

**Food and Waterborne Diseases**  
**2008 – 2017 Progress Report**  
**& Strategic Plan 2019 – 2023**

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## Foreword

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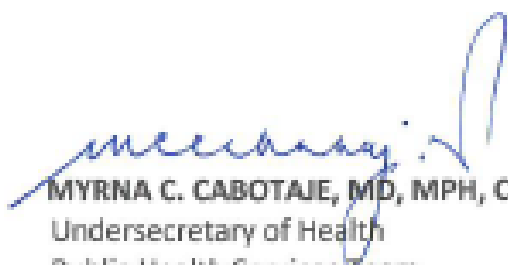
**F**ood and waterborne diseases (FWBD) are among the most common cause of diarrhea which remain one of the ten leading causes of morbidity and mortality in the country. Also, outbreaks from FWBD can be very massive and catastrophic. Since most of these diseases have no specific treatment modalities, the best approach to limit economic losses due to FWBD is prevention through health education and strict food and water sanitation.

In 1997, the Department of Health (DOH) issued AO No. 29-A s. 1997 “Creation of the Food and Waterborne Diseases Prevention and Control Program” which defines the roles and responsibilities of different agencies to ensure prevention and control of Food and Waterborne Diseases.

The goal of Food and Water-borne Diseases Prevention and Control Program is to reduce the morbidity rate and eliminate deaths due to diarrhea. The program also aims to reduce the number of all typhoid, paratyphoid, and cholera outbreaks to one percent or one per 100,000 populations annually. Since the occurrence of food and water-borne diseases is essentially related to economic and socio-cultural factors, the program recognizes that outbreaks will persist unless underlying social ills are corrected. Along with poverty comes the prevalence of infectious diseases. However, if specific interventions are employed, a drastic reduction of bacterial and parasitic infections can also be expected.

The Food and Waterborne Disease Prevention and Control Program 2019-2023 Strategic Plan supports the medium term strategic framework for 2019-2023 indicated in the Administrative Order 2018-0014 entitled Strategic Framework and Implementing Guidelines for FOURmula Plus (F1+) for Health. F1+ for Health expands the four pillars of health reforms (financing, service delivery, regulation and governance) and highlights greater focus on performance accountability towards the Filipino people. Following F1+ for Health, the implementation of the strategic plan also focuses on sustainable, manageable, and critical interventions for food and waterborne disease prevention and control.

By Authority of the Secretary of Health:



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Undersecretary of Health  
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## Acknowledgements

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The stakeholders consulted during the field validation visits, TWG meetings, and Expanded Consultation and Planning Workshops, who also actively participated during the planning process: Environmental Diseases Prevention and Control Division, Family Health Office, Epidemiology Bureau, Health Emergency and Management Bureau, Health Promotion and Communication Services, Health Policy Development and Planning Bureau, Bureau of Local Health Systems Development, Health Facilities and Services Regulatory Bureau, Health Facilities Enhancement Program, Bureau of Quarantine, Food and Drug Administration, Research Institute for Tropical Medicine, San Lazaro Hospital, Department of Agriculture, & Centers for Health Development.

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# Abbreviations

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ABD	Acute bloody diarrhea
BHS	Barangay Health Stations
BAI	Bureau of Animal Industry
CPG	Clinic Practice Guidelines
CARI	Control of Acute Respiratory Illnesses
CDD	Control of Diarrheal Diseases
DA	Department of Agriculture
EB	Epidemiology Bureau
ESR	Event-Based Surveillance and Response
FHSIS	Field Health System Surveillance
FDA	Food and Drug Administration
FWBDs	Food and Water-Borne Diseases
FWBD-PCP	Food & Waterborne Disease Prevention & Control Program
GHO	Global Health Observatory
HH	Households
IDO	Infectious Disease Office
IMCI	Integrated Management of Childhood Illnesses
IACHE	Inter-agency Committee for Environmental Health
LGUs	Local Government Units
MHCs	Main Health Centers
NDHS	National Demographic Health Survey
ORT	Oral Rehydration Therapy
PSP	Paralytic Shellfish Poisoning
PIDSR	Philippine Integrated Surveillance and Response
RDT	Rapid Diagnostic Test
RITM	Research Institute for Tropical Medicine
RHUs	Rural Health Units
SI	Sanitary Inspector
TWG	Technical Working Group
WINS	WASH in Schools
WASH	Water, Sanitation and Hygiene
WHO	World Health Organization

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# Part 1

## Background

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Food and waterborne diseases is usually caused by infectious organisms like viruses, bacteria and parasites, and are transmitted from person to person through soiled hands and via food and water contaminated by human waste through the oral-fecal route.

FWBDs are usually manifested as diarrhea. Based on the 2015 Global Health Observatory (GHO) data, diarrhea accounts for 9% of the total deaths among children below 5 years old. It is believed that since the occurrence of FWBDs is essentially related to economic and socio-cultural factors, these outbreaks will continue to persist unless underlying social ills are corrected.

In 1997, the Department of Health (DOH), issued AO No. 29-A s. 1997 to “*Create the Food and Waterborne Diseases Prevention and Control Program.*” This stipulated the goal and objectives to be achieved including the components of the program to be operationalized and implemented. Since its inception, the FWBD-PCP has carried out several interventions in response to the increasing incidence of FWBDs. These notable interventions include: (i) institutionalization of Oral Rehydration Therapy (ORT) corners in both the hospitals and outpatient public health facilities for the immediate management and treatment of diarrhea cases, (ii) integration of the identification and management of diarrhea among the children in the Integrated Management of Childhood Illnesses (IMCI) protocol, (iii) design, installation and operationalization of a FWBD surveillance and response system to detect impending outbreaks and provide immediate investigation and response to these cases, (iv) provision of drugs/medicines and supplies augmentation to identified local government units (LGUs) with high incidence of FWBDs, and (v) currently developing clinic practice guidelines on the diagnosis, management and treatment of several FWBDs.

However, the Food and Water-Borne Disease Prevention and Control Program (FWBD-PCP) also recognizes that several enhancements are still needed to achieve its goal and objectives. Some interventions previously introduced seemed inadequate to curb other FWBD diseases. For this purpose, the DOH-Infectious Disease Office (IDO) embarked into a rapid assessment of the FWBD-PCP implementation status, the results of which became the basis for charting the direction, focus and priority over the next 6 years.

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## **Part 2**

# **Progress Report**

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## I. Milestones in FWBD-PCP Development and Implementation

The FWBD-PCP was established in 1997 through DOH AO No. 29-A. Way before this issuance, several policies and guidelines were already developed in support to the prevention and control of FWBDs in the country, particularly diarrhea. A decade before 1997, the DOH implemented the Control of Diarrheal Diseases (CDD) which was focused on the prevention, management and treatment of diarrhea among underfive year old children until this was integrated into the Integrated Management of Childhood Illnesses (IMCI) Program together with the Control of Acute Respiratory Illnesses (CARI). The following are key milestones that supported the design and implementation of the FWBD-PCP as a public health program.

<b>1975 PD No. 856</b>	<b>Code of Sanitation of the Philippines</b>
1996 DOH DC No. 110	Intensifying the Program on Food Handlers and Water Quality Surveillance to Curb Outbreaks of water and sanitation related diseases
1997 DOH AO No. 29-A	Creation of the Food and Water-Borne Disease Prevention and Control Program
1997 DOH DO No. 99-H	Designation of Ad Hoc Committee for the formulation of plans, policies and standards for the FWBD-PCP
2001 DOH DC No. 176	Revised of List of Notifiable or Reportable Diseases which included cholera, typhoid, and paratyphoid fever, paralytic shellfish poisoning, acute watery diarrhea, acute bloody diarrhea, food poisoning and chemical poisoning.
2005 AO No. 0012	Development of Guidelines for FWBD Surveillance
2007 AO No. 0012	Issuance of the Philippines National Standards for Drinking Water
2007	Manual of Procedures for the Surveillance, Outbreak Investigation and Response to Microbial Agents of Food and Waterborne Diseases supported by WHO and Research Institute for Tropical Medicine (RITM)
2010 AO No 2010-0037	Issuance of Diagnosis and Treatment Guidelines for Paragonimiasis
2012. RA 10611	Food Safety Act to strengthen the food safety regulatory system in the country to protect consumer health and facilitate market access of local foods and food product
2014	Development of Technical Reference on the Neglected Tropical Diseases in the Philippines
DM 2017-0486	Interim Guideline on the use of Rapid Diagnostic Test for Cholera cases among Internally Displaced Population (IDP) during Humanitarian Crises
DM 2018-0065	Guidelines on Integrated Paragonimiasis in the National Tuberculosis Program Microscopy Services
Department Circular No. 2018-0249	Alert for Possible FWBD Outbreak during Rainy Season
DM 2019-0172	Supplemental Guidelines for the Implementation of the Food and Waterborne Disease (FWBD) Program Oral Rehydration Therapy (ORT) Corner utilizing the Clinical Practice Guidelines on Acute Infectious Diarrhea



## II. Assessment Methodology

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In 2016, the DOH-IDO started to assess the implementation status of the FWBD-PCP as the starting step to developing a 6-year Strategic Plan. Series of consultations were held with various groups of stakeholders which generated a list of strengths and gaps surrounding the implementation of the FWBD-PCP. Results of this initial assessment were used to form part of the overall program assessment.

