provision of quality healthcare and the regulation of providers of health goods and services.	Supporting Government Agency	Provision of technical support to project executing partner



responses from HCFs located in all 18 regions of the Philippines.

- In relation to the conduct of the project, various key activities were held including:
- In-country kick-off meeting with participation of the project proponent and relevant stakeholders including the Department of Health (DOH), the Department of Environment and Natural Resources, and the Department of Trade and Industry (DTI), among others

 Inception cum Stakeholder Consultation Workshop

Implementation Arrangements

This section outlines the various project proponents who contributed to the conduct of the study. The project is conducted by implementing agency the Asian Institute of Technology, Regional Resource Center for Asia and the Pacific (AIT RRC.AP) in partnership with the Environmental Management Bureau (EMB) of the Department of Environment and Natural Resources (DENR) and the Department of Health (DOH) through national project executing partner BAN Toxics.

NATIONAL BACKGROUND INFORMATION

Figure 1 Map of the Philippines



Source: Embassy of the Philippines (n.d.). Geography of the Philippines. Retrieved from: https://www.philembassy.org.au/the-philippines/map

National Profile of the Philippines

The Republic of the Philippines is a sovereign state situated in the Southeast Asian region.¹³ The country was named after Prince Philip (later King Philip II) of Spain by Spanish Explorer Ruy Lopez de Villalobos during his expedition to the country from 1542 to 1546.¹⁴

The country gained its independence on June 12, 1898, following the culmination of the Philippine Revolution against Spain. Since then, it has become a founding member of the United Nations (UN) and the Association of Southeast Asian Nations (ASEAN). The Philippines has embassies and consulates in 62 countries around the world.¹⁵

The Philippine government is a unitary presidential constitutional republic, with the President acting as both the head of state and the head of the government. At the time of this writing, the Philippines is headed by 16th President Rodrigo Duterte who was elected in 2016.¹⁶

The country is divided into 17 administrative regions:

- National Capital Region (NCR)
- Cordillera Administrative Region (CAR)

- Ilocos (Region I)
- Cagayan Valley (Region II)
- Central Luzon (Region III)
- Calabarzon (Region IV-a)
- Mimaropa (Region IV-b)
- Bicol (Region V)
- Western Visayas (Region VI)
- Central Visayas (Region VII)
- Eastern Visayas (Region VIII)
- Zamboanga Peninsula (Region IX)
- Northern Mindanao (Region X)
- Davao (Region XI)
- Soccsksargen (Region XII)
- Caraga (Region XIII)
- Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)

Manila, known as the "Pearl of the Orient," is the country's capital and is located within the National Capital Region.¹⁷

Geography

The Philippines is an archipelago composed of 7,640 islands¹⁸ spanning more than 300,000

square kilometers of territory.¹⁹ These islands are divided into three main groups: Luzon being the largest, followed by Mindanao, and Visayas. 94% of the country's landmass is distributed among eleven islands,²⁰ with around 2,000 islands in the Philippines being inhabited.²¹

The Philippines is situated in the western Pacific Ocean in Southeast Asia and is located between the Philippine Sea and the South China Sea²² near countries such as Vietnam, Malaysia, and Indonesia.

The country's topography is characterized by mountainous areas, with narrow coastal plains as well as interior valleys and plains.²³

Climate

The Philippine climate is considered tropical and maritime, similar to countries located in Central America. The climate is heavily characterized by high temperatures, high humidity, and abundant rainfall.²⁴

Excluding the Baguio area (which is typically colder than the rest of the Philippines due to its location in mountainous areas and elevation of 1,500 meters), the mean annual temperature for the country is 26.6 °C. Average temperatures range from 25.5 °C during the coldest periods in January to 28.3 °C in May.

As for humidity, average monthly humidity varies between 71% in March to 85% in September. Finally, the Philippines' mean annual rainfall varies from 965 to 4,064 millimeters, with rainfall distribution varying across regions due in part to the varied topography of the country.

Table 2 Philippine Population Statistics

Philippine Population Statistics						
	2020	2015	2010			
Total Population	109,035,343	100,981,437	92,337,852			
Total Recorded Population (by sex)						
Male	51,069,962 (50.6%)	46,634,257 (50.5%)	44,757,788 (50.5%)			
Female	49,909,341 (49.4%)	45,700,856 (49.5%)	43,788,299 (49.5%)			
Pop. Growth Rate	1.63 (2015 – 2020)	1.72 (2010 – 2015)	1.90 (2000 – 2010)			
Pop. Density (persons per square kilometer)	337	308	295			

Population

The Philippine Statistics Authority²⁵ reports a total population of 109,035,343 with an average annual population growth rate of 1.63 between 2015 and 2020. The table below outlines the total population statistics from 2010 to 2020.

Economy

The Philippines is an open economy,²⁶ with its primary exports being electronics, semiconductors, transport equipment, construction materials, and minerals. The country's top export markets include Japan, the United States, China, South Korea, and Germany.

In 2019, the Philippines was considered one of the fastest growing economies in Asia, after being previously known as the "sick man of Asia" – a reputation obtained during the economic collapse linked with the dictatorship of Ferdinand Marcos which ended in the 1980s.²⁷

From 2010 to 2019 Philippines registered an annual economic growth rate of 6.4%.²⁸ However, the COVID-19 pandemic brought the Philippines its first recession in 1998, with its GDP dropping by 9.5%.

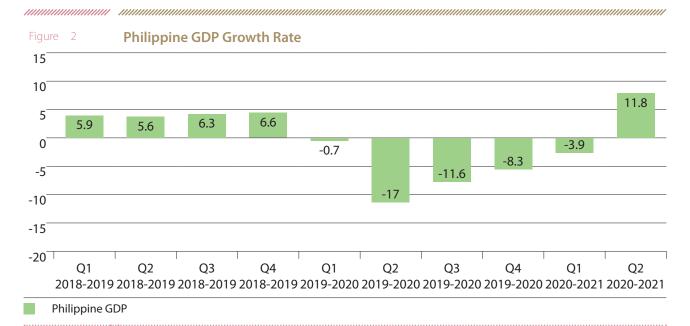
Despite the economic growth, the ADB reported that 16.7% of the population lived below the national poverty line in 2018. Furthermore, this is projected to average between 15.5% and 17.5% this 2021 due in part to the pandemic, which has caused unemployment rates to increase to 8.7% in October of 2020.²⁹

Healthcare Profile

The Philippine Constitution of 1987 recognizes health as a basic human right, 30 and provides healthcare through a dual health delivery system composed of the private and public sectors. Public hospitals receive funding based on a tax-based budgeting system and are supervised by national and local governments. Furthermore, government corporate hospitals, regional and specialty hospitals are supervised by the Department of Health while military hospitals are supervised by the Department of National Defense.

2016 data from the Philippines Health System Review reports a total of 1,224 hospitals, 2,587 city/rural health units, and 20,216 Barangay health stations.

Almost two-thirds of the total hospital beds are located in Luzon, which includes the NCR. The



Source: Philippine Statistics Authority (2021). GDP posted double-digit growth of 11.8 percent in the second quarter of 2021, the highest since fourth quarter of 1988. Retrieved from: https://psa.gov.ph/national-accounts



Table 3 Hospital Bed Distribution Data

Distribution of Hospital Beds – Philippine Health System Review (2016)										
Group of	Population	Governn	nent	Privat	e	Total	Total	Total	Avg.	Beds/10,000
Islands		Hospitals	Beds	Hospitals	Beds	Hospitals	Beds	Beds	Pop.	
NCR	12,877,253	48 / 1	17,221	115 / 1	2,502	163	29,723	182.3	23.1	
The Rest of Luzon	44,592,844	217 / 1	15,573	410/2	21,103	627	36,676	58.5	8.2	
Visayas	19,373,300	80 /	6,757	87 /	8,439	167	15,196	91	7.8	
Mindanao	24,135,775	89 /	7,820	178 / 1	2,273	267	20,093	75.3	8.3	
Philippines	100,979,172	434 / 4	17,371	790 / 5	4,317	1,224	101,688	83.1	10.1	
Avg. Beds/	Hospital	109.1		68.8		83.1				

Source: Philippine Statistics Authority (2021). GDP posted double-digit growth of 11.8 percent in the second quarter of 2021, the highest since fourth quarter of 1988. Retrieved from: https://psa.gov.phnational-accounts

table below outlines the physical and human resources as cited by the Philippines Health System Review conducted by the World Health Organization in 2016.³¹

In 2021, the total number of licensed hospitals in the Philippines increased to 1,383.³²

ASSESSMENT DESIGN AND METHODOLOGY FOR INVENTORY DEVELOPMENT

This section outlines the methodology and data-collection activities undertaken during the conduct of the project. The Figure 3 outlines the project design.

Assessment Methodological Basis Establishment

The situation assessment for mercury-containing medical measuring devices

(MCMMDs) in the Philippines aims to present relevant data on the use and disposal of thermometers and sphygmomanometers in hospitals in the Philippines To assess the national situation, secondary and primary data are collected from HCFs and related stakeholders. The table below summarizes the information categories gathered for the study and how they are used in the development of the assessment methodology.

Table 4	Assessment Methodological Bas	sis Establishment	
Category	Specific Information	Parameters	Results
Legislative Framework and Related Documents	National and international policies on the management and regulation of mercury and mercury compounds Existing guidelines and requirements for HCFs in relation to MCMMDs	Identification of required actions and projects at HCF levels as well as national objectives for the management of MCMMDs	Development of data- collection tools and assessment perspectives
National Inventory	Compliance with national policies on MCMMDs	Assessment of rate of compliance and success of implementation of existing policies	Identified gaps in current policies, programs, and management mechanisms in relation to MCMMDs
	Types of MCMMDs in HCFs and reported use, purchase, and disposal history for MCMMDs and alternatives	Assessment of overall national progress on management and regulation of MCMMDs;	Conclusions on the success of implementation of MCMMD-related policies
		Validation of compliance data as reported by HCFs	Recommendations to improve monitoring and regulation of MCMMDs and improved access to mercury-free alternatives



Figure 3 **Project Design (DanWHS, 2020)**

Assessment methodological basis establishment

Information and data collection Information and data reception and management

Information and data analysis

Assessment results evaluation and inventory database development

Situation assessment report development

Source: DanWHS, 2020

Figure 4 Basis Establishment Framework

- Types of MCMMDs

 Thermometers
- Sphygmomanometers

Sources

- Hospitals (primary respondents)
- Clinics (secondary respondents)
- Government Stakeholders

Assessment methodological basis establishment

- Data Types and Period
- Secondary (Temporary Storage and Disposal data, Legislative Framework)
- Primary (3 month collection for data for 5 to 10 years)

Source: DanWHS, 2020

The specific methodology and data-gathering tools for the national inventory are based on the following research questions:

- What are the trends for import, export, and use of mercury-containing medical measuring devices (thermometers and sphygmomanometers) in the Philippines?
- How much MCMMD is disposed of yearly and how?
- What is the rate of compliance with related laws?

 Based on current trends, what are our projections in terms of mercury phase-out in hospitals?

Information and Data Collection

The table below summarizes the specific data groups collected for the assessment. These data groups are based on the identified research questions in the previous section.

Qualitative and quantitative data-gathering methods were employed for the study. As outlined in the objectives of the project, the primary types of MCMMDs targeted for the study include mercury-containing thermometers and

Table 5 Summary of Data Collection Approach

Specific Data Groups	Collection Method	Source
Import, export, and use trends for MCMMDs	Desk Research Key Informant Interviews National Survey	Online Data Sources, Data Archives Government Agencies, Temporary Storage and Disposal Facilities Respondent HCFs
MCMMD Disposal Data	Desk Research Key Informant Interviews National Survey	Online Data Sources, Data Archives Government Agencies, Temporary Storage and Disposal Facilities Respondent HCFs
Rate of Compliance with Related Laws	Desk Research Key Informant Interviews National Survey	Online Data Sources, Data Archives Government Agencies, Respondent HCFs Respondent HCFs
Success of Implementation	Desk Research Key Informant Interviews National Survey	Online Data Sources, Data Archives Government Agencies, Temporary Storage and Disposal Facilities Respondent HCFs

sphygmomanometers (both standing- and desktype devices).

The initial scope identified for the study covers the total number of licensed hospitals in the Philippines, with the project aiming to distribute the survey questionnaires to the 1,383 licensed hospitals in the country. By the end of the project implementation period, the total number of HCFs that received the survey amounted to 1,466, with a number of clinics (especially in areas without licensed hospitals) also receiving the questionnaires.

Desk Research

Desk research was conducted focusing on data available on the use, sale, and disposal of MCMMDs in the Philippines. Also reviewed articles highlighting the potential and recorded impacts of improper disposal and breakage of MCMMDs.

Current national policies governing the use, sale, and disposal of MCMMDs were also reviewed. These policies were also the basis for the development of the survey and key informant interview tools used in the conduct of the study. Furthermore, desk research serves as the basis

Table 6	Data Co	lection Resp	ondents
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Department/ Agency/Category	Bureau	Section	
Department of Environment and	Environmental Management Bureau	Chemical Management	Section (EMB)
Natural Resources		Hazardous Waste Management Section (EMB)	
		EMB-DENR Regional C	Offices:
		Region 1	Region 7
		Region 2	Region 11
		Region 5	
Department of Health	Disease Prevention and Control Bureau (DPCB)		
	Food and Drug Administration (FDA)		
Department of Trade and Industry	Bureau of Philippine Standards (BPS)		
Public Hospitals	East Avenue Medical Center		
	Jose R. Reyes Memorial Medical Center		
	Amang Rodriguez Memorial Medical Center		

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for the formulation of the legal gap analysis. For details regarding the conduct of the gap analysis, please refer to Chapter 5 of this document.

Key Informant Interviews

The research team conducted key informant interviews with relevant stakeholders. Initial interviews were conducted during the inception workshop, and follow-up qualitative questionnaires were distributed to representatives from EMB-DENR as well as the DOH. These questionnaires focused on assessing implementation procedures, capacities, and practices at the regional and national levels. The information gathered through these KIIs were also essential in identifying policy gaps and recommendations. Finally, the KIIs were also used to validate information gathered through the national surveys.

Table 6 outlines the specific stakeholders who participated in the workshops and interviews:

Interviews were also conducted with representatives from accredited temporary storage and disposal (TSD) facilities. The questionnaires focused on assessing data availability regarding the management and storage of MCMMDs.

Figure 6 Sample Size Calculation Formula

Sample size =
$$\frac{\frac{z^2 x p(1-p)}{e^2}}{1 + (\frac{(z^2 x p(1-p))}{e^2 p})}$$

N = Population size

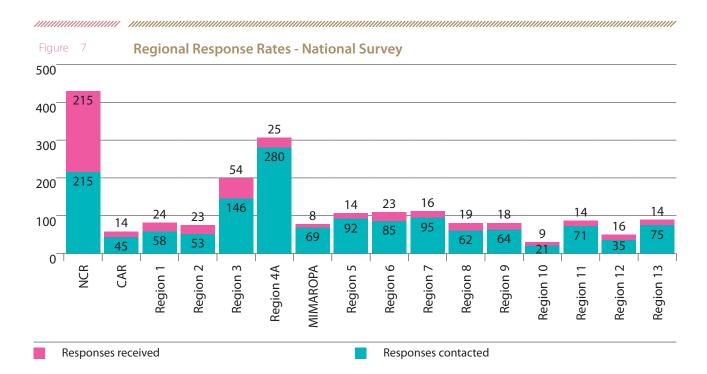
e = Margin of error (percentage in decimal form)

z = z-score

Source: Survey Monkey (n.d.). Sample size calculator. Retrieved from: https://www.surveymonkey.com/mp/sample-size-calculator/

National Survey

A national survey was conducted with a total of 1,466 hospitals and clinics receiving the survey questionnaires. The survey targeted the 1,383 licensed hospitals nationwide as identified by the National Health Facility Registry. As the surveys were disseminated by regional government agencies, several clinics were also able to receive a copy of the questionnaires especially in areas with no licensed hospitals, hence the total recipients exceeding the total number of hospitals registered in the Philippines.



The surveys were disseminated through offline and online means by regional EMB offices with support from the DOH Field Implementation and Coordination offices and the BAN Toxics survey team. An initial sample size of 305 was targeted based on the formula below with a confidence level of 95% and a margin of error of 5%:

The survey received a total of **529** responses. However, only **507** responses were accounted for during the analysis of results due to erroneous and/or incomplete responses. The chart below outlines the survey response rates per region.

The total response rate for the survey amounts to 34.58%, as outlined in the table below.

The survey is divided into three main sections:

Administrative Order (AO) 2008-0021
 Implementation Status

Section I of the survey aims to assess the success of the implementation of AO 2008—021 which prohibits and regulates the use of MCMMDs in hospitals. The survey outlines various requirements stated in the AO and aims to assess whether hospitals are able to comply or not.

Disposal and Storage History and Practices

Section II of the survey assesses disposal practices and collects data from hospitals regarding the amount of MCMMDs disposed over a ten-year period, as well as commonly implemented disposal and storage practices. In particular, the survey questions aimed to identify where MCMMDs are ultimately disposed once they leave hospital vicinities.

Use and Purchase History

Section III of the survey aims to gather available data on the use and purchase of MCMMDs as well as mercury-free alternatives. These questions are

Table 7 Regional R	sponse Rates -	Nationa	l Survey
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Region	Respondents Contacted	Total Responses	Response Rate
National Capital Region (NCR)	215	215	100%
Cordillera Administrative Region (CAR)	45	14	31.1%
Region 1	58	24	41.38%
Region 2	53	23	43.4%
Region 3	146	54	36.9%
Region 4a	280	25	8.93%
Mimaropa	69	8	11.6%
Region 5	92	14	15.22%
Region 6	85	23	27.06%
Region 7	95	16	16.84%
Region 8	62	19	30.65%
Region 9	64	18	28.12%
Region 10	21	9	42.86%
Region 11	71	14	19.72%
Region 12	35	16	45.7%
Region 13	75	14	18.67%
Bangsamoro Autonomous Region in Muslim Mindanao (BARMM)*	N/A	1	N/A
TOTAL	1 466	507	2/1500/6

^{*}The BARMM was not originally part of the study and invitations to participate were not sent out to hospitals in the region due to its status as autonomous, but the researchers received 1 response which is accounted for in this study.



Table	8	Data Reception and Management Procedure
		bata neception and management roccause

<u> </u>						
Category	Reception and Management Procedure					
Desk Research	Electronic and offline sources saved and referenced in the study (see Chapter 8)					
Key Informant Interviews	Conducted via online meeting applications (Zoom, Google Meet, Microsoft Teams, etc.) and recorded by the research team					
National Survey	Offline responses received via e-mail					
	Online responses automatically saved upon submission					

basic inventory questions where hospitals are requested to input numerical values of MCMMDs and alternatives that are purchased or used for each year during a 10-year period since the implementation of AO 2008-0021.

The survey forms were developed in conjunction with partners from the implementing agency Asian Institute of Technology, Regional Resource Center for Asia and the Pacific and the Environmental Management Bureau. Please refer to Annex E for the complete survey form.

Information and Data Reception and Management

The table above summarizes the guidelines followed by the research team in the management

of data collected throughout the situational assessment.

The information collected throughout the study is inspected and validated, if possible. Cross-validation through multiple sources (for secondary data) is utilized. For primary data, statements from key informants were validated in subsequent interviews with personnel from related agencies and during the stakeholder workshops. Finally, survey responses that presented data inconsistent with interviews or with other responses were validated through e-mail and telephone, when needed.

Information and Data Analysis

Data presented in this study is analyzed based on the identified research questions and data

Figure 8 Summary of Data Analysis

rigule o 30	unimary of Data Analysis
Specific Data Group	Data Analysis
Import, export, and use trends for MCMMDs	Basic and descriptive statistics including trend analysis based on reported purchase of MCMMDs from 2010 to 2020. This is compared with data for reported use and purchase of mercury-free alternatives.
MCMMD disposal data	Basic and descriptive statistics including trend analysis based on reported disposal data of MCMMDs. This information is also compared and contrasted with reported use, storage, and disposal data to ensure consistency across data groups. Qualitative content analysis is also conducted based on key informant interviews with TSD facilities and government stakeholders.
Rate of compliance with related laws	Qualitative content analysis of responses gathered through key informant interviews and identification of response themes to highlight key issues and challenges.
Success of implementation	Narrative analysis based on reviewed literature and responses from key informant interviews.
-	Qualitative content analysis of responses gathered through key informant interviews and identification of response themes to highlight key successes and positive contributing factors.

					,,,,,,															
Table 9 Project Timeline																				
Activity		April		May				June				July			August					
		2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Design and Methodology Development																				
Development of Data-Collection Tools National Surveys																				
Conduct of Surveys																				
Assessment of Survey Data													•							
Development of Data-Collection Tools Key Informant Interviews																				
Conduct of KIIs																				
Assessment of KII Data																				
Info and Data Analysis (Overall)																				

collection approach. The table below summarizes the approach to analyzing data gathered throughout the assessment.

Information and Data Analysis Results Evaluation

Primary data collected in the study is evaluated based on consistency with secondary data sources and historical information. This data is then further cross-validated through the consultation of stakeholders.

The situation assessment has also undergone a review process spearheaded by relevant government agencies and stakeholders to ensure reliability and accuracy of information presented.

The success of the management of MCMMDs is evaluated based on identified goals and objectives outlined in national and international policies implemented and recognized in the Philippines.

Limitations

Data-gathering for the project was conducted from April 2021 to July 2021, coinciding with the COVID-19 pandemic in the Philippines. This limited the capacity of hospitals to respond to the survey and in some cases led to delays in the conduct of the national surveys.

Due to time constraints and the current public health crisis, the scope of the study was also reduced to 1,466 from the initial target of 5,127 licensed health care facilities³ to focus on facilities classified as clinics and hospitals. This excluded the majority of other health facility types such as blood centers, testing laboratories, and dialysis centers, among others. As such, the findings of the study do not reflect the status of implementation and compliance in these facilities.

Finally, there is limited data available on the import and manufacture of mercury-containing medical measuring devices in the Philippines. Under national policies, the import of MCMMDs is not monitored as long as proper permits are acquired by traders.³³ The methodology was refined to address this by focusing instead on data available from end-users and storage and disposal facilities (Chapter 1, Section 4).

Project Timeline

The table below outlines the conduct of activities in relation to the national inventory from April 2021 to August 2021.

Based on data available from the Department of Health's National Health Facility Registry which can be accessed via: https://nhfr.doh.gov.ph/

DATA COLLECTION AND ANALYSIS RESULTS WITH INVENTORY DEVELOPMENT

This chapter outlines the findings of the study starting with an assessment of the efforts of various stakeholders in implementing relevant policies. Primary and secondary quantitative data collected during the course of the study are also presented.

The inventory presents national averages with regards to the management of mercury-containing medical measuring devices. When appropriate, the results are assessed and compared across hospital categories. Regional comparisons are not presented due to the low response rates in a number of regions. However, regional highlights are specified in accordance with their significance to the overall study.

In summary, the data suggests that the phase-out of mercury-containing thermometers in health care facilities (HCF) has had a high success rate, while trends suggest that HCFs are still gradually moving towards the phase-out of mercurycontaining sphygmomanometers.

A total of 507 healthcare facilities submitted their responses to the inventory, 69% of which are private facilities. Level 1 hospitals comprise 34% of the respondents, followed by clinics (22%) and level 2 hospitals (15%). Majority of the healthcare facilities are located in the national capital region (NCR). The table below summarizes the data analysis results.

Government Preparedness Towards the Mercury-Containing Medical Measuring Devices Elimination Target Achievement

This section provides a brief overview of the legislative framework for governing MCMMDs

Table 10 Summary of Results: National Invent	ory
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Criteria for DOH AO 2008-21 Implementation	Percentage of Respondents which complied to criteria	Additional Remarks							
Hospital waste management committee	81%	Some health facilities were established after the DOH AO 2008-0021 (Chapter 4 Section 1), and thus							
Mercury management committee	7%	have no experience using MCMMDs. Other health facilities, meanwhile, have already disposed of their MCMMDs, and do not have mercury management committees.							

Criteria for DOH AO 2008-21 Implementation	Percentage of Respondents which complied to criteria	Additional Remarks							
Has implemented a phaseout of MCMMDs	63%	Majority of the facilities phased out MCMMDs in 2010, although some facilities have only completed phaseout activities in the past five years. Additionally, some hospitals that were established past the enactment of the AO were not required to implement a phaseout, as they did not use MCMMDs in the first place.							
Policy/ guideline for collecting and retrieving used/ discarded MCMMDs	20%	Some health facilities were established after the DOH AO, and thus have no experience using MCMMDs. Other health facilities, meanwhile, have							
Policy/ guideline for temporary storage of MCMMDs	20%	already disposed of their MCMMDs, and do not have mercury-specific policies.							
Policy/ guideline on managing mercury spills	22%								
Policy/ guideline for final disposal	18%								
Policy/ guideline on financing mercury management activities	9%								
Purchasing policy for mercury- free alternatives	25%	Only 9% have mercury-content disclosure agreement with vendors							
Mercury audit	11%	Majority of the facilities conducted an audit around 2009-2010, although some facilities have only completed audit activities in the past five years							
Mercury monitoring activities	21%	Majority conducts monitoring activities annually, but do not specifically monitor MCMMDs especially if none are present in the facility							
Mercury information and education program	16%	Majority conducts information and education program activities annually, but mercury-related IEC programs are lacking							
Safety training for healthcare staff focused on mercury	17-25% (depending on topic)	75% of the facilities conduct safety training for staff, but only 25% include discussions on mercury, which is done annually							
Temporary mercury storage facility	28%	Not all of the storage facilities comply with storage requirements							
Purchase and disposal of MCMMDs	Thermometers: 5% in 2010; 1% in 2020 Sphygmomanometers: 4% in 2010; 0.7% in 2020	In 2010, only 5% of the healthcare facilities purchased mercury-containing thermometers; and 4% mercury-containing sphygmomanometers. This subsequently declined by 2020. The same trend is observed in terms of disposal.							

in the Philippines, as well as results of the stakeholder assessment conducted for agencies involved in monitoring and regulating MCMMDs.

Legislative Overview

For a detailed view of the provisions under the policies discussed in this section, please refer to the *Technical Guidelines for the Environmentally*-

Sound Management of Mercury-Containing Medical Measuring Devices.

The Minamata Convention on Mercury

The Minamata Convention on Mercury is an international treaty that aims to protect human health and the environment from the adverse effects of mercury pollution. Implementation



of the Convention will help reduce mercury emissions and releases on a global scale. 34

The Convention seeks to address key mercuryrelated issues such as supply and trade as well as the storage and disposal of mercury and mercurycontaining products. Furthermore, the treaty outlines strategies to address contaminated sites and provisions for technical assistance, awareness raising, monitoring, and research.

Ratification of the Convention also requires parties to adhere to specific regulations. This includes:

- the reduction and, if possible, the elimination of mercury use in artisanal and small-scale gold mining (ASGM) communities
- control mercury emissions from industries such as coal-fired power plants and industrial boilers, metals and cement production, and waste incineration
- the reduction and if possible, the elimination of mercury use in manufacturing processes such as chlor-alkali production, vinyl chloride monomer production, and acetaldehyde production
- the phase-out or reduction of mercury use in products such as batteries, switches, lights, cosmetics, pesticides, and measuring devices, as well as the reduction of mercury used in dental amalgam.

In regulating MCMMDs, Article 4 of the Minamata Convention text³⁵ specifies that Parties should take appropriate measures to ensure that the manufacture, import, and export of mercury-added products in Part 1 of Annex A are prohibited. For measuring devices such as thermometers and sphygmomanometers, the Convention specifies a target phase-out date of 2020.

In 2020, the Philippines ratified the treaty, becoming the 123rd country to do so.³⁶ As of July 2021, there are 128 signatories and 131 parties to the Minamata Convention on Mercury.³⁷

The Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal

The Basel Convention is a multilateral environmental agreement designed to reduce the movements of hazardous waste between nations. Implementation of the treaty will help reduce the transfer of hazardous waste from developed to less developed countries, where hazardous waste can severely impact human and environmental health.³⁸

The Convention centers around the principal aims of:

- The reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal
- The restriction of transboundary movements of hazardous waste except where it is perceived to be in accordance with the principles of environmentally sound management
- A regulatory system applying to cases where transboundary movements are permissible.

In achieving these objectives, the Convention aims to ensure the ESM of hazardous materials, including storage, transport, treatment, reuse, recovery, and disposal.³⁹ MCMMDs are among the materials considered hazardous by the Convention.

Article 2 of the Basel Convention⁴⁰ defines wastes as "substances or objects which are disposed or intended to be disposed of or are required to be disposed of by the provisions of national law." Under the convention, thermometers and sphygmomanometers are classified as mercury-added equipment that "easily releases mercury into the environment when broken, and wastes contaminated with a high concentration of mercury."

The Philippines ratified the Basel Convention on October 21, 1993, with the treaty entering into force in the country on January 19, 1994.⁴¹

National Policies on MCMMD Regulation

The management of MCMMDs in the Philippines is regulated by two key policies, namely: 1) Department of Health Administrative Order No. 2008-0021 and 2) Department of Environment and Natural Resources Administrative Order No. 2019-20.

DAO 2008-0021, 42 otherwise known as "Gradual Phase-out of Mercury in All Philippine Health Care Facilities and Institutions," outlines policies and guidelines to eliminate mercury-containing devices in all health care facilities in the Philippines including hospitals, infirmaries, birthing homes, and clinics. Within 24 months from its issuance, the DAO specifies that all hospitals should have:

- Fully implemented the required mercury minimization program
- Switched to mercury-free alternatives
- Developed and implemented a program of waste segregation and recycling for mercurycontaining devices in the hospital
- Identified a dedicated mercury collection area within the facility
- Developed a proper temporary mercury storage room
- Incorporated a mercury management module in the training program for new personnel
- Developed and displayed information material regarding mercury and associated risks

Annex B of the DAO also outlines a number of common mercury-containing devices in health care facilities and recommends a number of storage and disposal options for thermometers, sphygmomanometers, and gastrointestinal tubes. Additionally, it is recommended that guidelines for the safe use and handling of devices with limited alternatives (at the time) such as sphygmomanometers should be established in facilities. Dental amalgams were also included in the DAO but were not banned in

the country until the issuance of DAO 2020-0020, which prohibited the use of mercury in dental restorative procedures.⁴³

DAO 2019-20,⁴⁴ otherwise known as the "Revised Chemical Control Order (CCO) for Mercury and Mercury Compounds (Revising DAO 1997-38)" revises the original CCO for mercury and outlines additional policies and guidelines in the management of MCMMDs. Highlights include:

- The reiteration that importation of mercury, mercury compounds, and mercury-added compounds are still allowed under the DAO (with respect to phase-out schedules outlined in the order and other policies) provided that the required documents such as importation clearance are secured
- Phase-out schedules for various mercuryadded products have also been identified.
 MCMMDs such as thermometers and sphygmomanometers are scheduled to be phased out on a national level by 2022.

