



**I. Introduction**

Event-based surveillance is an organized and rapid capture of information about events that are a potential risk to public health such as occurrence of a disease in humans and events related to potential risk-exposures in humans. These information can be rumors or other ad-hoc reports transmitted through formal channels (e.g. established routine reporting systems) or informal channels (e.g. media, health workers and non-governmental organization reports). ESR also provides information for International Health Regulations (IHR) notification.

**II. Objectives**


1. To detect rare and new events that are not specifically included in Philippine Integrated Disease Surveillance and Response (PIDSR)
2. To capture all types of health events of public health concern;
3. To immediately verify, assess, and notify offices for appropriate response for control and prevention;
4. To monitor the status of health events;
5. To provide information for IHR notification

**III. Core Processes**

**A. Capture** – collection of events and can come from 3 types of sources of information from media including internet and other social networks, health facilities, DOH, attached agencies, partner agencies and local government units and general public. There are 2 types of Capture namely:

- **Active** - purposeful daily gathering of health events by the ESR staff through the COVID-19 Official linelist, internet and other media sources such as television, radio and print.
- **Passive** - health events reported by the media people, health facilities such as DOH and other attached agencies, partner agencies and Local Government Units and IHR Focal points of different countries by email, fax, phone calls or text messages to the ESR staff.


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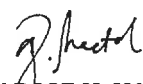
  
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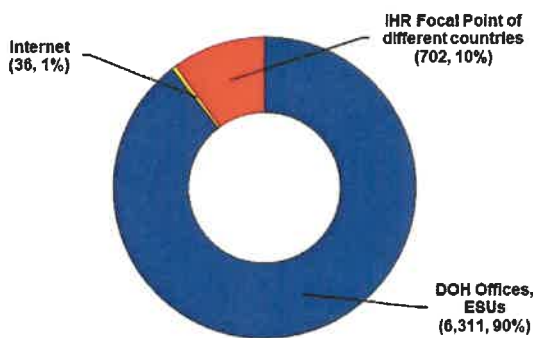
  
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A total of **7,049** health events were captured by the EB-ESR Unit from January 1 to December 31, 2020. Of these, 4,375 (62%) health events captured passively, while 2,674 (38%) were actively captured.

Of all health events, 6,311 (90%) were captured through the DOH (EB, HEMB, RESUs, FDA and RITM), 702 (10%) were captured through IHR Focal Point of different countries and 36 (1%) from the internet (**Fig. 1**).

**Figure 1.** Proportion of Captured Health Events by Source of Information (N=7,049), Philippines, January – December 2020

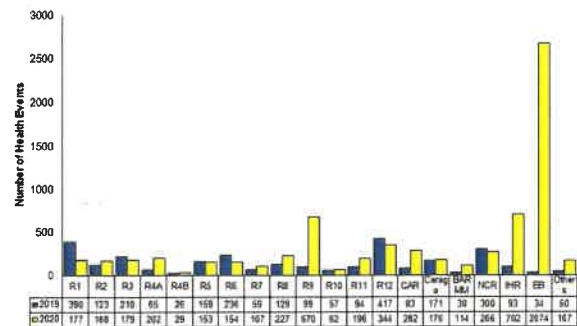


While EB-ESRU actively captured 2,674 (38%) health events, of which 2,665 (99.7%) are COVID-19 related, half (3,506) of the total captured were reported by the Regional Epidemiology and Surveillance Units (RESUs). In comparison to 2019 (2,833) data, captured health events this year is 149% higher and majority (5,964, 85%) are COVID-19 related.

Top Regions with highest captured events this year are Zamboanga Peninsula (670, 19%), SOCCSKARGEN (344, 10%) and CAR (282, 8%) while SOCCSKSARGEN (417, 16%), National Capital Region (390, 15%) and Ilocos Region (300, 11%) are highest in 2019.

The 702 (10%) health events reported by IHR Focal Points from other countries were for contact tracing by local health facilities. (**Fig. 2**).

**Figure 2.** No. of Captured Health Events by Region Philippines, 2019 (N=2,833) vs 2020 (N=7,049)



**B. Filter** – It is a process of reviewing which health events should be discarded or warrants further investigation.

**Criteria for Filtering Health Events**

- Unknown illness/unusual event
- High mortality or morbidity
- International disease spread
- Interference with travel or trade
- Disease for elimination/eradication
- Suspected, accidental or deliberate biological or/chemical threats
- Animal and environmental hazards that can pose public health threat

Of the 7,049 health events, 5,330 (76%) were identified as acute public health threats, 1,690 (24%) were filtered and 29 (0.4%) were for information only.