The performance level and implementation status of the FWBD-PCP was further reviewed using a mix of data collection methodologies. Review of secondary data covering the following was undertaken: (i) laws, policies and guidelines issued, (ii) technical reference manuals on FWBD (draft MOP, draft Training Manual, draft communication plan, draft, (iii) disease surveillance data on various FWBDs, and (iv) results of surveys and special studies that were undertaken. Key Informant Interviews were also undertaken with DOH officials including regional program coordinators and development partners.

Field validation visits were undertaken in the following selected regions and LGUs to validate organizational support to the FWBD-PCP management and implementation, LGU support to the Program, management support systems in place and the extent by which the FWBDs are prevented, managed and treated at the facility level.

National Capital Region  
Region 4A

Quezon City and Marikina  
Tanay, Rizal and Mabitac, Laguna

A Technical Working Group (TWG) was created to anchor the assessment and provide overall technical guidance. The TWG is chaired by the Division, Chief of the DOH-IDO with members coming from other DOH central office officials and technical staff and regional offices, partners from the academe and WHO. Please refer to Annex 1 for the list of people who were consulted in the assessment and planning for the FWBD-PCP.

### A. By Case

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#### 1. Acute Bloody Diarrhea

DOH surveillance reporting system defines acute bloody diarrhea as “*a person with acute diarrhea with visible blood in the stool*”. Since the early 1900s, ABD was reported as dysentery in the Philippine Health Statistics annual publication until dysentery reporting was merged with diarrhea reporting in 1984.

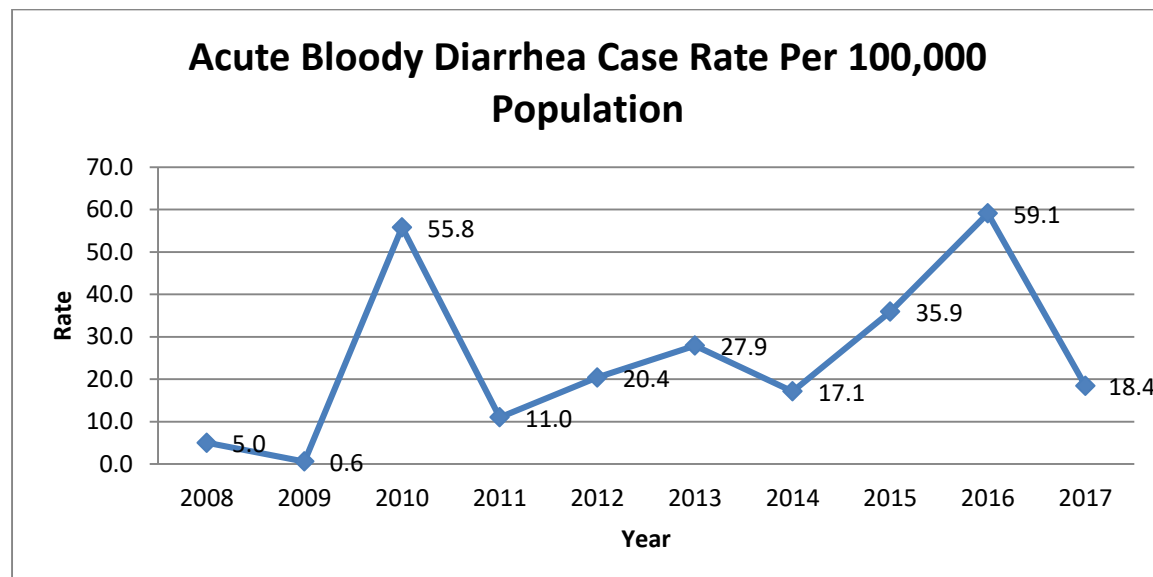
Dysentery is bloody diarrhea caused by any of the following common pathogens: *Shigella dysenteriae*, *Vibrio parahaemolyticus*, *Clostridium difficile*, shiga toxin–producing strains of *Escherichia coli* (STEC), *Yersinia enterocolitica*, and *Entamoeba histolytica* (amoebic dysentery). The mode of transmission is through ingestion of contaminated food or water. Pathogenesis involves bacterial production of toxins which destroys the mucosal epithelial cells leading to inflammation and bleeding [1].

However, acute bloody diarrhea may also be non-infectious in origin. Other diseases that lead to ABD are drug-induced colitis, inflammatory bowel disease, ischemic colitis, and antibiotic-associated colitis among others [2].

Because the definition of ABD is broad and may have different causes, the number of food and waterborne related ABD cases reported in the PHS and FHSIS from 2008 to 2017 is unknown.

## ***Morbidity***

Case rates for acute bloody diarrhea have fluctuated over the last ten years with a significant spike in 2010 and a rapidly increasing trend from 2014 to 2016, until a sudden decline in 2017. Limitations in the availability of peer-reviewed publications explaining the phenomenon suggests investment on researches and improved data utilization and analysis.



Reference: DOH Philippine Health Statistics 2008-2015 and Field Health Surveillance Information System Annual Reports 2016-2017

## **References:**

1. Kwara Awewura, 96 - Infectious Diarrhea, Andreoli and Carpenter's Cecil Essentials of Medicine (Ninth Edition), edited by Benjamin Ivor J. MD FACC FAHA, Griggs Robert C. MD FACP FAAN, Wing Edward J. MD FACP FIDSA, Fitz J. Gregory MD, 2016, Pages 899-904, ISBN 978-1-4377-1899-7, <http://dx.doi.org/10.1016/B978-1-4377-1899-7.00096-5>.
2. Ferri Fred F. MD FACP, D, Ferri's Differential Diagnosis (Second Edition), edited by Ferri Fred F. MD FACP, 2011, Pages 126-156, ISBN 978-0-323-07699-9, <http://dx.doi.org/10.1016/B978-0-323-07699-9.50008-6>.

## 2. Acute Gastroenteritis

Acute gastroenteritis is the sudden inflammation of the intestine resulting to diarrhea with or without vomiting. The cause can either be viruses, bacteria, or parasites, with viruses as the leading cause [1].

AGE outbreaks are associated with Norovirus infection (for all ages) and Rotavirus infection (in children) [1] from ingestion of contaminated food or water. Thus, the Department of Health launched Rotavirus vaccination in 2012 as part of its National Program on Immunization for children which was scaled up nationally in 2014 [2]. However, reported vaccination coverage remained poor in several Regions suggesting for improvements in strategy including promotion of access to vaccines, or, evaluation of the reporting system to include reports for those who were vaccinated in private facilities.

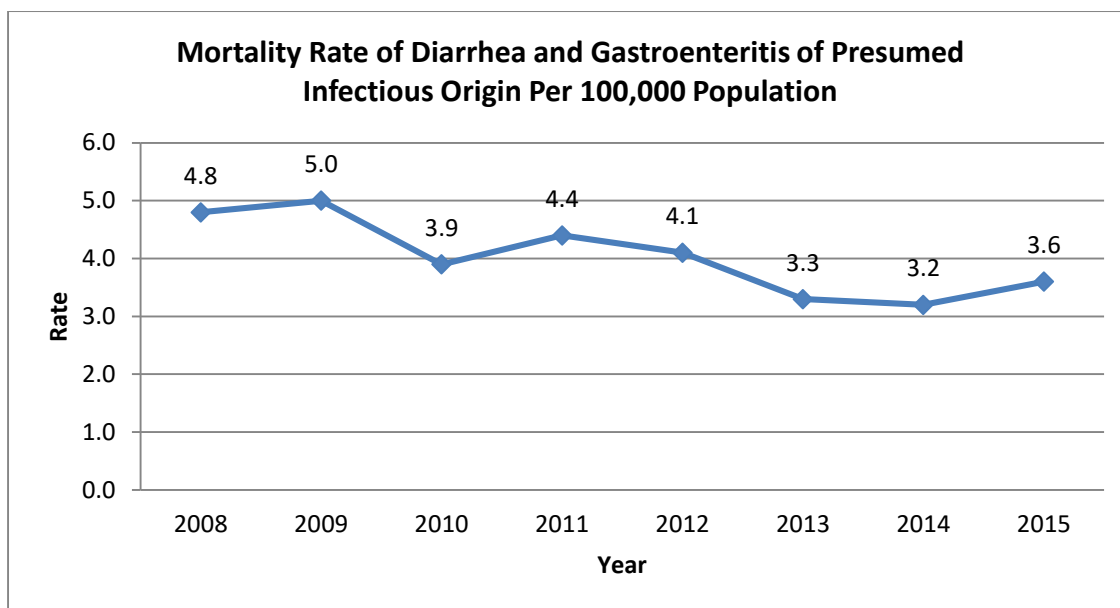
DOH Rotavirus Vaccination Coverage Report from 2014-2017

Year	1 <sup>st</sup> Dose		2 <sup>nd</sup> Dose	
	Total Number Given	%	Total Number Given	%
2014	67,078	2.49	40,739	1.51
2015	316,669	11.52	250,354	9.11
2016	139,983	5.00	124,657	4.45
2017	54,025	1.91	25,281	0.89

Reference: DOH Field Health Services Information System Annual Reports from 2014 to 2017

### ***Mortality***

Viral gastroenteritis is normally self-limiting and only requires supportive management. However, death occurs when there is severe dehydration leading to electrolyte imbalance and hypovolemic shock. AGE of other infectious origin requires specific treatment especially for immunosuppressed individuals or those with other complications. The common intervention for all types of AGE is rehydration [1]. Based on national report, deaths due to diarrhea and gastroenteritis of presumed infectious origin generally declined from the years 2008 to 2015 [3]. Determinants for the improved health outcomes are yet to be identified for sustainability.