Policies relevant to the management of mercury, but not particularly MCMMDs, include:

- Mercury Management
 - RA 6969 (Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990) and DENR AO 1992-0029 (Implementing Rules and Regulations (IRR) of RA 6969)
 - DENR Department Administrative Order 1997-38 (Chemical Control Order for Mercury and Mercury Compounds)
 - AO 2020-0020 (Guidelines on the Phase-Out of Mercury Use in Dental Restorative Procedures
- Hazardous Waste Management
 - DAO 2013-22 (Revised Procedures and Standards for the Management of Hazardous Wastes)
 - Department Memorandum 2017-0132 (Final Disposal of Temporarily Stored On-Site



Mercury Wastes and Mercury Containing Devices)

- DM 2011-0145 (Guidelines for the Temporary Storage of Mercury Wastes in Healthcare Facilities)
- Joint DENR-DOH AO 2005-02 (Policies and Guidelines on the Effective and Proper Handling, Collection, Transport, Treatment, Storage, and Disposal of Health Care Wastes)
- DOH Health Care Waste Management Manual
- Quality Standards for Healthcare Facilities
 - Philhealth revised accreditation policy for health care facilities

These policies were reviewed for the legal gap analysis (Chapter V), and are integrated into the Technical Guidelines for the Environmentally-Sound Management of Mercury-Containing Medical Measuring Devices.

Stakeholder Assessment

Key informant interviews were conducted with stakeholders from relevant government agencies and representatives from the private sector. These discussions were guided by three main questions:

- What are the measures of your agency in monitoring the compliance of hospital industries in imposing Environmentally-Sound Management (ESM) of mercury-containing medical measuring devices?
- What are the challenges encountered by your agency in ensuring the practice of Environmentally-Sound Management (ESM) by hospitals within the region?
- What can you suggest to improve your agency's promotion of Environmentally-Sound Management (ESM) of mercury-containing medical measuring devices?

Stakeholder responses were assessed through thematic analysis and compared with historical information from literature reviewed. In response to the question regarding the measures of agencies to promote the ESM of MCMMDs, stakeholders highlighted 3 key themes, namely: 1) policy development, 2) capacity-building, and 3) inter-agency coordination. The table below highlights the efforts and activities conducted by

Table 11 Su	ummary of Stakeholder Assessment Results
Thematic Area	Highlighted Activities
Capacity-Building	The Disease Prevention and Control Bureau (DCPB) through the DOH Poison Control Centers has been conducting seminars/ trainings for doctors, nurses, government personnel and the general public (through lay forum) on the adverse health effects of mercury
Inter-Agency Coordination	DPCB together with the other Bureaus of the DOH developed policies and guidelines on MCMMDs
	DOH provides special or tertiary health care services and/or technical assistance to other health care providers from local government units (LGUs)
	Through administrative orders from the DENR, government agencies have the capacity to impose fines and penalties for illegal use, manufacture, or disposal of mercury and mercury substances.
	Under the DOH, the Food and Drug Administration (FDA) is the regulatory agency tasked to regulate consumer products (medical devices etc.) and monitor compliance of establishments to the provisions stated in Republic Act 9711.
	Observed strong partnership among key agencies and other stakeholders in the region

agencies for capacity-building and inter-agency coordination.⁴

Based on the KIIs conducted with the DCPB, the bureau places an emphasis on the conduct of seminars and trainings for private and government personnel on the adverse health impacts of mercury, and considers it a foundation for the government's capacity-building initiatives. This initiative of the DOH is consistent with Sultan, Peterson, Puteh, & Mokhtar's (2017)⁴⁵ assertion that strengthening the institutional, technical and legal capacities of all stakeholders through the conduct of seminars and input fora are vital for constant and more regulated monitoring of mercury waste as well as disposal management.

The importance of inter-agency cooperation and coordination was also highlighted by stakeholders. With the overall goals of mercury management being similar across agencies, the stakeholders emphasized the importance of inter-agency coordination. This coordination culminated in the provison implementation support across bureaus between the DOH and the DENR. This is consistent with a study conducted by Zordilla⁴⁶ in 2018, who highlighted that in the phase out of MCMMDs, coordination, support for training, and advocacy, especially for local hospitals should be pursued by stakeholders.

Mercury in Temporary Storage and Disposal Facilities

Manufacture, import, and export data for MCMMDs is unavailable, as industries are not required to submit data on volume and quantities of MCMMDs in their business procedures (Chapter 3, Section B). Specific data on MCMMDs in storage is also unavailable. Still, data on total storage capacity for mercury and mercury-added compounds as well as available mercury reclamation and recycling methods can provide valuable insight on the state of the management of MCMMDs.

As per the DENR list of accredited facilities, there are currently 52⁵ temporary storage and disposal (TSD) facilities with existing permits to handle mercury waste. The table below summarizes the number of TSD per region.

Currently, more than half of the accredited TSD facilities for mercury and mercury compounds are located in Regions 3 and 4a. Moreover, 11 regions do not have immediate access to existing TSD facilities.

Mercury in thermometers and other mercury-containing devices is recycled through a method called "roast, retort, and distillation." This involves the crushing and heating of devices to incite evaporation of mercury. Once gaseous mercury is separated from glass and/or other materials, it is condensed back into a liquid state and distilled to remove remaining impurities.⁴⁷

Table 12	Regional Data -	Temporary Storage a	and Disposal Facilities
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Region	TSD Facilities	Total Storage Capacity (MT)
National Capital Region	7	1626
Region 1	3	117
Region 3	17	4543
Region 4a	15	15271
Region 7	8	1178
Region 8	2	4
Region 2, 5, 6, 9, 10, 11, 12, 13, MIMAROPA, CAR, and BARMM	0	N/A
TOTAL	52	22,739

⁴ Refer to Chapter 4 Section 1 for the legislative framework for MCMMDs.

⁵ Refer to ANNEX B for the complete list of temporary storage and disposal facilities.



Data suggests that the majority of the accredited TSD facilities have the capacity to conduct reclamation of mercury in thermometers and sphygmomanometers. To validate the information, BAN Toxics contacted representatives from the 52 facilities. However, several issues were identified. Firstly, inventories of MCMMDs stored in these facilities were unavailable, as mercury-containing wastes were not segregated based on type and their source. Additionally, a number of TSD facilities such as Southchem Recycling Solution and August-10 Enterprise Co. (Region 4a), and Servo Treat Philippines, Inc. (Region 1), among others, only treat specific waste types such as mercury-containing lamps. This further limits the number of TSD facilities that could cater to MCMMDs.

National Inventory for Mercury-Containing Medical Measuring Devices

This section outlines the data collected through the national surveys. As discussed in Chapter 2, a total of 1,466 hospitals received the questionnaires. Excluding forms with erroneous and incomplete information, the survey received a total of 507 responses for a national response rate of 34.58%.

General Respondent Information

Out of the 507 respondents, 99.2% (or 503) indicated their hospital ownership categories and classifications based on definitions outlined in DOH Administrative Order No. 2012-0012⁴⁸ and DAO No. 2008-0021.

Government health facilities refer to facilities created by law and are administered under local or national government units, government agencies such as the DOH and the Department of Justice (DOJ), state universities and colleges, government-owned and controlled corporations, and other related entities. Private health facilities refer to facilities owned, established, a n d operated with funds from donations, investments, or other similar means by individuals, corporations, associations, organizations, and other similar entities.

Hospitals are further classified according to their specialties and capacities. The health facility categories which were prioritized for this inventory include:

Hospitals

- Places devoted primarily to the maintenance and operation of facilities for diagnosis, treatment, and care of individuals suffering from illness, disease, injury, or deformity or in need of obstetrical or other medical or nursing care.
- Hospitals⁶ are further classified into 3 different levels based on the infrastructure and staff capacity, the presence of specialty equipment and expertise, and the capacity of the hospital to conduct residency training programs, among others.

Infirmary

 Health facilities that provide emergency treatment for the sick and injured, as well as clinical care and management to mothers and newborn babies.

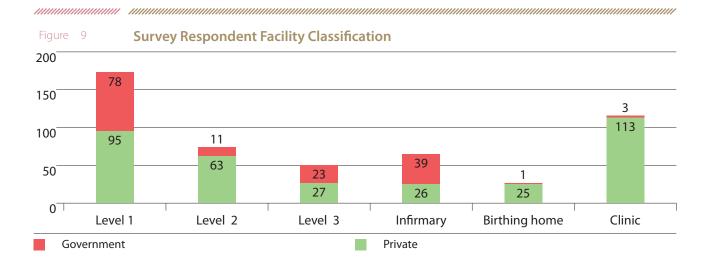
Birthing Home

 Facilities that provide maternity services ranging from pre-natal and post-natal care, normal spontaneous delivery, and care of newborn babies.

O Clinic

- Facilities where patients can avail of medical consultations or treatments on an out-patient basis. May also include:
 - Medical
 - Ambulatory
 - Dialysis
 - Health Care Centers and Dispensaries

⁶ For more information regarding hospital classifications, please refer to DAO No. 2012-0021.



- Surgical
- Alternative Medicine
- Dental
- Other non-mentioned clinical facilities that require accreditation from the DOH

58.93% or more than half of the valid responses come from general hospitals of varying classifications (Levels 1 to 3), with Level 1 hospitals accounting for 173 total responses. A total of 504 respondents indicated their classifications.

The size and capacity of the respondents vary for each classification. The table below outlines the average staff size and available facilities per classification.

Table 13 Average Staff and Facility Availability - Respondents						
Hospital C	lassification	Total Number of Employed Doctors (including interns)	Total Number of Employed Nurses (including interns)	Total Number of Employed Allied Health Professionals (including interns)	Total Number of Other Hospital Staff (including interns)	Total Number of Patient Beds
Level1	Mean (Average)	25.46	41.47	29.30	63.12	47.36
	N (No. of Responses)	171	172	169	172	171
Level2	Mean	109.97	99.70	78.14	131.35	101.41
	N	70	71	69	71	70
Level3	Mean	290.94	277.35	162.46	292.61	353.18
	N	47	48	48	49	50
Infirmary	Mean	5.58	13.78	12.27	30.22	18.75
	N	65	65	64	64	65
Birthing	Mean	2.08	.7391	2.88	2.8077	2.58
Home	N	25	23	26	26	26
Clinic	Mean	5.66	1.83	7.96	7.27	.92
	N	113	105	114	115	113
Total	Mean	54.54	59.15	40.63	75.18	69.18
	N	401	121	490	497	495



Table 14 Mercury Phase-Out Implementation Data

Questio	Question: Has your hospital implemented a phase-out of mercury-containing devices?							
		Frequency	Percent	Valid Percent	Cumulative Percent			
Valid	Yes	316	62.3	63.1	63.1			
	No	185	36.5	36.9	100.0			
	Total	501	98.8	100.0				
Missing	System	6	1.2					
Тс	tal	507	100.0					

Department of Health Administrative Order 2008-0021 Implementation Assessment

This section assesses respondent compliance with the provisions set in AO 2008-2012.

Of the responses to the survey, a total of 316 facilities (with a valid percentage of 63.1%) indicated that they have implemented a phase out of mercury-containing devices. However, this may not be reflective of the actual percentage of hospitals that do not use mercury-containing devices. For example, hospitals such as the Marikina Valley Medical Center have informed us that their records were lost due to calamities in the area, and thus cannot definitively provide answers to the survey questions. Furthermore, it is possible that hospitals that were established after AO 2008-0021 would not have needed to implement a phase-out in the first place.

To validate this assertion, responses from other questions (particularly for the purchase history of MCMMDs) are utilized to assess actual hospital practices. This is discussed further in the following sections.

Mercury Waste Management

AO 2008-0021 states that hospitals are required to form Mercury Management Committees to oversee the implementation of the policy. These committees will work under existing Hospital Waste Management Committees (HWMCs).

The majority (81.19%) of respondents have indicated the presence of a HWMC. The presence of HWMCs is not expected in smaller health care facilities, and the results are indicative of this. In contrast, only 7.37% of the respondents have indicated the presence of a Mercury Management Committee in their facilities. This is, however,

Figure 10 Hospital Waste Management Committee Data

Do you have Hospital Waste Management Committee?

No
95 (18.81%)

Yes
410(81.19%)

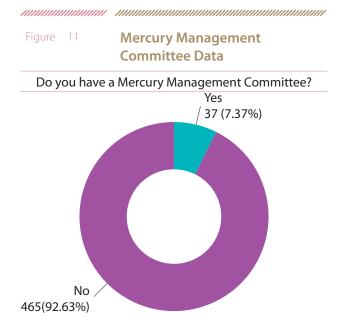


Table 15 Mercury Minimization Program - Data

Questio	Question: Do you have a Mercury Minimization Program?								
		Frequency	Percent	Valid Percent	Cumulative Percent				
Valid	Yes	59	11.6	11.8	11.8				
	No	441	87.0	88.2	100.0				
	Total	500	98.6	100.0					
Missing	System	7	1.4						
Тс	otal	507	100.0						

expected as the majority of respondent facilities have already implemented mercury-phase outs in their facilities.

Additionally, 88.2% of the valid responses have indicated that there are no current mercury minimization programs (MMPs) in their facilities. This is consistent with previous responses, as a properly implemented mercury-phase out would not merit the need for a minimization program.

AO 2008-0021 that MMPs are required to be submitted to the appropriate regulating agencies. Out of the 507 respondents, however, only 24 have knowledge of when their MMPs were submitted. As a significant portion of respondents have indicated zero purchase of MCMMDs in recent years (see following sections on purchase history),

it is likely that MMPs were submitted by previous hospital staff without the knowledge of newer employees, and that these MMPs are currently not implemented due to the phase-out of mercury.

Still, around 1.6% of responses have indicated the submission of MMPs beyond 2010. Dr. Jose N. Rodriguez Memorial Hospital and Sanitarium, for example, is a government-run hospital that opened in 1970. The surveys indicate that the hospital only submitted their MMPs in 2017, almost a decade after the issuance of the AO. In contrast, some hospitals were already conducting mercury phase-outs before the AO was issued. Dr. Paulina J. Garcia Memorial Research and Medical Center, for example, started implementing their MMPs in 2005.

Table 16 Year of Submission (MMP) - Data

Questio	n: Year of S	Submission (MMP)?			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2005	1	.2	4.2	4.2
	2008	2	.4	8.3	12.5
	2009	9	1.8	37.5	50.0
	2010	4	.8	16.7	66.7
	2011	1	.2	4.2	70.8
	2012	1	.2	4.2	75.0
	2013	2	.4	8.3	83.3
	2014	1	.2	4.2	87.5
	2015	2	.4	8.3	95.8
	2017	1	.2	4.2	100.0
	Total	24	4.7	100.0	
Missing	System	483	95.3		
To	tal	507	100.0		



Mercury Management Policies

With regards to the existence of relevant inhospital policies on mercury-containing devices (which also include lamps and dental amalgams, among others), most respondents have indicated that these policies are not in place or are not currently being implemented. This is again consistent with the assertion that the mercury phase-out in health care facilities has been successfully implemented in HCFs. The table below outlines a summary of these responses.

The table highlights the differences between the management of MCMMDs when compared to other mercury-containing devices such as lamps, batteries, and dental amalgam. 19.8% of the respondents indicated that they have existing collection and retrieval policies for MCMMDs, with a slightly reduced percentage of 19.7% indicating that they have temporary storage facilities. In contrast, 24.4% of the respondents have indicated that their facilities have current collection and retrieval policies for other mercury-containing devices with slightly more facilities (26.1%) indicating the presence of temporary storage

facilities for these other devices. This highlights that other mercury-containing devices which were not covered by previous policies may currently be a bigger priority for HCFs, as MCMMDs have been reduced in hospitals.

AO 2008-0021 requires hospitals to have financing g policies for mercury management activities (e.g., budget allocations specifically for use in managing mercury-containing devices) as well as mercury content disclosure agreements with vendors (that is, vendors are required to inform hospitals if their products contain mercury). However, with the ban being fully implemented starting in 2010, only 9.3% and 8.8% of the respondents indicated the presence of a financing policy for mercury management activities as well as the presence of a mercury content disclosure agreement for vendors, respectively. The low ratings are consistent with MCMMD purchasing trends for HCFs (see following sections on purchasing history), as both policies may only be needed if MCMMDs are purchased. In contrast, 24.8% of the responses have indicated the presence of a purchasing policy for mercury-free alternatives in their facilities.

Table 17 Presence of Hospital Policies on MCMMDs - Data

Question: Does your hospital have the following?			
	Yes	No	Percentage of "Yes" Responses
Policy on collection and retrieval of used/discarded mercury- containing thermometers and sphygmomanometers	99	401	19.8
Policy on collection and retrieval of used/discarded mercury-containing devices (lamps, dental amalgam, batteries, etc.)	122	377	24.4
Policy on the temporary storage of mercury-containing thermometers and sphygmomanometers	98	400	19.7
Policy on the temporary storage of other mercury-containing devices	130	368	26.1
Policy and Guidelines on the management of mercury spills	109	389	21.9
Policy and Guidelines on the final disposal of MCMMDs	90	408	18.1
Policy/Program on financing mercury management activities	46	449	9.3
Purchasing policy for mercury-free alternatives	124	376	24.8
Mercury Content Disclosure Agreement with hospital equipment suppliers	44	455	8.8
The conduct of Mercury Audits	57	444	11.4
The conduct of Mercury Monitoring	102	389	20.8
The storage and keeping of Permanent Records	55	433	11.3

Table 18 Hospital Training and Education Programs - Data

Question: Does your hospital conduct the following?			
	Yes	No	Percentage of "Yes" Responses
Safety Training for Healthcare Staff	357	141	70.4
Mercury Information and Educational Program	79	421	15.8
Training on the Health and Environmental Concerns of Mercury	125	370	25.3
Training on Mercury Spill Prevention and Management	85	404	17.4

In terms of policies regarding monitoring and regulation of MCMMDs, only a fraction of the respondents has confirmed the conduct of activities in relation to the management of MCMMDs. This includes the conduct of mercury audits (11.4%), mercury monitoring activities (20.8%), and the keeping of permanent records (11.3%). This is consistent with most other responses regarding MCMMDs. However, this may be a cause for concern as monitoring and documenting mercury-containing devices in the hospital are important activities to ensure safety within the facilities, regardless of whether they continue to purchase MCMMDs.

Capacity to Implement Activities to Monitor and Regulate MCMMDs

The survey questionnaire was also designed to assess the capacity of the hospital and its staff to monitor and regulate MCMMDs. This also includes an assessment of current activities conducted by respondents to manage MCMMDs.

The table below outlines relevant information and educational programs conducted by hospitals. The majority (70.4%) of facilities that responded to the survey confirmed the conduct of safety training

for healthcare staff. However, mercury-related training is not prioritized. This may be a direct result of the implementation of AO 2008-0021, as hospital staff may not be needed to conduct mercury management activities.

Due to the lack of training activities, hospital staff may not be capable of addressing mercury-related incidences if they occur. Moreover, the lack of mercury information and educational programs (as well as publicly available reading material on mercury) limits the potential of hospitals to educate the public regarding mercury-related risks, which can potentially impact their decision-making capacities when looking to purchase devices for home use such as thermometers.

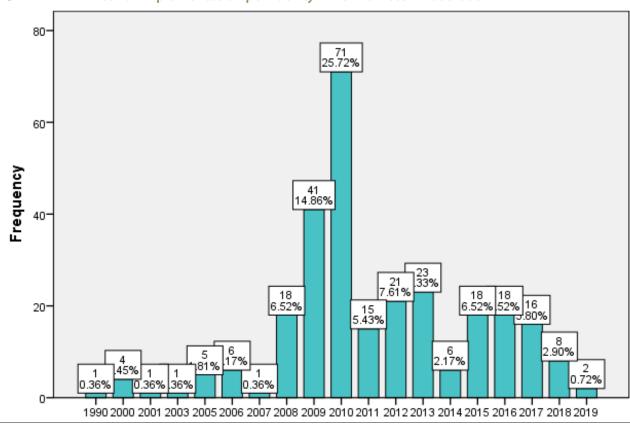
Hospitals may not have the capacity to manage mercury-related incidences should they occur. Only 27.7% of the respondents indicated the presence of temporary mercury storage areas in their facilities. This is consistent with related questions, as 26.1% of respondents confirmed that their facilities had policies regarding the temporary storage of mercury. On the other hand, 87.4% of respondents indicated the presence of fire-fighting equipment in their facilities.

Table 19 Presence of Safety Equipment - Data

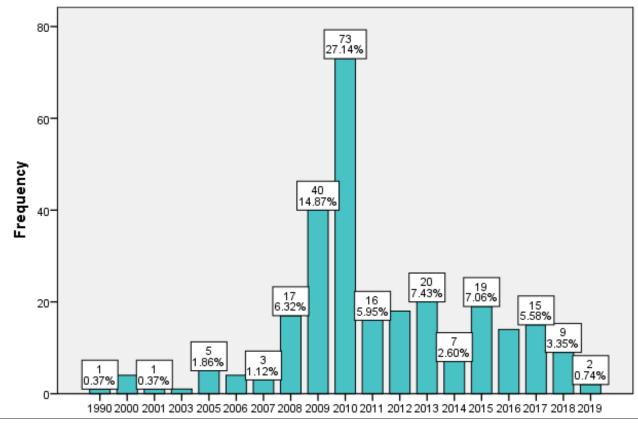
Question: Does your hospital have the following equipment/facilities?					
	Yes	No	Percentage of "Yes" Responses		
Fire-Fighting Equipment	438	63	87.4		
Mercury Spill Cleanup Kit	90	402	17.8		
Temporary Mercury Storage Facility	139	363	27.7		
Mercury Collection Areas	105	397	20.9		
Equipment for Measuring Ambient Mercury Levels	11	488	2.2		

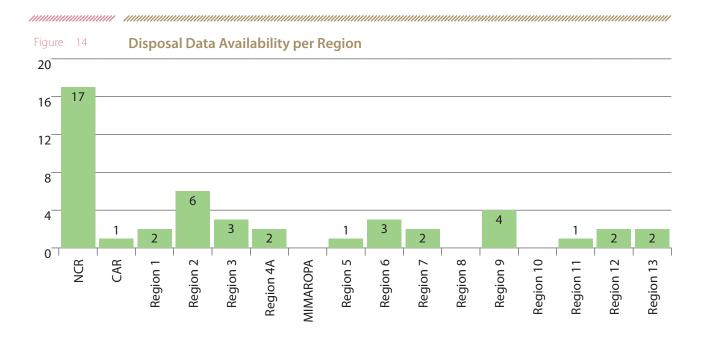












Although the surveys indicate a lack of staff and equipment capacity to address mercury-related incidences, it is important to note that the implementation of AO 2008-0021 (which effectively bans mercury-containing devices in hospitals) has made these incidences a rare occurrence. In the last 12 years, only 2 facilities out of the 507 respondents (0.4%) have reported an incidence of mercury spill in their hospitals. E.D. Lim Medical Center (Region 3) and the Dr. Danilo V. Mallari Medical Clinic (NCR) have confirmed incidences of mercury spills in their facilities.

Still, it is important to ensure that hospitals and staff are prepared for potential incidences, as other mercury-containing devices (lamps, batteries, amalgams e.g.) and temporarily stored MCMMDs may still present risks.

Data available also indicates that phase-outs of MCMMDS in some HCFs were only implemented recently. A total of 62 respondents (12.23%) implemented phase-outs for mercury-containing thermometers from 2015 to 2019. Likewise, 59 respondents (11.6%) implemented their phase-outs for mercury-containing sphygmomanometers from 2015 to 2019.

Storage, Disposal, and Use of MCMMDs

A total of 46 facilities⁷ (9.07% of total respondents) provided data on MCMMDs disposed by their facilities. The figure below outlines the regional distribution of these facilities:

Information on disposal from these facilities is outlined in Table 20.

As expected for mercury-containing thermometers, the bulk of disposals occurred within the first few years of effectivity for AO 2008-0021. There are, however, recorded spikes in various years. The jump from 2014 and 2015 may be attributed to the LPH San Pedro District Hospital and the Cebu Provincial Hospital in Danao who registered 300 and 367 disposed units in 2015, respectively. Similarly, St. Paul Hospital of Tuguegarao disposed of 101 thermometers in 2018, disrupting the decreasing trend of recorded disposals.

The disposal trends for sphygmomanometers mirrors that of thermometers but are less drastic. Most disposals recorded occurred during the first few years since the implementation of AO 2008-0021. However, the quantity of disposed units is significantly lesser than thermometers.

⁷ Refer to Annex D for complete details on the disposal history for these facilities.

Table 20 MCMMDs Disposal Data (2010 to 2020)

Mercury-Co	ntaining Medical M	easuring Devices – Disposal Data ⁸	
Year	Thermometers	Desk-type Sphygmomanometers	Standing Sphygmomanometers
2010	3194	456	152
2011	748	310	142
2012	332	254	120
2013	220	264	98
2014	180	226	102
2015	734	270	78
2016	38	80	80
2017	26	22	60
2018	224	56	72
2019	20	30	68
2020	48	30	80
Total Units Disposed	5764	1998	1052

Table 21 MCMMD Disposal Options - Data

Question: What MCMMD disposal options are employed in your facility?						
	Yes	No	No Response	Percentage of "Yes" Responses		
Temporary Storage Facility (In Hospital Area)	127	215	168	37.1%		
Temporary Storage Facility (Outside of Hospital Area)	44	295	168	13%		
Municipal Waste	65	274	168	19.2%		
Third-Party Buyers	33	303	171	9.8%		
DENR Accredited Facility	168	173	166	49.3%		

This may be due to several factors including the higher breakage rates for thermometers, the fact that less sphygmomanometers are needed in hospitals, and the continued use of sphygmomanometers.⁸

Still, as AO 2008-0021 would only be fully in effect starting in 2010, it is possible that facilities were

Respondents indicated a mix of storage and disposal options employed in their facilities as outlined in the table above.

The questions regarding disposal options show a high non-response rate when compared to other question categories due to the mercury phase-outs implemented in their hospitals. For respondents who still conduct storage and disposal activities, in-hospital storage facilities and the transfer of MCMMDs to DENR Accredited TSD facilities remain priority options.

still using MCMMDs at the time but may have lost their records of previously disposed MCMMDs or did not document them in the first place.

⁸ A number of data entries were considered erroneous and were thus excluded from the presented results. The response from Don Emilio Del Valle Memorial Hospital indicated that they disposed of 4,000 units of mercury-containing thermometers in 2020. Bayugan City Doctors Hospital (45 kg.) and Tondo Medical Center (126 kg.) indicated total amount of mercury disposed which included devices such as lamps and batteries. Finally, Catubig District Hospital indicated that they disposed 150 of each MCMMD type per year since 2010, similar to their response for purchase history.

A point of concern for disposal is the significant percentage of HCFs that are disposing MCMMDs through municipal waste and third-party buyers. Disposal of MCMMDs through municipal waste collection may increase the risk of releasing mercury into the atmosphere through breakage during collection and/or storage and through improper disposal methods such as landfilling. Additionally, the disposal of MCMMDs through third-party buyers poses additional problems, as this often leads to the illegal recycling of mercury for use in other sectors, such as in artisanal and small-scale gold mining (ASGM).⁴⁹

The remaining MCMMDs are assumed to be either still in use or in storage, as indicated in the tables below.

In total, only a small percentage of facilities have indicated that they either use (6 facilities or 1.18%) or have mercury-containing thermometers (5 facilities or 0.99%) in storage. In comparison, a bigger percentage of respondents indicated that they still use or have mercury-containing sphygmomanometers in storage. This is expected, as AO 2008-0021 provided provisions in case HCFs are unable to completely phase-out sphygmomanometers, as alternatives are less accessible. 7 facilities (1.38%) indicated that they still use desk-type sphygmomanometers while 19 (3.75%) still used standing devices. Furthermore, 18 facilities (3.55%) confirmed storage of desktype sphygmomanometers and 14 facilities (2.76%) for standing sphygmomanometers. Notably, there are more confirmed currently used/stored sphygmomanometers (569 total units) across respondents than thermometers (77 total units).

Table 22 Mercury-Containing Thermometers in Use and in Storage - Data

Mercury-Containing Thermometers			
	No. of Facilities	Quantity	Total
Mercury-containing Thermometers in Use ³	3	1	3
	1	2	2
	1	3	3
	1	20	20
TOTAL			28
	No. of Facilities	Quantity	Total
Mercury-Containing Thermometers in Storage	No. of Facilities	Quantity 2	
	No. of Facilities 1 1	Quantity 2 7	
	No. of Facilities 1 1 1	Quantity 2 7 11	
	No. of Facilities 1 1 1 1	2 7	
	No. of Facilities 1 1 1 1 1 1	2 7 11	Total 2 7 11
	No. of Facilities 1 1 1 1 1	2 7 11 14	Total 2 7 11 14

Table 23 Mercury-Containing Sphygmomanometers in Use and in Storage - Data

Mercury-Containing Sphygmomanometers			
Mercury-containing Sphygmomanometers (Desk-Type) in Use ⁴	No. of Facilities	Quantity	Total
	1	1	1
	1	2	2
	1	3	3
	1	8	8
	1	12	12
	1	19	19
	1	20	20
TOTAL UNITS			65

////////	Mh.
/////	////
 '//'	h.

Mercury-Containing Sphygmomanometers (Standing) in Use	No. of Facilities 3 5 1	Quantity 1 2	Total 3
	5 1		
	1	2	10
			10
	2	3	3
	3	5	15
	1	8	8
	1	10	10
	1	15	15
	2	20	40
	1	25	25
	1	35	35
TOTAL UNITS			164
Mercury-Containing Sphygmomanometers (Desk-Type) in Storage	No. of Facilities	Quantity	Total
	2	1	2
	2	2	4
_	3	3	9
	2	4	8
	1	6	6
_	1	7	7
_	1	8	8
_	1	17	17
_	1	20	20
_	1	25	25
_	1	38	38
	1	52	52
	1	83	83
TOTAL UNITS			279
Mercury-Containing Sphygmomanometers (Standing) in Storage ⁵	No. of Facilities	Quantity	Total
_	3	1	3
_	4	2	8
_	1	11	11
_	1	5	5
_	1	8	8
_	1	10	10
_	1	3	3
	1	4	4
	1	9	9
TOTAL UNITS			61

Purchase History

A total of only 40 facilities (thermometers), 18 facilities (desk-type sphygmomanometers), and 20 facilities (standing sphygmomanometers) have

confirmed purchasing or have available data regarding their purchase history of MCMMDs.9

Consistent with conclusions in earlier sections, the majority of MCMMDs were purchased in the

⁹ Refer to Annex C for the complete list of facilities.

