Internal Procedure - ECDC/IP/146

Internal Procedure on Manual Monitoring of Social Media for Epidemic Intelligence

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RELATED DOCUMENTS	
List of relevant standards, legislation and documents	Regulation (EC) No. 851/2004 establishing a European centre for disease prevention and control Regulation (EU) 2022/2371 of the European Parliament and of the Council of 23 November 2022 on serious cross-border threats to health and repealing Decision No. 1082/2013/EU (Text with EEA relevance), in particular art 3(6) ECDC Strategy 2021-2027 ECDC Single Programming Document 2023–2025
List of relevant ECDC documents	Internal Procedure (IP) on 24/7 duties and related duty rosters (ECDC/IP/055) ECDC Work Instructions for 24/7 duty Internal Procedure on ECDC Roundtable (ECDC/IP/83) Internal Procedure on Response Operations – Rapid Risk Assessment Workflow (ECDC/IP/098 Rev.01) Epidemic Intelligence tutorial

ABBREVIATIONS AND DEFINITIONS	
CDTR	Communicable Disease Threat Report
DP	Disease programmes
EBS	Event-based surveillance
ECDC	European Centre for Disease Prevention and Control
EI	Epidemic Intelligence
EU	European Union
IP	Internal Procedure
PHF	Public Health Functions
RT	Round Table
WHO	World Health Organization

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1. Introduction

1.1 Applicability and scope	The purpose of this internal procedure (IP) is to define and document the workflow of social media manual monitoring for the purpose of epidemic intelligence (EI). This IP covers only the process of screening, filtering, and validation of information about public health threats from communicable diseases. It does not cover: (i) the automated monitoring of social media for the purpose of EI, (ii) the dissemination of information and data by ECDC on social media nor the dissemination of the latter for any other means, (iii) the search and collection of information and data by other sources such as the use of established surveillance networks and databases (e.g., EpiPulse), restricted platforms or from official public sources (e.g.. reports from WHO or national public health agencies).

1.2 Guiding principles

EI aims to rapidly detect and assess health events related to communicable diseases that threaten EU/EEA Member States and their citizens. The information is collected systematically and collated from a variety of sources. This ensures a timely response proportionate to risk, and provision of recommendations on appropriate public health measures.

EI activities include the following steps: screening, filtering, validation, analysis, documentation, and communication. This IP focuses on the first three steps.

EI experts screen and process a virtually unlimited amount of information from multiple sources to detect any relevant information such as, for example, communicable disease events of public health importance or with high public, media, or political interest, or reports or news of serious unusual or unexpected outbreaks or events of unknown origin. Screening has to be sensitive and timely ensuring an early detection of any signal of a potential public health threat, aiming to have a sufficient specificity to be able to handle this huge amount of information in a timely matter.

After screening and processing the different sources, EI experts will filter the information by selecting and deciding which ones constitute items of interest that will require further investigation and follow-up, and which ones should be discarded early in the EI process. This is done based on pre-defined criteria related to mandate, legislation and context.

Validation is the process of confirming the accuracy and credibility of information received from non-official sources. Once the information is validated and deemed accurate, data are further analysed and communicated to relevant stakeholders. The whole process is documented.