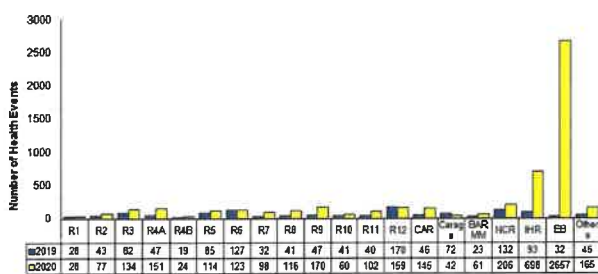
**C. Verification** – It is the process by which a health event can be substantiated. It should involve asking another informant about the event; if possible from trained health personnel. It should also include confirming the basic information as to time, place and person.



This year, a total of 5,330 health events were verified as acute public health threats. This is 328% higher compared to 2019 (1,245)

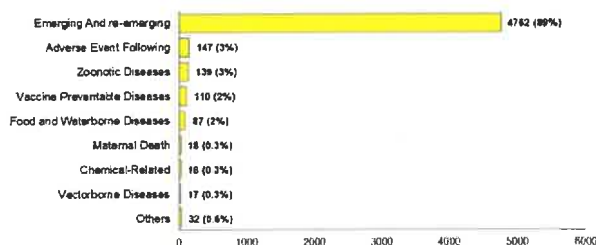
Top Regions with highest verified events this year are National Capital Region (206, 11%), Zamboanga Peninsula (170, 9%) and SOCCSKARGEN (159, 9%) while SOCCSKARGEN (170, 16%), National Capital Region (132, 11%) and Western Visayas (127, 10%) are highest in 2019. (Fig. 3).

**Figure 3.** No. of Verified Health Events by Reporting Units, Philippines, 2019 (n=1,245) vs 2020 (n=5,330)



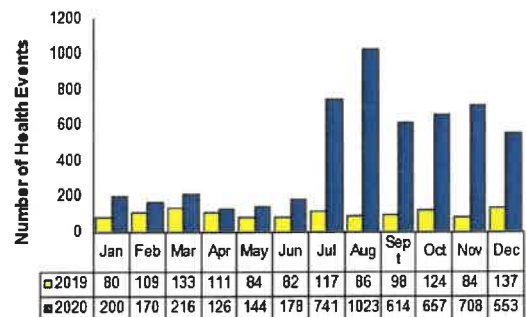
Out of the 5,330 verified health events, Majority (4,762, 89%) were Emerging and Re-emerging Infectious Diseases (e.g. COVID-19, ILI, SARI, Zika) followed by Adverse Event Following Immunization (147, 3%) and Zoonotic Diseases (139, 3%). Complete information of the classification of HE are found in Annex B.

**Figure 4.** No. of Verified Health Events by Disease Classification (n=5,330), Philippines, 2020



The month of August showed the most (1,023, 19%) number of verified health events in 2020 while in 2019 December had the most number of verified health events. An increase in reported health events was observed starting July 2020 when ESR officers were deployed to actively capture and verify Clustering of Confirmed COVID-19 Cases from Master Database of COVID-19 (Fig.5).

**Figure 5.** Verified Health Events by Month Philippines, 2019 (n=1,245) vs 2020 (n=5,330)



The following are the criteria for an ongoing, controlled and closed event:

**Criteria for an on-going event:**

- Other information still on verification
- Specimens are to be collected and with pending laboratory results
- There are still additional cases or deaths
- The local or regional health team is currently monitoring the event
- The local or regional health teams are planning control activities of the event

**Criteria for a controlled event:**

- Gradual or abrupt decrease of cases
- Cases showed good prognosis or event has already been managed but other information still on verification such as description of cases, laboratory findings, etc.
- No cases or deaths had been added
- Event was controlled or managed by the local or regional health team

<sup>1</sup>COVID-19 related health event were not closed due to ongoing COVID-19 pandemic