Table 24 MCMMDs Purchase Data (2010 to 2020)

Mercury-Co	ntaining Medical M	easuring Devices – Purchase Data ⁶	
Year	Thermometers	Desk-type Sphygmomanometers	Standing Sphygmomanometers
2010	2647	165	66
2011	1577	151	57
2012	535	152	67
2013	313	186	45
2014	286	27	56
2015	80	34	23
2016	45	29	69
2017	25	22	35
2018	26	28	33
2019	26	22	23
2020	50	26	43
Total Units Purchased	5,610	842	517

Table 25 Mercury-Free Alternatives Purchase Data (2010 to 2020)

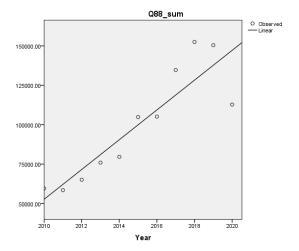
mercary recontentatives raichase bata (2010 to 2020)				
Mercury-Fre	e Medical Measurir	ng Devices – Purchase Data		
Year	Thermometers	Desk-type Sphygmomanometers	Standing Sphygmomanometers	
2010	53,103	925	450	
2011	52,340	749	336	
2012	59,693	765	344	
2013	72,002	883	426	
2014	75,841	977	476	
2015	97,638	1,134	505	
2016	101,438	1,306	759	
2017	131,773	1,505	644	
2018	149,834	2,022	691	
2019	148,450	1,931	763	
2020	111,734	2,894	958	
Total Units Purchased	1,053,842	15,091	8,352	

years following the implementation of AO 2008-0021 but decreased significantly as it took effect. This is more apparent for thermometers, as HCFs still had the capacity as mandated by the policy to use sphygmomanometers when mercury-free alternatives were unavailable.

The decreasing trend for the purchase of MCMMDs may be indicative of how successful the adoption of mercury-free alternatives is for HCFs in the Philippines. Purchase history for mercury-free

alternatives is more readily available than other data analyzed for this study, as 266 facilities (52.47% of the total respondents) have available data. Furthermore, several hospitals submitted erroneous data such as unsure estimates or uncharacteristically high numbers (as much as 25,000 sphygmomanometers, in the case of the Ilocos Sur Cooperative) with some hospitals stating that they provide 1 new thermometer for each patient but are unable to provide specific data. Although erroneous, this may also indicate

Figure 15 Linear Trend (Purchase) - Mercury-Free Thermometers



that more hospitals have adopted the use of alternatives. This is outlined in the table below.¹⁰

Consistent with data from previous questions, the data suggests that hospitals are moving towards adopting mercury-free alternatives each year. This is discussed in detail in the following sections.

Trend Analysis - Mercury-Free Alternatives

Linear trend analysis (Fig. 13) shows an upwards trend in the purchase of mercury-free thermometers. Moreover, a significant annual growth rate amounting to around 9,000 units of thermometers each year has been recorded.

Applying the same analysis to the purchase of sphygmomanometers show similar results, albeit not as drastic.

Fig. 14 shows a positive linear trend for the purchase of mercury-free desk-type sphygmomanometers amounting to a yearly increase of approximately 180 units purchased. Similarly, mercury-free standing-type sphygmomanometers (Fig. 15) have been recorded to show an increasing trend in their purchases amounting to an average annual increase of around 50 to 55 units.

The trend analysis for the purchase of mercury-free alternatives is indicative of the effectivity of the ban on MCMMDs, even for sphygmomanometers which were not immediately banned following the implementation of AO 2008-0021. The upward trend in purchasing practices also indicates that HCFs in the Philippines have moved towards adopting mercury-free alternatives, in response to policies and regulations.

Figure 16 Linear Trend (Purchase) - Mercury-Free Sphygs. (Desk)

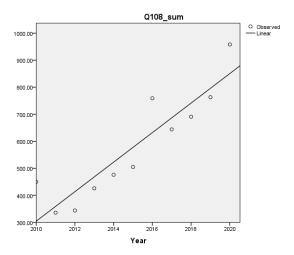
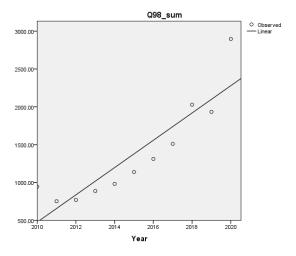


Figure 17 Linear Trend (Purchase) - Mercury-Free Sphygs. (standing



¹⁰ Refer to Annex C for the complete list of facilities.

GAP ANALYSIS BETWEEN EXISTING POLICY FRAMEWORK AND ACTUAL FIELD PRACTICES

Chapter 4 Section 1 of this document provides a brief overview of the legislative framework for the management and regulation of mercury-containing medical measuring devices in the Philippines. This section discusses the approach utilized by BAN Toxics to assess the effectivity of these policies as well as the implementation challenges identified through the survey and key informant interviews, as discussed in Chapter 3.

For a complete list of the existing international and national guidelines for the management of MCMMDs as well as the resulting recommended modifications, please refer to the Technical Guidelines for the Management of Mercury-Containing Medical Measuring Devices.

Policy Gap Assessment Approach

The methodology for the gap analysis generally follows the process recommended by the World Health Organization (2018).⁵⁰ Figure 16 illustrates the methodological framework of the study.

The assessment of the current legislative framework is guided by the following research questions:

• (Q1 - Desired State) What are the technical requirements and best practices that need to be implemented to promote the ESM of MCMMDs in the Philippines?

- (Q2 Current State) What are the policy measures in place to manage MCMMDs and how effective are these in promoting the ESM of MCMMDs in the Philippines?
- (Q3 Gaps) What are the differences/ gaps between the existing policy framework and the technical requirements of internationally recognized guidelines and best practices?
- (Q4 Actions) What specific policy provisions or guidelines need to be introduced to fill in these gaps?

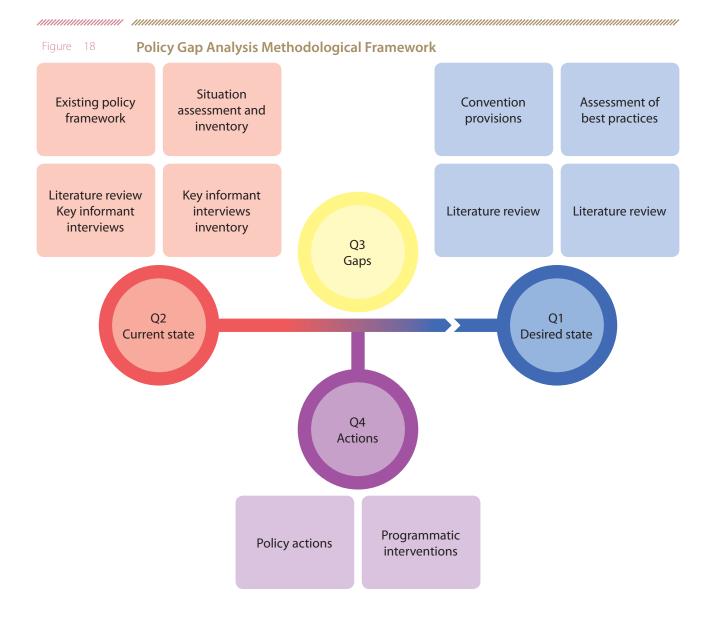
Step 1. Mapping and assessment of existing guidelines and best practices on the ESM of MCMMDs (Q1; DESIRED STATE)

The gap analysis started with a review of existing internationally recognized guidelines and best practices on the ESM of MCMMDs, including the technical requirements provided by the Minamata Convention and other relevant treaties. This process included the following steps:

Step 1.1 Profiling of the policies and guidelines.

The policies were profiled based on the type/category of policy instruments they belong to (whether command-and-control, market-based, information-based, or self-regulation/voluntary), using the definitions provided by Gunningham





and Sinclair.⁵¹ The categories of policy instruments are as follows:

- Command-and-control is the most dominant form of environmental regulation, which includes policies that detail how target groups must behave and the enforcement mechanisms and sanctions in place for non-compliance.
- Market-based instruments exploit market mechanisms to alter incentive structures facing firms.
- Information-based instruments facilitate dissemination and/or disclosure of information to correct information asymmetries/ undersupply of information.

 Voluntary instruments include public or private efforts to improve environmental performance beyond existing legal requirements.

Step 1.2 Identification of elements critical to the ESM of MCMMDs.

Each policy/ guideline/ best practice was reviewed to extract the relevant elements and proposed interventions needed for the ESM of mercury-containing medical devices. The identified elements and interventions were segregated based on the life cycle stage of the MAP they address. These include, but are not limited to:

 Manufacturing/ importation of mercury-free alternatives;

- Procurement and use of mercury-free alternatives;
- Phase out of mercury-containing medical devices;
- Environmentally sound interim storage, including inventory;
- Transport/ collection of mercury-containing medical devices; and
- Final disposal of mercury-containing medical devices, including terminal storage.

Other critical elements related to implementation and spanning all life cycle stages were also identified, including:

- Development of local implementation plans and other policies/ guidelines;
- Financial resources and mechanisms;
- Capacity-building of human resources;
- Public information, awareness and education;
- Monitoring and reporting mechanisms; and
- Evaluation of the effectiveness of programmes and policies.

Additional ESM elements were determined through consultation with BAN Toxics, its partners, and stakeholders. The results of the review comprised the "desired state" that the Philippine government will target to achieve the ESM of mercury-containing medical devices and the promotion of mercury-free alternatives.

The following guidelines and best practices were reviewed in the study. Additional data sources were determined through consultation with BAN Toxics, its partners, and stakeholders:

- International Guidelines
 - Minamata Convention on Mercury

- Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- Strategic Approach to International Chemicals Management (SAICM)
- Guidance documents developed by UN agencies such as the UN Environment Programme (UNEP), UN Industrial Development Organization (UNIDO), UN Development Programme (UNDP), and the World Health Organization
- Guidance documents from national governments such as the US Environmental Protection Agency

Mercury Management

- RA 6969 (Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990) and DENR AO 1992-0029 (Implementing Rules and Regulations (IRR) of RA 6969)
- DENR Department Administrative Order 1997-38 (Chemical Control Order for Mercury and Mercury Compounds)
- AO 2020-0020 (Guidelines on the Phase-Out of Mercury Use in Dental Restorative Procedures

Hazardous Waste Management

- DAO 2013-22 (Revised Procedures and Standards for the Management of Hazardous Wastes)
- Department Memorandum 2017-0132 (Final Disposal of Temporarily Stored On-Site Mercury Wastes and Mercury Containing Devices)
- DM 2011-0145 (Guidelines for the Temporary Storage of Mercury Wastes in Healthcare Facilities)
- Joint DENR-DOH AO 2005-02 (Policies and Guidelines on the Effective and Proper Handling, Collection, Transport, Treatment,

-EC

Storage, and Disposal of Health Care Wastes)

- DOH Health Care Waste Management Manual
- Quality Standards for Healthcare Facilities
 - Philhealth revised accreditation policy for health care facilities

The specific guidelines outlined in these policies are integrated into the **Technical Guidelines for the Management of Mercury-Containing Medical Measuring Devices.**

Step 2. Review and assessment of the existing policy framework on the management of mercury-containing medical measuring devices in the Philippines, including the status of implementation (Q2; CURRENT state)

The next step in the gap analysis was the documentation of the existing policy framework on the management of mercury-containing medical measuring devices, including the phaseout measures already implemented since DOH AO 2008-21.

Step 2.1 Profiling the policy mix currently in place.

While regulation is one of the most important strategies for protecting the environment, regulatory systems can fail due to a variety of factors. This includes the (1) overreliance on "single instrument" approaches, or the use of policy mixes that are incompatible with each other. The assessment of the existing policy framework in the country involved identifying the type/ category of policy instruments available (whether command-and-control, market-based, information-based, or self-regulation/ voluntary), followed by an assessment of whether the current policy mix was complementary, incompatible, complementary if sequenced, or complementary based on a specific context.

Step 2.2 Reviewing the specific provisions of each policy.

After categorizing the type of instrument each policy belongs to, the research proceeded with reviewing the specific provisions of each policy and map them based on the specific life-cycle stages and crucial ESM elements identified in Step 1.2. The policies that were reviewed included:

- RA 6969 (Toxic Substances and Hazardous and Nuclear Waste Control Act of 1990), and DENR AO 1992-0029 (Implementing Rules and Regulations (IRR) of RA 6969)
- DENR AO 2019-0020 (Revised Chemical Control Order for Mercury and Mercury Compounds)
- DOH AO 2008-0021 (Gradual Phaseout of Mercury in all HealthCare Facilities and Institutions)
- Joint DENR-DOH AO 2005-02 (Policies and Guidelines on the Effective and Proper Handling, Collection, Transport, Treatment, Storage, and Disposal of Health Care Wastes)
- (Department Memorandum 2011-0145 (Guidelines for the Temporary Storage of Mercury Wastes in Health Care Facilities)
- O DOH Health Care Waste Management Manual
- Philhealth revised accreditation policy for health care facilities

Step 2.3 Conducting key informant interviews and inventory to assess the current status of ESM of mercury-containing medical devices.

Aside from documenting the existing policy framework on the management of mercury-containing medical devices, the status of their implementation was assessed. Since DOH AO 2008-21 was released in 2008 and involved a two-year phase out of mercury use in all health care facilities, the assessment of the experiences from these facilities helped identify the facilitating and inhibiting factors for the ESM of mercury-containing medical devices. Key informant interviews from representatives of the DOH, DENR

and other government agencies were conducted using guide questions.

The results of steps 2.1, 2.2, and 2.3 comprised the "current state" of the management of mercury-containing medical devices in the Philippines.

Step 3. Gap analysis between the (a) existing policy framework and actual experiences in the field, and (b) requirements of relevant Conventions and other internationally recognized guidelines and documented best practices (Q3; GAPS)

Using the results of the review in Steps 1 and 2, the study filled out the gap analysis matrix adapted from the WHO.⁵³ The matrix summarizes the difference between the desired state and current state of the policy environment concerning the environmentally sound management of mercury-containing medical measuring devices, based on critical life cycle stages and ESM elements.

Step 4. Draft recommendations based on the gap analysis and propose additional guidelines (Q4; ACTIONS)

Draft recommendations and guidelines were identified based on the results of Step 3, using the same gap analysis matrix. These recommendations and guidelines are further elaborated by using another matrix adapted from WHO⁵⁴ and validated through a stakeholder workshop conducted as part of the project. The recommendations and guidelines contain essential information and recommended practices that relevant stakeholders can use in fulfilling the requirements of the Minamata and Basel Conventions as well as local regulations.

Policy Gaps Identified

The table below summarizes the policy gaps identified during the review of the legislative framework for the management of MCMMDs. These identified gaps are the basis for the development of the Technical Guidelines for the Management of Mercury-Containing Medical Measuring Devices, specifically the proposed guideline revisions.

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Table 26	Policy Gaps Iden	tified
	ESM of MCMMDs	Identified Gap/s
	Focused area/s for analysis	Difference between the desired and current states
Life Cycle Stages	Waste prevention and minimization	Generally, the current policy framework contains comprehensive provisions on mercury waste prevention and minimization. Policies that may be considered to strengthen current policies include:
		- Finalization of the draft FDA circular phasing out MCMMDs, to control retail sales of mercury thermometers and sphygmomanometers especially through online channels
		- Inclusion of sphygmomanometers in the list of regulated medical devices of the FDA Center for Device Regulation Radiation Health, and Research (CDRRHR), integrating WHO technical specifications.
	Inventories	DAO 2013-22 lacks the capacity to distinguish among several mercury wastes. There is a need for improved classification of mercury wastes as articulated and aligned with the definitions and categories stated in the Minamata Convention text to facilitate a more comprehensive inventory of mercury wastes. Utilization of internationally accepted tools such as the UNEP toolkit can also be explored.
	Handling, separation and collection	There is a need for a comprehensive collection system for MCMMDs, as healthcare facilities are required, as waste generators, to facilitate disposal by contacting waste transporters and TSD facilities. The implementation of final disposal of mercury wastes stored in hospitals (i.e., collection of MCMMDs) is key in increasing effectiveness of the phaseout program.¹ Interview with the DOH representative noted that collection can be coursed through the CHDs (regional offices).
	Transportation of mercury wastes	There is a need to set thresholds for the transportation of mercury wastes, as existing policies do not indicate upper limits for mercury content which would require licensed transporters.
	Interim storage	There is a need to integrate size and function requirements of TSD facilities in existing policies, which may be consist of differing requirements per facility category.
	Transboundary movement	The current policy may be strengthened by linking the manifest system to the movement document.
Cross-cutting ESM Elements	Financial resources and mechanisms	There is a need for improved access to financial and resource mechanisms, especially for healthcare facilities in low-resource settings who may not be able to afford the costs associated with the ESM of MCMMDs.

CONCLUSIONS AND RECOMMENDATIONS

Based on data presented throughout the study, the implementation of DAO 2008-0021 has been successful. There is a drastic decrease in the use and purchase of mercury-containing medical measuring devices. Furthermore, trend analysis suggests that health care facilities are moving towards mercury-free alternatives, albeit at varying speeds.

HCFs have adopted the use mercury-free thermometers, with 2,647 reported purchases of mercury-containing thermometers in 2010 to just 50 in 2020.¹¹ Meanwhile, the purchase of mercury-free alternatives has almost doubled from 59,592 in 2010 to 112,826 in 2020.¹²

Mercury-containing sphygmomanometers are slowly being phased out while still being used at higher rates as per the data. From a total of 231 reported purchases for both standing and desk-type devices in 2010, reported purchases decreased to only 69 in 2010. However, as mercury-containing sphygmomanometers were not immediately banned following the enactment of AO2008-0021, the reported quantities for devices currently in use and storage are higher than thermometers, with 569 total mercury-containing sphygmomanometers reported compared to 77 mercury-containing

thermometers. Still, the target phase-out in 2022 is within reach with more HCFs shifting to mercury-free alternatives based on the trend analysis, and the decreasing annual purchase history for MCMMDs (Chapter 3.4.).

Overall, the implementation of AO 2008-0021 is considered successful, with only 1% of total HCFs reporting the use of mercury-containing thermometers and only 0.7% reporting the use of mercury-containing sphygmomanometers in the Philippines.

Implementation Challenges

While the Philippines has a comprehensive policy framework for the management of mercury and mercury wastes, implementation challenges and enforcement issues still hamper the achievement of its goal to protect human health and the environment from the adverse impacts of mercury.

The issues presented in Chapter 1 are still consistent with the results of the national inventory and highlight persistent problems that are yet to be solved. These issues include 1) the lack of funding for temporary mercury storage, 2) the lack of mercury-free policies, 3) inadequate guidelines in the case of major spills (existing guidelines at the HCF-levels mostly covered minor spills), and 4) low compliance with storage requirements.

¹¹ Data from 40 facilities

¹² Data from 266 facilities

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Table 27 K	ey Implementation Challenges
Key Challenge	Notes
MCMMDs Data Availability	There is a lack of data on MCMMDs with no data available from concerned agencies such as the DENR, the DOH, and the DTI, among others. As such, there is a lack of capacity to assess the success of phase-out implementation due to the lack of data and monitoring and regulation protocols.
	The dependence on self-monitoring for HCFs also poses a problem, as only total mercury waste is reported without distinction if the waste comes from MCMMDs. This is also a problem experienced by TSD facilities, as they do not sort their waste depending on source and type, leading to the lack of available data.
Lack of Access to Local TSD Facilities	One of the major issues faced by regions is the lack of access to accredited TSD facilities. This is also compounded by issues such as safe transport of waste and transportation management.
	Based on KIIs, hospitals are also more likely to store their mercury-containing wastes for long periods of time rather than to contact transporters and treaters within the region. At times, MCMMDs are also disposed through municipal waste or third-party buyers due partly to the lack of access to proper TSD facilities.
	Finally, the completion of documents and other pertinent requirements are also delayed due to the difficulties of transporting waste to other regions within the Philippines.
Lack of Technical Knowledge on Waste Management	Klls with relevant stakeholders reiterated the need for more training and knowledge sessions on managing of MCMMDs, including technologies that may be used to treat the waste. Furthermore, the study highlights the lack of training at the HCF-level regarding the risk associated with mercury, which may lead to the lack of capacity of staff to address mercury-related incidences.

Furthermore, the development of the national inventory sheds light on additional issues as identified by stakeholders:

The main challenges identified in Chapter 1 are consistent with the needs and implementing challenges identified throughout the development of the national inventory and the technical guidelines. This highlights the lack of effective action to solve pressing issues in the context of managing MCMMDs, as most of the issues identified in the development of the national inventory remain the same.

Recommended Actions

This section lists several recommended actions to improve the monitoring and regulation of MCMMDs. For a more in-depth discussion of recommended actions, please refer to the Technical Guidelines for the Management of Mercury-Containing Medical Measuring Devices.

- Improved and regularized MCMMD waste auditing system for various stakeholders including HCFs, TSD facilities, and registered importers and exporters. A key issue highlighted throughout the study is that HCFs reported high rates of disposal of MCMMDs, with most HCFs noting that their waste is transferred to accredited TSD facilities. However, the lack of specific data on MCMMDs has made it difficult to validate this information. Integrating thermometers and sphygmomanometers, for example, in the record collection process for these stakeholders is imperative.
- The continuous conduct of training and seminars on the proper disposal of MCMMDs for stakeholders. To ensure continuity of knowledge and that stakeholders can address mercury-related incidences, training and seminars should continue to be conducted for government agencies, TSD facilities, and HCFs. Furthermore, accessing newer technologies on

reclamation and recycling of MCMMDs should be prioritized.

- The inclusion of documents such as a Certificate of Treatment for MCMMDs in the compliance monitoring system of hospitals. This recommendation is intended to add another layer of assurance that MCMMDs are properly disposed and allows stakeholders to properly monitor compliance to policies.
- Initiatives on financial and technical support for the one-time disposal of temporarily stored mercury devices in hospitals. A onetime national project to collect stored MCMMDs in HCFs may be helpful to ensure that these devices are properly disposed and are removed from HCFs, where they may pose risks.

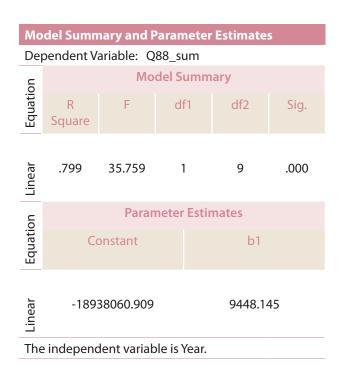
• Continued conduct of Information, Education, and Communication (IEC) campaigns to promote awareness on environmentally sound management practices. This includes the promotion of mercury-free alternatives and proper storage practices in HCFs.

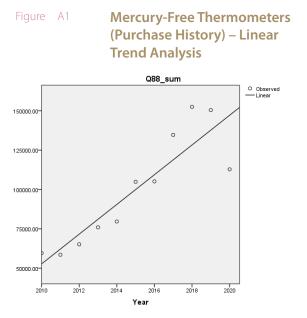
In summary, it is strongly suggested that more intensive and specific information drives for concerned stakeholders are conducted. It is also worth noting that both technical and financial resources must be provided for TSD facilities to improve their capacities to manage waste and for HCFs that have limited access to TSD facilities and alternatives.



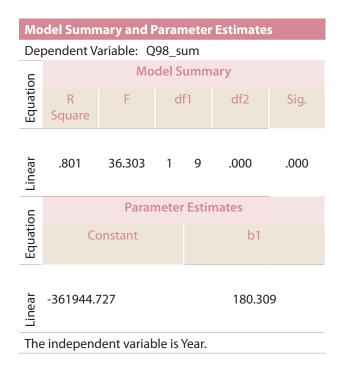
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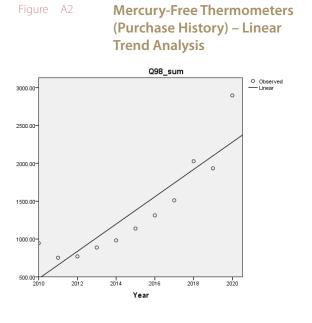
ANNEX A - Linear Trend Analysis





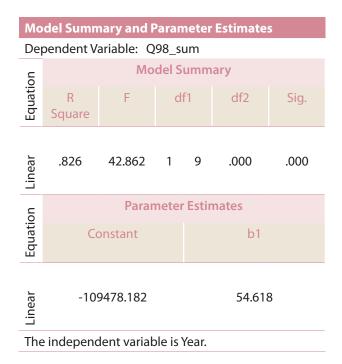
Data outcome above shows an increasing linear trend on the total number of Mercury-Free Thermometers Purchased. A 79.9% of the variance of the total number of Mercury-Free Thermometers Purchased can be

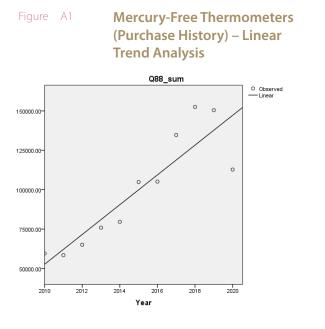




explained by the linear trend equation relative to the annual period of time. This equation is derived as 9448.145 (year) plus --18938060.909. The beta (b1=9448.145) of this equation is found to be significant (sig. < 0.05), indicating a significant increase of approximately 9448 total number of Mercury-Free Thermometers being purchased every year.

Data results above show significant positive linear trend for the Mercury-Free Desk Sphyg Purchased. This is evident on the linear trend equation with significant positive beta (b1=180.3009, Sig.= 0.000) along with large R-square value (0.801). As indicated in the model, it suggests that the total number of Mercury-Free Desk Sphyg being purchased every year significantly increases by approximately 180 units.





From data shown above, a positive increasing linear trend for the total number of Mercury -Free Standing Sphyg. Purchased is observed. This linear trend is described by the equation: 54.618 (year) plus -109478.182. This means that the increase rate of the total number Mercury -Free Standing Sphyg. being purchased is approximately 55 units a year. The increase is considered statistically significant as evidenced by the corresponding p-value of the beta (Sig.=0.000).



ANNEX B - Temporary Storage and Disposal Facilities

Notes

• Full list of accredited mercury Temporary Storage and Disposal (TSD) Facilities for mercury and mercury compounds acquired from the Environmental Management Bureau on June 25, 2021.

