



Companion Resource:

Outputs from polio surveillance subject matter expert work groups - risks and risk mitigation strategies

Abridged version

The complete, unabridged version is available in an excel workbook upon request to your WHO regional office or by email at polio_info@who.int

Highly Sensitive Surveillance

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
AFP surveillance	<p data-bbox="348 212 926 261">Lack of geographic and demographic comprehensiveness of AFP surveillance network (access and utilization)</p> <ul data-bbox="348 269 926 431" style="list-style-type: none"> - Area/population missed from the representative network - Inaccessible, insecure, conflict affected areas - High risk mobile populations (nomadic, economic migrants) - Refugees and IDPs - Hard to reach areas - Areas/populations underserved by health services 	<p data-bbox="1024 212 1997 261">Depending on the context, admin 1 (provincial) or admin 2 (district) level surveillance officers to do the following, with the support of their superior level (national or provincial):</p> <ul data-bbox="1024 269 1997 488" style="list-style-type: none"> - Negotiate access with concerned parties - Mapping of areas and population missed from the network, including inaccessible and security compromised areas - Identify the existing service providers and health seeking behaviours - Sensitize and engage the available facilities - Identify and sensitize AFP focal persons - Explore establishing community-based surveillance - Disaggregate data analysis for these areas and populations
AFP surveillance	<p data-bbox="348 505 926 524">Inadequate Network</p> <ul data-bbox="348 532 926 586" style="list-style-type: none"> - Missing Health care provider sectors (e.g. private sector, Military hospitals, University hospitals, traditional healers, other sectors) 	<p data-bbox="1024 505 1997 524">Admin 1 (provincial) level to support admin 2 (district) level surveillance officers to do the following:</p> <ul data-bbox="1024 532 1997 610" style="list-style-type: none"> - Regular review of the reporting network for comprehensiveness and inclusion of new sites - Conduct health seeking behaviours analysis to identify potential facilities missed from the network - Inclusion of health facilities catering to the relevant age group and type of patients
AFP surveillance	<p data-bbox="348 634 926 654">Improper prioritization of the reporting network</p>	<p data-bbox="1024 634 1997 654">Admin 2 (district) level surveillance officers, with the support of Admin 1 (provincial) level to conduct:</p> <ul data-bbox="1024 662 1997 708" style="list-style-type: none"> - Reprioritization of sites as per the National Guidelines - Quarterly review of prioritization
AFP surveillance	<p data-bbox="348 764 926 784">Visits not conducted as per the prioritization</p> <ul data-bbox="348 792 926 902" style="list-style-type: none"> - Not conducting active surveillance and relying on routine surveillance - Neglect of routine surveillance activities by focusing only on active surveillance - Poor quality, frequency of active surveillance visits 	<p data-bbox="1024 764 1997 784">Admin 1 (provincial/regional) and Admin 2 (district) levels to coordinate the following:</p> <ul data-bbox="1024 792 1997 927" style="list-style-type: none"> - Enhancing capacity of surveillance officers for active surveillance by improving knowledge by trainings and other capacity building measures - Ensure proper documented plan for active surveillance visits - Supervision of active surveillance visits (5% of visits to be validated) - Tracking of active surveillance visits with sharing of data up to regional level
AFP surveillance	<p data-bbox="348 951 926 971">Inadequate sensitization of health care providers</p>	<p data-bbox="1024 951 1997 971">Admin 2 (district) surveillance officers to:</p> <ul data-bbox="1024 979 1997 1146" style="list-style-type: none"> - conduct sensitization of all relevant health service providers during active surveillance visits - plan and organize annual sensitization of all AFP focal points - conduct short workshops for big health facilities or cluster of health care provides - capitalize on other opportunities like monthly staff meetings, association meetings, conference etc. - display of IEC materials (posters, notepads, calendars etc.) in health facilities / reporting sites - provide feedback to facility/ care providers for reported/missed cases
AFP surveillance	<p data-bbox="348 1162 926 1211">Poor quality of AFP case reporting and selection leading to false confidence</p> <ul data-bbox="348 1219 926 1268" style="list-style-type: none"> - Filtering of cases for adequacy, age, diagnosis (not following syndromic approach) 	<p data-bbox="1024 1162 1997 1182">The national level surveillance programme to ensure that:</p> <ul data-bbox="1024 1190 1997 1300" style="list-style-type: none"> - An emphasis is placed on the syndromic approach, with clear definition, during all sensitization sessions and at all admin levels - Critical analysis of data and CIFs is conducted for identifying filtering - Investigation reports of discarded cases are kept
AFP surveillance	<p data-bbox="348 1325 926 1344">Improper process of sample collection, storage and shipment</p>	<p data-bbox="1024 1325 1997 1344">Admin 1 (provincial / regional) level in coordination with the national level to:</p> <ul data-bbox="1024 1352 1997 1430" style="list-style-type: none"> - ensure training and briefings of focal points on the process - ensure availability of kits, reverse cold chain, and other logistics - collect and analyze information on stool collection, storage and shipment process