Reference: DOH Philippine Health Statistics 2008-2015

#### References:

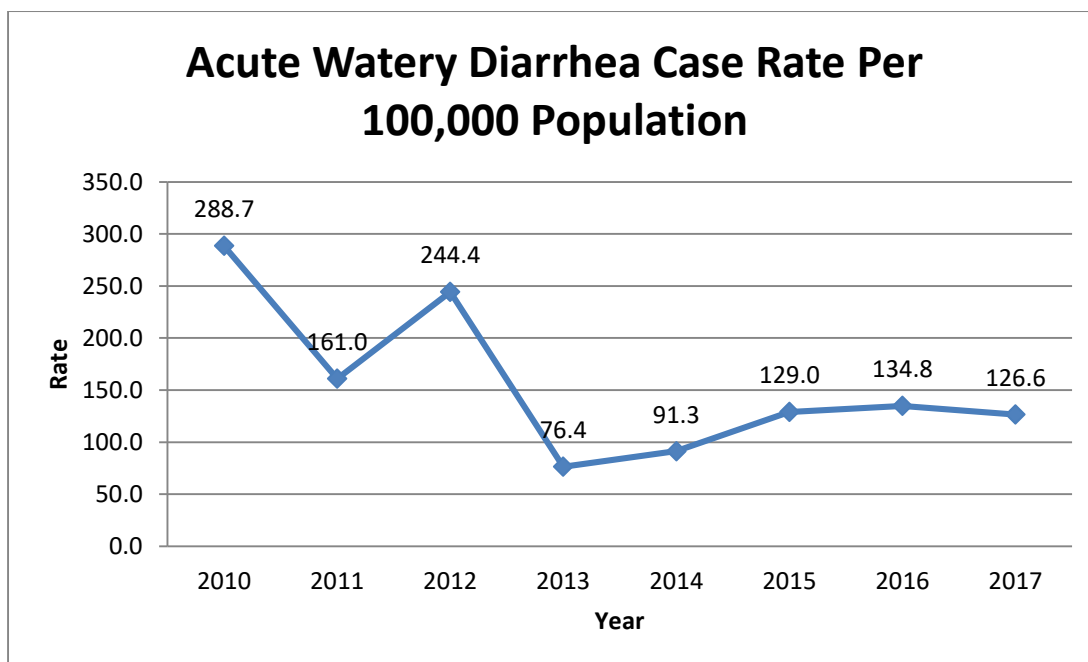
1. Marc Dante Karen J. MD, Kliegman Robert M. MD, Chapter 112 - Acute Gastroenteritis, Nelson Essentials of Pediatrics (Eighth Edition), edited by Marc Dante Karen J. MD, Kliegman Robert M. MD, 2019, Pages 410-413, ISBN 978-0-323-51145-2, <http://dx.doi.org/10.1016/B978-0-323-51145-2.00370-0>.
2. Rotavirus immunization. Administration of Rotavirus Vaccines in Infants DM 2012-0157 and DM 2012-0157-a Amendment was issued by the Department of Health to introduce rotavirus vaccines expecting to significantly contribute to reduce child mortality and a strategy for disease prevention.

### 3. Acute Watery Diarrhea

Acute watery diarrhea may be caused by any gastrointestinal infection (protozoal, bacterial, or viral), drug reaction, toxin, or diet. It may also be an onset to a chronic diarrheal illness [1]. Because the specific cause cannot be readily determined, treatment through rehydration is the priority. If watery diarrhea becomes severe, Cholera may be suspected [2].

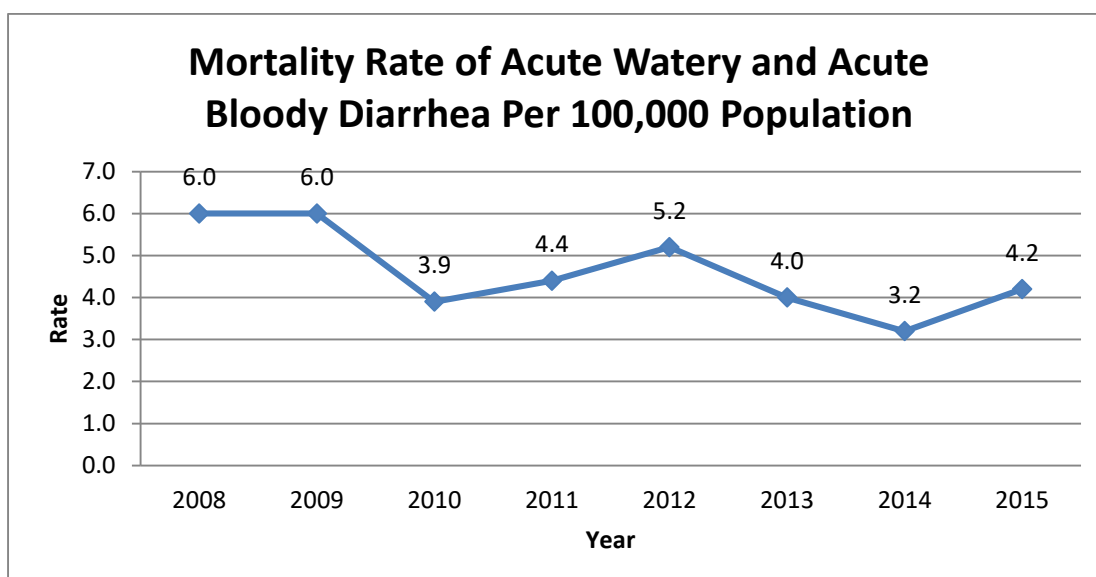
#### ***Morbidity and Mortality***

Acute watery diarrhea has been reported under diarrhea until 2009 in the FHSIS. By 2010, FHSIS reported it separately where it showed as one of the top 10 causes of morbidity in the Philippines from 2010 to 2017. Case rate significantly dropped from 244.4 per 100,000 population in 2012 to 76.4 per 100,000 population in 2013. Case rate has remained below 150 per 100,000 population since then.



Reference: DOH Field Health Services Information System Annual Reports from 2010 to 2017

Mortality rate for acute watery diarrhea and acute bloody diarrhea generally declined from 2008 to 2015, similar to the mortality trend for diarrhea and gastroenteritis of presumed infectious origin. However, mortality for acute watery diarrhea alone cannot be determined suggesting for separate reporting in the future.



Reference: DOH Philippine Health Statistics 2008-2015

## References:

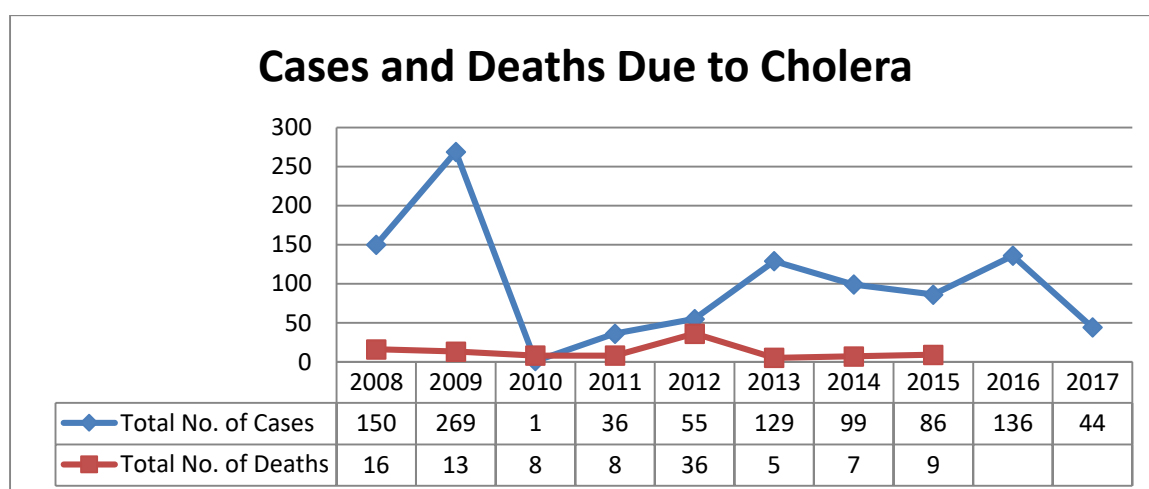
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2. LaRocque Regina C.,Calderwood Stephen B., 98 - Syndromes of Enteric Infection, Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases, Updated Edition (Eighth Edition), edited by Bennett John E. MD MACP,Dolin Raphael MD,Blaser Martin J. MD, 2015, Pages 1238-1247.e2, ISBN 978-0-323-40161-6, <http://dx.doi.org/10.1016/B978-0-323-40161-6.00098-X>.