Region	Name of Facility	Treatment Methods	Capacity (Mt/Day)	Residual Management	Total Storage Capacity (Mt)
4A	Green Resource And Environmental Management Solutions Inc.	Sanitary Landfill, Recycling Constituting Disposal, Reclamation, Chemical Immobilization, Chemical Decomposition	422.5	Treated solidified waste treated encapsulated waste	12675
3	Dolomatrix Philippines Inc.	Crushing and Filtration	6.25	Prior to crushing, wastes are sorted. Some client's bulbs still have the carton containers will are recyclables. During crushing, aluminum end caps are being separated.	50
1	Servo Treat Philippines, Inc., Brgy. Pinmaludpod, Urdaneta City, Pangasinan	Chemical Immobilization, Filtration	110	Encapsulation / Solidified - subject for TCLP Residual / solid waste final disposal to accredited / registered Sanitary Landfill Site	110
NCR	Ecosafe Hazmat Treatment, Inc.	Physical-Chemical Treatment	5	Sanitary landfill	123
4A	Southchem Recycling Solution	Reclamation	100	All residual waste will undergo TCLP and if PASSED, it will be disposed of to accredited Sanitary Landfill - Metro Clarck	1000
NCR	Jm Ecotech Solutions Co.	Reclamation	260.2	Wastewater is treated using the Wastewater Treatment Facility. Organic sludge is immobilized prior to disposal. Used filters are collected and stored in sealed steel drums. Crushed lamps are immobilized and stabilized prior to disposal.	675
4A	Hmr Envirocycle Philippines Inc., Ca Yulo Ave., Silangan Industrial Park, Canlubang, Calamba City, Laguna	Reclamation	0.8	All hazardous waste collected and treated were also disposed using DENR accredited TSD partner. Transport is done monthly or as needed.	5
4A	Sardido Industrties, Inc	Reclamation	0.185	Recycling or Encapsulation	65
3	Globaltec Waste Management, Inc.	Reclamation	13.46	For export to Air Cycle Facility	500

Region	Name of Facility	Treatment Methods	Capacity (Mt/Day)	Residual Management	Total Storage Capacity (Mt)
4A	Jorm Trading Corporation	Reclamation	20	All residual wastes generated during the handling and treatment process are also disposed in the entombment facility.	20
3	Republic Cement & Building Materials, Inc. Norzagaray Plant, Brgy. Bigte, Norzagaray, Bulacan	Thermal Decomposition (Thermolysis), Combustion of Recovered of Alternative Fuel	600	No residue produced, all materials are converted to combustion gases and clinker (product)	180
3	Clean Leaf International Corporation	Crushing with Filtration	5	Mixed with cement for internal use	200
3	Joechem Environmental Corporation	CRUSHING WITH FILTRATION	0.115	Landfill	672
3	Adl Envirotechnology Inc.	Reclamation (Mercury Filtration)	14.4	Crushed BFL's will be subjected for TCLP analysis prior disposal to accredited sanitary landfill facility. (The company has secured a MOA with MCWMC for solid waste disposal)	21.6
3	Envirocare Mgt. Precision, Inc.	Reclamation	10	N/a	30
4A	Green Horizon Environmental Management Inc.	Bulb Crushing/ Adsorption	2	Residual Management Recovered materials like bottles, cartons, plastics, and metals will be stored in a designated area of the plant. These are sold to buyers which will then be endorsed to recycling entities on a regular basis. The filters are encapsulated and disposed of in the secured landfill while the crushed bulbs are solidified and stabilized.	66
7	Phil-Japan Metals & Refined Products Co., Inc	Reclamation	3	CD dried, Sun dried and exported	50
4A	Solvtech Consultancy Resources	Polymeric Filtration	1.2	-Filters and Glass Culets are for Chemical Immobilization	5
8	Cleanaway Philippines Inc.	Crushing with Filtration	0.5	Landfilling / encapsulation	2
3	Autolube Corp.	Crushing with Filtration	2.304	Crushed bulbs are made into concrete blocks to be used inside the plant with corresponding TCLP analysis	59.904
7	Cebu Common Treatment Facility, Inc.	Recycling Constituting Disposal	13	Rinsate subject to WTF, Parts with hazardous wastes for recycling, recovery and disposal to 3rd party facility	318

Region	Name of Facility	Treatment Methods	Capacity (Mt/Day)	Residual Management	Total Storage Capacity (Mt)
7	Maritrans Recycler, Inc.	Reclamation (Bulb Eater)	0.125	Crushed fluorescent lamps are sealed in metal drums and are transported to a third party treatment facility for final treatment and disposal via encapsulation and entombment.	50
7	Arc Merchandising	Treatment and Disposal	0.1	Mercury contaminated materials will be sent to accredited disposal facility	382
NCR	Trame Oil & Environmnetal Specialist Inc	Reclamation (Crushing/ Filtration)	1	Sanitary landfill	10
3	Recytechphil Inc.	Reclamation, Chemical Immobilization	16.36	Sanitary landfill	10
3	Rms Petroleum Technology And Waste Management Corporation (Main) - Rms Petroleum Technology And Waste Management Corporation	BULB CRUSHER (RECOVRY) & TEMPORARY STORAGE	1	Encapsulation of residual wastes will undergo tclp analysis before final disposal to engineered sanitary landfill. Encapsulation-the hazardous materials are sealed with concrete mix to prevent leaching using containers made of impervious materials.	200
7	Rrds Environmental Services, Inc.	Crushing, Filtration	0.15	The crushed bulb is then stored in a sealed container and sent for recycling or disposal.	5
4A	Frilco Philippines Corporation	Dismantling, Pre-Treatment and Temporary Storage	4	Residual Waste generated will be dumped into third party accredited sanitary landfill.	4
4A	Integrated Waste Management, Inc.	Pyrolysis, Dismantling, Bulb Crusher	10	Thru metroclark waste management corp	240
4A	August-10 Enterprise Co.	crushing/ Bulbeater	5	All crushed BFL if sufficient in quantity will be schedule on the process of encapsulation and will be subject for TCLP before we can use to fencing or decorative bricks for pavement.	50
3	Total Organic Environmental Solutions, Inc.	Reclamation	14.4	Encapsulation	898.56
3	Dolomatrix Philippines Inc.	Crushing and Filtration	6.2	Prior to crushing, wastes are sorted. Some client's bulbs still have the carton containers will are recyclables. During crushing, aluminum end caps are being separated.	50

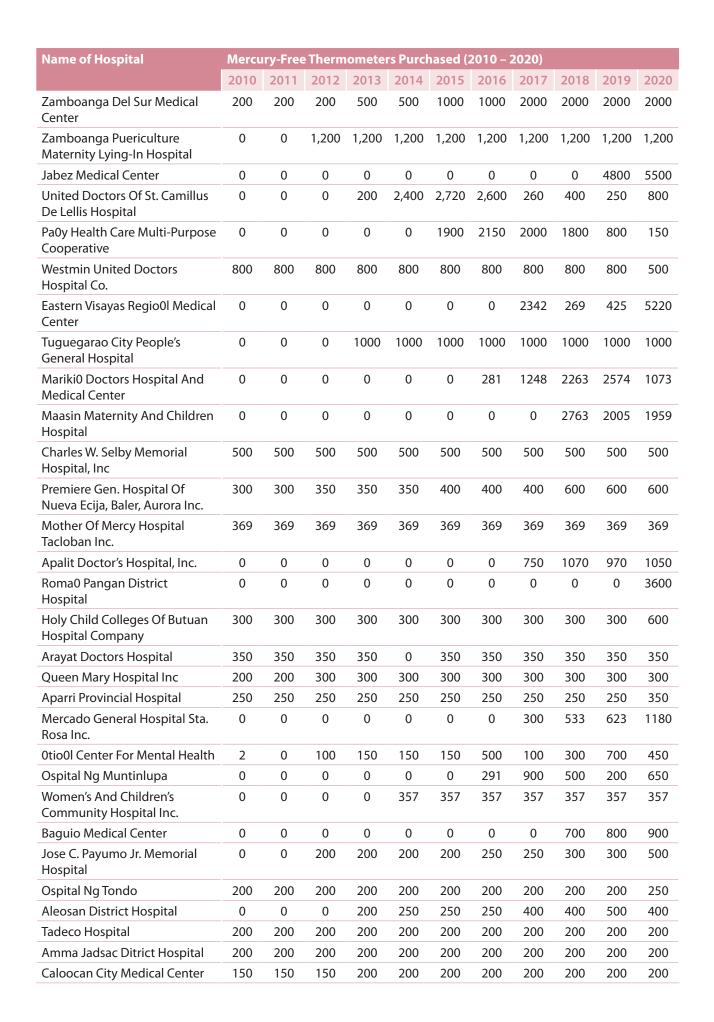
Region	Name of Facility Treatment Methods		Capacity (Mt/Day)	Residual Management	Total Storage Capacity (Mt)	
7	Rrds Environmental Services, Inc.	Crushing, Filtration	0.15	The crushed bulb is then stored in a sealed container and sent for recycling or disposal.	5	
3	Recytechphil Inc.	Chemical Decomposition	16.36	Sanitary landfill	10	
7	Maritrans Recycler, Inc.	Reclamation	0.125	Crushed fluorescent lamps are sealed in metal drums and are transported to a third party treatment facility for final treatment and disposal via encapsulation and entombment.	50	
1	Servo Treat Philippines, Inc., Brgy. Pinmaludpod, Urdaneta City, Pangasinan	Crushing / Bulb Eater	·			
4A	August-10 Enterprise Co.	crushing/ Bulbeater	5	All crushed BFL if sufficient in quantity will be schedule on the process of encapsulation and will be subject for TCLP before we can use to fencing or decorative bricks for pavement.	50	
3	Total Organic Environmental Solutions, Inc.	Reclamation	14.4	Encapsulation	898.56	
1	Servo Treat Philippines, Inc., Brgy. Pinmaludpod, Urdaneta City, Pangasinan	Crushing and Filtration	3	Collected residuals shall be outsourced and contracted and disposed to an accredited / registered Sanitary Landfill Site / Facility. Recovered materials such as crushed glass can be endorsed to market (smelters)	5	
NCR	Ecosafe Hazmat Treatment, Inc.	Physical-Chemical Treatment	5	Sanitary landfill	123	
4A	Southchem Recycling Solution	Reclamation	100	All residual waste will undergo TCLP and if PASSED, it will be disposed of to accredited Sanitary Landfill - Metro Clarck	1000	
NCR	Jm Ecotech Solutions Co.	Reclamation	260.2	Wastewater is treated using the Wastewater Treatment Facility. Organic sludge is immobilized prior to disposal. Used filters are collected and stored in sealed steel drums. Crushed lamps are immobilized and stabilized prior to disposal.	675	
3	Joechem Environmental Corporation	CRUSHING WITH FILTRATION	0.115	Landfill	672	



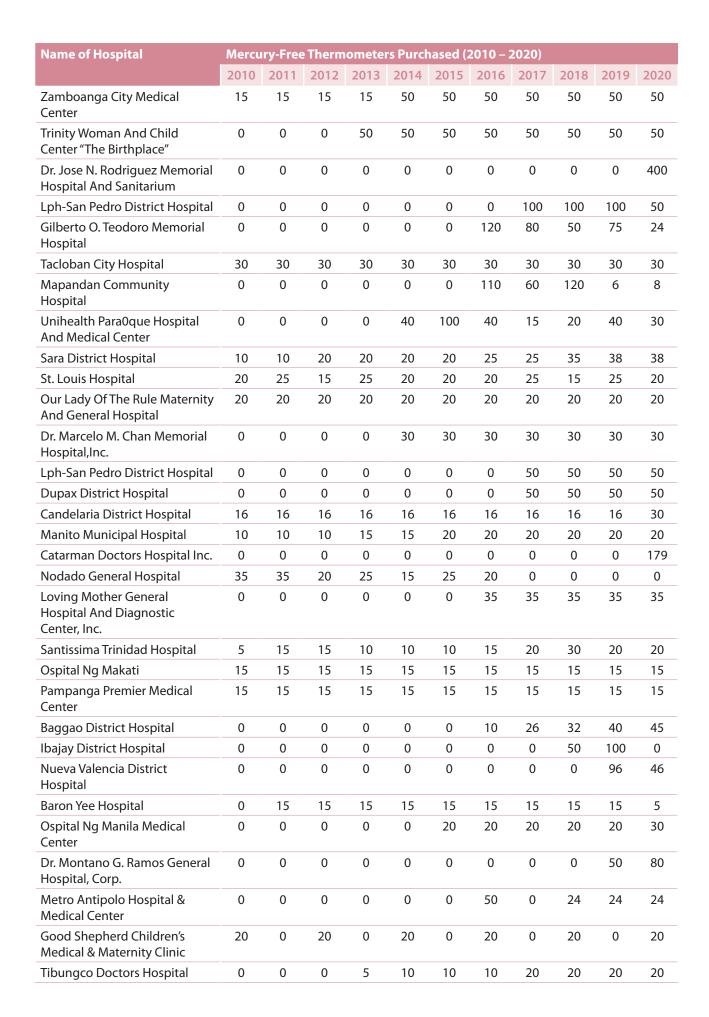
Region	Name of Facility	Treatment Methods	Capacity (Mt/Day)	Residual Management	Total Storage Capacity (Mt)
3	Envirocare Mgt. Precision, Inc.	Reclamation (Crushing/ Filtration) and Encapsulation	10	Recovery or encapsulation at partnered facilities.	30
4A	Green Horizon Environmental Management Inc.	Bulb Crushing/ Adsorption	2	Residual Management Recovered materials like bottles, cartons, plastics, and metals will be stored in a designated area of the plant. Crushed bulbs are solidified and stabilized.	66
4A	Solvtech Consultancy Resources	Polymeric Filtration	1.2	-Filters and Glass Culets are for Chemical Immobilization	5
8	Cleanaway Philippines Inc.	Crushing with Filtration	0.5	Landfilling / encapsulation	2
3	Autolube Corp.	Crushing with Filtration	2.304	Crushed bulbs are made into concrete blocks to be used inside the plant with corresponding TCLP analysis	59.904
NCR	Trame Oil & Environmnetal Specialist Inc	Reclamation (Crushing/ Filtration)	1	Sanitary landfill	10
NCR	Trame Oil & Environmnetal Specialist Inc	Reclamation (Crushing/ Filtration)	1	Sanitary landfill	10
4A	Frilco Philippines Corporation	Dismantling, Pre-Treatment and Temporary Storage	4	Residual Waste generated will be dumped into third party accredited sanitary landfill.	20
7	Cebu Common Treatment Facility, Inc.	Recycling Constituting Disposal	13	Rinsate subject to WTF, Parts with hazardous wastes for recycling, recovery and disposal to 3rd party facility	318

ANNEX C - PURCHASE HISTORY

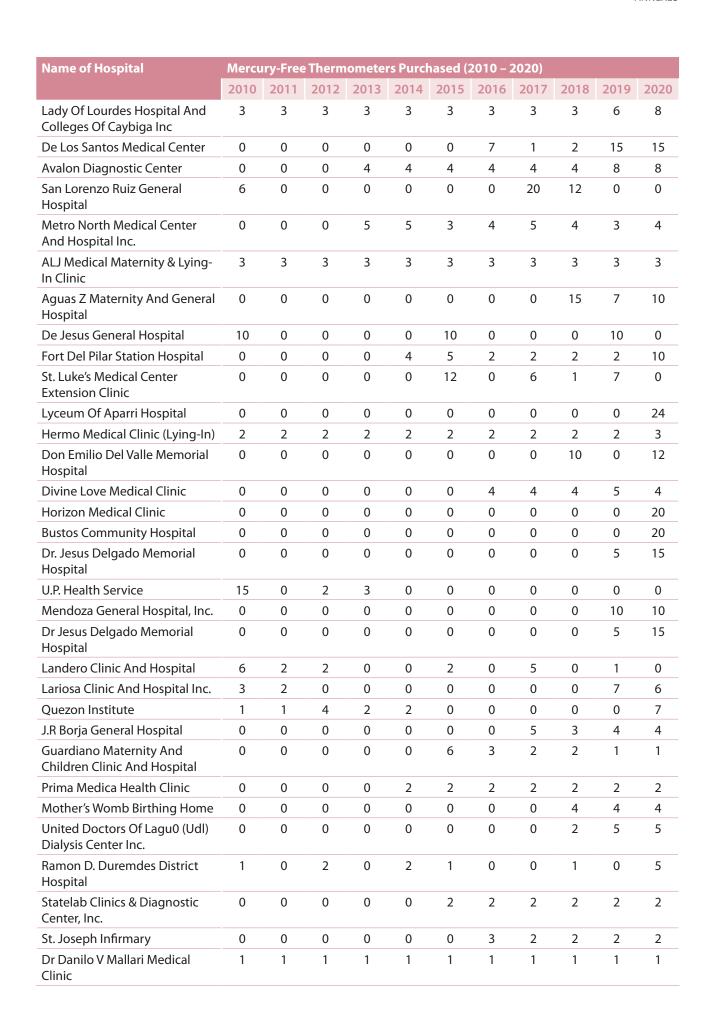
Name of Hospital	Mercu	ry-Free	Therm	ometei	rs Purch	nased (2	2010 – 2	2020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Our Lady Of Lourdes Hospital	10000	10000	9000	9000	9000	8600	9	8600	8600	6700	1550
Lorma Medical Center	0	0	3500	13000	10800	11100	9300	7300	7300	6900	4250
Diosdado P. Macapagal Memoria Hospital	0	0	0	0	2186	2010	8484	16434	19680	16790	6868
Angeles University Foundation Medical Center	0	0	0	0	0	0	9162	11620	11450	12940	8920
Notre Dame De Chartres Hospital	680	710	1800	2985	5390	6020	7350	7100	6900	5500	4536
Hospital Of The Infant Jesus Medical Center	6489	6183	5431	3953	3804	7281	3715	2943	2712	2019	1122
Mcu-Fdtmf Hospital	5308	2400	4953	3549	3750	3663	3758	3099	4969	6370	2437
Aisah Medical Hospital	1000	3000	3000	3000	3000	4000	4000	4000	6000	7000	6000
MMG Hospital And Multipurpose Cooperative Oriental Mindoro	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000	1415
Talon General Hospital	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Ricardo P. Rodriguez Memorial Hospital - Main	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600	3600
Dr. Emigdio C. Cruz Sr Memorial Hospital	1000	1000	1000	4000	4000	4000	5000	5000	5000	4000	4000
San Juan De Dios Educatio0l Foundation, Inc Hospital	5102	5301	3755	3430	1661	2239	2889	2396	2054	1953	1434
Dr. Eutiquio Ll. Ata0cion Jr. Memorial Hospital,Inc	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Divine Mercy Wellness Center	0	0	0	0	0	500	2000	3000	5211	6000	4199
Bataan Doctors Hospital And Medical Center, Inc	0	0	0	0	0	0	0	5200	5350	7500	2850
Ber0rdino General Hospital 2	0	0	0	0	0	3798	3633	3604	3551	3235	2435
Las Pi0s City Medical Center	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Howard Hubbard Memorial Hospital	0	0	0	0	0	0	0	0	7,600	7000	3,600
Karmelli Clinic And Hospital Corporation	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500	1500
Corazon Locsin Montelibano Memorial Regio 0l Hospital	0	0	0	0	0	4400	1383	4800	1500	3000	1200
La Consolacion University General Hospital	100	145	1630	1450	1631	1970	1690	2235	1939	2200	1200
Sto Rosario Hospital Inc.	160	408	639	638	1250	1376	2576	2920	4270	756	180
Quirino Memorial Medical Center	0	0	0	0	0	3,900	1,600	3,100	3,300	1,150	0
Perpetual Succor Hospital And Maternity, Inc.	1200	1200	1200	1200	1200	1200	1300	1200	1200	1100	900



Name of Hospital	Mercu	ry-Free	Therm	omete	rs Purcl	nased (2	2010 – 2	2020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Our Lady Of Rosary Hospital	0	60	84	105	121	130	238	157	200	289	319
Dr. Pauli0 J. Garcia Memorial Research And Medical Center	0	0	0	0	0	0	250	270	300	313	293
Cagayan Valley Medical Center	0	0	0	0	0	0	0	0	0	31	1225
Taguig-Pateros District Hospital	50	50	33	48	40	45	50	54	69	250	435
Liloy Integrated Health District Hosp.	100	100	100	100	100	100	100	100	100	100	108
Butuan Doctors' Hospital	50	50	100	100	100	100	100	100	100	100	200
University Health Service, U.P. Los Banos	100	100	100	100	100	100	100	100	100	100	100
Dr. Montano G. Ramos General Hospital, Corp.	100	100	100	100	100	100	100	100	100	100	100
Centro Medico De Santisimo Rosario Inc	0	0	0	0	0	0	0	0	150	300	600
Recuenco General Hospital, Inc.	0	0	0	0	0	0	0	50	250	300	400
Bueacan Medical Mission Group Pharmacy And Hospital	0	0	0	0	0	0	190	212	185	205	195
Catubig District Hospital	150	150	150	150	150	150	0	0	0	0	0
Urdaneta District Hospital	100	85	80	75	80	70	85	75	70	90	80
M. Simon Hospital And Pharmacy	30	45	50	50	60	68	90	90	100	100	120
Bais District Hospital	0	0	0	0	0	0	0	200	200	200	200
Ospital Ning Angeles	0	0	0	0	0	0	0	0	0	750	0
Don Jose S. Monfort Medical Center Extension Hospital	20	30	30	30	50	50	100	100	100	100	100
Diones Hospital	60	64	60	62	63	65	64	65	68	66	70
Jose B. Lingad Memorial General Hospital	50	50	50	50	50	50	50	50	50	100	100
Salve Regi0 General Hospital, Inc.	60	50	65	50	60	60	65	50	63	50	30
Salve Regi0 General Hospital, Inc.	60	50	65	50	60	60	65	50	63	50	30
Far North Luzon General Hospital And Training Center	3	0	0	60	0	52	166	50	100	142	26
San Marcelino District Hospital	50	50	50	50	50	50	50	50	50	50	50
Lapu-Lapu City Hospital	50	50	50	50	50	50	50	50	50	50	50
Piddig District Hospital	50	50	50	50	50	50	50	50	50	50	50
Cebu Provincial Hospital - Da0o City	0	0	0	0	0	0	0	0	508	0	25
Pangasi0n Provincial Hospital	0	0	0	0	0	0	0	191	60	82	200
Gero0 Hospital Of The Sacred Heart	0	0	0	0	0	0	0	0	0	0	500
Lagu0 Medical Center	0	0	50	100	50	50	50	75	50	25	30
Malolos Maternity Hospital & Eye Center Inc.	0	0	0	0	0	80	60	80	75	80	84
Bayugan City Doctors Hospital	0	0	0	0	50	50	50	50	50	100	100
Hospital De Zamboanga, Inc.	0	0	0	0	0	0	0	0	0	250	200



Name of Hospital	Mercury-Free Thermometers Purchased (2010 – 2020)										
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pascual General Hospital	10	10	10	10	10	10	10	10	10	10	10
Donsol District Hospital	10	10	10	10	10	10	10	10	10	10	10
Rugay General Hospital, Inc.	10	10	10	10	10	10	20	10	10	5	5
J.M.S.Maternity Clinic	10	10	10	10	10	10	10	10	10	10	10
E. D. Lim Medical Center							15	21	24	24	18
Nueva Vizcaya Provincial Hospital	8	6	0	0	7	0	0	0	35	30	15
United Doctors Hospital Of Kidapawan Inc	0	10	10	10	10	10	10	10	10	10	10
Bataraza District Hospital	0	0	0	0	0	0	0	0	0	100	0
Mariveles District Hospital	0	0	0	0	0	0	0	0	0	50	50
Bumanglag Specialty Hospital	9	9	9	9	9	9	9	9	9	9	9
Ipil Doctors Hospital	0	0	0	0	0	10	15	15	20	15	15
Western Visayas Medical Center	0	0	0	0	0	0	1	6	25	0	55
Manila Doctors Hospital	7	0	0	24	13	13	14	11	3	0	0
Sindangan District Hospital	0	0	0	0	0	0	0	20	20	20	20
Diadi Emergency Hospital	0	0	0	10	10	10	10	10	10	10	10
Zone Medical And Intervention Hospital, Inc.	0	0	0	0	0	0	10	20	15	15	15
Caraga Regio0l Hospital	10	5	6	5	8	3	5	7	8	6	5
Hospital Of The Infant Jesus Medical Center	20	4	5	5	5	5	6	6	6	3	3
Biliran Provincial Hospital	20	0	0	0	0	25	0	0	0	0	20
Tondo Medical Center	0	0	0	0	0	0	0	0	0	24	40
Aquino Medical Specialists Hospital, Inc.	0	0	0	0	0	11	10	10	11	10	11
Pozorrubio Community Hospital	5	5	5	5	5	5	5	5	5	5	10
Hi-Precision Diagnostics	6	6	6	6	6	6	6	6	6	6	0
Agoo Family Hospital	5	5	5	5	5	5	5	5	5	5	5
Ritchie R. Oblepias Lying In Clinic	5	5	5	5	5	5	5	5	5	5	5
The Medical City South Luzon (Formerly: Southern Luzon Hospital And Medical Center, Inc.)	0	0	0	0	0	5	5	10	10	10	14
Minglanilla District Hospital	0	0	0	0	0	0	10	10	10	10	10
Ofelia L. Mendoza Maternity And General Hospital	2	1	3	7	5	5	5	5	6	6	3
Maria Estrella General Hospital, Inc.	25	5	4	5	0	0	0	4	0	5	0
Valderrama Municipal Hospital	12	0	0	0	0	0	0	0	12	12	12
Western Visayas Sanitarium	0	0	0	0	0	0	7	11	10	11	5
Kapangan District Hospital	5	2	2	0	0	0	5	5	5	10	10
Ofelia L. Mendoza Maternity And General Hospital	0	0	0	7	5	5	5	5	6	6	3



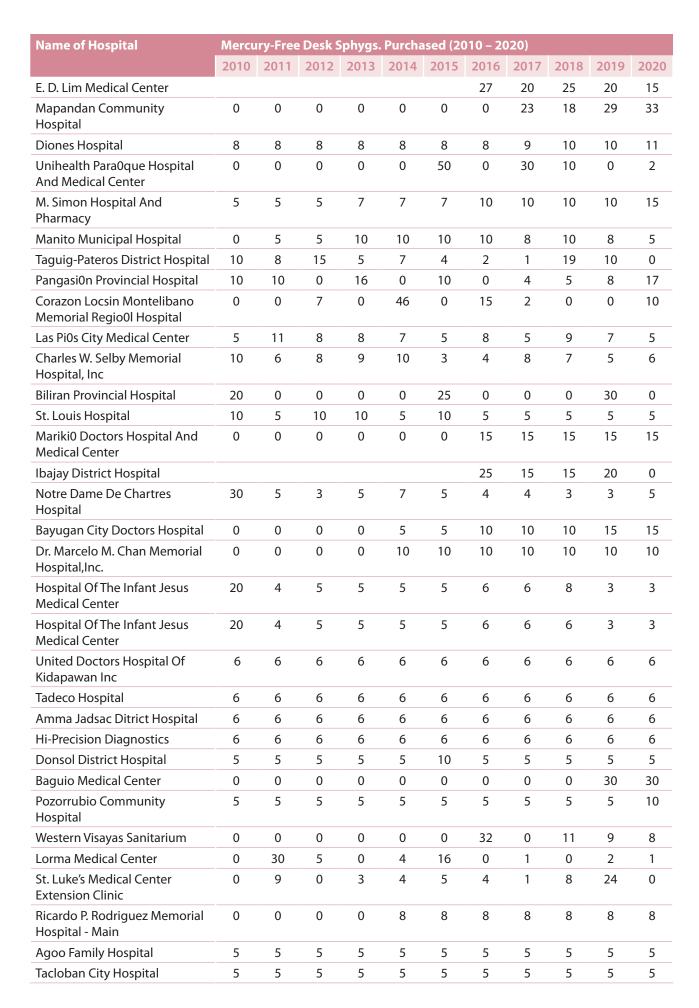
Name of Hospital	Mercu	ry-Free	The <u>rm</u>	omete	rs Purch	nased (2	2010 – <u>2</u>	2020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
The Medical City @ Waltermart Makati	1	1	1	1	1	1	1	1	1	1	1
Wellserved Infirmary And Drugstore Inc	1	1	1	2	1	1	0	2	1	0	0
Nicatto Health Dy0mics	3	0	0	0	0	1	1	1	1	1	1
Perez-Rivera Diagnostic Clinic Co.	2	0	1	0	0	1	1	1	1	0	1
Health Hub Clinic (Not A Hospital)	0	0	0	0	0	0	0	0	4	0	4
Bisomeds Medical Clinic	0	0	0	0	0	0	0	2	2	2	2
Shirly M. Formentos Lying-In Clinic	0	0	0	0	1	1	1	1	1	1	1
Christ The Healer Hospital	0	0	0	0	0	0	0	0	2	2	2
St George Clinical Laboratory Services	3	0	0	1	0	0	0	0	1	0	1
Realcare Laboratory And Medical Clinic	0	0	0	0	0	0	0	3	1	2	0
New World Diagnostics, Inc	0	0	0	0	0	0	0	0	0	6	0
Palawan Baptist Hospital Inc	0	0	0	0	0	0	0	0	0	0	5
Medlineplus Diagnostics Inc.	3	0	0	0	0	0	0	0	0	1	1
Medic 8 Wellness Center (This Is A Primary Clinic And Not A Hospital.)	0	0	0	0	2	0	0	0	1	0	2
Likhaan Center For Women's Health Inc. Ovotas City Clinic	0	0	0	0	0	0	0	4	0	0	0
Kaiser Medical Center, Inc.	0	0	0	0	0	0	0	0	2	1	1
Megason Diagnostic Clinic - Tejeros Branch	0	0	0	0	0	4	0	0	0	0	0
Hi - Precision Diagnostics - Pasig Branch	0	0	0	0	0	0	0	0	0	2	2
Blue Jade Klinika At Laboratoryo	0	0	0	0	1	0	0	0	0	0	2
St. Anthony Diagnostic And Specialty Center	0	0	0	0	1	0	0	0	0	0	2
Crfm Lab Medical & Diagnostic Center	0	0	0	0	0	0	0	0	1	0	2
Health Venue Multispecialty Clinic And Diagnostic Center	0	0	0	0	0	0	0	0	1	0	2
Primelab Inc.	0	0	0	0	0	0	0	0	1	1	1
Ace Diagnostics	0	0	0	0	0	0	0	0	3	0	0
R.G.O. Laboratory & Industrial Diagnostic Center Inc.(Bgc Branch)	0	0	0	0	0	0	0	0	2	0	1
Cuison Hospital Incorporated	2	0	0	0	0	0	0	0	0	0	0
Clinica Caritas Cubao	0	0	0	0	0	0	0	0	1	0	1
J.V.F. Clinic & Lying-In Memorial Hospital	0	0	0	0	0	0	0	0	2	0	0



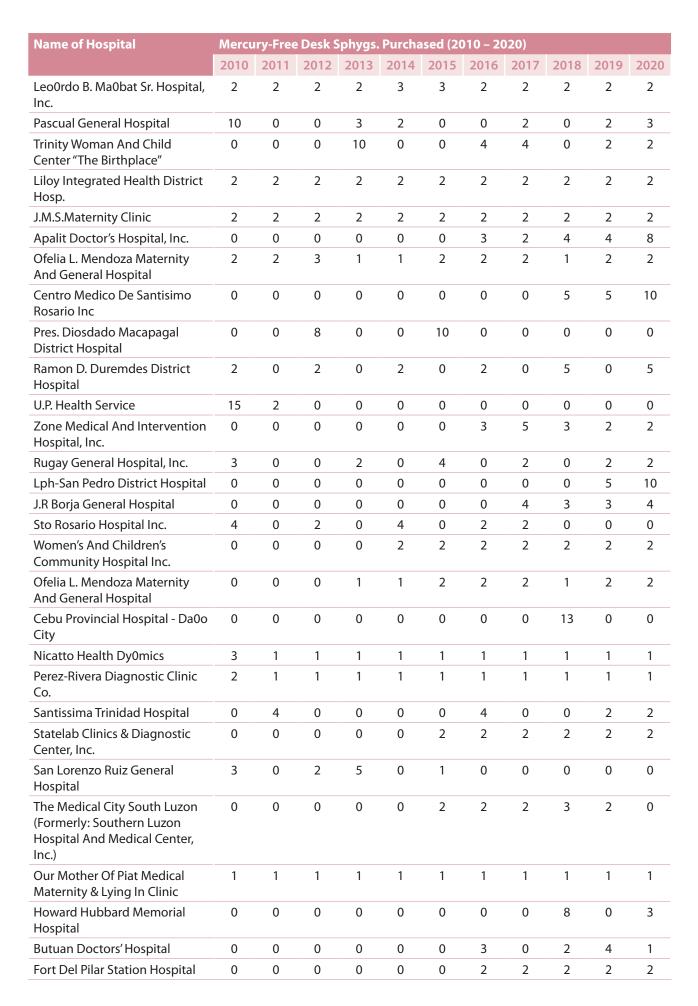
Name of Hospital	Mercu	ry-Free	Therm	omete	rs Purch	nased (2	2010 – 2	2020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Healthbridge Medical Services Inc.	0	0	0	0	0	0	0	0	0	0	2
St. Han0h Medical Center	0	0	0	2	0	0	0	0	0	0	0
V.Tongco Medical And Diagnostic Clinic	0	0	0	0	0	0	0	0	0	0	2
Medicard Philippines Inc Ortigas Branch	0	0	0	0	0	0	0	0	2	0	0
Blessed Heart Diagnostics And Multispecialty Clinic	0	0	0	0	0	2	0	0	0	0	0
Megason Diagnostic Clinic - Comembo Branch	1	0	0	0	0	0	0	0	0	0	1
Megason Diagnostic Clinic - Alabang Branch	1	0	0	0	0	0	0	0	0	0	1
Megason Diagnostic Clinic - Mariki0 Branch	1	0	0	0	0	0	0	0	0	0	1
R.G.O. Laboratory & Industrial Diagnostic Center Inc. (Para0que Branch)	0	0	0	0	0	0	0	0	0	0	2
New World Diagnostics Inc Baliuag Branch	0	0	0	0	0	0	0	0	0	0	2
Pmp Diagnostic Center Inc - Makati Branch	0	0	0	0	0	0	0	0	0	2	0
New World Diagnostics Inc	0	0	0	0	0	0	0	0	2	0	0
Bairan-Trammell Diagnostic Center	0	0	0	0	0	0	1	0	0	0	0
New World Diagnostics, Inc - Ongpin Branch	0	0	0	0	0	0	0	0	1	0	0
Bloodworks Lab Inc	0	0	1	0	0	0	0	0	0	0	0
Megason Diagnostic Clinic - Boni Branch	1	0	0	0	0	0	0	0	0	0	0
Peoples Choice Diagnostic Center - Branch Taguig Bracnh	0	0	0	0	0	0	0	0	0	0	1
Gmw Diagnostic Laboratory And Medical Clinic	0	0	0	0	0	0	0	0	0	0	1