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AFP surveillance	Not following SOPs for cases with inadequate specimens - Not conducting contact sampling	The national level surveillance programme to conduct: - An analysis of the data for inadequate cases and contact samples - An orientation of AFP focal points on the importance of contact sampling, 60-day follow-up and the thorough documentation and clinical data - Review and strengthen the ERC - Monitor compatible cases, and the timeliness of follow-up
AFP surveillance + Environmental surveillance	Weak surveillance workforce including - Insufficient surveillance workforce/rapid turnover of staff - Inadequate capacity of surveillance staff - Absence or poor implementation of accountability framework - Work overload on surveillance staff	The national level surveillance programme, with the support of the relevant department(s) within the Ministry of Health, to: - review the surveillance structure and fill gaps, if needed, with the support of Partners - ensure the facilitation of movement of surveillance workforce - reassess the capacity, and training needs of the surveillance staff and to conduct capacity building - plan annual refresher trainings - develop and implement an accountability framework for surveillance - avoid rapid turn-over by providing regular training and other incentives, and to develop a mechanism of training of every newly inducted staff
Information system	Inadequate monitoring and data management including - Inadequate/ irregular analysis of surveillance data to identify gaps and/or required corrective action - Lack of mechanism and/or suboptimal quality of supportive supervision and quality checks - Focus narrowly on selected indicators, only numerators, misleading data due to wrong denominators or misassignment of case location	The national level surveillance programme to: - review and strengthen the mechanism for supportive supervision with workplans, tools and dedicated funds and monitoring mechanism - develop a standard set of analysis (beyond core indicators, including process components) which should be used on monthly basis to identify gaps - disaggregate analysis of data by different population, geography, gender and reporting sites - assess the capacity of the staff responsible for the analysis and the interpretation of the data, and where relevant, provide training - institute a mechanism of surveillance data validation (10% AFP cases, ACS etc.) - plan and conduct annual <i>internal</i> surveillance reviews, and <i>external</i> surveillance reviews every 2 years - track, systematically, the implementation of recommendations of assessments and reviews conducted by and with the support of the Regional office
Environmental surveillance	Lack of ES system - Lack of structured sewage network - Missing important geographies/communities - Poorly selected ES sites - Poorly process of sample collection, handling and transport - Continuation of poor yield sites	In coordination with the Regional office and the GPLN, the country programme to: - initiate ES in line with the global guidance In addition, the country programme: - In case of lack of structure sewage system, look for appropriate drainages to collect ES - Monitor ES performance for yield on a monthly basis - Conduct, every 6 months, a review of ES sites for appropriateness or changes in demography in the catchment areas - Assess and strengthen the capacity of ES sample collectors by improving their knowledge through trainings and other capacity building measures - Develop and disseminate simple SOP/video on collection, storage and shipment process - Institute a mechanism of supervision and monitoring of sample collection process - Advocate for closure of ES sites if no improvement following interventions as per the SOP