## 4. Cholera

Cholera is caused by the bacteria *Vibrio cholerae*. The main clinical manifestation is abrupt and extreme diarrhea (fecal output of up to 20 liters per day) with rice water appearance [1] [2] [3]. Bacterial toxins released in the intestine promote secretion of fluids and electrolytes [3]. Management is done through the administration of oral rehydration solution, or intravenous therapy in severe cases [1]. Outbreaks tend to occur during hot season due to the proliferation of the bacteria in its natural aquatic habitat [3].

### ***Morbidity and Mortality***

Morbidity and mortality rates remained below 1 per 100,000 population since 2008. The absolute number of cases and deaths were maintained at less than 300 as well. However, reported data on case vs. death in 2010 require clarification. There is no available published data on confirmed number of deaths for 2016 and 2017.



Reference: DOH Philippine Health Statistics 2008-2015 and Field Health Surveillance Information System Annual Reports 2016-2017

## References:

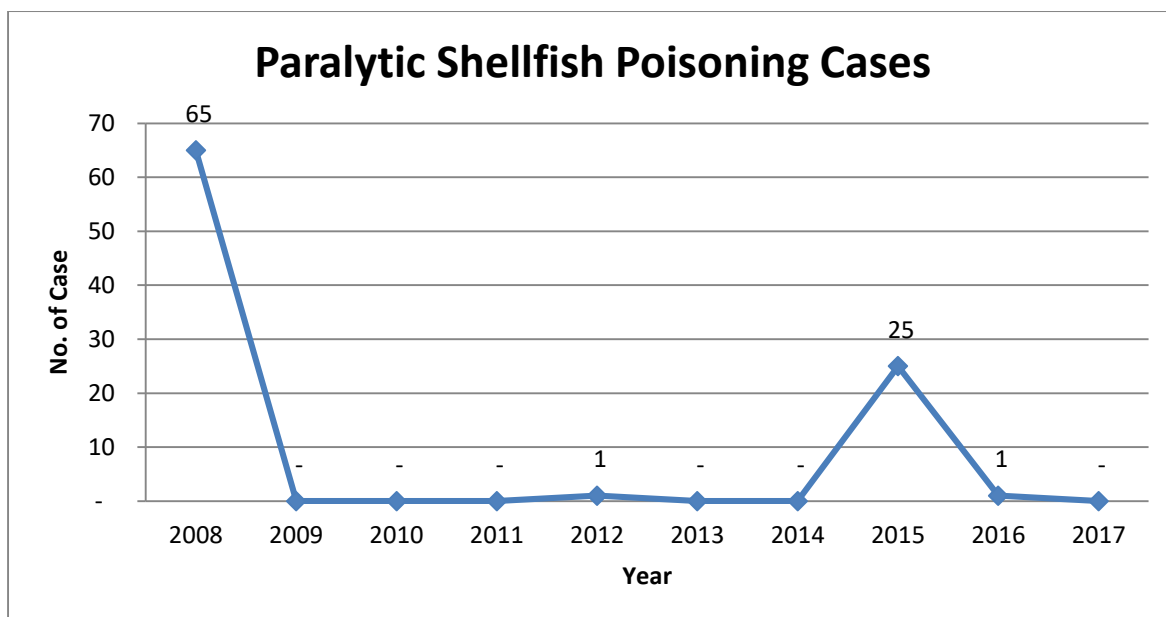
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2. Grabsch Heike I., 15 - Alimentary system, Underwood's Pathology (Seventh Edition), edited by Cross Simon S. MD FRCPath, 2019, Pages 318-355, ISBN 978-0-7020-7212-3, <http://dx.doi.org/10.1016/B978-0-7020-7212-3.00015-3>.
3. Seas Carlos, 302 - Cholera and Other Vibrio Infections, Goldman-Cecil Medicine (Twenty-Fifth Edition), edited by Goldman Lee MD, Schafer Andrew I. MD, 2016, Pages 1950-1953.e2, ISBN 978-1-4557-5017-7, <http://dx.doi.org/10.1016/B978-1-4557-5017-7.00302-0>.

## 5. Paralytic Shellfish Poisoning

Paralytic shellfish poisoning is caused by eating clams, mussels, oysters, cockles, or scallops that have concentrated saxitoxins. The toxins are from the dinoflagellates that the bivalve mollusks consume. Since mollusks are filter feeders, the toxin from dinoflagellate consumption becomes concentrated [1] [2] [3]. In humans, saxitoxin blocks nerve signal transmission [3] resulting to acute symptoms of gastrointestinal problems, tingling or pricking sensation in the mouth or in the extremities, loss of muscle control, mental state changes, and difficulty of swallowing [1]. Paralysis and respiratory failure may also develop [1]. There is no antidote, thus, supportive management should be provided while waiting for the syndrome to subside on its own [1] [2].

### ***Morbidity***

Between the years 2008 to 2017, there were only two significant public health events related to paralytic shellfish poisoning. These were in Region 5 in 2008 and in Region 8 in 2015. Out of the 25 cases in 2015, one was from Region 1.



Reference: DOH Philippine Health Statistics 2008-2009 and Field Health Surveillance Information System Annual Reports 2010-2017

#### References:

1. Thomas SHL, 7 - Poisoning, Davidson's Principles and Practice of Medicine (Twenty-Third Edition), edited by Ralston Stuart H MD FRCP FMedSci FRSE FFPM(Hon), Penman Ian D BSc(Hons) MD FRCPE, Strachan Mark WJ BSc(Hons) MD FRCPE, Hobson Richard P LLM PhD MRCP(UK) FRCPath, 2018, Pages 131-150, ISBN 978-0-7020-7028-0, <http://dx.doi.org/10.1016/B978-0-7020-7028-0.00007-X>.
2. Jong Elaine C., Chapter 34 - Fish and Shellfish Poisoning : Toxic Syndromes, Travel and Tropical Medicine Manual, The (Fifth Edition), edited by Sanford Christopher A. MD MPH DTM&H, Pottinger Paul S. MD DTM&H FIDSA, Jong Elaine C. MD FIDSA FASTMH, 2017, Pages 451-456, ISBN 978-0-323-37506-1, <http://dx.doi.org/10.1016/B978-0-323-37506-1.00034-9>.
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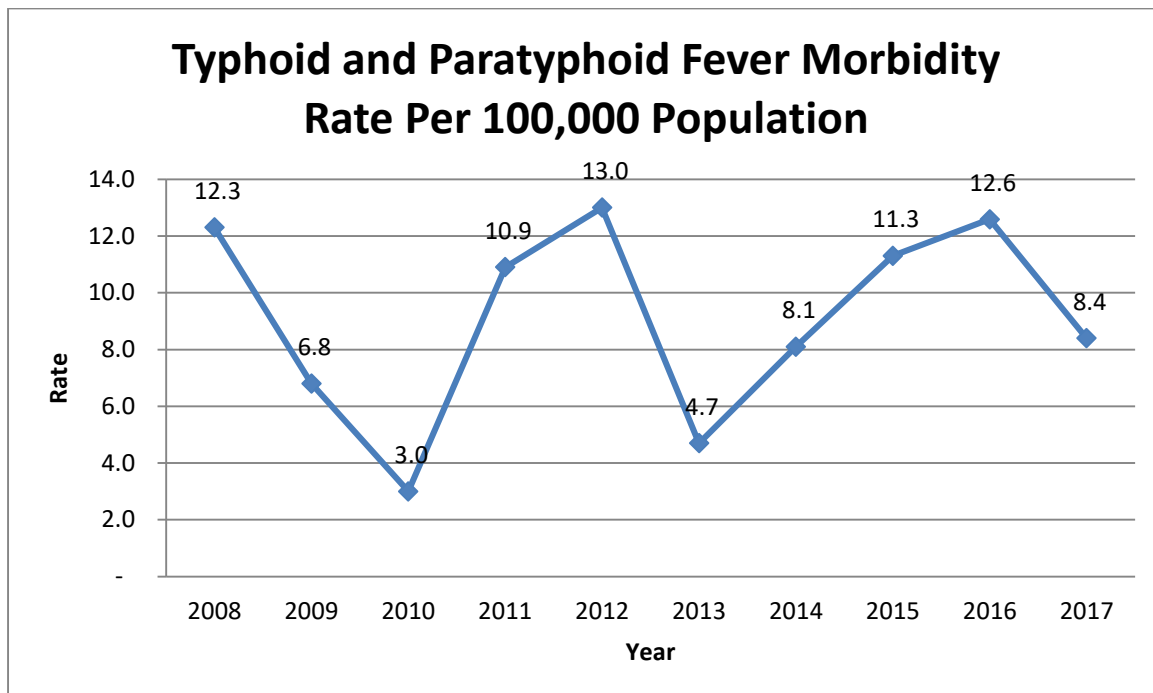
## 6. Typhoid and Paratyphoid Fever

Enteric fever, the collective term for typhoid and paratyphoid fever, is caused by *Salmonella enterica* serotype *S. Typhi* and *S. Paratyphi*. Symptoms appear when the bacteria has reached the blood stream after it penetrates the mucosal epithelium of the small intestine where it is taken up by macrophages and transported to the general circulation where it further multiplies. If left untreated, the bacteria can cause serious organ damages, even death. Treatment is through administration of antibiotics. Chronic carriers who shed the bacteria asymptotically should be monitored and treated [1].