**Criteria for a closed event:**

- Laboratory results have no significant findings that will endanger health of the public
- Cases were already discharged and in good condition (for admitted cases in the hospital)
- Follow-up reports indicate no assistance, further investigation and monitoring needed

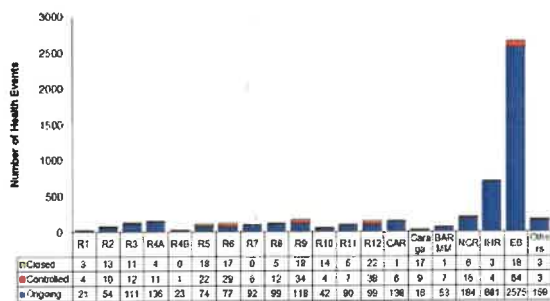


- The health event was referred for appropriate interventions to concerned health agencies/office.

Out of the 5,330 verified health events, 4,852 (91%) are ongoing, 299 (6%) were controlled and 179 (3%) were closed. Of the ongoing health events, 4,513 (93%) are COVID-19 related health events which are not closed due to ongoing COVID-19 Pandemic.

SOCCSARKGEN had the highest (22, 14%) number of closed events followed by Zamboanga Peninsula (18, 11%) and Bicol region (18, 16%) (Fig. 6).

**Figure 6.** Status of Verified Health Events by Region (n=5,330), Philippines, 2020



**D. Assessment** – It is a process by which the available information about a confirmed health event is analyzed and categorized whether it is a risk to the public. The assessment should be done within a 48-hour period and in 4 Levels of Concern, namely:

- **Public Health Event of Local Concern (PHELC)** – health event is confined to a specific geographical location or involves vulnerable groups of people in the locality.
- **Public Health Event of Regional Concern (PHERC)** – health event requires additional technical and laboratory support not found in the local area. The health event has a potential to spread in other provinces/ cities/ municipalities.
- **Public Health Event of National Concern (PHENC)** – health event has a potential risk to cross boundaries or borders from one region to another.

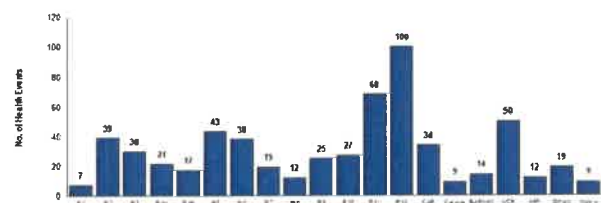
- **Public Health Emergency of International Concern (PHEIC)** – health event has possible implications to international trade and travel or it may concern ill foreign nationals travelling to or from other countries. The event is rare and may involve diseases not previously reported in the country.

Out of the 5,330 verified health events, 593 (11%) were assessed as to Public Health Event of Local Concern (PHELC), 11 (0.2%) were assessed as Public Health Event of Regional Concern (PHERC), 4,722 (89%) were assessed as Public Health Event of National Concern (PHENC), and 4 (0.1%) were Public Health Emergency of International Concern (PHEIC).

**E. Response** – Public health response refers to action and decisions carried out immediately including verification or field investigation of health events through coordination with local health authorities and other involved institutions (RITM, hospitals, hazardous material department, and embassies)

All 593 PHELC health events were responded locally by the LESUs (Fig. 7).

**Figure 7.** No. of Verified Health Events with Local Response by Region (n=593), Philippines, 2020



There were 15 health events that were investigated by the Field Epidemiology and Training Program (FETP) follows this year.

Please see Annex C for complete list.

**F. Feedback** – It is a process where EB-ESRU team makes a weekly summary of the health events to RESUs. It encourages the ESUs to continue reporting health events to EB in a timely manner.



#### IV. Conclusions

From January 1 to December 31, 2020, 7,049 health events were captured by the ESR Unit. Of which, 5,330 (76%) were identified as acute public health threats and reported to stakeholders by EB-ESR Unit.

Epidemiology Bureau had the most (2,674, 38%) number of captured health events for this year, followed by Zamboanga Peninsula (670, 19%) and SOCCSKARGEN (344, 10%). The most common reported health events for 2020 were Emerging and Re-emerging Diseases. The month of August had the most number of verified health events. There were 15 verified health events that were investigated by FETP fellows in 2020.