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Cross-cutting	<p>Poorly planned withdrawal/reduction of GPEI support (esp. financial)</p> <ul style="list-style-type: none"> - Abrupt withdrawal of incentives for case notification/investigation - Abrupt withdrawal of consultants/external support 	<p>The national level surveillance programme, with the active engagement of the Ministry of Health, and the support of the WHO country office to:</p> <ul style="list-style-type: none"> - ensure that the gradual withdrawal of GPEI support (esp. financial) is well-planned - foster Government ownership, i.e., allocating budget lines and increasing national contributions - focus on developing national technical capacity for sustainability after withdrawal of external support
AFP surveillance	<p>Delays in seeking health care/reporting</p> <ul style="list-style-type: none"> - Lack of understanding or utilization of Health Seeking Behavior (HSB) information - Poor sensitization of health care providers (not reported by early encounters) 	<p>Admin 2 (district) level to:</p> <ul style="list-style-type: none"> - collect and use HSB data for the adjustment of the surveillance network - regularly contact and sensitization of health care providers - provide information, education and communication (IEC) materials: case definition, reporting requirement and pathway, surveillance officer contact information.
AFP surveillance	<p>Delay in case investigation and collection of samples</p>	<p>The national level surveillance programme to:</p> <ul style="list-style-type: none"> - track the timeliness of case investigation and sample collection - ensure that training and all the required logistics for case investigation and sample collection are available to all AFP focal points
AFP surveillance + Environmental surveillance	<p>Lack of reliable and frequent transport options and/or expensive transport options leading to batching</p> <ul style="list-style-type: none"> - Delays in sample shipment to the central level or point of further shipment - Delays in sample shipment outside country 	<p>The national level surveillance programme with the support of the WHO country office, and if/when needed, the Regional office to:</p> <ul style="list-style-type: none"> - explore establishing a system of end-to-end sample tracking - regularly analyze data to identify the reason and stages leading to delays - ensure batching of samples is avoided – even if it is resource intensive - review and explore alternate shipment mechanisms to minimize delays (shipping contracts) - plan transport ahead of time - develop a contingency plan for shipment
Laboratory	<p>Delays in laboratory processing due to overload</p>	<p>The Laboratory with the national level surveillance programme to:</p> <ul style="list-style-type: none"> - assess the needs and, if possible, capacitate the laboratory for the handling of the extra load - explore alternate laboratories to distribute workload - develop a contingency plan for shipment of samples
Cross-cutting	<p>Abrupt ramp down and withdrawal of financial and technical support</p>	<p>The national level surveillance programme, with the support of the Ministries of Health, to work with GPEI to:</p> <ul style="list-style-type: none"> - ensure the continuation of GPEI support for the period covered by the GPSAP - advocate that any ramp down must be well planned and gradual, complemented with contingency plan
Cross-cutting	<p>Lack of proper guidance to countries on the process of transition</p>	<p>The national level surveillance programme, with the support of the Ministries of Health, to work with WHO/GPEI on a clear guidance on transition with close support from the global and regional level in the process, and the sharing of lessons learned and best practices between countries</p>
Cross-cutting	<p>No / Slow active steps taken for integration of polio surveillance and other VPD surveillance</p>	<p>The national level surveillance programme, together with the WHO country office, to work with the Regional office and Global GPEI partners on the development of clear guidance and tools for the integration of AFP surveillance with other surveillance systems</p>

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Cross-cutting	Polio surveillance losing priority	The national level surveillance programme to track surveillance performance in the transition period with immediate interventions if needed
Cross-cutting	Government/non-government authorities/communities banning surveillance activities (limiting movement, sample shipment etc.) in geographies or for periods of time	<p>The WHO country office to advocate with national and local authorities, and/or to seek support within the GPEI global level in matters related to the banning or delaying of actions</p> <ul style="list-style-type: none"> - Such actions should be treated as emergencies with immediate escalation to the highest level for intervention - Advocate with the concerned authorities for the importance of poliovirus surveillance - Use of IHR/PHEIC provisions - Advocate for the development of contingency plans
Cross-cutting	Political pressure top bottom with low tolerance to showing gaps or virus detection	<p>The WHO country office to:</p> <ul style="list-style-type: none"> - advocate with the authorities on the importance of encouraging the reporting of surveillance gaps and providing support for solutions, and the importance of avoiding a culture of fear and punitive action. - encourage a low tolerance to any falsification of data.