## ***Morbidity and Mortality***

Morbidity rate for typhoid and paratyphoid fever has been erratic from 2008 to 2017. Studies to understand the trend is highly recommended. Data on number of deaths is available for years 2014 and 2015 only, with 512 deaths and 350 deaths correspondingly.



Reference: DOH Philippine Health Statistics 2008-2015 and Field Health Surveillance Information System Annual Reports 2016-2017

Reference:

1. Dolecek Christiane, 115 - Typhoid Fever and Other Enteric Fevers, Infectious Diseases (Fourth Edition), edited by Cohen Jonathan MB FRCP FRCPE FRCPath FMedSci, Powderly William G. MD FRCPI, Opal Steven M. MD, 2017, Pages 1002-1007.e1, ISBN 978-0-7020-6285-8, <http://dx.doi.org/10.1016/B978-0-7020-6285-8.00115-5>.

## **7. Other Food and Waterborne Diseases of Public Health Importance**

Challenges in the reporting of other food and waterborne diseases limit the understanding of health conditions that may be of public health importance. Some of these are the cases of capillariasis, heterophyiasis, and paragonimiasis which are captured in the DOH events based surveillance from time to time. Some diseases that manifest as diarrhea should also be further investigated. Etiology plays an important role in appropriate disease management and accurate public health communication & promotion targeting.

## B. Implementation Status of Proposed Strategies for 2011-2016

The proposed strategies for the prevention and control of FWBDs for 2011-2016 have not been consistently and expansively pursued. While Oresol with zinc continues to be the first line of management and treatment of diarrheal cases, the ORT corners in public health facilities and hospitals are no longer to be found. The proportion of mothers practicing breastfeeding remains low and the proportion of households practicing sanitation practices failed to reach the desired level of 90%. In addition, no training and nationwide information campaigns on FWBD prevention and control have been undertaken. While a number of national laws and policies have been passed to support prevention and control of FWBDs in the country, the extent of their enforcements had been weak and inconsistent. The same goes for the practice of water and sanitation including personal hygiene. Access to safe water has improved over the years achieving the 90% MDG target in 2015. Several units of toilet bowls were also distributed to communities with low access to sanitary toilets. Support structures such as the Inter-agency Committee for Environmental Health (IACHE) exist where issues relative to water and sanitation were discussed.

The following summarizes key achievements in each FWBD prevention and control strategy:

Table 1. Implementation Status of 2011-2016 FWBD-PCP Strategies

<b>Strategy 1.</b> <i>Regulate and monitor food and water sanitation practices at the local level through enforcement of national and local legislations, application of appropriate technical standards and participation of non-government agencies.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>There is a robust set of laws and policies that support food and water sanitation practices in the country; the extent of compliance and adherence however to these laws and policies cannot be fully ascertained given the absence of data relative to such practices:               <ul style="list-style-type: none"> <li>2012. RA 10611 on Food Safety Act to strengthen the food safety regulatory system in the country to protect consumer health and facilitate market access of local foods and food product</li> <li>2000 RA Act 9003. 200 providing for an ecological solid waste management program, creating the necessary institutional mechanisms and incentives declaring certain acts prohibited and providing penalties, appropriating funds therefore and for other purpose</li> <li>1975 PD No. 856 Code of Sanitation of the Philippines</li> </ul> </li> </ul>
<b>Strategy 2.</b> <i>Sustain inter-agency collaboration to fast-track sanitation infrastructure development in poor urban areas and in rural areas with low access to safe water and sanitation facilities.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>Interagency Committee on Environmental Health with sub-task forces on Water, Solid Waste, Toxic Chemicals and Occupational Health</li> </ul>
<b>Strategy 3.</b> <i>Promote personal hygiene, food and water sanitation practices and the principles of environmental health.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>90% of HHs have access to safe water (2015)</li> <li>86.7% of HHs with sanitary toilets (2015)</li> <li>No data available to establish extent of personal hygiene practices</li> </ul>
<b>Strategy 4.</b> <i>Promote the use of ORS in the management of diarrhea to prevent dehydration, especially among infants and children.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>ORS continues to be the primary intervention of children with diarrhea as shown by the 2015 FHSIS Reports that 100% of diarrhea cases were given ORS.</li> <li>However, facilities visited are already without ORT Corners</li> </ul>

	<ul style="list-style-type: none"> <li>Likewise, some health facilities have inadequate supply of zinc</li> </ul>
<b>Strategy 5.</b> <i>Promote breastfeeding and other good feeding practices for infants and children.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>WHO discourages use of bottles with nipples for feeding during early infancy as it is usually associated with malnutrition and increased risk of infection, especially diarrheal disease, through unhygienic procedures in the preparation of the liquid or the feeding bottle and use of unsafe water. The 2013 NDHS showed that bottle-feeding is relatively still common in the Philippines with 27% of infants under age two months being fed using a bottle with a nipple.</li> </ul>
<b>Strategy 6.</b> <i>Continue training of health personnel in the early diagnosis and treatment of food-borne and waterborne diseases.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>No training has been conducted on the early diagnosis and treatment of FWBDs; the clinic practice guidelines are still currently being finalized which will be packaged into a Training Module for both hospital and public health facility staff</li> </ul>
<b>Strategy 7.</b> <i>Continue nationwide information campaign for the prevention and control of food-borne and waterborne diseases.</i>	
<b>Implementation Status</b>	<ul style="list-style-type: none"> <li>No nationwide information campaign has been designed and mounted on the prevention and control of FWBDs in the past 6 years</li> </ul>

## C. Summary of Gaps and Challenges

- (1) FWBDs remain a public health concern. Though significant reductions have been achieved over the past 6 years (e.g. diarrhea morbidity and mortality rate), cases and deaths due to FWBDs continue to occur. Outbreaks in several parts of the country remain uncontained;
- (2) The FWD-PCP as a whole lacks overall direction and focus given the absence of an overall program framework, strategic plan and manual of operations causing weak appreciation and limited understanding by coordinators and implementers at the regional and local level. Management and implementation of program components remain fragmented;
- (3) Being a multi-faceted program, the scope and limitation of FWBD-PCP vis-a-vis other programs has not been clearly defined and its link with the other programs not fully established;
- (4) The management and coordination of the FWBD-PCP has been transferred from one office to another at the national and regional levels resulting to slow progress and development as a program. Several Regional FWBD Coordinators were just recently-designated with other con-current programs to manage. At the LGU level, the FWBD-PCP has been managed mainly as a preventive sanitation program (under the environmental health) or as a surveillance measure (under the P/C/MESU). There is no overall coordinator managing the diagnosis, management and treatment component and the governance component;
- (5) Low priority is given by the local leadership on the prevention and control of FWBDs. There is lack of ownership of the program and poor appreciation of FWBDs' consequences on the welfare and health of their constituents;

- (6) Diagnosis, management and treatment of FWBDs lack the necessary protocols and standards (except for diarrhea among under-five as incorporated in the IMCI guidelines and for paragonimiasis under 2010 AO No 2010-0037). While the hospitals continue to manage and treat FWBDs, they follow different protocols and guidelines as the DOH still has to finalize the CPGs;
- (7) Previously trained staffs on IMCI have long been replaced with new staff without the benefit of training/orientation. Proficiency of staff on diagnosis, management and treatment of other FWBDs (outside diarrhea cases) remains undeveloped. Newly-hired sanitation inspectors also lack the necessary formal training. Some of them only received brief orientation from co-workers from other municipalities;
- (8) Not all FWBD cases got confirmed with laboratory tests. Results of confirmatory tests are not readily available. Submission of specimen remains a challenge as most laboratories are distant from the national reference lab;
- (9) Management of preventive measures are spread out in different DOH offices: immunization and IYCF are placed under the DOH-Family Health Office, Food Safety and health sanitation practices are under the Environmental Health and Sanitation. Coordination with these offices requires further streamlining;
- (10) Promotion of personal hygiene and health sanitation practices has not been palpable. No survey has been carried out to establish the level of awareness, attitudes and practices of the population relative to personal hygiene and sanitary practices. Locally-initiated promotion and preventive measures were hardly sustained or rolled-out. IEC materials are very limited while other channels and avenues to promote awareness and practices have not been fully explored and maximized;
- (11) Compliance and adherence to national laws and policies is low while enforcements of sanctions and penalties by concerned authorities is weak. The increasing number of food and industrial establishments and growing population especially in urban areas against a stagnant number of sanitary inspectors available in the field prevent the conduct of regular inspections;
- (12) FWBD cases are under-reported. Some FWBD outbreaks were neither recorded nor reported. The program lacks an overall M and E framework to guide the tracking, reporting and assessment of the different program components' progress or status;
- (13) There has been no purposive surveys or special studies undertaken to measure the actual burden of FWBDs in the country and to identify and establish geographical areas as well as population segments most vulnerable to these diseases;
- (14) Logistics requirement for the diagnosis, management and treatment of FWBDs has not been fully established. Thus, some LGUs experience stock-outs of essential drugs and medicines including laboratory supplies;