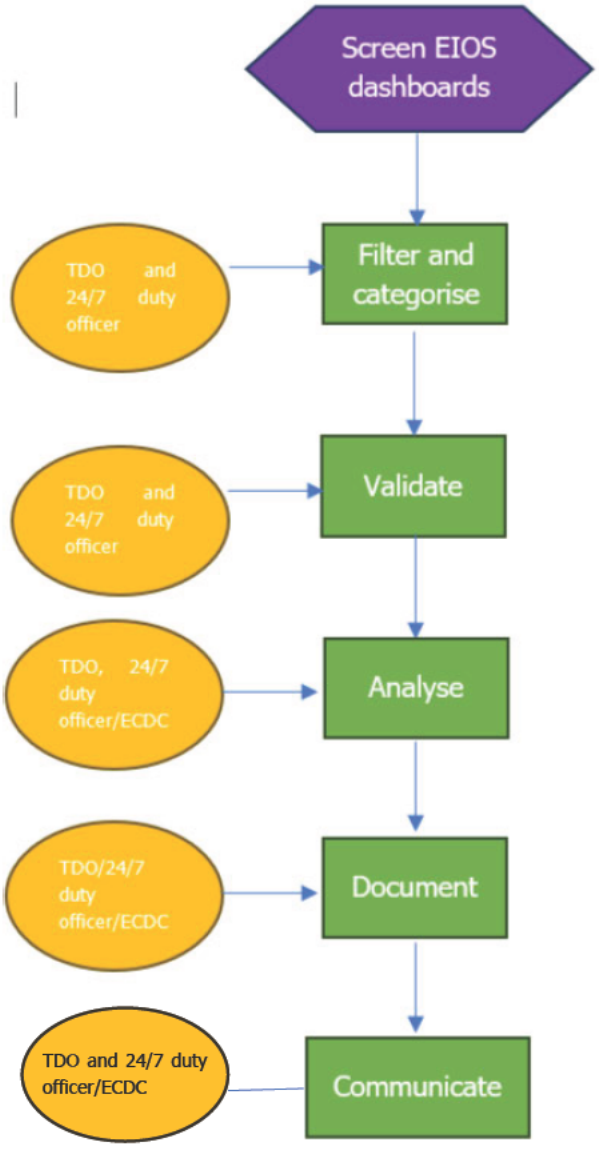
1.3 Roles and responsibilities

Roles	Responsibilities
24/7 duty officer	• Ensures 24 hours a day, 7 days a week continuity of EI activities, including threat detection, all year round. • Oversees EI routine procedures • Responsible for work and outputs done to the highest standards. • Presents the daily findings from EI activities at the ECDC Round Table meeting which aims to discuss these with experts from different public health functions and diseases. • Reviews text to be included in the daily and weekly CDTRs before being presented internally at ECDC and cleared by the chair of the ECDC Round Table.
Threat Detection Officer (Epidemic Intelligence Support Officer)	• Supports 24/7 Duty officer during working hours with activities related to EBS, including daily screening. • Oversees coordination and production of the daily and weekly communicable disease threat report (CDTR). • Disseminates EI findings to relevant internal and external stakeholders. • Responsible for using the ECDC tool Epipulse to disseminate the EI findings.
Chair of the ECDC Round Table meeting	• Announces final decision regarding any actions related to the reported signals/events/threats. • Clears the CDTR text and approves the reports.
Epidemic Intelligence expert	• Contributes to the collection, validation, analysis, interpretation and dissemination of communicable disease surveillance data. • Participates in 24/7 duty system (24/7 duty officer and Threat Detection Officer). • Collects data on long-term monitoring of selected diseases, presents the results at the Round Table meeting and includes these in the CDTRs.
Group Leader Epidemic Intelligence	• Plans and supervises the work of the EI group. • Ensures smooth operations of the EI team and 24/7 duty system. • Liaises with internal and external stakeholders in relation to EI activities. • Manages the staff members of the EI group. • Contact social media users when they are being followed up by ECDC for EI purposes.
Head of Unit Public Health Functions	• Manages staff within the section, including the preparation and implementation of the section's work plan and budget. • Decides whether RRA should be undertaken in consultation with experts from public health functions and diseases.

RT presenter (i.e., 24/7 duty officer and other relevant DPs, EI group representatives involved in preparation of the item)	• Provides an oral report of the respective disease or event. • Prepares the text to be included in the CDTR for the respective disease or event.

Procedure Workflow[1]

This section describes two processes for manual monitoring of social media for epidemic intelligence, i) monitoring list of predefined users using Epidemic Intelligence from Open Sources (EIOS) and ii) monitoring a list of predefined users on social media platforms.