Name of Hospital	Mercu	ıry-Free	Desk S	Sphygs.	Purcha	sed (20)10 – 20)20)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Catubig District Hospital	150	150	150	150	150	150	150	150	150	150	150
Zamboanga Del Sur Medical Center	0	0	50	50	100	100	100	150	200	200	200
Otio0l Center For Mental Health	0	0	0	0	0	0	0	65	154	212	450
Aparri Provincial Hospital	72	72	72	72	72	72	72	72	72	72	75
Mercado General Hospital Sta. Rosa Inc.	0	0	0	0	0	0	0	40	32	45	380
Ospital Ng Makati	35	35	35	35	35	35	40	40	50	50	50

Name of Hospital	Mercu	ıry-F <u>re</u> e	Desk S	phygs.	Purcha	sed <u>(2</u> 0)10 <u>– 20</u>)20)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Premiere Gen. Hospital Of Nueva Ecija, Baler, Aurora Inc.	35	35	35	35	35	40	40	40	45	45	45
Don Jose S. Monfort Medical Center Extension Hospital	0	0	0	20	25	50	50	50	50	50	20
Sara District Hospital	15	15	20	20	25	25	30	30	40	45	45
Dr. Jose N. Rodriguez Memorial Hospital And Sanitarium	0	0	0	0	0	0	0	0	0	0	300
Urdaneta District Hospital	30	25	20	20	25	25	20	35	30	15	40
Karmelli Clinic And Hospital Corporation	25	25	25	25	25	25	25	25	25	25	25
Dr. Pauli0 J. Garcia Memorial Research And Medical Center	0	0	0	0	50	45	55	70	40	0	0
Talon General Hospital	20	20	20	20	20	20	20	20	20	20	20
Eastern Visayas Regio0l Medical Center	0	0	0	0	0	0	0	10	185	1	8
Valenzuela Citicare Medical Center	0	0	0	5	5	10	31	31	31	31	31
Divine Mercy Wellness Center	0	0	0	0	0	15	15	35	45	20	42
San Marcelino District Hospital	15	15	15	15	15	15	15	15	15	15	15
Jose C. Payumo Jr. Memorial Hospital	0	0	15	15	18	18	18	18	20	20	20
Our Lady Of Rosary Hospital	6	8	10	10	12	15	15	20	18	18	18
Bueacan Medical Mission Group Pharmacy And Hospital	0	0	0	0	0	0	28	26	29	28	26
Nueva Vizcaya Provincial Hospital	5	6	0	6	6	0	4	0	0	50	50
Lagu0 Medical Center	0	0	0	10	20	10	15	20	15	15	20
Arayat Doctors Hospital	10	12	12	12	12	12	10	10	10	10	12
Our Lady Of Lourdes Hospital	50	10	10	10	5	10	10	5	4	4	4
Ospital Ng Manila Medical Center	0	0	0	0	0	20	20	20	20	20	20
Kapangan District Hospital	10	10	5	5	5	10	10	5	10	10	40
Far North Luzon General Hospital And Training Center	8	10	0	6	0	6	15	4	11	26	31
Western Visayas Medical Center	0	0	0	0	10	0	5	23	67	2	10
Lapu-Lapu City Hospital	10	15	10	10	10	10	10	10	10	10	10
Gov. Celestino Gallares Memorial Hospital	0	0	0	0	0	0	20	30	30	25	10
Burauen District Hospital	10	10	10	10	10	10	10	10	10	10	10
MMG Hospital And Multipurpose Cooperative Oriental Mindoro	10	10	10	10	10	10	10	10	10	10	10
Tuguegarao City People's General Hospital	0	0	0	40	10	10	10	10	10	10	10
Rogaciano M Mercado Memorial Hospital	10	10	10	10	10	10	10	10	10	10	10
Piddig District Hospital	10	10	10	10	10	10	10	10	10	10	10



Name of Hospital	Mercu	ıry-Free	e Desk S	Sphvas.	Purcha	sed (20	010 – 20)20)			
Traine of Flospital	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Dr. Bonifacia V. Albano Memorial Hospital	5	5	5	5	5	5	5	5	5	5	5
Ospital Ng Tondo	0	10	10	10	6	5	0	0	10	0	3
Queen Mary Hospital Inc	2	5	5	5	5	5	5	5	5	5	5
La Consolacion University General Hospital								3	16	6	26
Recuenco General Hospital, Inc.	0	0	0	0	0	0	0	10	5	10	25
Sindangan District Hospital	0	0	0	0	0	20	0	0	0	10	20
Nodado General Hospital	15	5	8	6	5	4	5	0	0	0	0
Maria Estrella General Hospital, Inc.	25	5	4	5	0	0	0	4	3	0	0
Bais District Hospital	0	0	0	0	0	0	0	15	15	15	0
Caraga Regio0l Hospital	3	2	4	5	3	3	8	3	5	8	0
Salve Regi0 General Hospital, Inc.	4	4	4	4	4	4	4	4	4	4	4
Westmin United Doctors Hospital Co.	4	4	4	4	4	4	4	4	4	4	4
Avalon Diagnostic Center	0	0	0	4	4	4	4	4	6	8	10
Salve Regi0 General Hospital, Inc.	4	4	4	4	4	4	4	4	4	4	4
Diosdado P. Macapagal Memoria Hospital	0	0	0	0	0	0	0	0	20	23	0
Mcu-Fdtmf Hospital	28	1	2	1	1	2	1	2	3	1	0
Malolos Maternity Hospital & Eye Center Inc.	35	35	35	35	35	35	35	35	35	40	
Tumauini Community Hospital	3	2	2	2	1	2	1	2	21	1	2
Baron Yee Hospital	0	2	2	4	4	5	4	4	4	4	4
Ricardo B Santos Jr Medical Clinic And Diagnostic Center	4	3	3	3	4	3	4	3	3	3	4
Makati Medical Center	7	11	0	1	1	1	0	0	10	0	5
San Juan De Dios Educatio0l Foundation, Inc Hospital	4	0	3	16	1	3	1	1	0	1	6
Metro Antipolo Hospital & Medical Center	0	0	0	0	0	0	29	0	0	2	4
Zamboanga City Medical Center	0	0	0	0	5	5	5	5	5	5	5
Baggao District Hospital	0	0	0	0	0	0	5	5	5	10	10
Zamboanga Puericulture Maternity Lying-In Hospital	5	8	2	2	2	2	2	2	2	2	2
Loving Mother General Hospital And Diagnostic Center, Inc.	0	0	0	0	0	0	10	5	5	5	5
Ipil Doctors Hospital	0	0	0	0	3	3	6	6	3	3	3
Minglanilla District Hospital	0	0	0	0	0	0	5	5	5	5	5
Cagayan Valley Medical Center	0	0	0	0	0	0	0	0	0	6	19
Lph-San Pedro District Hospital	0	0	0	0	0	0	0	7	7	5	5



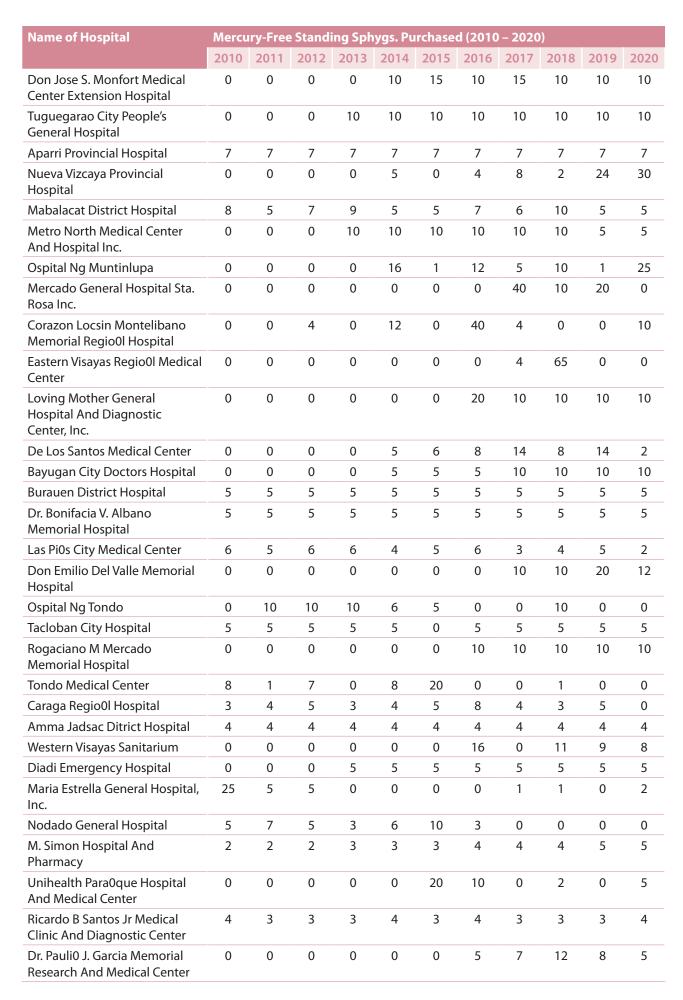
Name of Hospital	Mercu	ry-Free	Desk S	phygs.	Purcha	sed <u>(2</u> 0	010 – 20	020)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bustos Community Hospital	0	0	0	0	0	0	0	0	0	0	10
Roma0 Pangan District Hospital	0	0	0	0	0	0	0	0	0	0	10
De Jesus General Hospital	5	0	0	0	0	5	0	0	0	0	0
The Medical City @ Waltermart Makati	0	1	1	1	1	1	1	1	1	1	1
Holy Child Colleges Of Butuan Hospital Company	3	0	0	0	0	0	0	4	0	0	2
Gaoat General Hospital	0	0	0	0	2	1	1	2	1	1	1
Divine Love Medical Clinic	0	0	0	0	0	0	2	2	2	3	0
Hospital De Zamboanga, Inc.	0	0	0	0	0	0	0	0	0	4	4
Mendoza General Hospital, Inc.	0	0	0	0	0	0	0	0	0	4	4
Pa0y Health Care Multi-Purpose Cooperative	0	0	0	0	0	8	0	0	0	0	0
Shirly M. Formentos Lying-In Clinic	0	0	0	0	1	1	1	1	1	1	1
Quezon Institute	1	0	0	1	4	0	0	0	0	0	0
Valderrama Municipal Hospital	0	0	0	0	0	0	0	0	0	2	4
Gilberto O. Teodoro Memorial Hospital	6	0	0	0	0	0	0	0	0	0	0
Happy Valley Community Hospital	0	0	0	0	0	4	0	0	0	2	0
St George Clinical Laboratory Services	2	0	0	0	2	0	0	0	1	0	1
Hi - Precision Diagnostics - Pasig Branch	0	2	0	0	1	0	1	0	1	1	0
Ospital Ning Angeles	0	0	0	0	0	0	0	0	0	5	0
RSV Polyclinic And Diagnostic Center	1	0	0	1	1	0	0	0	1	0	1
Mother's Womb Birthing Home	0	0	0	0	0	0	0	0	1	2	2
Mariveles District Hospital	0	0	0	0	0	0	0	0	0	5	0
Palawan Baptist Hospital Inc	0	0	0	0	0	0	0	0	0	2	3
Wellserved Infirmary And Drugstore Inc	1	0	2	0	0	1	1	0	0	0	0
Likhaan Center For Women's Health Inc. Ovotas City Clinic	0	0	0	0	0	2	0	0	2	0	1
Medic 8 Wellness Center (This Is A Primary Clinic And Not A Hospital.)	0	0	0	0	2	0	0	0	2	0	1
Aguas Z Maternity And General Hospital	0	0	0	0	0	0	0	0	2	1	1
Horizon Medical Clinic	0	0	0	0	0	0	0	0	0	0	4
Lariosa Clinic And Hospital Inc.	0	0	0	0	0	0	0	3	0	0	1
Gero0 Hospital Of The Sacred Heart	0	0	0	0	0	0	0	0	0	0	4
Med Help Clinic And Diagnostics Inc.	0	0	0	0	0	2	0	0	0	1	1



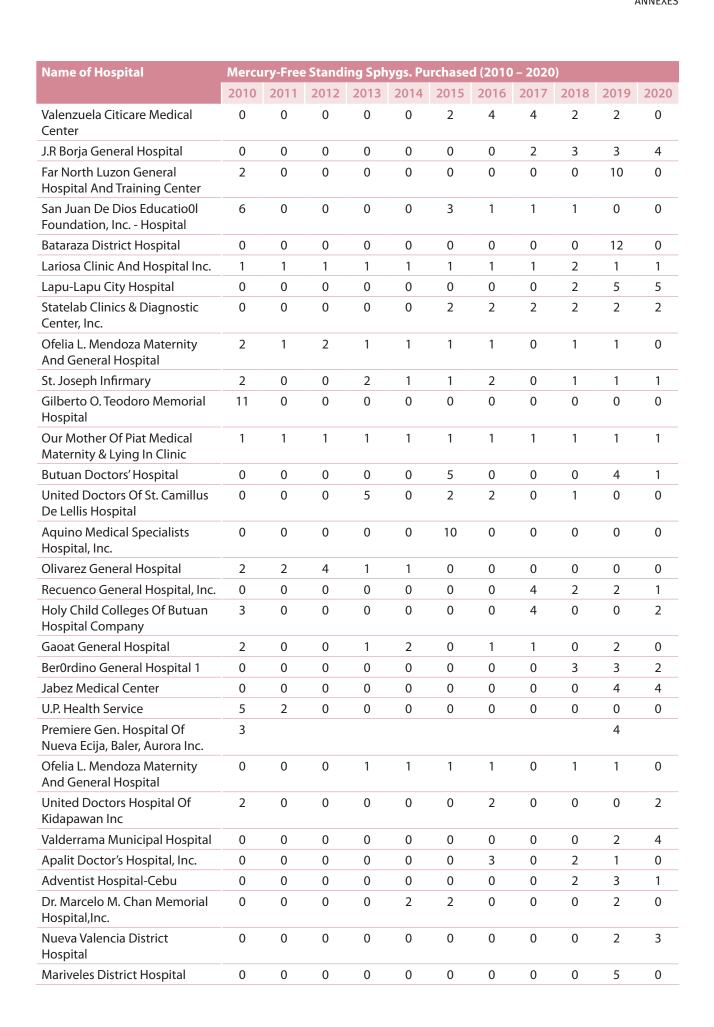
Name of Hospital	Mercu	ry-Free	Desk S	phvas.	Purcha	sed (20	10 – 20)20)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Medlineplus Diagnostics Inc.	1	0	0	0	0	1	0	0	1	0	1
Ritchie R. Oblepias Lying In Clinic	1	0	0	1	0	0	1	0	0	1	0
Tibungco Doctors Hospital	0	0	0	0	3	0	0	0	0	0	1
Maasin Maternity And Children Hospital	0	0	0	0	0	0	0	0	3	0	0
Kaiser Medical Center, Inc.	0	0	0	0	0	0	0	0	1	1	1
Blessed Heart Diagnostics And Multispecialty Clinic	0	0	0	0	0	2	0	1	0	0	0
Prima Medica Health Clinic	0	0	0	0	0	0	0	0	1	1	1
New World Diagnostics, Inc	1	0	0	1	0	0	1	0	0	0	0
The Japanese Association Manila, Inc. Medical Clinic	1	0	0	0	0	1	0	0	0	0	1
Maezelle Psycho Metier And Diagnostic Center	1	0	0	0	0	1	0	0	0	0	1
Lady Of Lourdes Hospital And Colleges Of Caybiga Inc	0	0	0	0	1	0	0	0	1	0	0
Hermo Medical Clinic (Lying-In)	0	0	0	0	0	0	0	0	0	1	1
Bataraza District Hospital	0	0	0	0	0	0	0	0	0	2	0
Blue Jade Klinika At Laboratoryo	1	0	0	0	0	0	1	0	0	0	0
Healthbridge Medical Services Inc.	0	0	2	0	0	0	0	0	0	0	0
Medicard Philippines Inc Ortigas Branch	0	0	0	0	0	2	0	0	0	0	0
Gilcare Diagnostic Clinic	0	0	0	0	1	0	0	0	0	0	1
Bisomeds Medical Clinic	0	0	0	0	0	0	0	0	0	1	1
Hope Love Faith Medical Clinic And Laboratory, Inc.	0	0	0	0	0	0	0	0	0	0	2
R.G.O. Laboratory & Industrial Diagnostic Center Inc.(Bgc Branch)	0	0	0	0	0	0	0	0	2	0	0
Tondo Medical Center	0	0	0	0	1	0	0	0	0	0	0
Landero Clinic And Hospital	0	0	0	0	0	0	1	0	0	0	0
VI Makabali Memorial Hospital Inc.	1	0	0	0	0	0	0	0	0	0	0
Medline 0ic Dialysis Center	0	0	0	0	0	0	0	0	0	0	1
Immaculate Conception Lying In & Multi Specialty Clinic Inc	0	1	0	0	0	0	0	0	0	0	0
Bairan-Trammell Diagnostic Center	1	0	0	0	0	0	0	0	0	0	0
Realcare Laboratory And Medical Clinic	0	0	0	0	0	0	0	1	0	0	0
V.Tongco Medical And Diagnostic Clinic	1	0	0	0	0	0	0	0	0	0	0
Crfm Lab Medical & Diagnostic Center	0	0	0	0	0	0	0	0	1	0	0

Name of Hospital	Mercu	ry-Free	Desk S	Sphygs.	Purcha	sed (20	010 – 20)20)			
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Megason Diagnostic Clinic - Boni Branch	1	0	0	0	0	0	0	0	0	0	0
Megason Diagnostic Clinic - Comembo Branch	1	0	0	0	0	0	0	0	0	0	0
Megason Diagnostic Clinic - Alabang Branch	1	0	0	0	0	0	0	0	0	0	0
Megason Diagnostic Clinic - Mariki0 Branch	1	0	0	0	0	0	0	0	0	0	0
Health Venue Multispecialty Clinic And Diagnostic Center	0	0	0	0	0	0	0	0	0	0	1
Peoples Choice Diagnostic Center - Branch Taguig Bracnh	1	0	0	0	0	0	0	0	0	0	0
Callang General Hospital And Medical Center Inc	0	0	0	0	1	0	0	0	0	0	0
Gmwv Medical Clinic	0	0	0	0	0	0	0	1	0	0	0

Name of Hospital	Mercu	ıry-Free	Standi	ing Sph	ygs. Pu	rchase	d (2010	- 2020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Caloocan City Medical Center	20	20	20	30	30	30	30	30	30	30	30
Zamboanga Del Sur Medical Center	0	0	0	20	20	20	20	50	50	50	50
Karmelli Clinic And Hospital Corporation	25	25	25	25	25	25	25	25	25	25	25
Taguig-Pateros District Hospital	40	30	15	25	10	20	26	12	27	42	25
Dr. Jose N. Rodriguez Memorial Hospital And Sanitarium	0	0	0	0	0	0	0	0	0	0	250
Ospital Ng Makati	20	20	20	20	20	20	20	20	20	20	20
Talon General Hospital	20	20	20	20	20	20	20	20	20	20	20
Urdaneta District Hospital	20	18	15	15	20	15	12	15	20	15	20
Sara District Hospital	10	10	10	15	15	20	20	20	20	20	20
San Marcelino District Hospital	15	15	15	15	15	15	15	15	15	15	15
Makati Medical Center	9	26	6	24	15	15	8	10	21	23	6
St. Louis Hospital	15	10	25	15	10	10	10	15	10	15	20
Hospital Of The Infant Jesus Medical Center	10	10	10	10	10	15	15	15	15	15	15
Lagu0 Medical Center	0	0	0	16	13	15	18	15	18	13	20
Dr. Emigdio C. Cruz Sr Memorial Hospital	10	10	10	10	10	10	15	15	10	5	5
Gregorio Matas District Hospital	10	10	10	10	10	10	10	10	10	10	10
Ospital Ng Manila Medical Center	0	0	0	0	0	0	20	20	20	20	20
OtioOl Center For Mental Health	0	0	0	0	0	0	100	0	0	0	0
Jose C. Payumo Jr. Memorial Hospital	0	0	10	10	10	10	10	10	10	10	10
Our Lady Of Lourdes Hospital	10	8	10	8	10	8	8	8	8	8	2



Name of Hospital	Mercu	rv-Free	Standi	na Sph	vas. Pu	rchase	d (2010	- 2020))		
Traine or Hospital	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Pampanga Premier Medical Center	0	0	0	0	0	0	26	5	2	0	3
Donsol District Hospital	5	3	2	3	5	3	2	5	3	2	2
Metro Antipolo Hospital & Medical Center	0	0	0	0	0	0	29	0	0	2	4
Zamboanga City Medical Center	0	0	0	0	5	5	5	5	5	5	5
Arayat Doctors Hospital	3	3	3	3	3	3	3	3	3	3	3
Pangasi0n Provincial Hospital	10	0	0	2	0	0	0	8	0	0	10
Bataan Doctors Hospital And Medical Center, Inc	0	4	5	0	9	0	3	0	0	3	5
Ipil Doctors Hospital	0	0	0	0	0	0	6	6	5	6	6
Anecito T. Pesante Sr. Memorial Hospital Co.	0	0	0	0	0	5	5	6	5	4	3
San Lorenzo Ruiz General Hospital	7	0	0	0	10	2	0	7	0	0	1
Dr. Jesus Delgado Memorial Hospital	0	0	0	0	0	0	0	5	0	10	10
Cagayan Valley Medical Center	0	0	0	0	0	0	0	0	0	6	19
Sto Rosario Hospital Inc.	4	0	0	0	0	3	0	11	6	0	0
Pascual General Hospital	10	0	0	3	2	0	0	2	0	2	3
Liloy Integrated Health District Hosp.	2	2	2	2	2	2	2	2	2	2	2
Salve Regi0 General Hospital, Inc.	2	2	2	2	2	2	2	2	2	2	2
Leo0rdo B. Ma0bat Sr. Hospital, Inc.	2	2	2	2	2	2	2	2	2	2	2
Salve Regi0 General Hospital, Inc.	2	2	2	2	2	2	2	2	2	2	2
Dr Danilo V Mallari Medical Clinic	2	2	2	2	2	2	2	2	2	2	2
Ber0rdino General Hospital 2	0	2	4	0	0	1	2	4	0	0	8
Diosdado P. Macapagal Memoria Hospital	0	0	0	0	0	0	0	0	0	21	0
Tumauini Community Hospital	3	2	2	1	2	2	1	2	2	2	1
Centro Medico De Santisimo Rosario Inc	0	0	0	0	0	0	0	0	5	5	10
Dr Jesus Delgado Memorial Hospital	0	0	0	0	0	0	0	0	0	10	10
Ibajay District Hospital	0	0	0	0	0	0	0	0	0	20	0
Queen Mary Hospital Inc	5	1	1	1	1	1	1	1	1	1	3
Trinity Woman And Child Center "The Birthplace"	0	0	0	10	0	0	2	0	0	4	0
Lorma Medical Center	0	3	5	0	4	0	4	0	0	0	0
Ramon D. Duremdes District Hospital	2	0	2	0	2	0	2	0	2	0	5
Mcu-Fdtmf Hospital	5	1	0	2	1	1	0	2	2	0	0



Name of Hospital	Mercu	ry-Free	Standi	ng Sph	ygs. Pu	rchase	d (2010	– 2020))		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Perpetual Succor Hospital And Maternity, Inc.	5	0	0	0	0	0	0	0	0	0	0
Soccsksargen General Hospital	0	0	0	0	0	0	0	0	0	5	0
Divine Mercy Wellness Center	0	0	0	0	0	5	0	0	0	0	0
Ospital Ning Angeles	0	0	0	0	0	0	4	0	0	0	0
St. Jude General Hospital & Medical Center, Inc	0	0	0	0	0	0	0	0	0	0	4
St George Clinical Laboratory Services	1	0	0	1	0	0	0	1	0	0	1
Malolos Maternity Hospital & Eye Center Inc.	4	0	0	0	0	0	0	0	0	0	0
Quezon Institute	3	0	0	0	0	0	0	0	0	0	0
RSV Polyclinic And Diagnostic Center	1	0	0	0	1	0	0	0	0	1	0
Clinica Caritas Cubao	0	0	0	0	0	0	0	0	2	1	0
Notre Dame De Chartres Hospital	0	0	0	0	1	1	0	1	0	0	0
Zamboanga Puericulture Maternity Lying-In Hospital	0	0	0	0	0	0	0	0	0	1	2
Gero0 Hospital Of The Sacred Heart	0	0	0	0	0	0	0	0	0	0	3
De Jesus General Hospital	3	0	0	0	0	0	0	0	0	0	0
Hospital De Zamboanga, Inc.	0	0	0	0	0	0	0	0	0	3	0
Women's And Children's Community Hospital Inc.	0	0	0	0	1	0	1	1	0	0	0
Maezelle Psycho Metier And Diagnostic Center	1	0	0	0	0	1	0	0	0	0	1
Agoo Family Hospital	2	0	0	0	0	0	0	0	0	0	0
Baron Yee Hospital	0	0	0	0	0	0	0	0	0	1	1
Tadeco Hospital	2	0	0	0	0	0	0	0	0	0	0
Manito Municipal Hospital	0	0	0	0	0	2	0	0	0	0	0
United Doctors Of Lagu0 (Udl) Dialysis Center Inc.	0	0	0	0	0	0	0	0	2	0	0
Lph-San Pedro District Hospital	0	0	0	0	0	0	0	0	2	0	0
Charles W. Selby Memorial Hospital, Inc	0	0	0	0	0	0	0	0	0	0	2
Minglanilla District Hospital	0	0	0	0	0	0	0	2	0	0	0
Mariki0 Doctors Hospital And Medical Center	0	0	0	0	0	0	2	0	0	0	0
St. Anthony Diagnostic And Specialty Center	0	0	0	1	0	0	0	0	1	0	0
The Japanese Association Manila, Inc. Medical Clinic	0	0	0	0	0	1	0	0	0	0	1
Hi - Precision Diagnostics - Pasig Branch	0	0	0	0	1	0	0	1	0	0	0
R.G.O. Laboratory & Industrial Diagnostic Center Inc. (Para0que Branch)	0	0	0	0	0	0	0	0	0	0	2



Name of Hospital	Mercu	ry-Free	Standi	ing Sph	ygs. Pu	rchase	d (2010	– 2020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Perez-Rivera Diagnostic Clinic Co.	0	0	0	0	0	0	1	0	0	0	0
Landero Clinic And Hospital	0	0	0	0	0	0	1	0	0	0	0
MMG Hospital And Multipurpose Cooperative Oriental Mindoro	0	0	0	0	0	0	0	0	0	0	1
Medline 0ic Dialysis Center	0	0	0	0	0	0	0	0	0	0	1
Palawan Baptist Hospital Inc	0	0	1	0	0	0	0	0	0	0	0
Wellserved Infirmary And Drugstore Inc	0	0	0	0	0	0	1	0	0	0	0
Shirly M. Formentos Lying-In Clinic	0	0	0	0	0	1	0	0	0	0	0
Divine Love Medical Clinic	0	0	0	0	0	0	0	1	0	0	0
Blue Jade Klinika At Laboratoryo	0	0	0	0	0	0	1	0	0	0	0
Health Hub Clinic (Not A Hospital)	0	0	0	0	0	0	0	0	1	0	0
The Medical City @ Waltermart Makati	1	0	0	0	0	0	0	0	0	0	0
Gilcare Diagnostic Clinic	0	0	0	0	1	0	0	0	0	0	0
Lph-San Pedro District Hospital	0	0	0	0	0	0	0	1	0	0	0
Kapangan District Hospital	0	0	0	0	0	0	1	0	0	0	0
Health Venue Multispecialty Clinic And Diagnostic Center	0	0	0	0	0	0	0	0	0	1	0

Name of Hospital	Mercu	ry-Con	taining	Therm	ometer	s Purch	ased (2	2010 – 2	2020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Zamboanga Puericulture Maternity Lying-In Hospital	1,200	1,000	0	0	0	0	0	0	0	0	0
Zamboanga Del Sur Medical Center	200	200	200	100	100	0	0	0	0	0	0
Ospital Ning Angeles	500	0	0	0	0	0	0	0	0	0	0
Lph-San Pedro District Hospital	100	100	100	100	100	0	0	0	0	0	0
Urdaneta District Hospital	150	100	80	0	0	0	0	0	0	0	0
Zamboanga City Medical Center	70	50	30	30	0	0	0	0	0	0	0
Nodado General Hospital	30	25	25	20	30	20	25	0	0	0	0
Seamen's Hospital Iloilo	120	0	0	0	0	0	0	0	0	0	0
Sto Rosario Hospital Inc.	120	0	0	0	0	0	0	0	0	0	0
Tuguegarao City People's General Hospital	50	40	30	0	0	0	0	0	0	0	0
Minglanilla District Hospital	20	20	20	20	20	20	0	0	0	0	0
Aguas Z Maternity And General Hospital	15	10	12	15	18	15	8	10	0	0	0
Ipil Doctors Hospital	10	10	9	8	10	10	8	10	8	10	8