- (15) Limited number of health staff is experienced by almost all LGUs particularly sanitary inspectors and medical technologists. While DOH has provided staff augmentation, their availability has not been fully maximized for the diagnosis, management and treatment of FWBDs, and also for preventive services;
- (16) Current DOH and LGU financing for the FWBD-PCP activities and logistics needs are inadequate. There is no budget separately allocated for the FWBD-PCP at the local level but there are some amounts in the disease surveillance and environmental health and sanitation which the local health staff can tap as needed. The DOH-ROs and LGUs have not formulated plans for FWBD-PCP as a whole;
- (17) Participation of other government agencies and non-government organizations including the private sector for FWBD prevention and control has not been maximized. The functionality of multi-sectoral task forces or committees on environmental health and sanitation where FWBD prevention issues could be raised and discussed is difficult to ascertain.

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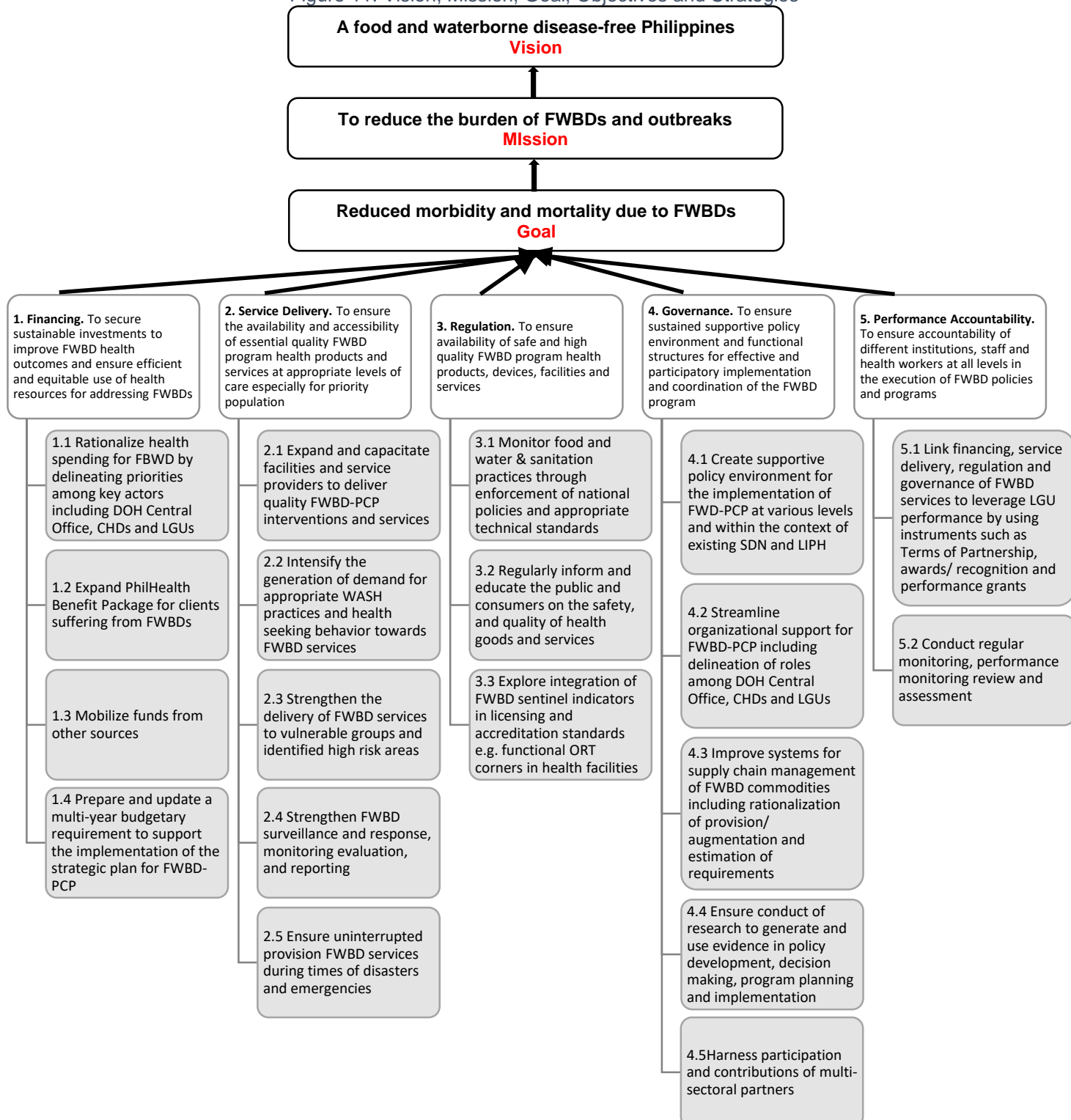
## **Part 3**

# **FWBD-PCP Strategic Plan 2019-2023**

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## A. Vision, Mission, Goal, Objectives and Strategies

Figure 11. Vision, Mission, Goal, Objectives and Strategies



The FWBD-PCP envisions a food and waterborne disease-free Philippines by 2022. To attain this vision, the Program, in coordination with key stakeholders, commits itself to reduce the burden of FWBDs and outbreaks in the country to contribute to the overall goal of a reduced morbidity and mortality due to FWBDs.

Consistent with Administrative Order 2018-0014 entitled Strategic Framework and Implementing Guidelines for FOURmula Plus (F1+) for Health, the Program's key strategic objectives are:

1. In healthcare financing: To secure sustainable investments to improve FWBD health outcomes and ensure efficient and equitable use of health resources for addressing FWBDs
2. In service delivery: To ensure the availability and accessibility of essential quality FWBD program health products and services at appropriate levels of care especially for priority population
3. In regulation: to ensure availability of safe and high quality FWBD program health products, devices, facilities and services
4. In governance: To ensure sustained supportive policy environment and functional structures for effective and participatory implementation and coordination of the FWBD program
5. In performance accountability: To ensure accountability of different institutions, staff and health workers at all levels in the execution of FWBD policies and programs

To operationalize these strategic objectives in healthcare financing, the Program shall facilitate rationalization of health spending to address FWBDs by delineating priorities among key actors including DOH Central, CHDs, and LGUs. Specifically, it shall clarify with the stakeholders at all levels what its budget and commodities are for, and what are expected from regional and local spending. In addition, the Program shall look into the expansion of PhilHealth benefits for clients suffering from FWBDs in coordination with PhilHealth. Given the need for more funds, the Program shall explore sourcing funds from other sources e.g. ODA and private sources in collaboration with development partners and stakeholders from the private sector. To support this, the Program shall prepare and regularly update a multi-year budgetary requirement to support the implementation of this strategic plan.

In terms of service delivery, the Program shall facilitate the expansion and conduct of capacity building for health facilities and service providers to deliver quality interventions and services. To influence health-seeking behavior, the Program shall intensify demand generation activities for appropriate WASH practices and encourage the public to intensify availing of health services. Moreover, FWBD surveillance and response, monitoring and evaluation, and reporting shall also be improved to strengthen health services to address FWBDs. However, not all segments of the population have equal access to the same health services. Therefore, health service delivery shall be strengthened to improve access of vulnerable groups such as indigenous peoples and population in identified high risk areas. Lastly, the Program shall work with key stakeholders to ensure uninterrupted provision of health services to address FWBDs during times of disasters and emergencies.



In terms of regulation, the program shall endeavor to monitor food and water sanitation practices through its regional and local partners including the implementation of policies and standards. In addition, the program shall strive to inform and educate the public and consumers on the safety and quality of health goods and services. These shall be done through the issuance of advisories and press releases to guide the general public. To help institutionalize FWBD initiatives, the Program shall also explore integration of key indicators in licensing and accreditation standards applied to health facilities such as functional ORT corners in health facilities.

In governance, the Program shall work with key stakeholders in DOH, other agencies, LGUs and private sector/civil society to ensure continuous supportive policy environment and functional structures. Specifically, the issuance of these supportive policy environment shall be facilitated within the context of SDN and LIPH. As much as possible, lessons from real world experiences shall be extracted from the conduct of pilot and demonstration studies prior to issuance and nationwide implementation of any FBWD policy. Thus, the Program shall conduct research to generate and use real world evidence in policy development, decision-making, program planning and implementation. Alongside with the supportive policy environment, the Program shall continuously assess how to streamline organizational support for the implementation of FWBD initiatives including clear delineation of roles of national, regional and local actors in critical functions such as planning, financing implementation and monitoring. Specifically, the Program shall facilitate the improvement of supply chain management of FWBD commodities including the rationalization of estimation, provision and augmentation of commodity requirements. Lastly, FWBD governance systems and structures shall harness the participation and contributions of multisectoral partners.