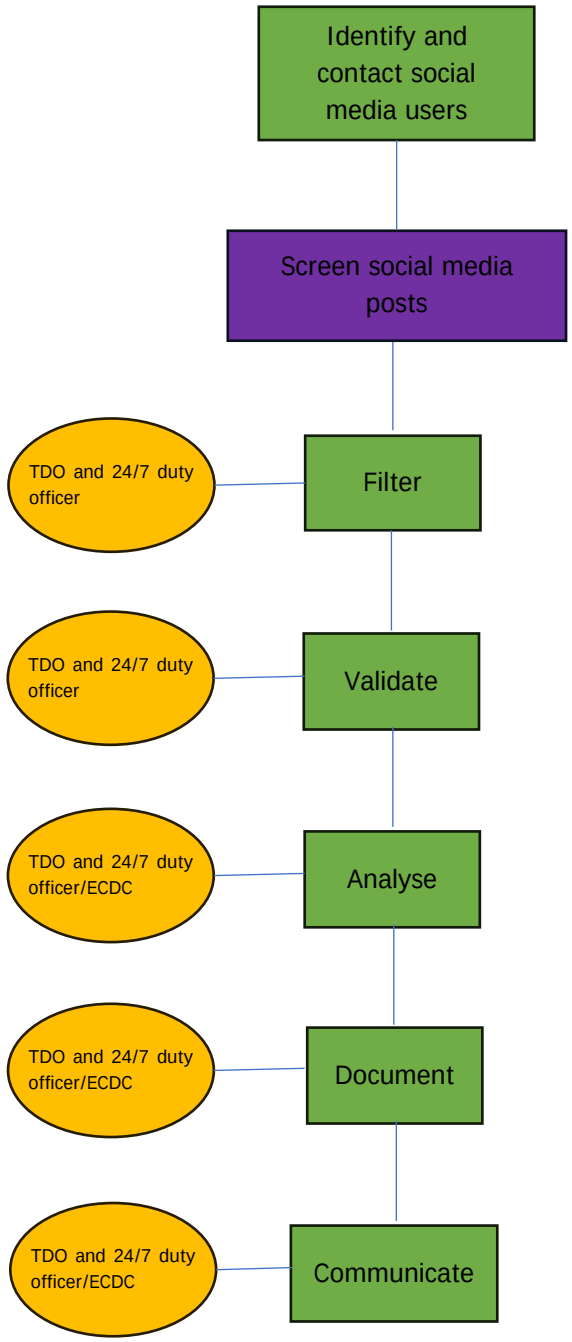
Process workflow steps/responsible function[2] for monitoring using EIOS	Description of the process step and its sub-steps
	**Process step 1: Screening** The EIOS is a web-based system that supports global public health intelligence worldwide and it is based on a collaboration between World Health Organisation (WHO) and the Joint Research Centre of the European Commission. Every day, the system collates hundreds of thousands of articles from a wide range of open sources including social media sources (Facebook, Telegram and Twitter until April 2023), government and official websites, news aggregators, blogs, and expert groups and collaborating initiatives. Within the system, ECDC as one of the users of this system has its own space and can securely share information within the organisation[3]. According to ECDC's mandate, the ECDC EI team has created dashboards (in relation to specific ad hoc events or events/topics followed up on regular basis) in EIOS to include only the relevant categories defined by WHO based on disease or symptoms and location. TDO and the 24/7 duty officer screen these dashboards as part of the threat detection activities. **Process step 2: Filtering and categorising** The items in the EIOS dashboards are filtered based on the ECDC filtering criteria and ECDC's mandate. Items that are considered relevant are pinned to the board and/or flagged for further follow-up and documentation. **Process step 3: Validation**

[1] Use Event Driven Process Chain notation, in parallel with the narrative in the right-side column, as explained in the link: https://www.ariscommunity.com/event-driven-process-chain.

[3] The EIOS system. https://www.who.int/initiatives/eios/eios-technology. [Accessed 15 Jan 2024].