Adventist Hospital Santiago City, Inc.	0	0	0	0	0	0	0	0	12	12	12
Trinity Woman And Child Center "The Birthplace"	10	6	8	0	0	0	0	0	0	0	0
Lyceum Of Aparri Hospital	0	0	0	0	0	0	0	0	0	0	24
Dr. Marcelo M. Chan Memorial Hospital,Inc.	5	5	5	5	0	0	0	0	0	0	0
Olivarez General Hospital	4	3	6	7	0	0	0	0	0	0	0
Dr Danilo V Mallari Medical Clinic	1	1	1	1	1	1	1	2	2	2	2
The Medical City South Luzon (Formerly: Southern Luzon Hospital And Medical Center, Inc.)	14	0	0	0	0	0	0	0	0	0	0
Primelab Inc.	1	1	1	1	1	1	1	1	1	2	3
Fort Del Pilar Station Hospital	0	0	0	0	0	0	0	3	3	3	3
Wellserved Infirmary And Drugstore Inc	0	1	2	2	1	1	1	2	2	0	0
United Doctors Hospital Of Kidapawan Inc	10	0	0	0	0	0	0	0	0	0	0
Statelab Clinics & Diagnostic Center, Inc.	2	2	2	2	2	0	0	0	0	0	0
The Medical City @ Waltermart Makati	2	1	1	1	1	1	1	0	0	0	0
New World Diagnostics, Inc Las Piñas Branch	0	0	0	0	0	8	0	0	0	0	0
St. Joseph Infirmary	2	0	1	1	2	1	0	0	0	0	0
Corazon Locsin Montelibano Memorial Regional Hospital	5	0	0	0	0	0	0	0	0	0	0
Surallah Community Hospital	2	2	0	0	0	0	0	0	0	0	0
Cuison Hospital Incorporated	2	0	0	0	0	0	0	0	0	0	0
St George Clinical Laboratory Services	2	0	0	0	0	0	0	0	0	0	0
Blessed Heart Diagnostics And Multispecialty Clinic	0	0	0	0	0	2	0	0	0	0	0
Bloodworks Lab Inc	0	0	2	0	0	0	0	0	0	0	0
New World Diagnostics, Inc - Ongpin Branch	0	0	0	0	0	0	0	0	1	0	0
New World Diagnostics Inc Baliuag Branch	0	0	0	0	0	0	0	0	0	0	1

Name of Hospital	Mercu	ıry-Con	taining	Desk S	phygs.	Purcha	sed (20	10 – 20	20)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Zamboanga Del Sur Medical Center	100	100	100	100	0	0	0	0	0	0	0
Tuguegarao City People's General Hospital	20	20	20	40	10	10	10	10	10	10	10
Las Pinas City Medical Center	5	10	8	9	8	7	7	5	10	6	9
Nodado General Hospital	10	5	5	6	5	10	3	0	0	0	0



Name of Hospital	Mercu	ry-Con	taining	Desk S	phygs.	Purcha	sed (20	10 – 20	20)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ipil Doctors Hospital	0	0	0	0	0	5	6	6	8	6	6
Bayugan City Doctors Hospital	5	5	5	10	0	0	0	0	0	0	0
Olivarez General Hospital	8	4	6	4	0	0	0	0	0	0	0
Zamboanga City Medical Center	5	5	5	5	0	0	0	0	0	0	0
Wellserved Infirmary And Drugstore Inc	3	1	1	1	2	1	2	0	0	0	0
Arayat Doctors Hospital	0	0	0	10	0	0	0	0	0	0	0
Aguas Z Maternity And General Hospital	3	0	1	0	1	1	0	1	0	0	0
Statelab Clinics & Diagnostic Center, Inc.	1	1	1	1	1	0	0	0	0	0	0
Lady Of Lourdes Hospital And Colleges Of Caybiga Inc	0	0	0	0	0	0	1	0	0	0	1
Lph-San Pedro District Hospital	2	0	0	0	0	0	0	0	0	0	0
Baron Yee Hospital	1	0	0	0	0	0	0	0	0	0	0
Zamboanga Puericulture Maternity Lying-In Hospital	1	0	0	0	0	0	0	0	0	0	0
St George Clinical Laboratory Services	1	0	0	0	0	0	0	0	0	0	0

Name of Hospital	Mercu	ry-Con	taining	Standi	ng Sph	ygs. Pu	rchased	d (2010	- 2020)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Aparri Provincial Hospital	10	10	10	10	10	10	10	10	10	10	10
Nodado General Hospital	15	12	10	8	15	6	5	0	0	0	0
Corazon Locsin Montelibano Memorial Regional Hospital	0	0	4	0	12	0	40	4	0	0	10
Las Pinas City Medical Center	5	3	6	5	5	4	7	6	8	5	5
Zamboanga Del Sur Medical Center	10	10	10	10	10	0	0	0	0	0	0
Tuguegarao City People's General Hospital	10	10	10	0	0	0	0	0	0	0	0
Donsol District Hospital	2	2	3	2	1	2	4	2	3	4	2
Zamboanga City Medical Center	5	5	5	5	0	0	0	0	0	0	0
St. Victoria Hospitl	0	0	0	0	0	0	0	9	9	0	0
Pines City Doctors' Hospital	0	0	0	0	0	0	0	0	0	0	15
Olivarez General Hospital	4	2	5	2	0	0	0	0	0	0	0
Our Mother Of Piat Medical Maternity & Lying In Clinic	1	1	1	1	1	1	1	1	1	1	1
Statelab Clinics & Diagnostic Center, Inc.	2	2	2	2	2	0	0	0	0	0	0
The Medical City South Luzon (Formerly: Southern Luzon Hospital And Medical Center, Inc.)	0	0	0	0	0	0	1	1	2	1	0

Name of Hospital	Mercu	ry-Con	taining	Standi	ng Sph	ygs. Pu	rchase	d (2010	- 2020)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
San Joaquin Mother And Child Hospital	0	0	0	0	0	0	0	0	0	2	0
Minglanilla District Hospital	0	0	0	0	0	0	0	2	0	0	0
Wellserved Infirmary And Drugstore Inc	0	0	1	0	0	0	1	0	0	0	0
The Medical City @ Waltermart Makati	1	0	0	0	0	0	0	0	0	0	0
LPH-San Pedro District Hospital	1	0	0	0	0	0	0	0	0	0	0



ANNEX D – Disposal History

Notes

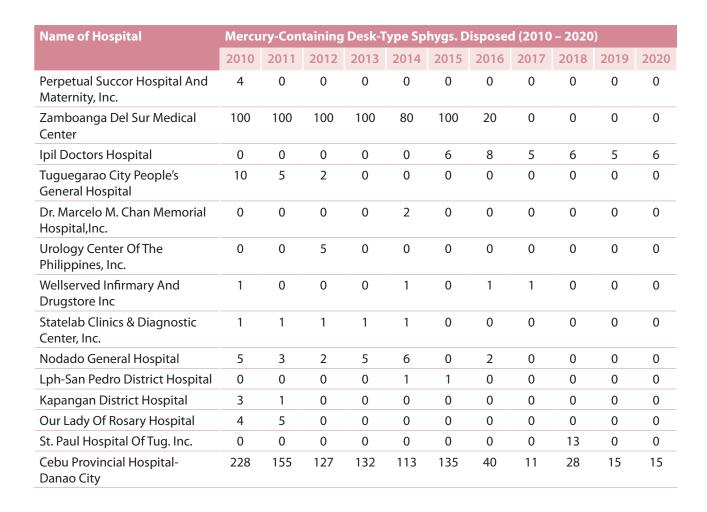
- Figures refer to unit count. For example, a value of "200" pertains to "200 total units" unless otherwise stated.
- For items labelled with "(total)," this refers to the total value of mercury disposed including thermometers sphygmomanometers, lamps, batteries, etc. in cases where specific unit counts are unavailable.

Name of Hospital	Mercu	ıry-Con	taining	Therm	ometer	s Dispo	sed (20	010 – 20	020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ospital Ning Angeles	200	0	0	0	0	0	0	0	0	0	0
United Doctors Hospital Of Kidapawan Inc	10	0	0	0	0	0	0	0	0	0	0
Cuison Hospital Incorporated	0	0	2	0	0	0	0	0	0	0	0
Seamen's Hospital Iloilo	60	0	0	0	0	0	0	0	0	0	0
Pascual General Hospital	20	0	0	0	0	0	0	0	0	0	0
Tondo Medical Center	0	0	0	0	0	0	0	0	0	126 kg (total)	0
Nueva Vizcaya Provincial Hospital	754	0	0	0	0	0	0	0	0	0	0
St. Joseph Infirmary	0	0	1	1	1	4	0	0	0	0	0
Bayugan City Doctors Hospital	5 kg (total)	10 kg (total)	15 kg (total)	15 kg (total)	0	0	0	0	0	0	0
Don Jose S. Monfort Medical Center Extension Hospital	0	0	0	0	0	15	0	0	0	0	0
Zamboanga Puericulture Maternity Lying-In Hospital	350	200	0	0	0	0	0	0	0	0	0
Zamboanga City Medical Center	7	3	3	5	0	0	0	0	0	0	0
Perpetual Succor Hospital And Maternity, Inc.	20	0	0	0	0	0	0	0	0	0	0
Corazon Locsin Montelibano Memorial Regional Hospital	10	0	0	0	0	0	0	0	0	0	0
Ipil Doctors Hospital	10	10	8	10	8	10	10	10	8	8	9
Tuguegarao City People's General Hospital	40	40	40	0	0	0	0	0	0	0	0
Minglanilla District Hospital	20	20	20	20	20	20	0	0	0	0	0
Dr. Marcelo M. Chan Memorial Hospital,Inc.	5	5	5	5	0	0	0	0	0	0	0
Urology Center Of The Philippines, Inc.	0	0	15	0	0	0	0	0	0	0	0
Wellserved Infirmary And Drugstore Inc	1	1	1	2	2	3	2	1	1	0	0
Dr Danilo V Mallari Medical Clinic	2	2	2	2	2	2	2	2	2	2	2

Name of Hospital	Mercu	ry-Con	taining	Therm	ometer	s Dispo	sed (20	010 – 20	020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Statelab Clinics & Diagnostic Center, Inc.	2	2	2	2	2	0	0	0	0	0	0
Nodado General Hospital	12	10	10	15	10	5	5	0	0	0	0
Olivarez General Hospital	4	6	7	8	0	0	0	0	0	0	0
Lyceum Of Aparri Hospital	0	0	0	0	0	0	0	0	0	0	12
LPH-San Pedro District Hospital	35	30	50	40	45	300	0	0	0	0	0
Kapangan District Hospital	0	0	0	0	0	0	0	0	0	0	0
Primelab Inc.	0	0	0	0	0	0	0	0	0	0	1
New World Diagnostics, Inc Las Piñas Branch	0	0	0	0	0	8	0	0	0	0	0
Our Lady Of Rosary Hospital	35	45	0	0	0	0	0	0	0	0	0
St. Paul Hospital Of Tug. Inc.	0	0	0	0	0	0	0	0	101	0	0
Cebu Provincial Hospital- Danao City	1597	374	166	110	90	367	19	13	112	10	24

Name of Hospital	Mercu	ry-Con	taining	Desk-T	ype Sp	hygs. D	ispose	d (2010	– 2020)	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Baron Yee Hospital	1	0	0	0	0	0	0	0	0	0	0
United Doctors Hospital Of Kidapawan Inc	3	0	0	0	0	0	0	0	0	0	0
Quezon Institute	2	0	0	0	0	0	0	0	0	0	0
Aguas Z Maternity And General Hospital	1	0	1	0	0	1	1	0	0	0	0
Lady Of Lourdes Hospital And Colleges Of Caybiga Inc	0	0	0	0	0	0	1	0	0	0	0
Seamen's Hospital Iloilo	0	10	0	0	0	0	0	0	0	0	0
Trinity Woman And Child Center "The Birthplace"	0	0	0	7	0	0	0	0	0	0	0
Las Pinas City Medical Center	6	6	10	5	5	9	7	5	9	10	9
Queen Mary Hospital Inc	0	5	0	0	0	0	0	0	0	0	0
Nueva Vizcaya Provincial Hospital	14	0	0	0	0	5	0	0	0	0	0
Bayugan City Doctors Hospital	3	3	3	5	11	0	0	0	0	0	0
Don Jose S. Monfort Medical Center Extension Hospital	0	0	2	5	5	13	0	0	0	0	0
Dr. Amando D. Cope Memorial Hospital Inc.	3	0	0	0	0	0	0	0	0	0	0
Zamboanga Puericulture Maternity Lying-In Hospital	0	0	1	0	0	0	0	0	0	0	0
Pangasinan Provincial Hospital	11	16	0	3	1	0	0	0	0	0	0
Dr. Victor R. Potenciano Medical Center	55	0	0	0	0	0	0	0	0	0	0
Zamboanga City Medical Center	1	0	0	1	0	0	0	0	0	0	0





Name of Hospital	Mercu	ry-Con	taining	Standi	ng Sph	ygs. Di	sposed	(2010 -	- 2020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Ospital Ning Angeles	1	0	0	0	0	0	0	0	0	0	0
Baron Yee Hospital	0	1	0	0	0	0	0	0	0	0	0
United Doctors Hospital Of Kidapawan Inc	2	0	0	0	0	0	0	0	0	0	0
Quezon Institute	1	0	0	0	0	0	0	0	0	0	0
Aparri Provincial Hospital	10	10	10	10	10	10	10	10	10	10	10
Lady Of Lourdes Hospital And Colleges Of Caybiga Inc	0	0	0	0	0	0	0	0	0	0	0
Seamen's Hospital Iloilo	0	5	0	0	0	0	0	0	0	0	0
Las Pinas City Medical Center	6	3	3	5	4	5	7	5	5	2	3
Queen Mary Hospital Inc	0	5	0	0	0	0	0	0	0	0	0
Nueva Vizcaya Provincial Hospital	0	0	0	0	0	0	0	3	0	0	0
Bayugan City Doctors Hospital	3	3	3	3	8	0	0	0	0	0	0
Don Jose S. Monfort Medical Center Extension Hospital	0	0	0	0	2	3	0	0	0	0	0
Lariosa Clinic And Hospital Inc.	1	0	0	0	0	0	0	0	0	0	0
Pangasinan Provincial Hospital	15	10	5	0	1	0	0	0	0	0	0
Zamboanga City Medical Center	5	5	5	5	0	0	0	0	0	0	0

Name of Hospital	Mercu	ry-Con	taining	Standi	ng Sph	ygs. Di	sposed	(2010 -	- 2020)		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Perpetual Succor Hospital And Maternity, Inc.	6	0	0	0	0	0	0	0	0	0	0
Corazon Locsin Montelibano Memorial Regional Hospital	0	0	0	1	10	2	3	7	4	8	5
Zamboanga Del Sur Medical Center	10	10	10	10	10	10	10	0	0	0	0
Tuguegarao City People's General Hospital	8	7	7	8	0	0	0	0	0	0	0
Urology Center Of The Philippines, Inc.	0	0	5	0	0	0	0	0	0	0	0
Wellserved Infirmary And Drugstore Inc	0	0	0	0	0	0	2	0	0	1	0
Statelab Clinics & Diagnostic Center, Inc.	2	2	2	2	2	0	0	0	0	0	0
Nodado General Hospital	2	6	5	0	2	2	3	0	0	0	0
Dr Jesus Delgado Memorial Hospital	0	0	0	0	0	0	0	0	0	10	10
Olivarez General Hospital	4	4	4	5	2	7	5	5	4	3	2
Lyceum Of Aparri Hospital	0	0	0	0	0	0	0	0	0	0	10
LPH-San Pedro District Hospital	0	0	1	0	0	0	0	0	0	0	0
Kapangan District Hospital	0	0	0	0	0	0	0	0	0	0	0
St. Paul Hospital Of Tug. Inc.	0	0	0	0	0	0	0	0	13	0	0
Cebu Provincial Hospital- Danao City	76	71	60	49	51	39	40	30	36	34	40



ANNEX E - Survey Questionnaires

Development of Capacity for the Substitution and the Environmentally-Sound Management (ESM) of Mercury-Containing Medical Measuring Devices

Organizational Background

BAN Toxics is a non-profit, non-governmental organization that works for the advancement of environmental justice, health, and sustainable development in the field of chemicals and wastes, with a special focus on marginalized sectors, including children, women, and others.

The organization continues to work with government agencies, communities, and civil society at the local, national, and international levels to reduce and eliminate the use of toxic chemicals and support global sustainable goals through advocacy, education campaigns, community grassroots interventions, training and capacity-building, policy research and development.

Background of the Study

"Development of Capacity for the Substitution and the Environmentally Sound Management (ESM) of Mercury-Containing Medical Measuring Devices" is a Japan-ASEAN Integration Fund (JAIF) project endorsed by the ASEAN working group on Chemicals and Waste. The project aims to contribute towards the prevention of the adverse impacts of mercury on health and the environment through the environmentally-sound management of used thermometers and sphygmomanometers in ASEAN member states.

Among the key outputs of the study is the development of a national-level inventory for mercury-containing thermometers and sphygmomanometers. This output covers an estimated 5,027 health care facilities (based on the National Health Care Registry).

This study is conducted in partnership with the Department of Environment and Natural Resources (DENR) with support from the Department of Health.

Invitation to Participate in the Study

As a licensed health-care facility, you are invited to participate in this study. Please ensure that the information provided here is accurate and representative of actual hospital data. The information gathered through this survey will be reflected in the presentation of results and subsequent publications of the study.

Accomplishment of this form signifies your consent and agreement to participate in this study. Furthermore, the research team may contact you for clarifications in the future.

Name:	
Position:	
Signature:	
Date:	
Contact Details (e-mail/phone):	

Please note that an on-line version of this study is also available via the link below. Only accomplish this form if you are unable to access the on-line version of this form.

https://tinyurl.com/MCMMDSurveyPH

HOSPITAL BACKGROUND

#	Please write down or encircle you	ur answer, as needed.		
1	Name of Hospital			
2	E-Mail Address			
3	Telephone			
4	Address			
5	(Total) Doctors			
6	(Total) Nurses			
7	(Total) Allied Health Professionals			
8	(Total) Other Hospital Staff			
9	(Total) Patient Beds			
10	Administrative Region	National Capital Region	Cordillera Administrative Region	Ilocos Region (R-I)
		Cagayan Valley (R-II)	Central Luzon (R-III)	CALABARZON (R-IVa)
		MIMAROPA (Southwestern Tagalog Region)	Bicol Region (R-V)	Western Visayas (R-VI)
		Central Visayas (R-VII)	Eastern Visayas (R-VIII)	Zamboanga Peninsula (R-IX)
		Northern Mindanao (R-X)	Davao Region (R-XI)	SOCKSARGEN (R-XII)
		Caraga (R-XIII)	Bangsamoro (BARMM)	
11	Category	Private	Public	
12	Health Facility Classification	Level 1 Hospital	Level 2 Hospital	Level 3 Hospital
		Infirmary	Birthing Home	Clinic ¹³

¹³ Includes medical, ambulatory, dialysis, health care centers and dispensaries, surgical, alternative medicine, dental, other clinical facilities not mentioned but requires a license/certification/accreditation from the DOH



O ADMINISTRATIVE ORDER 2008-0021 IMPLEMENTATION

#	Please write down or encircle your answer, as needed.		
13	Does your hospital have a Hospital Waste Management Committee?14	Yes	No
14	Number of Committee Members		
15	Name and Position		
16	Name and Position		
17	Name and Position		
18	Name and Position		
19	Does your hospital have a Mercury Management Team? ¹⁵	Yes	No
20	Number of Committee Members		
21	Name and Position		
22	Name and Position		
23	Name and Position		
24	Name and Position		
25	Does your hospital have a Mercury Minimization Program?	Yes	No
26	Year of Submission		
27	Do you have a policy/guideline for collecting and retrieving used/discarded mercury-containing thermometers and sphygmomanometers?	Yes	No
28	Do you have a policy/guideline for collecting and retrieving other used/discarded mercury-containing devices (e.g., lamps, dental amalgam, etc.)?	Yes	No
29	Do you have a policy/guideline for temporary storage of mercury-containing thermometers/sphygmomanometers?	Yes	No
30	Do you have a policy/guideline for temporary storage of other mercury-containing devices (e.g., lamps, dental amalgam, etc.)?	Yes	No
31	Do you have a policy/guideline on managing mercury spills?	Yes	No
32	Do you have a policy/guideline for the final disposal of mercury-containing thermometers/sphygmomanometers?	Yes	No
33	Do you have a policy/guideline on financing mercury management activities?	Yes	No
34	Has your hospital implemented a phase-out of mercury-containing devices?	Yes	No
35	Year when mercury-containing thermometers were completely phased out in the facility		
36	Year when mercury-containing sphygmomanometers were completely phased out in the facility		

¹⁴ Defined as a group in the health care facility with the overall responsibility of ensuring that the healthcare waste management plan is promoted and implemented

¹⁵ Described as a dedicated team under the hospital waste management committee tasked with implementing the mercury minimization plan

37	Does your hospital have a purchasing policy for mercury-free alternatives?	Yes	No
38	Does your hospital have a mercury-content disclosure agreement?	Yes	No
39	Number of vendors informed about preference to mercury-free alternatives?		
40	Name of Vendor		
41	Name of Vendor		
42	Name of Vendor		
43	Does your hospital have a mercury audit?	Yes	No
14	Year of implementation		
15	Do you conduct monitoring activities?	Yes	No
16	Frequency of monitoring activities	Daily	Weekly
	Monthly	Quarterly	
	Bi-annual	Annual	
17	Do you have a permanent records/recording system?	Yes	No
18	Does your hospital have a mercury information and educational program?	Yes	No
9	Describe the type of information and educational program conducted		
0	Frequency of activities	Monthly	Quarterly
	Bi-annual	Annual	
51	Participants/stakeholders involved (choose as many as possible) Hospital Staff	Patients	General Public
52	Does your hospital conduct safety training for healthcare staff?	Yes	No
3	Training on the health and environmental concerns of mercury	Yes	No
4	Frequency of training (health and environmental concerns of mercury)	Monthly	Quarterly
	Bi-annual	Annual	
5	Training on mercury spill prevention and management	Yes	No
6	Frequency of training (mercury spill prevention and management) Bi-annual	Monthly Annual	Quarterly
57	Name of departments involved in training		
8	Does your hospital have a temporary mercury storage facility?	Yes	No
59	Annual cost of maintenance for temporary storage of mercury-containing thermometers (indicate amount and year of most recent data)		
50	Annual cost of maintenance for temporary storage of mercury-containing sphygmomanometers (indicate amount and year of most recent data)		
51	Does your hospital have a designated mercury collection area?	Yes	No
52	Indicate staff (position) in charge of collecting mercury waste		
3	Description of temporary storage area (e.g., location in healthcare facility)		
54	Description of how the mercury-containing devices are stored in the temporary storage area (e.g., shelves, glass containers, etc.)		
55	Availability/visibility of signages and notices?	Yes	No
6	Availability/visibility of material safety data sheet (MSDS)?	Yes	No
57	Presence of fire-fighting equipment in case of fires?	Yes	No
58	Availability of equipment to measure ambient mercury levels?	Yes	No



70	Frequency of monitoring activities	Daily	Weekly
70	Monthly	Quarterly	vveekiy
	Bi-annual	Quarterly	
		Annual	
71	Description of monitoring activities conducted (e.g., manual checking of containers, temperature check, etc.)		
72	Availability of mercury spill cleanup kit?	Yes	No
73	Description of materials/equipment included in the mercury spill cleanup kit (e.g., goggles, gloves, disposable bags, etc.)		
74	Incidence of mercury spill in the last 12 years?	Yes	No

O DISPOSAL PRACTICES FOR MERCURY-CONTAINING DEVICES

#	Please write down or encircle your answer, as needed.		
75	Does your hospital conduct final disposal of mercury-containing thermometers and sphygmomanometers?	Yes	No
76	Type of disposal mechanism employed in hospital (check as many as possible and specify name of facility or third- party on buyer in blank area below, if needed)	In-house temporary storage facility	Designated temporary storage facility ¹⁰ (please specify)
		Municipal waste	Third-party buyers (please specify)
		DENR-accredited TSD Facility (please specify)	Others
77	Describe how mercury-containing thermometers and sphygmomanometers are transported for final disposal (hospital-owned vehicle, third-party vehicle, air transport, etc.)		
78	Cost of final disposal of mercury-containing thermometers (indicate amount and year of most recent data)		
79	Cost of final disposal of mercury-containing sphygmomanometers (indicate amount and year of most recent data)		

MERCURY-CONTAINING MEDICAL MEASURING DEVICES

Please	write down or encircle your answer, as needed.		
80	Please indicate the brands of mercury-containing thermometers purchased by the hospital in the past 10 years (if possible)		
81	Indicate the current amount (number of units) of mercury-containing thermometers IN USE		
82	Indicate the current amount (number of units) of mercury-containing thermometers IN STORAGE		
83	Total number of mercury-containing thermometers purchased per year (indicate only what is available):	Year	Amount (Total Number of Units)
		2010	
		2011	
		2012	

		2012	
		2013	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
84	Total number of mercury-containing thermometers disposed per year (indicate only what is available):	Year	Amount (Total Number of Units)
		2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
85	Please indicate the brands of mercury-free thermometers purchased by the hospital in the past 10 years (if possible)		
86	Indicate the current amount (number of units) of mercury-free thermometers IN USE		
87	Indicate the current amount (number of units) of mercury-free thermometers IN STORAGE		
88	Total number of mercury-free thermometers purchased per year	Year	Amount
	(indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
89	Total number of mercury-free thermometers disposed per year (indicate	Year	Amount
	only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	

	//////////////////////////////////////
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		2016	
		2017	
		2018	
		2019	
		2020	
90	Please indicate the brands of mercury-containing sphygmomanometers (desk-type) purchased by the hospital in the past 10 years (if possible)		
91	Indicate the current amount (number of units) of mercury-containing desk-type sphygmomanometers IN USE		
92	Indicate the current amount (number of units) of mercury-containing desk-type sphygmomanometers IN STORAGE		
93	Total number of mercury-containing sphygmomanometers (desk-type)	Year	Amount
	purchased per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
94	Total number of mercury-containing sphygmomanometers (desk-type)	Year	Amount
	disposed per year (indicate only what is available):	2010	7
		2011	
		2012	
		2013	
		2013	
		2015	
		2016	
		2017	
		2017	
		2019	
		2020	
95	Please indicate the brands of mercury-free sphygmomanometers (desktype) purchased by the hospital in the past 10 years (if possible)	2020	
96	Indicate the current amount (number of units) of mercury-free desk-type sphygmomanometers IN USE		
97	Indicate the current amount (number of units) of mercury-free desk-type sphygmomanometers IN STORAGE		
98	Total number of mercury-free sphygmomanometers (desk-type)	Year	Amount
	purchased per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	

		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
99	Total number of mercury-free sphygmomanometers (desk-type)	Year	Amount
	disposed per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
100	Please indicate the brands of mercury-containing sphygmomanometers		
	(standing) purchased by the hospital in the past 10 years (if possible)		
101	Indicate the current amount (number of units) of mercury-containing standing sphygmomanometers IN USE		
102	Indicate the current amount (number of units) of mercury-containing standing sphygmomanometers IN STORAGE		
103	Total number of mercury-containing sphygmomanometers (standing)	Year	Amount
	purchased per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
104	Total number of marketining and marketining	Voor	
104	Total number of mercury-containing sphygmomanometers (standing)	Year	Amount
	disposed per year (indicate only what is available):	2010	Amount
			Amount
-		2010	Amount
-		2010 2011	Amount
		2010 2011 2012	Amount
		2010 2011 2012 2013	Amount
		2010 2011 2012 2013 2014	Amount
		2010 2011 2012 2013 2014 2015	Amount

		2019	
		2020	
105	Please indicate the brands of mercury-free sphygmomanometers (standing) purchased by the hospital in the past 10 years (if possible)		
106	Indicate the current amount (number of units) of mercury-free standing sphygmomanometers IN USE		
107	Indicate the current amount (number of units) of mercury-free standing sphygmomanometers IN STORAGE		
108	Total number of mercury-free sphygmomanometers (standing)	Year	Amount
	purchased per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	
109	Total number of mercury-free sphygmomanometers (standing)	Year	Amount
	disposed per year (indicate only what is available):	2010	
		2011	
		2012	
		2013	
		2014	
		2015	
		2016	
		2017	
		2018	
		2019	
		2020	

Thank you for participating in the off-line version of our national survey on mercury-containing medical measuring devices. Please also include a scanned copy of the following documents (if available) when submitting the form:

Availability	Attachments Checklist
	Policy/guideline for collecting/retrieving used/discarded mercury containing thermometers and sphygmomanometers
	Policy/guideline for temporary storage of mercury-containing thermometers and sphygmomanometers
	Policy/guideline for temporary storage of other mercury-containing devices
	Policy/guideline on managing mercury spills
	Policy/guideline for final disposal of mercury-containing thermometers and sphygmomanometers
	Policy/guideline for financing mercury management activities
	Purchasing policy for mercury-free alternatives
	(Photos) permanent records/recording system for mercury audit
	(Photos) presence of the following facilities: a) temporary storage facility, b) signages and notices, c) material safety data sheet, d) fire-fighting equipment, and e) ambient mercury measurement devices

IMPORTANT:

Only accomplish this form if the online version is inaccessible. Access the online form via:

https://tinyurl.com/MCMMDSurveyPH



ANNEX F - Key Informant Interview Guide Questions

Mercury-Containing Medical Measuring Devices Management Project

Inception Workshop April 28, 2021

This document outlines the key guide questions and topic categories that will discussed by the plenary during the inception workshop.

Mercury Management

- What are the accredited mercury storage facilities in the Philippines (with specific focus on mercury-containing sphygmomanometers and thermometers)?
- What are the final disposal practices for mercury-containing devices in the Philippines? This also includes practices such as transporting the mercury outside of the country, as well as retrieval practices from hospitals.
- What are the monitoring and regulation mechanisms employed by your organization to ensure adherence to Administrative Order 2008-0021?

Data Availability

- Is there available import and export data for mercury-containing sphygmomanometers and thermometers?
- Is there available data on disposal of mercury-containing sphygmomanometers and thermometers?
- Is there available data on the implementation of the mercury management program in hospitals? This includes relevant submissions of documents outlined in Administrative Order 2008-0021.

Related Rules and Regulations

- In response to Administrative Order 2008-0021, did your organization/agency issue similar complementary policies?
- In assessing mercury management programs in hospitals in the Philippines, how successful is the country? What are key challenges that remain?

Ways Forward

- What are key suggestions that should be considered in the context of the management of mercurycontaining sphygmomanometers and thermometers in the country?
- Describe the key support (political, economic, etc.) needed by the health sector to pursue full phase-out of mercury-containing medical measuring devices.