#### V. Other Activities

Activities conducted by EB-ESRU for 2020:

##### A. COVID-19 Response by the Event-based and Surveillance Response (ESR)

- January 12, 2020: Public Health Surveillance Division (PHSD) of EB through ESR Unit established the surveillance for Patient Under Investigation (PUI) and Person Under Monitoring (PUM) for Novel Coronavirus
- January 12, 2020: ESR Unit reported an ILI/PUI case from Cebu City
- January 18, 2020: ESR staff assisted in the epidemiologic investigation of PUI case in Cebu City
- January 26, 2020: a Chinese national was reported as PUI and tested positive for SARS-CoV-2 on January 30, 2020
- January 30, 2021: ESR Unit notify the IHR for the 1st Confirmed Novel Coronavirus in the Philippines



COVID-19 PUI and PUM Reporting Flow



Epidemiologic investigation by EB Staff in Cebu

##### B. IHR Crystal Exercise (December 10, 2020)



- On December 9, 2020, the ESR-IHR Unit of EB conducted a preparatory meeting for the IHR Crystal Exercise
- On December 10, 2020, IHR NFP Philippines participated during the IHR Crystal Exercise 2020
- The scenario involved the use of a newly developed fictitious pandemic vaccine in countries, territories and areas in the region. The NFPs and WHO were able to communicate well during the exercise through emails and video-conference. DOH Offices such as HPB, DPCB and HEMB participated and provided inputs during the IHR Crystal Exercise.
- On December 11, 2020, the IHR Unit of the Epidemiology Bureau conducted a Hot Wash (within the Philippines).

##### C. ESR at the Time of COVID-19 "Dealing with new Normal, Looking back to the Challenges and Recognizing Success and efforts During the Pandemic" (December 17, 2020)



- On December 17, 2020, EB-ESRU conducted a workshop attended by ESR point persons of RESUs with the theme "ESR at the Time of COVID-19"
- Objectives of the activity:
  1. To orient/re-orient ESR officers on ESR core processes and report generation



2. To look back and share experiences of ESR Officers in response to the COVID-19 pandemic
  3. To recognize efforts and contribution of ESR officers in the country during this time of COVID-19
  4. To present IHR-Related Updates
  5. To plan activities for 2021
- ESR point persons of all 17 DOH RESUs participated in the activity
  - EB-ESR Unit discussed the following topics
    1. ESR Core Process
    2. ESR report generation
    3. Detection and reporting of clustering of confirmed COVID-19 cases
  - ESR point persons from RESU V, VIII, X, CAR, and BARMM shared their experiences and response on COVID-19 pandemic.
  - Certificate of Recognition was given to 17 RESUs.



**Annex A:**

**Annual Statistical Comparison of Health Events in 2019 and 2020 by Reporting Region**

Region	NO. OF CAPTURED HEALTH EVENTS		VERIFIED AS TRUE HEALTH EVENTS		STATUS (2020)			ASSESSMENT (2020)				Total no. of HE responded locally	Total no. of HE with feedback to RD	
	2019	2020	2019	2020	Closed	Controlled	Ongoing	PHELC	PERC	PHENC	PHEC			
<b>Passive</b>														
Region 1	390	177	28	28	3	4	21	7	0	21	0	177	28	
Region 2	123	168	43	77	13	10	54	39	0	38	0	167	77	
Region 3	218	179	82	134	11	12	111	30	9	95	0	178	132	
Region 4A	65	202	47	151	4	11	136	21	2	128	0	201	150	
Region 4B	26	29	19	24	0	1	23	17	0	7	0	29	24	
Region 5	159	153	85	114	18	22	74	43	0	71	0	153	114	
Region 6	236	154	127	123	17	29	77	38	0	85	0	154	123	
Region 7	59	107	32	98	0	6	92	19	0	79	0	102	93	
Region 8	129	227	41	116	5	12	99	12	0	104	0	227	116	
Region 9	99	670	47	170	18	34	118	25	0	145	0	670	170	
Region 10	57	62	41	60	14	4	42	27	0	33	0	62	60	
Region 11	94	196	40	102	5	7	90	68	0	34	0	195	101	
Region 12	417	344	170	159	22	38	99	100	0	59	0	343	158	
Caraga	171	176	72	42	1	9	16	34	0	8	0	176	42	
CAR	83	282	46	145	17	6	138	9	0	136	0	282	145	
BARMM	30	114	23	61	1	7	53	14	0	47	0	114	61	
NCR	300	266	132	206	6	16	184	50	0	156	0	261	201	
IHR	93	702	93	698	3	4	691	12	0	685	0	702	698	
Others	50	167	45	165	18	3	159	19	0	146	3	167	165	
<b>Sub-total</b>	<b>2799</b>	<b>4375</b>	<b>1213</b>	<b>2673</b>	<b>176</b>	<b>235</b>	<b>2277</b>	<b>584</b>	<b>11</b>	<b>2077</b>	<b>3</b>	<b>4360</b>	<b>2658</b>	
<b>Active</b>	<b>34</b>	<b>2674</b>	<b>32</b>	<b>2657</b>	<b>3</b>	<b>64</b>	<b>2575</b>	<b>9</b>	<b>0</b>	<b>2645</b>	<b>1</b>	<b>2674</b>	<b>2657</b>	
<b>Total</b>	<b>2833</b>	<b>7049</b>	<b>1245</b>	<b>5330</b>	<b>179</b>	<b>299</b>	<b>4852</b>	<b>593</b>	<b>11</b>	<b>4722</b>	<b>4</b>	<b>7034</b>	<b>5315</b>	