In performance accountability, the Program shall leverage LGU performance by exploring the use of instruments such as the annual Terms of Partnership between DOH and LGUs, awards/recognition and performance grants in the implementation of FWBD initiatives. As the Terms of Partnership spells out commitments from both DOH (represented by CHDs) and LGUs per year, these should include counterparts for resources (financial, technical assistance and commodities) provided by DOH. Clearly indicating such counterparts from both side shall facilitate monitoring and ensure adequate resources. In addition, the Program shall facilitate the use of awards, recognition and performance grants as incentives to effective implementation of FWBD initiatives. As its key function, the Program shall conduct regular monitoring, performance monitoring review and assessment of its activities.

## **B. FWBD-PCP Key Targets**

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The FWBD-PCP has identified key indicators to be used determining progress aims to achieve the following targets in the next 6 years. The different activities addressing FWBDs shall be linked to these indicators in the preparation of regular reports by the Program. These shall be reviewed annually for any proposed revision consistent with the annual DOH plans and strategies.

Table 2. FWBD-PCP Key Targets

	<b>Indicator</b>	<b>Definition</b>	<b>Target</b>	<b>Remarks</b>
1.	% increase in DOH budget allocation for FWBD per year	Increased amount of budget allocated by DOH (CO and ROs) for FWBD-PCP every year compared to the previous year	At least 20% increase per year	Also link with budget utilization
2.	% of health facilities with adequate drugs/ medicines and supplies for FWBD	Proportion of health facilities over total number of health facilities (by category) with no stockout of or expired FWBD medicines/ supplies in the last quarter	25% increase per year	Establish baseline during the first year, then target 25% increase

### C. Budgetary Estimates

Estimated total budgetary requirement to execute the 2019-2023 FWBD-PCP Strategic Plan amounts to Php 1.7 billion. About two thirds (Php 1.1 billion) of the total amount is earmarked to support the expansion and strengthening of the provision of quality FWBD-PCP services, particularly in reactivating the ORT corners in every health facility, equipping both the public and private hospitals on the management and treatment of FWBDs according to the newly developed CPGs and in reaching out to the most vulnerable groups and high risk areas. Also included is the support for increasing demand for quality FWBD-PCP prevention, management and treatment services. Substantial amount is also allocated to strengthen FWBD surveillance through the PIDSR and ESR, the parasitology surveillance by RITM and that of the FDA. Surveys and special studies are also planned out to generate the information needed as basis in further enhancing the FWBD-PCP's direction and strategic approaches. The amounts for preventive measures such as installation of sanitary toilets, safe water facility and vaccine (e.g. for rotavirus) are not incorporated in the estimate. The estimated amounts under the LGU as a budget source are primarily for local transport and other operating expenses at the health facility level.

### D. Implementation Arrangements

The DOH-IDO will take the lead in the overall management and implementation of the 2019-2023 FWBD-PCP Strategic Plan with support from the different DOH offices at the Central and Regional Level. The LGUs shall remain to be the primary providers of preventive, diagnosis, management and treatment services to patients with FWBDs.

At the national level, the DOH-IDO will be supported by the Environmental Health and Occupation Office (EOHO) and Health Promotion and Communication Services (HPCS) for the prevention of FWBDs and the promotion of WASH practices including personal hygiene.

The Epidemiology Bureau (EB) will be responsible for FWBD surveillance, supported with the surveillance of pathogens by RITM, processed food by FDA and live animal/poultry by the DA-Bureau of Animal Industry. RITM together with the subnational reference laboratories shall serve as the confirmatory referral laboratories for FWBD tests. The Family Health Office (FHO) will continue to coordinate preventive measures through breastfeeding and the provision of vaccines. The same will continue to coordinate the management of children under five years old with diarrhea as part of the Integrated Management of Childhood illnesses. All the DOH-CO counterparts at the regional level will be tasked to carry out the same functions and tasks.

The hospitals (both the DOH-retained hospitals, other government and private hospitals) at the lower level will provide the necessary management and treatment services especially for FWBD cases that cannot be handled by the local health facilities – BHS/HCs and RHUIs/MHCs. The laboratories at these levels shall perform diagnostics tests (e.g. RDTs) and shall be confirmed with the national reference lab (RITM) and subnational reference laboratories once established.

As contained in the Plan, other government agencies as well as other groups of stakeholders will be mobilized and engaged by the DOH to provide their expertise, technical assistance, financial and other forms of assistance as needed especially in reaching out the vulnerable groups and other high risk areas.

## **E. Roles and Functions of Key Players on the Management and Implementation of the FWBD-PCP**

The following outlines the roles and functions of concerned DOH offices, other government agencies, the LGUs and other partners in the management and implementation of the FWBD-PCP as contained in the FWBD-PCP Framework.

### **A. Department of Health – Central Office**

#### **1. Infectious Disease Office (IDO) - Disease Prevention and Control Bureau (DPCPB)**

The overall management and coordination of the FWBD-PCP is lodged in the IDO-DPCB. It takes the lead in setting the overall direction and focus of the Program.

- Formulate and disseminate national policies, standards and guidelines governing the management and implementation of the FWBD-PCP
- Develop strategic plans and cascade this to the regional offices for adoption
- Ensure the provision/delivery of quality diagnosis, management and treatment services of FWBDs
- Design and undertake training program on various components of the program
- Manage the logistics requirements of the Program
- Secure financing for the FWBD-PCP
- Establish partnership with other national government agencies and other partners in the private sector
- Undertake monitoring and evaluation of the status and performance of the FWBD-PCP

- Coordinate with HPCS and other entities in promoting WASH practices and key messages on prevention and control of FWBDs
- Monitor together with EB any outbreak due to FWBD and coordinate with HEMB for the immediate response

## **2. Environmental Health and Occupation Office**

- Provide technical assistance to the regions and LGUs to comply with the provisions and requirements of the Sanitation Code in the Philippines;
- Formulate policies, guidelines and standards in promoting increased access to safe water and sanitation services
- Design strategic approaches to achieve zero open defecation areas nationwide
- Develop and promote guidelines on healthy wash, sanitation and hygiene practices among food handlers, and other concerned institutions
- Coordinate with the Department of Environment and Natural Resources (DENR) for interventions that will support the prevention and control of FWBDs

## **3. Health Promotion and Communication Services (HPCS)**

- Formulate and design a communication plan to address the poor health seeking behavior of the community and their unhealthy food and water practices including personal hygiene
- Develop key IEC messages for various groups of audiences relative to the prevention and control of FWBDs
- Design appropriate media channels and materials to communicate the key FWBD prevention and control messages
- Track improvement in the awareness, attitudes and practices of the targeted population on FWBD prevention and control

## **4. Epidemiology Bureau (EB)**

- Establish, operate and sustain FWBD surveillance nationwide
- Support LGUs in case investigation of reported FWBD cases and in providing immediate and proper response
- Inform/communicate with the DOH-IDO and other offices concerned of any impending or notable FWBD outbreaks
- Generate timely FWBD surveillance reports and disseminate to concerned DOH offices
- Coordinate with RITM in taking the lead to develop a work and financial plan and/or proposal funding for the surveillance.
- Provide assistance to RESUs and LESUs if needed in the investigation of cases of food and waterborne illness.
- Notify the WHO through the National IRR (International Health Regulations) Focal Point when the assessment indicates a food or waterborne disease event is notifiable pursuant to paragraph 1 of Article 6 and Annex 2 and to inform WHO as required pursuant to Article 7 and paragraph 2 of Article 9 of IHR (Annex 3.8A).

## **5. Health Emergency Management Bureau (HEMB)**

- Provide technical assistance in developing plans in times of emergencies and disasters.

- Mobilize WASH resources through Regional DRRM-H Manager to ensure adequate and safe water through water quality surveillance, disinfection / treatment in coordination with DPCB-EOH.
- Augment logistic support to FWBD during emergencies and disaster situations.