Annex G – List of Respondents

Name of Hospital	E-Mail Address	Phone	Region
Abra De Ilog Municipal Hospital	abrade ilog municipal hospital@gmail	09182134472	MIMAROPA
Abuyog District Hospital	adh.leyte@yahoo.com	09991547682	R8
Ace Diagnostics	acedxnovalab15@gmail.com	8931966	NCR
Adela Serra Ty Memorial Medical Center	astmmc_doh13@live.com.ph	086-2113700	R13
Adventist Hospital Santiago City, Inc.	hrsec@adventisthealth-stg.com	(078) 305-0161	R2
Adventist Hospital-Cebu	adventisthospitalcebu@gmail.com	(032) 261-2100	R7
Aglipay District Hospital	aglipaydistricthospital@gmail.com		R2
Agoo Family Hospital	docjoe1959@yahoo.com	072-607-2708	R1
Aguas Z Maternity And General Hospital	maternityballesteros@gmail.com	09354963015	R2
Aisah Medical Hospital	amh _2010@hotmail.com	(062) 2154413	R9
Aleosan District Hospital	aleosaniloilo@yahoo.com	033-3310602 to 03	R6
Alfonso G Llanos Hospital, Inc	chemamanalo@gmail.com	55323263	R11
Alfonso Specialist Hospital	alfonsospecialist_hospital@yahoo.com	85711285	NCR
ALJ Medical Maternity & Lying-In Clinic	linda.congreso.alj@gmail.com	8355-2213	NCR
Amancio-Fernandez Clinic & Lying- In Hospital	jp13medic@rocketmail.com	09422869964	R1
Amang Rodriguez Memorial Medical Center	armmc.biomedical@gmail.com	941-5854	NCR
Amma Jadsac Ditrict Hospital	ajdh.hospital@gamil.com		CAR
Amosup Seamen's Hospital	rovingseamens@gmail.com	85278116	NCR
Anecito T. Pesante Sr. Memorial Hospital Co.	apsmhc@yahoo.com	229-9177	R12
Angeles University Foundation Medical Center	aufmc2020@gmail.com	625-2999	R3
Antique Medical Center Inc.,	antique medical@gmail.com	(036)540-8766	R6
Apalit Doctor's Hospital, Inc.	apalithospmds@yahoo.com	(045)6520030	R3
Aparri Provincial Hospital	aparriprovincialhospital@gmail.com	(078) 3773207	R2
Aquino Medical Specialists Hospital, Inc.	aquinohospital@yahoo.com	(084) 216-2156	R11
Arans Medical And Diagnostic Clinic	aransclinic@yahoo.com	09494133781	NCR
Arayat Doctors Hospital	nursestation.adh@gmail.com	045 3050131	R3
Arciaga Medical Clinic	arciagamed@gmail.com	88622734	NCR
Asccom Medical Center	asccomdlsuhospital@yahoo.com	(045) 652 0089	R3
Asian Hospital And Medical Center	mespeso@asianhospital.com	7719000	NCR
Asingan Community Hospital	asinhosp@yahoo.com	09982722987	R1
Assumption Specialty Hospital And Medical Center, Inc	assumptionbod@gmail.com	8248-5500	R4a



Name of Hospital	E-Mail Address	Phone	Region
Atok Disctric Hospital	benguet_adh@yahoo.com	09396219847	CAR
Avalon Diagnostic Center	avalondiagnosticcenter 12@gmail.com	0286560887	R4a
Baggao District Hospital	bdhtungel@gmail.com	09171424890	R2
Baguio Medical Center	bmc68@claridad@yahoo.com	0744423338	CAR
Bairan-Trammell Diagnostic Center	records@btdiagnostic.com	919-7983	NCR
Bais District Hospital	bais district hospital@yahoo.com	035-402-8317	R7
Ballesteros District Hospital	ballesteros district hospital@gmail.com		R2
Baron Yee Hospital	baron_yeehospital@yahoo.com		R11
Barrientos-Susaya Midwifery Services	ma.galileesusaya@yahoo.com	09234447223	NCR
Basalo Medical Clinic	genbasalo 1118@gmail@com	09257951871	R11
Basilan General Hospital	basgen7300@gmail.com	09065118552	R2
Bataan Doctors Hospital And Medical Center, Inc	batdocs@yahoo.com	0472370164	R3
Bataraza District Hospital	M.tqramos@yahoo.com	09461508562	MIMAROPA
Bayugan City Doctors Hospital	bcdh.official@gmail.com	0852313352	R13
Bernardino General Hospital 1	bghcorpone@yahoo.com	936-6050 Loc. 101	NCR
Bernardino General Hospital 2	admbgh2@gmail.com	89610328	NCR
Bethel Baptist Hospital, Inc.	bethelbaptisthospital@gmail.com	088-813-2708	R10
Bicol Accesshealth Centrum	bicolaccesshealthcentrum2015@ yahoo.com.ph	(054)871-3377	R5
Bicol Regional Training And Teaching Hospital	brtth_cares@yahoo.com	(052)-732-5555	R5
Biliran Provincial Hospital	bphnaval@gmail.com	0535079134	R8
Bioscan Clinical Laboratory Caloocan	bioscanlab@yahoo.com	0283629246	NCR
Bioscopic Diagnostic Laboratory	bioscopic2001@yahoo.com	87157703	NCR
Bisomeds Medical Clinic	bisomeds@yahoo.com	0288266055	NCR
Blessed Heart Diagnostics And Multispecialty Clinic	Blessedheart_diagnostics@yahoo.com	5310-1347	NCR
Bloodworks Lab Inc	antonette.menciano@bloodworkslab.	84260237	NCR
Blue Jade Klinika At Laboratoryo	bluejade.klinikalab@gmail.com	84008273	NCR
Brent Hospital And Colleges,Inc.	bhcilaboratoryhospital@gmail.com	955-0926	R9
Broad98spectrum Lying In And Medical Clinic	broadspectrum98@gmail.com	8361-02-51	NCR
Bueacan Medical Mission Group Pharmacy And Hospital	bmmghsci@yahoo.com	0449130988	R3
Bumanglag Specialty Hospital	bumanglagspecialtyhospital 2012@gmail.com	(077) 617 1572	R1
Bunawan District Hospital	bunawandhads@gmail.com	09399379250	R13
Burauen District Hospital	bdhphilhealthsw@gmail.com	09362403519	R8
Bustos Community Hospital	bustoscommunity.hospital@gmail.com	(044)761-1171	R3
Butuan Doctors' Hospital	artmacahilig@gmail.com	0853427000	R13

Name of Hospital	E-Mail Address	Phone	Region
Butuan Puericulture Center No.394 Inc./ Elisa R. Ochoa Memorial Maternity & General Hospital	butuan_maternity@yahoo.com	815-1279	R13
C. Faderog Maternity Clinic	ccfaderog@gmail.com	9478618283	NCR
C.M. Valencia Birthing Homes	cmvalencia0121@gmail.com	0282175695	NCR
Cagayan De Oro Polymedic General Hospital	cdopolymedicgrouppco@yahoo.com	853-5241	R10
Cagayan Valley Medical Center	artum_abt@yahoo.com	078-302-0000	R2
Caligayahan Medical Clinic And Laboratory	rica_caligayahan@yahoo.com	87822050	NCR
Callang General Hospital And Medical Center Inc	callang_hospital@yahoo.com	305-0734	R2
Caloocan City Medical Center	ccmc.2013@yahoo.com	(02) 53107925	NCR
Candelaria District Hospital	cdhcandezambs@yahoo.com	09473045204	R3
Capiz Emmanuel Hospital Inc.	ceh_inc@yahoo.com	0366210443	R6
Caraga Regional Hospital	hilarion pasal@gmail.com	086 8263545	R13
Catarman Doctors Hospital Inc.	CDHI_Catarman@yahoo.com	N/A	R8
Cathedral Diagnostic Laboratory	allan_rmt71@yahoo.com	09338551210	NCR
Cattleya Lying-In Clinic	cattleyawfmc@yahoo.com	77594523	NCR
Catubig District Hospital	catubigdh1974@gmail.com	09269798013	R8
Cauayan District Hospital	cdh_isabela@yahoo.com	078-2601-120	R2
CDO Polymedic Medical Plaza	nicoledralinpco@gmail.com	853-5241	R10
Cebu North General Hospital	conga.engineeringservicedep1@gmail.com	3437777	R7
Cebu Provincial Hospital - Danao City	ddhospital1960@yahoo.com	(032)262-0823	R7
Cebu Provincial Hospital-Danao City	ddhospital1960@yahoo.com	032-2620823	R7
Cebu South Medical Center	csmccebu_doh@yahoo.com	032-2733226	R7
Centro Medico De Santisimo Rosario Inc	cmsrbalanga@gmail.com	633-0000	R3
Charles W. Selby Memorial Hospital, Inc	cwsmhi@gmail.com	888-2485/888-0228	R2
Christ The Healer Hospital	radiology.cth@gmail.com	577-8591	R8
Clinica Caritas Cubao	cc-cubao@caritashealthshield.com.ph	9360324	NCR
Clinica Caritas-Taft	cc-taft@caritashealthshield.com.ph	09176240807	NCR
Clinicworld Healthcare Services Inc	clinicworld@yahoo.com	09334884097	NCR
Corazon C. Aquino Hospital	corazonaquino_hospital@yahoo.com	212-5555	R9
Corazon Locsin Montelibano Memorial Regional Hospital	clmmrh.cao@gmail.com	7031350	R6
Coron District Hospital	corondistricthospitalpgp@gmail.com	09758484408	MIMAROPA
Corrompido Specialty Hospital	corrompidos pecial tyhos p 1973@gmail.com	05952508181	R8
Cotabato Sanitarium	cotsan1936@gmail.com	0644290082	R12
CP Avila Jr. Polyclinic And Diagnoctic Center	avilapolyclinic@gmail.com	84777391	NCR



Name of Hospital	E-Mail Address	Phone	Region
Crfm Lab Medical & Diagnostic Center	crfmlab@gmail.com	82909715	NCR
Crosmedica Medical Laboratory And Diagnostic Services	crosmedicalabs@gmail.com	0234404665	NCR
Cuison Hospital Incorporated	icuison27@gmail.com	09778998010	R1
Culasi District Hospital	cdhantique 2014@gmail.com	036 277-8241	R6
Davao De Oro Provincial Hospital - Laak	ddoph_laakhospital@yahoo.com	0933 - 855 - 8675	R11
Davao Medical School Foundation Inc. Hospital	hse.dmsfhospital@gmail.com	2279330 local 306	R11
Davao Mediquest Hospital, Inc.	dmhi_hospital@yahoo.com	0822951007	R11
Ddoph-Pantukan	pdhcvphpantukan@yahoo.com.ph	N/A	R11
De Jesus General Hospital	countrydoceyeph@yahoo.com	044 766 7040	R3
De Los Santos Medical Center	kmmendez@dlsmc.ph	88935762 loc 8827	NCR
De Ocampo Memorial Medical Center	deocampomemorial college@ymail.com	87151891 to 94	NCR
De Vera Medical Center Inc.	deveramedicalinc@gmail.com	305-2787	R2
Diadi Emergency Hospital	plgunuevavizcaya.deh@gmail.com	N/A	R2
Diliman Doctors Hospital	dilimandoctorshospital 2011@gmail.com	8883-6900	NCR
Diones Hospital	diones.infirmary@yahoo.com	09518442974	R11
Diosdado P. Macapagal Memoria Hospital	dpmmhpco@gmail.com	045 9000172	NCR
Divine Heart Medical Service And Development Cooperative Hospital	heartofdivine09@gmail.com	89374552	NCR
Divine Love Medical Clinic	Javierglendale@yahoo.com	8364 6888	NCR
Divine Mercy Foundation Of Urdaneta Hospital	divinemercy_foundation@yahoo.com	0756562103	R1
Divine Mercy Wellness Center	dmwc_inc@yahoo.com	078 44 2925 or 0917 872 2461	R2
Domingo B. Flores District Hospital	dbfdh.hospital@gmail.com	09171208059	R3
Don Emilio Del Valle Memorial Hospital	devmh_ubay@yahoo.com	0385188301	R7
Don Jose S. Monfort Medical Center Extension Hospital	djsmmceh@gmail.com	033-3612001	R6
Donsol District Hospital	ddh@sorsogon.gov.ph	09086841934	R5
Dr Danilo V Mallari Medical Clinic	mallariclinic@gmail.com	0283536230	NCR
Dr Jesus Delgado Memorial Hospital	fmanalo@jdmh.ph	[02] 89244051	NCR
Dr. Andres J. Luciano District Hospital	balitucandistrict@yahoo.com	(045) 866-0400	R3
Dr. Arturo P. Pingoy Medical Center	tdchi.1961@gmail.com	083-228-2202	R12
Dr. Bonifacia V. Albano Memorial Hospital	bmc_1970@yahoo.com	(077) 670-3142	R1
Dr. Emigdio C. Cruz Sr Memorial Hospital	eccsmh@gmail.com	045-885-0737	R3
Dr. Eutiquio Ll. Atanacion Jr. Memorial Hospital,Inc	deamhi@yahoo.com.ph	(045) 6090 368	R3

Name of Hospital	E-Mail Address	Phone	Region
Dr. Jesus Delgado Memorial Hospital	cmacale@jdmh.ph	(02)89244051	NCR
Dr. Jose N. Rodriguez Memorial Hospital And Sanitarium	djnrmh2003@yahoo.com	2942571	NCR
Dr. Jose P. Rizal Memorial District Hospital	jprizal08251952@gmail.com	049 545 0082	R4a
Dr. Mallari Medical Clinic And Laboratory	mallariclinic@gmail.com	02-8-3536230	NCR
Dr. Marcelo M. Chan Memorial Hospital,Inc.	drchanhospital@gmail.com	(075)6321282	R1
Dr. Montano G. Ramos General Hospital, Corp.	montano.ramos@yahoo.com.ph	8927-6628	NCR
Dr. Montano G. Ramos General Hospital, Corp.	montanoramos mindana o ave@gmail.com	85692132	NCR
Dr. Paulina J. Garcia Memorial Research And Medical Center	engineeringpjg02@gmail.com	044-4638888 loc.147	R3
Dr. Petronilo V. Seares Sr. Memorial Hospital	petronilo_seares@yahoo.com.ph	(074)-752-8300/7695	CAR
Dr. Rafael S. Tumbokon Memorial Hospital	drstmh@yahoo.com.ph		R6
Dr. Sabili Health Services Corp.	sabilihospital@yahoo.com	(02) 8837-0917	NCR
Dr. Victor R. Potenciano Medical Center	gen_services@vrp.com.ph	0284649999	NCR
Dr.Amando D. Cope Memorial Hospital Inc.	nellycompetente20202@gmail.com	09074694773	R5
Dupax District Hospital	dupax district hospital@gmail.com	09776433485	R2
Duque Mother And Child Lying-In Clinic	dmcliclinic@gmail.com	0932-8922786	NCR
E. D. Lim Medical Center	edlim.hospital@yahoo.com	045-4050130	R3
Eastern Laguna Medical Hospital	elmhfamy@gmail.com	(049) 5019635	R4a
Eastern Visayas Regional Medical Center	evrmcmccoffice@gmail.com	09673562445	R8
Essence Medical And Laboratory Clinic	essencemedical@yahoo.com.ph	88889114	NCR
Eversley Childs Sanitarium And General Hospital	ecschdcv@yahoo.com	(032)346-2468	R7
Fairview General Hospital, Inc.	fghjarin@yahoo.com	8939-9689	NCR
Far North Luzon General Hospital And Training Center	fnlghtc@yahoo.com.ph	09776235991	CAR
Fe Del Mundo Medical Center	icc@fedelmundo.com.ph	8712-0845	NCR
Fort Del Pilar Station Hospital	fdpsh.pmash@gmail.com	447-32-92 loc 66-79	CAR
Foundation Of Our Lady Of Peace Mission, Inc Our Lady Of Peace Hospital	olph2002@gmail.com	02 88295775	NCR
Gammacare Medical Services, Inc.	yanaecruz@gammacaremsi.com	09176601992	NCR
Gaoat General Hospital	gaoatgeneralhospital@gmail.com	077 600 0450	R1
General Miguel Malvar Medical Research Foundation, Inc	gen.malvarhospital@yahoo.com	932-8867/932-85-17	NCR



Name of Hospital	E-Mail Address	Phone	Region
General Santos Doctors Hospital, Inc.	gsdhadmi@yahoo.com	250-2777/2888	R12
Gerona Hospital Of The Sacred Heart	otaner.gna@gmail.com	09175683044	R3
Gertes Clinic And Hospital	gertes clinicand hospital@yahoo.com	(077)670-6438	R1
Gertes Clinic And Hospital	gertes clinicand hospital@yahoo.com	(077) 6706438	R1
Gilberto O. Teodoro Memorial Hospital	teodoro.gilberto@yahoo.com	045 934 0330	R3
Gilcare Diagnostic Clinic	gilcarediagnosticclinic@yahoo.com	79765027	NCR
Glo Maternity And Lying In Clinic	gimenaglorialyinginclinic@yahoo.com	09569672812	NCR
Global Multispecialty Health And Wellness Clinic	gmhw_lab@yahoo.com	09327482690	NCR
Glorious Birthing Clinic	globirthc@gmail.com	8640 0346	NCR
Gm Santos Medical Clinic (Clinical Laboratory)	gmslaboratory@gmail.com	8559-4807	NCR
Gmw Diagnostic Laboratory And Medical Clinic	gmwdxmalabon@gmail.com	09561625473	NCR
Gmwv Medical Clinic	gmwvmedicalclinic@gmail.com	09338684902	NCR
Good Shepherd Children's Medical & Maternity Clinic	goodshepherdclinic91@gmail.com	(02) 89616173	NCR
Gov. Celestino Gallares Memorial Hospital	gcgmh_bohol@yahoo.com.ph	(038) 411-4868, 411- 4831	R7
Gozo Community Hospital Inc.	gozohr 95@gmail.com		R10
Grace General Hospital	medical affairs@gracehospital.com	044-9251131 loc.617	R3
Gregorio Matas District Hospital	gmatashosp@gmail.com		R11
Guardiano Maternity And Children Clinic And Hospital	renieguardiano@gmail.com	09064366939	R12
Guiguinto Polymedic Hospital Inc.	guiguinto polymedicho spital@yahoo. com	044-7940788	R3
Happy Valley Community Hospital	hvch.2015@gmail.com		R9
Havilah Polymedic	havilahpolymedic@gmail.com	525-0825	R8
Heals Diagnostic Medical And Allied Services, Inc.	healsdiagnostic@gmail.com	2161971	NCR
Health Hub Clinic (Not A Hospital)	healthhubclinicmakati@gmail.com	8-816-0888	NCR
Health Venue Multispecialty Clinic And Diagnostic Center	healthvenue2011@gmail.com	83506541	NCR
Healthbridge Medical Services Inc.	healthbridgelab@gmail.com	8478-7136	NCR
Healthlab And Medical Services Inc.	healthlabinc@gmail.com	88671140* 88443703	NCR
Healthmed Diagnostic Corporation	healthmed 2001@gmail.com	82513361/82513594	NCR
Hemotek Renal Center	hemotekcavite@yahoo.com.ph	4189951	R4a
Hemotek Renal Center Inc- Bacoor 2 Branch	hemotekbacoor2@gmail.com	09953017214	R4a
Hemotek Renal Center, Inc.	hemotekcalamba@gmail.com	5505756	R4a
Hermo Medical Clinic (Lying-In)	hermoclinic.1983@gmail.com		R5
Hi - Precision Diagnostics - Pasig Branch	hppasog@gmail.com.ph	8-628-3277	NCR
Hi-Precision Diagnostics	esmeraldachua@hi-precision.com.ph	88639999	NCR

Name of Hospital	E-Mail Address	Phone	Region
Hi-Precision Diagnostics	shrmdltrr@gmail.com	09959464699	NCR
Hi-Precision Diagnostics - Valenzuela Branch	hpvalenzuela@hi-precision.com.ph	82363280	NCR
Hinatuan District Hospital	hinatuan district hospital 74@gmail.com		R13
Hinunangan Community Hospital	hinunangancommunityhospital@yahoo.com	09319717385	R8
Holy Child Colleges Of Butuan Hospital Company	hccbhospital082008@gmail.com	09171692955	R13
Hope Love Faith Medical Clinic And Laboratory, Inc.	hlf_laboratory@yahoo.com	87112455	NCR
Horizon Medical Clinic	horizonmedclinic@gmail.com	09778558249	R9
Hospital De Zamboanga, Inc.	Hospitaldezamboanga@gmail.com	9936254	R9
Hospital Of The Infant Jesus Medical Center	hij_childcare@yahoo.com	8731-27-71 local 152	NCR
Hospital Of The Infant Jesus Medical Center	housekeeping@hijmc.com	87312771	NCR
Hospital Of The Infant Jesus Medical Center	hij_childcare@yahoo.com	8731-2771 loc.152	NCR
Howard Hubbard Memorial Hospital	hhmhospital@yahoo.com.ph	083 500 2183	R12
Ibajay District Hospital	ibajaydistricthospital@yahoo.com	036-2892275	R6
Ilocos Sur Cooperative	iscmmgh_coop@yahoo.com.ph	09163345089	R1
Ilocos Sur District Hospital - Tagudin	tagudin_hospital@yahoo.com	077-652-2112	R1
Immaculate Conception Lying In & Multi Specialty Clinic Inc	iclcinc2007@yahoo.com	87885108	NCR
Infante Hospital Management Corporation	infantehospital@yahoo.com	09177043022	R9
Intercon Diagnostic Laboratory, Inc.	laoalmar@yahoo.com	0287813690	NCR
Ipil Doctors Hospital	ipildoctorshospital@yahoo.com	983-0-500	R9
Irosin District Hospital	irosindistricthospital_idh@yahoo.com		R5
Isip General Hospital	isipgeneralhospital@gmail.com	09452940115	R5
J.M.S.Maternity Clinic	jmsmaternityclinic3@gmail.com	09334020654	NCR
J.R Borja General Hospital	jrbghpcc@gmail.com	880-2001	R10
J.V.F. Clinic & Lying-In Memorial Hospital	drjvfmh@gmail.com	(075) 522-3656	R1
Jabez Medical Center	jabezmedicalcenter@gmail.com	(043) 416-0446	R4a
Jecsons Medical Center	jecsons03@yahoo.com	045-9825513	R3
Jf Sanchez Medical & Lying-In Clinic	jfsanchezmedicalclinic@yahoo.com.ph	09175562559	NCR
Jln Medical And Maternity Clinic	JLNCLINIC015@GMAIL.COM	84051066	NCR
Jose B. Lingad Memorial General Hospital	jblmghhesu@gmail.com	4096688	R3
Jose C. Payumo Jr. Memorial Hospital	jcpayumo@bataan.gov.ph	(047) 481 - 1724	R3
Juan M. Duyan Memorial District Hospital	juanmduyan 2019@gmail.com	09278712545	CAR



Name of Hospital	E-Mail Address	Phone	Region
Justice Calixto O. Zaldivar Memorial Hospital	jcozmh_hospital@yahoo.com	036-2783041, 036-2789779, 09194799696	R6
Kabacan Polymedic Cooperative Hospital	kpolymedic@yahoo.com	064-5722063	R12
Kaiser Medical Center, Inc.	smcitycebu.patientcare@ kaisermedcenter.com	(032)3427133	R7
Kapangan District Hospital	kmch_kapangan@yahoo.com.ph	9201508237	CAR
Karmelli Clinic And Hospital Corporation	karmelliclinic_hospital@yahoo.com	077-772-2752	R1
Klinika Bernardo Treatment Hub	klinikabernardo 2013@yahoo.com	09277246999	NCR
La Consolacion University General Hospital	lcugh2010@yahoo.com.ph	044-7954255	R3
La Madrid Polyclinic And Diagnostics, Inc.	lpadidoctors@yahoo.com	8804-2761	NCR
Labason District Hospital	labason district 88@gmail.com		R9
Lablife Medical And Diagnostic Center	lablife.main@gmail.com	09420801249	NCR
Labplus Inc Laboratory	labplusinc@yahoo.com	89214718	NCR
Lady Of Lourdes Hospital And Colleges Of Caybiga Inc	ladyoflourdescollege@yahoo.com	72544482	NCR
Laguna Medical Center	gonzalesmolette@yahoo.com	(049) 543-3333	R4a
andero Clinic And Hospital	landerohmc@gmail.com	083-2383187	R12
_ANUZA @ Birthing Facility	rhulanuza@gmail.com	09639740279	R13
apu-Lapu City Hospital	lapulapucityhospital@yahoo.com	3400248/3400249	R7
ariosa Clinic And Hospital Inc.	admin.lariosa@gmail.com	083 228-3027	R12
as Pinas City Medical Center	icn.lpcmc@gmail.com	88005678	NCR
Lasam District Hospital	lasam district hospital@yahoo.com	09276343490	R2
Leonardo B. Manabat Sr. Hospital, Inc.	lermatuano@gmail.com	09279518343	NCR
Leyte Baptist Hospital, Inc.	mjkj4405@gmail.com	0535679457	R8
Light Of Jesus Birthing Homes	ljbhfajardo@gmail.com	09995130489	NCR
Likhaan Center For Women's Health nc. Navotas City Clinic	adelacruz@likhaan.org	8926-6230	NCR
Liloy Integrated Health District Hosp.	genturalezgina@gmail.com	065-917-8337	R9
Lingayen District Hospial	ldh_pang@yahoo.com	662-02-35	R1
Lorma Medical Center	medicalinquiry@lorma.org	0727000000	R1
Loving Mother General Hospital And Diagnostic Center, Inc.	jhaydzz619@gmail.com	09430426237	R3
Lph - General Cailles Memorial District Hospital	caillespco1956@gmail.com	0495570213	R4a
Lph-Nagcarlan District Hospital	nagcarlan_hospital@yahoo.com	049 56311014	R4a
Lph-San Pedro District Hospital	lphsanpedrodistricthospital@gmail.com	88017467	R4a
Lph-San Pedro District Hospital	Iphsanpedrodistricthospital	88017467	R4a
Lu Clinic And Hospital	luclinicandhospital 28@yahoo.com	064-200-3168	R12

Name of Hospital	E-Mail Address	Phone	Region
Lung Center Of The Philippines	wjeffoso@gmail.com	89246101	NCR
Lyceum Of Aparri Hospital	lah.hospital@yahoo.com	3773830	R2
M. Simon Hospital And Pharmacy	m.simonhospital2@gmail.com	9550841	R9
M. V. Gallego Cabanatuan City General Hospital	mvgccgh01@yahoo.com	(044) 958-9774 / 0977834780 / 09235916764	R3
M.S Magbitang Ospital Ng San Ildefonso	msmagbitangospital@gmail.com	044 762 0311	R3
Maasin Maternity And Children Hospital	maasinmaternity@gmail.com	053-570-8967	R8
Mabalacat District Hospital	mdh_mabalacat@yahoo.com.ph	(045) 331-28-01	R3
Mactan Doctors Hospital Inc.	mactan_doctors@yahoo.com.ph	2360000 local 200	R7
Madonna And Child Hospital	madonna.and.child.hospital@hotmail.com	(088)8584105	R10
Maezelle Psycho Metier And Diagnostic Center	maezellejoy@yahoo.com	82812344	NCR
Magallanes Medicare Hospital	mmch@yahoo.com.ph		R5
Makati Medical Center	Domingo.Pondoyo@makatimed.net. ph	88888-999 local 2197/3684; 09285593403	NCR
Malabon Doctors Specialty And Diagnostic Center	malabondoctors2003@gmail.com	83512855	NCR
Malay Municipal Hospita	malaymunicipalhospital@gmail.com	2888729	R6
Malolos Maternity Hospital & Eye Center Inc.	malolos maternity@gmail.com	044-7911938	R3
Mambusao District Hospital	mambus aodistrict hospital @gmail.com	036 6470641	R6
Manila Doctors Hospital	fmrocamora@maniladoctors.com.ph	85580888 (3224) /09773093011	NCR
Manito Municipal Hospital	manitomunicipalhospital@gmail.com	09995276890	R5
Mapandan Community Hospital	mapandancommhosp@yahoo.com	(075) 632-0491	R1
Maria Estrella General Hospital, Inc.	nolie.camongol@yahoo.com	(043)-286-7386	MIMAROPA
Maria Reyna Xavier University Hospital, Inc.	healthandsafety@mrxuh.com		R10
Marikina Doctors Hospital And Medical Center	ralphpeco@yahoo.com	09171248687	NCR
Mariveles District Hospital	mdh@bataan.gov.ph	(047) 613-3870	R3
Mary Chiles General Hospital	marychiles_hospital@yahoo.com	8735 5341	NCR
Mary Johnston Hospital	renielrn@gmail.com	5218-6600	NCR
Matilde A. Olivas District Hospital	matildeaolivas@gmail.com	377-1041	R2
Mcpc St. Therese Of Lisieux Doctors Hospital	stdocs@yahoo.com	09333706130	NCR
Mcu-Fdtmf Hospital	mcu_medicaldirector@yahoo.com	83672031 to 45	NCR
MDRN Medical And Birthing Clinic	glynbeauty@yahoo.com	09151956330	NCR
Med Help Clinic And Diagnostics Inc.	medhelpcd@yahoo.com.ph	79036114	NCR
Medex Laboratories San Juan Branch	medexlab@gmail.com	09175284241	NCR