Very Sensitive Surveillance

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
AFP surveillance	<p>Inadequate coverage of the surveillance network</p> <ul style="list-style-type: none"> - Coverage that is not comprehensive, not representative geographically, demographically and with respect to service-providers (certain sectors of the health care system -private, pharmacies, military- or actors -e.g., traditional practitioners- are missed), and/or - Inability to access healthcare facilities that fall outside of public health jurisdiction (e.g., private hospitals, military hospitals, university teaching hospitals, tertiary hospitals etc.) leading to no active or passive surveillance activities 	<p>National level surveillance program to:</p> <ul style="list-style-type: none"> - advocate with other Ministries, sectors of the government (incl. Army, Police, Higher Education) to allow access to facilities under their management for active surveillance - advocate with private sector (incl. syndicates, churches/mosques, and pediatric associations) to allow access to facilities under their management for active surveillance - organize regular active surveillance visits from higher authorities including procuring letters from the MOH for the inclusion of such institutions into the surveillance network
AFP surveillance	<p>Poor implementation of active surveillance activities</p> <ul style="list-style-type: none"> - especially if overlooking main hospitals, or if the execution of visits to main hospitals is poor 	<p>With the support and guidance of admin 1 (provincial) level, admin 2 (district) level surveillance officer to:</p> <ul style="list-style-type: none"> - ensure that the active surveillance prioritized list of sites is comprehensive (e.g., public, private facilities, pharmacies, military, and traditional practitioners) and updated every 6 months, and ensure calendar of visits (for all admin levels) are realistic and implemented. - ensure active surveillance is monitored as per standards and ensure issues are investigated as soon as they are identified - conduct on-the-job training by supervisor where issues have been identified, and ensure that newly appointed surveillance focal points receive thorough briefing / training on active surveillance <p>National, Admin 1 and Admin 2 (where applicable) level supervisors to:</p> <ul style="list-style-type: none"> - conduct regular supportive supervision (as per their calendar) - assign most experienced, senior Surv Officer for High(est) Priority sites - where possible, monitor the quality, completeness of implementation of visits using ODK or other technological interventions