#### **6. Research Institute for Tropical Medicine (RITM) and National Reference Laboratories (Parasitology, Bacterial Enterics and Viral Enterics)**

- Perform laboratory testing for samples referred for the FWBD surveillance and outbreak investigation
- Provide technical support for specimen collection, transport and storage for the referring hospitals
- Provide laboratory technical support, training and quality assurance to the subnational, regional and other laboratories
- Provide line list of laboratory results to EB and RESU, and individual laboratory results to the RESU, in the form of transmittals (for distribution to the DRUs)
- Refer a subset of samples to the designated Regional Reference Laboratory (RRL) for quality assurance purpose
- Perform further studies to determine other etiologies of FWBD
- Maintain continuous coordination/communication with stakeholders to promote information exchange
- Train laboratory personnel in the diagnosis of FWB pathogens
- Provide external quality assurance program for laboratory diagnosis for FWB pathogens
- Evaluate test kits and reagents in coordination with FDA
- Develop and offer confirmatory assays for other FWB pathogens
- Conduct research relevant to FWB program
- Provide recommendation to LRD office as to the need for activation of Outbreak Codes to mount multidepartment, division-level response as appropriate
- Conduct laboratory surveillance for the FWB pathogens

#### **7. Food and Drug Administration (FDA)**

- Perform microbiologic tests on food samples submitted to the laboratory
- Provide EB with a monthly report of etiologic agents of food and waterborne diseases on food samples tested
- Monitor the safety of pre-packaged food in the market and issue Public Advisory / Warning to prevent consumption of contaminated food

### **B. DOH – Centers for Health Development (CHDs)**

#### **1. Infectious Disease Prevention and Control Cluster**

- Disseminate national policies, standards and guidelines governing the management and implementation of the FWBD-PCP
- Develop local plans and cascade to LGUs
- Undertake training related to FWBD-PCP to local government unit
- Provide logistic support on FWBD-PCP to LGU
- Monitor and evaluate the implementation of the program to LGU

- Coordinate with the regional environmental and Occupational Health on the implementation of the FWBD-PCP
- Assist RESU in monitoring incidence of FWBDs
- Coordinate with other partners in the region for the management of the FWBD-PCP

## **2. Regional Epidemiology and Surveillance Unit (RESU)**

- Encode data on patients with laboratory confirmed Salmonella and other food and waterborne infections
- Analyze surveillance data and activate EICT outbreak investigation when deemed necessary
- Provide technical assistance during trainings on laboratory-based surveillance to be conducted among hospital staff or sentinel sites
- Fill up laboratory request forms and submit appropriately-labeled stool specimens from patients and samples of suspected food/water vehicles to the appropriate DOH or DA laboratory for microbiologic tests
- Encode and collate epidemiologic data from LGUs (Provincial/City Epidemiology Surveillance Unit, P/CESU), and hospital sentinel sites on the occurrence of Salmonella and other food and waterborne diseases and submit to EB
- Submit monthly report to EB on notifiable diseases (PIDSR Report)
- Notify EB through the National IRR (International Health Regulations) Focal Point when the assessment indicates a food or waterborne disease event is notifiable pursuant to paragraph 1 of Article 6 and Annex 2 and to inform WHO as required pursuant to Article 7 and par 2 of Article 9 of IHR (Annex 3.8A)

## **3. Environmental Health and Sanitation Unit**

- Provide technical assistance to LGUs to increase HHs with access to safe water and with sanitary toilet, and achievement of zero defecation area
- Implement the preventive measures of FWBD
- Assist in the investigation of FWBD Outbreaks
- Support campaign of prevention and control of FWBD

## **4. Provincial DOH Office (PDOHO)**

- Advocate for LCEs' support to FWBD-PCP
- Lobby to LGU s for funds/budget for FWBD-PCP through inclusion in the annual budget
- Ensure adaption of DOH policy by LGU through ordinances
- Monitor implementation of FWBD
- Provide logistic / fund to EOH for FWBD prevention campaign.

# **D. Other Government Agencies**

## **1. Department of Interior and Local Government (DILG)**

- Support the DOH and DA in the collection and documentation of food-borne illness data, monitoring and research

- Participate in training programs, standards development and other food safety activities to be undertaken by the DA, DOH and other concerned national agencies
- 2. Department of Education**
- Integrate messages on proper water, food and sanitary practices including personal hygiene in the school curriculum
  - Support and expand the implementation of WINS in public schools
  - Integrate hand-washing practices during school feeding programs
- 3. Department of Agriculture (DA)**
- Develop and transfer technologies that will improve and sustain the development of the livestock industry which ensure food security and competitiveness of the local produce in the global market
  - Plan, coordinate and implement research and development programs on swine, beef cattle, poultry, small ruminants and equine on areas of genetics and breeding system, animal nutrition and feed resources utilization, herd management, animal health and disease control, containment and eradication of diseases, post-production, value-added meat products and by-products technology and animal waste management
  - Submit report of all investigations involving foodborne disease
  - Undertake surveillance of microbiologic agents of food and waterborne diseases which are transmissible to humans
  - Alert the Department of Health agencies in cases of unusual increase in the number of reported organisms known to cause foodborne disease in humans (DA, BAI)
- 4. Department of Social Welfare and Development (DSWD)**
- Proper water, food and sanitary practices including personal hygiene of DSWD residential centers, canteen, caterers
  - Support and expand implementation of hand-washing practices during feeding programs
  - Ensure that DSWD residential centers, canteen, caterers, and DSWD-food for work and feeding programs use and serve fortified foods with Sangkap Pinoy Seal, if available
  - Use and serve fortified foods such as rice, wheat, flour, oil and refined sugar in DSWD relief operations and encourage LGUs and NGOs to follow the same
  - Authorize food manufacturers to use the DOH seal of acceptance as guide for consumers in selecting nutritious foods (DSWD)
- 5. Department of Environment and Natural Resources (DENR)**
- Control the construction and maintenance of waterworks, sewerage, and sanitation systems and other public utilities
  - Prohibit dumping of waste products detrimental to the plants and animals or inhabitants therein
  - Prohibit leaving an exposed or unsanitary conditions refuse or debris or depositing in ground or in bodies of water
  - Raise awareness on the importance of maintaining reliable and effective treatment of wastewater

- Endeavor to achieve social justice by ensuring the integrity of our ecosystems on which local communities depend for food and livelihood
- Strive to recycle wastewater to benefit communities and not to allow untreated wastewater that will harm people (DENR)

#### **D. Local Government Units (LGUs)**

The LGUs are primarily responsible in the delivery of quality FWBD diagnosis, management and treatment and conduct of preventive and control interventions at the local level. Specifically, the LGUs are expected to:

- Enforce the implementation of the “Code of Sanitation of the Philippines” (PD No. 856, December 23, 1975): (i) sanitation particularly in public markets, slaughterhouses, micro and small food processing establishments and public eating places, (ii) codes of practice for production, post-harvest handling, processing and hygiene, (iii) safe use of food additives, processing aids and sanitation chemicals and (iv) proper labeling of prepackaged foods
- Ensure access of households to safe drinking water, safe water and sanitation facilities
- Inspect food establishments on adherence to standards sanitation practices
- Provide training to food handlers and regulate
- Ensure proper waste disposal
- Establish, operate and sustain local epidemiology and surveillance units with the following tasks:
  - Register cases of laboratory confirmed Salmonella and other food and waterborne infections identified from the local government unit (LGU) in the surveillance.
  - Fill up laboratory request forms and submits appropriately labeled specimens from patients and samples of suspected food/water vehicles to the appropriate DOH or DA laboratory for microbiological tests
  - Provide technical support for training on laboratory-based surveillance to hospital staff of sentinel sites
  - Encode and collate epidemiologic data on the occurrence of Salmonella and other food and waterborne infections to the EB
  - Submit monthly reports of food and waterborne diseases to RESU
  - Notify RESU when the assessment indicates a food and waterborne disease event is notifiable pursuant to paragraph 1 of Article 6 and Annex 2 of IHR and to inform WHO as required pursuant to Article 7 and paragraph 2 of Article 9 of IHR (Annex 3.8A)

#### **E. Hospitals**

- Attend to cases of diarrhea (no signs, some signs, severe signs of dehydration)
- Request for basic laboratory workups in case of complications
- Carry out further investigation as deemed necessary
- Refer cases appropriately to specialties/sub-specialties when needed
- Observe proper hydration and monitoring of hemodynamic status Encourage oral rehydrating solution as soon as patient can tolerate
- Give appropriate anti-microbial if indicated
- Provide health education including handwashing, sanitation, hygiene will be provided
- Give IEC materials to patient/s prior to discharge



## **F. Laboratories**

### **1. Subnational Laboratories**

- Perform laboratory testing of samples from FWBD cases referred by the disease reporting units, as well as from cluster/outbreak investigations.
- Participate in monitoring visits by FWBD-PCP Monitoring Team
- Participate in the laboratory quality assurance program
- Provide lab results to the National Reference Laboratories and RESUs
- Coordinate with the National Reference Laboratories for technical concerns (specimen collection, transport, storage, testing and troubleshooting)

### **2. Regional Laboratories**

- Perform direct fecal smear, modified acid fast staining, formalin ether concentration technique, kato-katz and RDT for detection of FWB parasites

### **3. Tertiary Hospitals**

- Perform direct fecal smear, modified acid fast staining, formalin ether concentration technique, kato-katz and RDT for detection of FWB parasites

### **4. Level 3 Laboratories**

- Perform direct fecal smear, modified acid fast staining, formalin ether concentration technique, kato-katz and RDT for detection of FWB parasites

### **5. Level 2 Laboratories**

- Perform direct fecal smear, kato-katz and modified acid fast staining for detection of FWB parasites

### **6. Level 1 Laboratories**

- Perform direct fecal smear and kato-katz for detection of FWB parasites

### **7. Rural Health Units**

- Perform direct fecal smear and kato-katz for detection of FWB parasites