	Most of the information collected through EIOS comes from public unofficial sources. Such information needs to be verified to ensure its accuracy. Unofficial information (e.g., information published in online news media or unofficial social media accounts) is verified with official sources (e.g., website of ministries of health or direct contact with ECDC national focal points) outside of the EIOS. Signals (verified and unverified) are shared with relevant teams within ECDC. The purpose of sharing unverified signals with relevant teams within ECDC is to seek support in verifying the information by contacting relevant external stakeholders.
	Process step 4: Analysis
	When sharing verified signals, the objective is usually to understand the relevance of the signal and discuss potential next action steps. Only after the information is validated and deemed accurate, data are analysed following the epidemiology principles (person, place and time). According to the IP 98 and work instructions, data collected by EI from different validated sources, including social media, can trigger the internal decision to produce a risk assessment. The specific triggering events are described in the work instructions of rapid risk assessments (e.g. outbreaks or events related to communicable diseases which may require timely and coordinated EU action to contain it).
	Process step 5: Documentation
	The verified events and analysis are documented on EpiPulse, the European surveillance portal for infectious diseases. The online portal is used by the ECDC for recording collected information on detected threats. The item creators have the option to custom-set the privacy of the item to make it visible only to EpiPulse users internal to ECDC (restricted) or to certain or all EpiPulse users groups (ECDC, MS, relevant stakeholders with access to EpiPulse). Any

	text obtained through EIOS is summarised and any personal data concerning the cases (if available) is removed by the 24/7 duty officer, Threat Detection Officer or EI expert.
	Process step 6: Communication
	Signals that represent a potential or current public health threat to the EU/EEA Member States are reported at the round table. Information in public domain or, after having the permission of the Member State(s) involved, are published in the daily CDTR which is only accessible in Epipulse. The audience of daily CDTRs is restricted to national public health institutes and Ministries of Health within the EU/EEA or countries with an agreement with the ECDC. The items reported in daily CDTR during the week are reported again at the weekly CDTR. The audience of the restricted weekly CDTR are the same as the audience of the daily CDTRs. There is also a public weekly CDTR version, which is available on ECDC website which contains only the publicly available information from the daily CDTRs.

Process workflow steps/responsible function for monitoring social media platforms	Description of the process step and its sub-steps
	**Process step 1: Identifying and contacting social media users** The EI team prepares a list of reputable organisations and individuals working in the field of public health, epidemiology, epidemic intelligence, and infectious diseases. The list is updated on a regular basis and the list of individual accounts is reviewed every two years. This list of names is used to guide the identification of social media accounts – official accounts for organisations, governments and officials representing organisations/governments, and private accounts. When ECDC EI group has identified a social media account of interest, it "follows" it. The account holders either receive a notification whenever someone follows them or can view the list of followers in their account profile. Regardless, individuals "followed" by the EI team are sent a message to notify them of the EI social media monitoring activity. **Process step 2: Screening** X and Facebook are the main social media platforms monitored on an ad hoc basis. On a sporadic basis or in ad hoc situations, other social media platforms could be manually monitored, such as Telegram. In cases of events for which social media platforms are the best official source of information (more reliable and timely), the social media monitoring can be done routinely. The ECDC EI group (hereafter referred to as ECDC) has an account on X and Facebook to follow the posts of selected individuals, experts and institutions renowned for providing accurate information on public health events and threats, more specifically on infectious diseases. ECDC maintains a list of worldwide and relevant X and Facebook/Meta official accounts that can be monitored ad hoc or in sporadic situations (e.g., an emerging disease present in a localised area).

	ECDC follows approximately 100 X and 40 Facebook accounts. These accounts belong to reliable sources within the field of public health. Following the IP 55 and EI processes, Facebook and X are screened once or twice per day by checking the latest messages posted by the followed accounts. ECDC only uses information and data from publicly available sources.
	Process step 3: Filtering
	The post on the social media platforms from the followed users are filtered based on the ECDC filtering criteria and ECDC's mandate. Data and information collected refer to epidemiological data (confirmed cases, suspected cases, deaths, etc), situation reports on specific events, contextual information, and relevant public health interventions (e.g., vaccination campaigns). Posts containing information that is considered relevant are validated in the next step.
	Process step 4: Verification
	ECDC follows both official and unofficial sources. Official sources include X and Facebook accounts of public health agencies, universities, ministries of health, or any other official organisations (e.g., civil protection or government) and their core employees (e.g., president or minister). This information is considered validated and does not require further verification. Official social media accounts can be used also for verification of information identified through EIOS, if needed. Unofficial sources include accounts of renowned journalists, media and active experts within the field of public health and communicable diseases, whose information and data are subsequently validated by ECDC. Such information needs to be verified with official sources (e.g., website of ministries of health or direct contact with ECDC national focal points) to ensure its accuracy.