Name of Hospital	E-Mail Address	Phone	Region
Medic 8 Wellness Center (This Is A Primary Clinic And Not A Hospital.)	medic8wc@gmail.com	7758-3651	NCR
Medical Center Western Batangas	medicalcenterwesternbatangas@ yahoo.com	0434071103	R4a
Medicard Philippines IncAlabang	mlaguila@medicardphils.com	(02) 88079219 loc 7015	NCR
Medicard Philippines Inc. Mckinley Clinic	lfluz@medicardphils.com	8-886-5285 to 86	NCR
Medicard Philippines Inc Ortigas Branch	ggendrano@medicardphils.com	86341885	NCR
Medline Diagnostic Center Inc.	medline08@yahoo.com	8651-3072	NCR
Medline Naic Dialysis Center	naicdialysisinc@gmailcom	(046)409-3627	R4a
Medlineplus Diagnostics Inc.	bongnav@gmail.com	85210531	NCR
Megason Diagnostic Clinic - Alabang Branch	megasonalabanglab@gmail.com	88099044	NCR
Megason Diagnostic Clinic - Boni Branch	megasonbonilab@gmail.com	87084996	NCR
Megason Diagnostic Clinic - Comembo Branch	megasoncomembolab@gmail.com	88815034	NCR
Megason Diagnostic Clinic - Marikina Branch	megasonmarikinalab@gmail.com	72390665	NCR
Megason Diagnostic Clinic - Tejeros Branch	megasontejeroslab@gmail.com	88974150	NCR
Mendoza General Hospital, Inc.	Mendozahospital@rocketmail.com	0442882417	R3
Mercado General Hospital Sta. Rosa Inc.	mapenaflor.str@qualimed.com.ph	09176573784	R4a
Mercene Medical Dental & Diagnostic Clinic	Mercenemedical 2014@yahoo.com	09178334926	NCR
Metro Antipolo Hospital & Medical Center	mahmcprop@gmail.com	8-518-9060	NCR
Metro Davao Medical And Research Center Inc.	mdmrci.so@gmail.com	0822877777	R11
Metro North Medical Center And Hospital Inc.	papajed.jt@gmail.com	0284268000	NCR
Mindanao Central Sanitarium	reportsmcs@gmail.com	957-1494	R9
Mindanao Medical Center	mindanao_med@yahoo.com	083-553-3985	R12
Minglanilla District Hospital	minglanilladistricthospital@gmail.com	(032) 254 0328	R7
MMG Hospital And Multipurpose Cooperative Oriental Mindoro	mmg.ormin@gmail.com	0432867080	MIMAROPA
Mmmc	miraculous.mother@yahoo.com	09219804476	NCR
Mother Of Mercy Hospital Tacloban Inc.	mmh.pco@gmail.com	09999959335	R8
Mother Teresa Of Calcutta Medical Center	mtcmcpco@gmail.com	45552128	R3
Mother's Womb Birthing Home	deogracias vida@gmail.com	9296986231	R5
Napindan Super Health Center	athena_belita_md@yahoo.com	09178904195	NCR
National Center For Mental Health	bernardoariel 77@gmail.com	09958876139	NCR
National Children's Hospital	nch.doh@gmail.com	8724-056 to 59	NCR

Name of Hospital	E-Mail Address	Phone	Region
Nazarenus College And Hospital Foundation Inc.	nazarenushospital.pco@gmail.com	697-83-28	R3
New World Diagnostics Inc	malabon@nwdi.com.ph	87908888 loc 867	NCR
New World Diagnostics Inc	arnold.azul@nwdi.com.ph	09330406297	NCR
New World Diagnostics Inc,	davao@nwdi.com.ph	87908888 loc 270	R11
New World Diagnostics Inc.	amsolatre@gmail.com	09472207104	NCR
New World Diagnostics IncBaliuag Branch	jasmin payuran@gmail.com	(044)764-0901	R3
New World Diagnostics, Inc	ccis.nwd@gmail.com	87908819	NCR
New World Diagnostics, Inc - Ongpin Branch	kylesherynb@gmail.com	87908888 loc 850	NCR
New World Diagnostics, Inc Las Piñas Branch	laspinas@nwdi.com.ph	7908888	NCR
New World Diagnostics, Inc Ongpin Branch	kylesherynb@gmail.com	87908888 loc. 850	NCR
Nicatto Health Dynamics	lina@nicattodynamics.com	09175171991	NCR
Nodado General Hospital	oliviafavor7@gmail.com	9628021	NCR
Northern Benguet District Hospital	nbdh@benguet.gov.ph	09084684680	CAR
Notre Dame De Chartres Hospital	admin@notredamebaguio.com	(074) 424-3361 to 34 local 127	CAR
Novaliches General Hospital, Inc.	laboratory@novagen.com.ph	84268888	NCR
Ns Medical And Diagnostic Clinic	nalddejesus 0729@gmail.com	8-952-05-12	NCR
Nueva Ecija Doctors' Hospital, Inc.	nedh.secretary@gmail.com	04409605500	R3
Nueva Valencia District Hospital	nvdhguimaras@gmail.com	09086149328	R6
Nueva Vizcaya Provincial Hospital	plgunuevavizcaya.nvph@gmail.com	+10783922959	R2
Ofelia L. Mendoza Maternity And General Hospital	olmmgh@yahoo.com	(044) 791-0003	R3
Ofelia L. Mendoza Maternity And General Hospital	olmmgh@yahoo.com	(044) 794-7113	R3
Olivarez General Hospital	ogh.icc2020@gmail.com	8826-7966	NCR
One-Rad Medical And X-Ray Clinic	oneradmed@gmail.com	82567993	NCR
Oslob District Hospital	oslobdh@yahoo.com	4819985, 4819986	R7
Ospital Ng Makati	osmak property@yahoo.com	8826316	NCR
Ospital Ng Malabon	ospitalng malabon@yahoo.com	8-581-86-02	NCR
Ospital Ng Manila Medical Center	ospitalng may nila medical center @ yahoo.com	85246063-69	NCR
Ospital Ng Muntinlupa	ospital.ngmuntinlupa@yahoo.com	87710457 to 63	NCR
Ospital Ng Tondo	ostonicc@gmail.com	08-2530616	NCR
Ospital Ning Angeles		322-1222	R3
Our Lady Of Lourdes Hospital	mjasantos@ollh.ph	09178111579	NCR
Our Lady Of Pillar Lying In Clinic	rriezl@yahoo.com	09504875592	NCR
Our Lady Of Rosary Hospital	olrh.castillo@yahoo.com	045-305-6152	R3
Our Lady Of The Rule Maternity And General Hospital	olrmgh@yahoo.com	0323407318	R7
Our Mother Of Piat Medical Maternity & Lying In Clinic	ebinasmd@gmail.com	0285615458	NCR

Name of Hospital	E-Mail Address	Phone	Region
Ozamiz City St. Joseph General Hospital	reina fatima@yahoo.com	088-5211726	R10
Padre Burgos Community Hospital	padreburgoshospital@gmail.com	09615728321	R8
Palawan Baptist Hospital Inc	palawanbap@gmail.com	09123155656	MIMAROPA
Palma-Malaluan Hospital	palma.malaluan@yahoo.com	(043) 321 781 3632	R4a
Pampanga Premier Medical Center	ppmc.pco@gmail.com	045-425-0084	R3
Panay Health Care Multi-Purpose Cooperative	phcmpc@yahoo.com.ph	036-2681098	R6
Pangasinan Provincial Hospital	pphscgh@yahoo.com	532-2603	R1
Pascual General Hospital	cbnaguitmd2001@yahoo	09189111729	NCR
Pedro L. Gindap Municipal Hospital	plgmhospital@gmail.com		R6
Peoples Choice Diagnostic Center - Branch Taguig Bracnh	peopleschoicetaguig@gmail.com	87108477	NCR
Perez-Rivera Diagnostic Clinic Co.	vhe111@yahoo.com	09329407799	NCR
Perpetual Succor Hospital And Maternity, Inc.	perpetual.succor@yahoo.com	0287311631	NCR
Philippine Children's Medical Center	office of the director@pcmc.gov.ph	85889900	NCR
Piddig District Hospital	piddigdh@yahoo.com	077-6761406	R1
Piñan District Hospital	pinan718pdh@gmail.com		R9
Pines City Doctors' Hospital	pcdh_mail@yahoo.com	(074) 445-3020	CAR
Pio Duran Memorial District Hospital	sanoliqsrogando 2@gmail.com	09052074666	R5
Pmp Diagnostic Center Inc - Makati Branch	pmp_malugay@yaho.com	894-0376	NCR
Pnp General Hospital	pnpgeneralhospital@gmail.com		NCR
Pnp General Hospital	jenf_24@yahoo.com	9161486096	NCR
Pnpgeneral Hospital	mgtadifa@yahoo.com	09176200376	NCR
Pnpgh	katherinekristya@gmail.com	+639173275291	NCR
Poly Med Multispecialty Clinic And Medical Services Inc.	polymedinfo@gmail.com	82882631	NCR
Pozorrubio Community Hospital	pozmunhospital@gmail.com	075(632-3978)	R1
Premiere Gen. Hospital Of Nueva Ecija, Baler, Aurora Inc.	premieregeneral@yahoo.com	042-7246929	R3
Pres. Diosdado Macapagal District Hospital	pdmdh@yahoo.com	09175659971	R6
Prima Medica Health Clinic	pmhc2006@yahoo.com	8829-6428	NCR
Primelab Inc.	marlyngian fresnoza@gmail.com	8-3640487	NCR
Queen Mary Hospital Inc	queenmaryhosp@yahoo.com.ph	0434141252	R4a
Quezon Institute	ptsiqidirector@philtbsociety.org	028781-3761 to 65 local 134	NCR
Qui Medicus Medical And Diagnostic Center	bhugsbermudez@yahoo.com.ph	83515673	R4a
Quirino Memorial Medical Center	qmmc_doh@yahoo.com	5304-9800	NCR
R.G.O. Laboratory & Industrial Diagnostic Center Inc.(Bgc Branch)	rgobgc@gmail.com	8838-7178	NCR

Name of Hospital	E-Mail Address	Phone	Region
R.G.O. Laboratory & Industrial Diagnostic Center Inc.(Paranaque Branch)	rgoparanaque@gmail.com	83304656	NCR
Ramon D. Duremdes District Hospital	ddh.dumangas@gmail.com	3612-229/ 3612-429	R6
Realcare Laboratory And Medical Clinic	realcarepasig@gmail.com	09338662320	NCR
Recel Medical Clinic And Hospital	recel_clinic@yhoo.com	09154369626	R1
Recuenco General Hospital, Inc.	recuencomedical@gmail.com	88085950	NCR
Remedios Trinidad Romualdez Hospital	rtrhospital@yahoo.com.ph	09060811291	R8
Renmar Specialists Hospital	renmarspecialistshospital@gmail.com	09978424457	R2
Reyna G Diagnostic Laboratory	reynagardose.123@gmail.com	8-9842005	NCR
Rg Medical Clinic,Inc-Branch	rgmclaboratory@gmail.com	88432645	NCR
Ricardo B Santos Jr Medical Clinic And Diagnostic Center	rbsantos jr clinic@gmail.com	8 2543296	NCR
Ricardo P. Rodriguez Memorial Hospital - Main	rprmh_main@yahoo.com	649-4015	R3
Ricardo P. Rodriguez Memorial Hospital (Annex Specialty Hospital)	pco.rprmha@gmail.com	(045) 649-7899	R3
Ritchie R. Oblepias Lying In Clinic	oblepiasernestojr@gmail.com	83763017	NCR
Rogaciano M Mercado Memorial Hospital	obama1228@yahoo.com	09955561608	R3
Romana Pangan District Hospital	romanapangan_district@yahoo.com	409-3097	R3
Rosales Chua Pun Memorial Hospital	rcpm.hosp@yahoo.com	0755231373	R1
Rosario Maclang Bautista General Hospital	dejesus 190@gmail.com	09437092725	NCR
Rrm Diagnostic Center	rrmdiagnosticcenter@gmail.com	02 34350260	NCR
RSV Polyclinic And Diagnostic Center	eldy03@yahoo.com	09175545251 / 85140984	NCR
Rugay General Hospital, Inc.	rugaygenhospital@gmail.com	(044) 766-3457	R3
Sacred Heart Multispecialty Clinic And Diagnostic Center, Inc.	sacredheartortiz@gmail.com	8 5357620	NCR
Saint Anthony College Of Roxas City Inc.	sacroxas2015@gmail.com		R6
Salve Regina General Hospital, Inc.	salvereginahosp@gmail.com	8645-30-35	NCR
Salve Regina General Hospital, Inc.	salvereginahosp@gmail.com	8645-30-35	NCR
San Fernandino Hospital Inc.	sfhosp@yahoo.com	961 5105 / 961 1406	R3
San Francisco Doctors Hospital, Inc.	sanfranciscodoctorshospital@gmail. com	085 839 5365	R13
San Joaquin Mother And Child Hospital	sanjoaquinmch@gmail.com	(033) 314-7499	R6
San Jose District Hospital	san_josedistrict@yahoo.com	09512321875	MIMAROPA
San Juan De Dios Educational Foundation, Inc Hospital	gildangramos@yahoo.com	025519270	NCR
San Lazaro Hospital	sanlazarohospital@yahoo.com	8732-3776 to 78	NCR
San Lorenzo Ruiz General Hospital	slrwh_malabon@yahoo.com	(02) 8294-4853 to 54	NCR



Name of Hospital	E-Mail Address	Phone	Region
San Luis District Hospital	sldhosp@yahoo.com		R3
San Marcelino District Hospital	smdh_smz@yahoo.com	(407) 602-2301	R3
San Miguel District Hospital	san miguel_district hospital@yahoo.com	(044)1640130	R3
Santa Rosa Community Hospital	srch1995@yahoo.com	(049)5339098 / (02)5208507	R4a
Santissima Trinidad Hospital	stma.trinidad@yahoo.com	0447917331	R3
Sara District Hospital	sara_dh@iloilo.gov.ph	3270288	R6
Schistosomiasis Hospital	schistosomiasishospital @yahoo.com0	(053) 832-0157	R8
Schnell Clinical Laboratory	graceerecevalenzuela@gmail.com	4185503	NCR
Sds Medical Center , Inc.	sdsmedicalcenter@gmail.com / hrsds2011@gmail.com	79337078 loc. 117	NCR
Seamen's Hospital Iloilo	shosp_ilo@yahoo.com	(033) 3212438	R6
Señor Sto. Niño Hospital Inc.	bektur 1594@gmail.com	+639175747352	R3
Sheeshakim Lying In Clinic	sheeshakim 16@gmail.com	09481340060	NCR
Shirly M. Formentos Lying-In Clinic	shirlyformentos@gmail.com	8021829	NCR
Siargao District Hospital	siargaodh@gmail.com	09399231856	R13
Sindangan District Hospital	sindangan.hospital@yahoo.com	065-918-5318	R9
Slu Hospital Of The Sacred Heart	Enbogbog@slu.edu.ph	09203841534	CAR
Soccsksargen General Hospital	uvch_2016@yahoo.com	(083) 238-5156	R12
Sogod District Hospital	sogoddistricthospital@gamil.com	09653685351	R8
Sorsogon Provincial Hospital	dfbdsmh@gmail.com	09338177413	R5
South Davao Medical Specialists' Hospital Inc	sdmsh_i@yahoo.com	272- 0545/09235864880	BARMM
St George Clinical Laboratory Services	sgcls@yahoo.com.ph	09176899980	NCR
St. Anthony Diagnostic And Specialty Center	st.anthonydiagnosticclinic@gmail.com	(8)3559890	NCR
St. Camillus Hospital	schcalbayog@yahoo.com	09178889986	R8
St. Clare's Medical Center	scmc1972@yahoo.com	88316511	NCR
St. Elizabeth Hospital	contact@sehi.ph	5523162	R12
St. Fausta Medical And Diagnostic Center	stfausta@yahoo.com	8295-6912	NCR
St. Hannah Medical Center	st.hannah_med@yahoo.com	87107230	NCR
St. Joseph Infirmary	stjosephinfirmary20@gmail.com	906-0081	R13
St. Jude General Hospital & Medical Center, Inc	eng.stjudehospital@gmail.com	87312763	NCR
St. Louis Hospital	stlouishospitaltacurong@gmail.com	064 477-0171	R12
St. Luke's Medical Center Extension Clinic	laboratory@slec.ph	85210020	NCR
St. Nicodemus Diagnostic Laboratory	biher_102813@yahoo.com	83348158	NCR
St. Paul Hospital Of Tug. Inc.	sph_tuguegarao@yahoo.com, batang_ richael@yahoo.com	078- 8442578 loc. 211	R2
St. Rupert Medical Clinic	panao_r@yahoo.com	8-373-8421	NCR
St. Victoria Hospitl	ubaldelevi@yahoo.com	09224643596	NCR

Name of Hospital	E-Mail Address	Phone	Region
Sta Teresita General Hospital	hrd.stgh@gmail.com	87810301	NCR
Statelab Clinics & Diagnostic Center, Inc.	statelab_2009@yahoo.com	87092270	NCR
Sto Domingo Diagnostic And Medical Center Corp-Mandaluyong Branch	sto.domingodiagnostic2@gmail.com	86544651	NCR
Sto Rosario Hospital Inc.	sntrosario@yahoo.com	(043) 3213988	R4a
Sto. Nino Hospital	mlventenilla@philexmining.com.ph	09999926307	CAR
Surallah Community Hospital	surcomhospital@gmail.com	2383 825	R12
Surigao Doctors' Hospital, Inc.	suriga od octorsho spital pco@gmail. com	0868275177	R13
Surigao Medical Center	surigaomedicalcenter@yahoo.com	(086)-826-0108	R13
Tacloban City Hospital	annaritzmate@gmail.com	09662364599	R8
Tadeco Hospital	jillordona@gmail.com	234-7711	R11
Taguig-Pateros District Hospital	taguigpateros district hospital@yahoo. com	8383485	NCR
Talon General Hospital	pcotgh@yahoo.com	045-9821400	R3
Tan Ho Medical Clinic	mrgldmarave@yahoo.com	088-521-0103	R10
Tanchuling General Hospital,Inc	tghlegazpi@gmail.com	4806302	R5
The Doctors' Hospital, Inc.	info@thedoctorshospital.com	(034) 468-2100	R6
The Japanese Association Manila, Inc. Medical Clinic	eury_sa112@yahoo.com	09178224914	NCR
The Medical City	cedonato@themedicalcity.com	09285206460	NCR
The Medical City @ Waltermart Makati	tmcwaltermartmakati@themedicalcity.	8856-4449 / 7744- 4170	NCR
The Medical City South Luzon (Formerly: Southern Luzon Hospital And Medical Center, Inc.)	Tmcsl-customercare@themedicalcity.com	049 303 3000	R4a
The Wellness Hub Clinic And Laboratory	the wellness hub 2019@gmail.com	75270754	NCR
Three Kings Diagnostic Clinic	threekingsdc.lab@gmail.com	(02)8285-5329	NCR
Tibungco Doctors Hospital	tibungcodoctorshospital@yahoo.com	082-2380774	R11
Tondo Medical Center	darkwingsxxx@yahoo.com	88659028	NCR
Trinity University Of Asia - Diagnostic Laboratory	cmt@tua.edu.ph	8702-2882 loc 232	NCR
Trinity Woman And Child Center "The Birthplace"	trinitydocuments@yahoo.com	8-5641512	NCR
Tuguegarao City People's General Hospital	tuguegaraocityPGH@yahoo.com	844-1337	R2
Tumauini Community Hospital	balbindolly@gmail.com	09068514393	R2
U.E.R.M. Memorial Medical Center	rowenaglobio@gmail.com	09612971486	NCR
U.P. Health Service	uphspublichealth.upd@up.edu.ph	89818500 LOCAL 2719	NCR
Ultramax Ultrasound And Diagnostic Clinic	joemel carinan@yahoo.com	0285336814	NCR
Unihealth Paranaque Hospital And Medical Center	engineering.pco@gmail.com	02 8832 0641 LOCAL 7955	NCR



Name of Hospital	E-Mail Address	Phone	Region
United Doctors Hospital Of Kidapawan Inc	united doctors hospital_i@yahoo.com	(064)5727882	R12
United Doctors Of Laguna (Udl) Dialysis Center Inc.	udlhdcenter@gmail.com	0495496801	R4a
United Doctors Of St. Camillus De Lellis Hospital	stcamillus.fu23@gmail.com	0437403087	R4a
University Health Service, U.P. Los Banos	uhs.uplb@up.edu.ph	049-536-3247 local 102	R4a
Urdaneta District Hospital	urdanetadistricthospital@gmail.com	09338103010	R1
Urology Center Of The Philippines, Inc.	urologycenterpi@yahoo.com	02-89902373	NCR
Usth	abempaynado-porto@ust.edu.ph	87313001	NCR
V.Tongco Medical And Diagnostic Clinic	vtongcomedical_diagnosticclinic@ yahoo.com	8351-17-91	NCR
Valderrama Municipal Hospital	valderrama_municipal_hospital@ yahoo.com	09367445362	R6
Valenzuela Citicare Medical Center	vcmcnso@yahoo.com	88609300	NCR
Valenzuela City Emergency Hospital	vcemergencyhospital@gmail.com	8352-6000	NCR
Valenzuela Medical Center	gerlingat 1313@gmail.com	8-2946711	NCR
Verbenav. Malijan Lying-In Service	vervmalijan@yahoo.com	09273346600	NCR
Vl Makabali Memorial Hospital Inc.	makabali_hospital @yahoo.com	961-2616	R3
Wellserved Infirmary And Drugstore Inc	drtiga 77@gmail.com	09178279674	NCR
Western Bicutan Diagnostic Health Laboratory	wbdhl12711@gmail.com	0908 916 9312	NCR
Western Visayas Medical Center	wvmciloilo@gmail.com	033-3212841/50	R6
Western Visayas Sanitarium	wvsanitarium 1927@gmail.com	523-0388	R6
Westmin United Doctors Hospital Co.	westminudh@gmail.com	(043) 732-1928	MIMAROPA
Westview Specialty Clinic	westviewspecialtyclinic@gmail.com	84418452	NCR
Women's And Children's Community Hospital Inc.	wcchi.mandaue.cebu@outlook.com	(032) 238-3994	R7
Zamboanga City Medical Center	doh9_zcmc@yahoo.com	991-2934 /992-0549	R9
Zamboanga Del Sur Medical Center	zdsmc@yahoo.com	062-214-2467	R9
Zamboanga Doctors' Hospital, Inc.	zdh.admn@gmail.com	9911929	R9
Zamboanga Puericulture Maternity Lying-In Hospital	zpc144@gmail.com	991-0379	R9
Zone Medical And Intervention Hospital, Inc.	zmihospital@gmail.com	09209786822	R5

REFERENCES

- 1 World Health Organization. (2017). Mercury and Health. Retrieved from 29 August 2017 at http://www.who.int/mediacentre/factsheets/fs361/en/
- 2 Government of Canada (2013). Mercury in the food chain. Retrieved from: https://www.canada.ca/en/environment-climate-change/services/pollutants/mercury-environment/health-concerns/food-chain.html
- 3 Northeast Waste Management Officials' Association (2015). IMERC fact sheet: mercury use in measuring devices. Retrieved from: http://www.newmoa.org/prevention/mercury/imerc/factsheets/measuring_devices_2015.pdf
- 4 US Environmental Protection Agency (2021). Mercury thermometers. Retrieved from: https://www.epa.gov/mercury/mercury-thermometers
- 5 Ibid. Northeast Waste Management Officials' Association.
- 6 UN Environment (2017). Global mercury: supply, trade and demand. Retrieved from: https://wedocs.unep.org/bitstream/handle/20.500.11822/21725/global_mercury.pdf?isAllowed=y&sequence=1
- 7 UN Environment Programme (2020). Mercury-added medical measuring devices: tools and implementation. UNEP Global Mercury Partnership. Retrieved from: https://wedocs.unep.org/bitstream/handle/20.500.11822/34165/Webmed.pdf?sequence=1&isAllowed=y
- 8 World Health Organization (2008). Mercury in health care. Retrieved from: https://www.who.int/water_sanitation_health/medicalwaste/mercurypolpap230506.pdf
- 9 Ibid. UN Environment Programme
- 10 Balane, L. (2008). Ban on mercury-based health instruments pushed. ABS-CBN News. Retrieved from: https://news.abs-cbn.com/lifestyle/10/23/08/ban-mercury-based-health-instruments-pushed
- 11 Bondoc, M. (2017). School official says no teacher was hospitalized due to mercury spill. GMA News. Retrieved from: https://www.gmanetwork.com/news/news/metro/604475/school-official-says-no-teacher-was-hospitalized-due-to-mercury-spill/story/
- 12 Ibid. Zordilla, Z. D.
- 13 Nations Online (n.d.). Philippines. Retrieved from: https://www.nationsonline.org/oneworld/philippines.htm
- 14 National Government Portal (n.d.). About the Philippines. Retrieved from: https://www.gov.ph/es/the-philippines. html
- 15 Ibid. National Government Portal
- 16 Philippine Consulate General (2016). The president of the Philippines. Retrieved from: https://milanpcg.dfa.gov.ph/about-us/the-president.html
- 17 Ibid. National Geographic
- 18 National Geographic (n.d.). Know before you go: Philippines. Retrieved from: https://www.nationalgeographic.com/travel/article/partner-content-know-before-you-go-the-philippines
- 19 Ibid. National Government Portal
- 20 Dolan, R. (1991). Philippines: a country study. U.S. Library of Congress. Retrieved from: http://countrystudies.us/philippines/31.htm
- 21 Ibid. National Geographic

- 22 Briney, A. (2019). The Philippines: geography and fact sheet. Published by Thoughtco. Retrieved from: https://www.thoughtco.com/geography-of-the-philippines-1435646
- 23 United Nations Framework Convention on Climate Change (1999). The Philippines' initial national communication on climate change. Retrieved from: https://unfccc.int/resource/docs/natc/phinc1.pdf
- 24 Philippine Atmospheric, Geophysical, and Astronomical Services Administration (n.d.). Department of Science and Technology. Retrieved from: http://bagong.pagasa.dost.gov.ph/information/climate-philippines
- 25 Philippine Statistics Authority (2021). National quickstat July 2021. Retrieved from: https://psa.gov.ph/statistics/quickstat/national-quickstat/all/*
- 26 Ibid. National Government Portal
- 27 Mendoza, R. (2021). The Philippine economy under the pandemic: from Asian tiger to sick man again?
- 28 Asian Development Bank (2021). ADB's work in the Philippines. Retrieved from: https://www.adb.org/countries/philippines/overview
- 29 Rivas, R. (2021). Pandemic scars: more Filipinos to remain poor, unemployed even by 2022. Published by Rappler. Retrieved from: https://www.rappler.com/business/more-poor-unemployed-filipinos-even-by-2022
- 30 Dayrit, M., Lagarda, L., Picazo, O., Pons, M., Villaverde, M. (2018). The Philippine health system review. World Health Organization. Retrieved from: https://apps.who.int/iris/bitstream/handle/10665/274579/9789290226734-eng.pdf
- 31 Ibid. Dayrit, M. et. al.
- 32 Department of Health (2021). National health facility registry. Retrieved from: https://nhfr.doh.gov.ph/rfacilities2list.php?x_factype=01&z_factype=%3D
- 33 Bureau of Customs (2020). DENR Administrative Order No. 2019-20. Retrieved from: https://customs.gov.ph/wp-content/uploads/2020/07/cmc-177-2020-DENR-Administrative_Order_2019-20.pdf
- 34 United States Environmental Protection Agency (2020). Minamata convention on mercury. Retrieved from: https://www.epa.gov/international-cooperation/minamata-convention-mercury
- 35 UN Environment (2019). Minamata convention on mercury: texts and annexes. United Nations. Retrieved from: http://www.mercuryconvention.org/Portals/11/documents/Booklets/COP3-version/Minamata-Convention-booklet-Sep2019-EN.pdf
- 36 Vera-Ruiz, E. (2020). PH ratifies Minamata convention on mercury.
- 37 UN Environment Programme (2021). Parties and signatories. Retrieved from: https://www.mercuryconvention.org/Countries/Parties/tabid/3428/language/en-US/Default.aspx
- 38 UN Environment Programme (n.d.). Overview. Basel Convention. Retrieved from: http://www.basel.int/ TheConvention/Overview/tabid/1271/Default.aspx
- 39 Department of Environment and Natural Resources (2019). Basel convention. Retrieved from: http://intl.denr.gov.ph/un-conventions/article/1
- 40 UN Environment Programme (2011). Technical guidelines. Basel Convention. Retrieved from: http://www.basel.int/ Portals/4/Basel%20Convention/docs/techmatters/mercury/guidelines/UNEP-CHW-10-6-Add_2_rev_1.pdf
- 41 UN Environment Programme (2021). Parties to the Basel convention on the control of transboundary movements of hazardous wastes and their disposal. Basel Convention. Retrieved from: http://www.basel.int/?tabid=4499
- 42 Department of Health (2008). Administrative order no. 2008-0021. Republic of the Philippines. Retrieved from: https://noharm-global.org/sites/default/files/documents-files/2469/Philippines_AO21-2008.pdf

- 43 The Manila Journal (2020). Amal-gone: DOH bans use of dental amalgam. Retrieved from: https://themanilajournal.com/2020/05/22/amal-gone-doh-bans-use-of-dental-amalgam/
- 44 Department of Environment and Natural Resources (2019). DENR Administrative order no. 2019-20. Republic of the Philippines. Retrieved from: https://chemical.emb.gov.ph/wp-content/uploads/2019/11/DAO201920MERCURY.pdf
- 45 Sultan, M. M. B. A., Ta, G. C., Peterson, P. J., Puteh, S. E. B. W., & Mokhtar, M. B. (2017). Mercury-added products management: Challenges in developing countries and lessons learned from medical facility. Malaysian Journal of Public Health Medicine, 17(1), 59-68.
- 46 Zordilla, Z. D. (2018). A Descriptive Study Identifying Gaps in the Effective Implementation of Mercury- containing Device Phase-out in Selected DOH-retained Hospitals. Acta Medica Philippina, 52(5).
- 47 Health Care Without Harm (n.d.). How to plan and hold a mercury fever thermometer exchange. Retrieved from: https://noharm-uscanada.org/sites/default/file113s/documents-files/977/Thermometer_Exchange.pdf
- 48 Office of the Secretary (2012). Rules and regulations governing the new classification of hospitals and other health facilities in the Philippines. Department of Health. Retrieved from: https://www.scribd.com/doc/263958262/2012-DOH-AO-2012-0012-Rules-on-New-Classification-of-Hospitals-and-Other-Health-Facilities-July-18-2012
- 49 Lorenzo, J. (2019). Illicit mercury flows and governance practices in Mindanao, Philippines. BAN Toxics. Retrieved from: https://www.planetgold.org/sites/default/files/2020-06/2019.%20BAN%20TOXICS.%20The%20Philippines_%20 Illicit%20Mercury%20Flows%20and.pdf
- 50 WHO. (2017). Global model regulatory framework for medical devices, including in vitro devices (IVDs). [online]. Retrieved 27 March 2021 from: https://apps.who.int/iris/handle/10665/255177
- 51 Gunningham, N. and Sinclair, D. (1999). Regulatory pluralism: Designing policy mixes for environmental protection. Law and Policy, 21(1), pp.49-76.
- 52 Ibid. Gunningham, N. and Sinclair, D.
- 53 WHO. (2019a). Strategic planning for the implementation of health-related articles of the Minamata Convention on Mercury. [online]. Retrieved 25 March 2021 from: https://www.who.int/publications-detail-redirect/9789241516846
- 54 Ibid. Who (2019a).