**Annex C:**

**Summary of Health Events Investigated by Field Epidemiology and Training Program (FETP), 2020**

Date	Title	Primary Investigator
<b>January 2020</b>		
Jan. 6 -11, 2020	Epidemiologic Investigation on Measles Outbreak in Mati City, Davao Oriental	Ms. Karla May Manahan
Jan. 17-24, 2020	Vaccine-derived Poliovirus Type 2 (VDPV2) Polio Outbreak in Quezon City	Dr. Eugenia Mercedes Cañal
Jan. 31 - Feb. 6, 2020	Contact Tracing for First and Second Confirmed 2019-nCoV ARD Cases in Cebu and Negros Oriental	Ms. Richelle Abellera
Jan. 12-31, 2020	Disease Surveillance on Taal Volcano Phreatic Eruption, Batangas	Dr. Ludina Insigne
<b>February 2020</b>		
Feb.6-11, 2020	Vaccine-derived Poliovirus Type 2 (VDPV2) New Cluster in Lambayong, Sultan Kudarat	Ms. Francis Guimpatan
Feb.6-10, 2020	Contact Tracing for the 3rd 2019-nCoV ARD Case in Cebu, Bohol and Negros Occidental	Dr. Nolie Rimando
Feb. 10-22, 2020	Vaccine-derived Poliovirus Type 2 (VDPV2) in an Environmental Surveillance Site and Active Acute Flaccid Paralysis (AFP) Surveillance, Cebu	Dr. Eugenia Mercedes Cañal
Feb. 25 - Mar. 4, 2020	Establishment of COVID-19 Surveillance among Repatriates of MV Diamond Princess	Ms. Richelle Abellera
<b>March 2020</b>		
<b>April 2020</b>		
Apr. 22-28,2020	Epidemiologic Investigation on Clustering of COVID-19 Cases in Three Detention Centers, Metro Manila	Ms. Ma. Kasmira Maramag
<b>May 2020</b>		
May 4-10, 2021	Confirmed COVID-19 Cases among Healthcare workers at Vicente Sotto Memorial Medical Center	Ms. Karla May Manahan
May 10-29, 2020	Epidemiologic Investigation on Outbreak of Confirmed COVID-19 Cases in Four cities and One Provincial Jails of Cebu Province	Ms. Karla May Manahan
May 5-26 2020	Case Control Study to assess potential risk factors for Coronavirus Disease 2019 (COVID-19) among Health Care Workers, RITM	Dr. Ludina Insigne
<b>June 2020</b>		
<b>July 2020</b>		
<b>August 2020</b>		
Aug. 4-18, 2020	Acute Flaccid Paralysis Surveillance and Environmental survey	Dr. Nolie Rimando
<b>September 2020</b>		
<b>October 2020</b>		
<b>November 2020</b>		
Nov. 18-29, 2020	Enhanced Community-based Disease Surveillance (Post Flooding) Typhoon Ulysses, Cagayan Valley	Dr. Nolie Rimando
<b>December 2020</b>		
Dec. 7-11, 2020	Epidemiologic Investigation on Suspect Brucellosis Case	Ms. Karla May Manahan