	Signals (verified and unverified) may be shared with relevant teams within ECDC. The purpose of sharing unverified signals within ECDC is to increase awareness or seek support with validation by contacting relevant external stakeholders. If the information included in the social media posts is considered validated, another official source is searched to be used in the next steps. Only in very few occasions when there is no other available source and the social media account is an official source, the social media post is used for the next steps.
	Process step 5: Analysis
	When sharing verified signals, the objective is usually to understand the relevance of the signal and discuss potential action. Only after the information is validated and deemed accurate, data are analysed following the epidemiology principles (person, place and time). According to the IP 98 and work instructions, data collected by EI from different validated sources, including social media, can trigger the internal decision to produce a risk assessment. The specific triggering events are described in the work instructions of rapid risk assessments (e.g. outbreaks or events related to communicable diseases which may require timely and coordinated EU action to contain it).
	Process step 6: Documentation
	The verified events obtained from social media are not systematically stored. In rare occasions, and only if data are coming from official social media accounts and no other official source is available, data is included in EpiPulse to produce ECDC outputs (e.g., CDTR). In line with the principles of data minimization set out in Article 4 (1) lit. c Regulation (EU) 2018/1725[4], ECDC does not collect, store, evaluate or disseminate personal data of the individuals that are affected resp. suffering from a

	communicable disease. Neither does ECDC collect, store, evaluate nor disseminate personal data of its sources, meaning the persons who publish and/or disseminate data and or information on social media. Epipulse is used by the ECDC for recording collected information on detected threats. The item creators have the option to custom-set the privacy of the item to make it visible only to EpiPulse users internal to ECDC (restricted) or to all EpiPulse users (ECDC, MS, relevant stakeholders with access to EpiPulse). Any text obtained through social media is summarised and any personal data concerning a case (if available) is removed by the 24/7 duty officer, Threat Detection Officer or EI expert.
	Process step 7: Communication
	Signals that represent a potential or current public health threat to the EU/EEA Member States are reported at the round table. Information in public domain or, after having the permission of the Member State involved, are published in the daily CDTR which is only accessible in Epipulse. The audience of daily CDTRs is restricted to national public health institutes and Ministries of Health within the EU/EEA or countries with an agreement with the ECDC. The items are reported again at the weekly CDTR. The audience of the weekly CDTR are the same as the audience of the daily CDTRs. There is also a public CDTR version, which is available on ECDC website.

2. Procedure records

Please identify here documents that result from the current procedure as its outputs.

Number	Title	Procedure step	Record Owner	Storage Location	Security Level
n/a	Daily Communicable Disease Threats Reports (CDTRs)	5 and 6 (process i) 6 and 7 (process ii)	Epidemic Intelligence	EpiPulse	ECDC normal
n/a	Weekly CDTRs	5 and 6 (process i) 6 and 7 (process ii)	Epidemic Intelligence	EpiPulse	ECDC normal
n/a	Websites on the long-term monitoring threats (e.g., dengue)	6 (process i) 7 (process ii)	Epidemic Intelligence, Communication	ECDC website	ECDC normal

3. Segregation of duties and control activities

The following measures are in place to ensure segregation of duties and control activities:

1) The 24/7 duty team is composed of two experts, at least one being from the epidemic intelligence group. Both experts keep a close contact and frequent discussions during each of these steps
2) Information collected through the daily screening is share with ECDC experts from different diseases and public health functions in the daily round table meeting before proceeding with the clearance, final documentation and communication.
3) There is a clearance process established in which the chair of the round table meeting will revise the draft version of CDTRs, clear it and approve it before documenting and publishing/communicating the final version.
4) All information collated from social media platforms is validated and confirmed with other sources, especially when it is from unofficial social media accounts.