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
AFP surveillance + Environmental surveillance	<p>Poorly conducted surveillance activities, including active surveillance visits and supervisions, and community-based surveillance, due to:</p> <ul style="list-style-type: none"> - Poor management, incl. poor monitoring - Poorly trained surveillance staff in AFP and environmental surveillance (e.g., do not report AFP cases, delayed specimen collection, declining awareness, incomplete reporting) - Limited training and refresher opportunities (AFP surveillance, training on ES, iVDPV, laboratory) 	<p>With respect to the implementation of surveillance activities, surveillance officers at national and admin 1 (provincial) levels:</p> <ul style="list-style-type: none"> - Through supervisory visits and the monitoring of indicators, identify possible gaps in performance of surveillance - Ensure all identified gaps are investigated (phone call or visits) to assess the extent of the issue and come up with possible solutions. This is to be done with district level surveillance officers. - Ensure all staff (especially new staff) are appropriately trained and have support material and tools needed - Ensure and monitor supportive supervisory visits (completeness, timeliness and quality by periodically supervising supervisors) <p>With respect to training, surveillance officers at the national level to:</p> <ul style="list-style-type: none"> - Develop a budgeted plan and calendar for capacity building (formal training and refresher workshops) of the different cadres (surveillance officers, surveillance focal points in health facilities, informants) - Secure funding from Ministry of Health, GPEI or other partners - Adapt and make use of the existing Global or Regional AFP surveillance training package + online training (4 AFP surveillance modules on WHO iLearn) - Ensure trainings are conducted as planned and, when needed, with the support of the Regional Office, especially if it is to create a pool of master trainers if planning on conducting a "cascade" training - Monitor the implementation of the training against plans, calendar and funds provided - Assess the impact of the training over 6-12 months through key indicators, the completeness of active surveillance visits, and by conduct periodical checks on the quality of visits and case investigations. - Give participants certificate at end of their training(s)
Cross-cutting	<p>Absence of follow-up</p> <ul style="list-style-type: none"> - once solutions to surveillance gaps have been suggested - at either national or sub-national level 	<p>At the national and admin 1 (provincial) level, set up a tracking system of review recommendations and use it to report on progress made, including at periodical provincial and national level meetings, with all stakeholders / partners present (i.e., create and foster a sense of accountability and duty of care)</p> <p>Surveillance officers / units to advocate with local or national authorities (e.g., Ministry of Health) for additional funds if needed to address identified gaps in surveillance (complete with a justified, budgeted proposal on how to do so)</p>
AFP surveillance	<p>Overlooking health-seeking behavior for AFP as factor in surveillance</p> <ul style="list-style-type: none"> - i.e., lack of knowledge/understanding of communities, and / or no/insufficient data collected (in CIF) on health-seeking behavior and health encounters 	<p>Surveillance officer at national level to ensure that national CIFs carry fields that address health seeking behavior and document health encounters</p> <p>Surveillance officers at national and sub-national level to check systematically all new CIFs to ensure that they are fully and logically completed, incl. that fields addressing health seeking behavior and documenting health encounters are filled out.</p> <p>Surveillance officers at national and sub-national levels to ensure that the collected data are routinely analyzed (disaggregated) for any corrective action/intervention needed</p>

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AFP surveillance + Environmental surveillance	<p>Chronic or sporadic insecurity preventing full access to populations by MOH / GPEI surveillance officers for active surveillance, case investigations and supervision/on-the-job training of health facility surveillance focal points, and ES where conducted, that may include:</p> <ul style="list-style-type: none"> - Weak ring-surveillance - No or limited efforts at negotiating access to populations in conflict-affected areas 	<p>Depending on the context, admin 1 (provincial) or admin 2 (district) level surveillance officers to do the following, with the support of their superior level (national or provincial):</p> <ul style="list-style-type: none"> - Map and track access to the communities at the lowest level on a regular basis - Identify channels of negotiation, incl. through 3rd parties, to access health facilities and communities - Sensitize and seek support of police and armed forces whenever appropriate to be able to gain safe access to insecure areas - Identify alternative methods of accessing areas/populations (incl. ring fencing/surveillance, negotiating safe access /windows of opportunity, partnering with organizations that work in the areas, and identifying and training local contact for the purpose of reporting AFP cases) - Track movement of people leaving insecure areas (e.g., taxi drivers, bikers, and traders) and target them for supplementary surveillance methods (incl. contact sampling, healthy children sampling, and identifying informants) - Bring AFP cases out of the insecure zone for case investigation - Disaggregate data by type of population (e.g., ethnic and gender) when analyzing - Monitor performance at the lowest possible level and by geographic area type, if applicable (conflict affected or insecure areas vs. fully accessible area)
AFP surveillance	<p>Inadequate demographic and geographic representativeness or coverage of network resulting in missing of some population groups and/or areas, with possible failure to identify and/or implement surveillance strategies targeting 'special populations':</p> <ul style="list-style-type: none"> - Populations living in hard-to-reach areas (incl. islanders, fishing communities) - Mobile populations (incl. nomads, seasonal migrants/workers, cross-border communities) - Populations with barriers to reach health services (incl. related to health seeking behavior (language-, cultural / political-, and gender-related barriers) such as ethnic minorities) - Refugees and IDPs (in camps and/or in host community) - Underserved areas (e.g., border areas, urban slums, politically shunned) - Stateless people 	<p>Admin 2 (district) level surveillance officers, with the support and guidance of Admin 1 (provincial) level surveillance officers to:</p> <ul style="list-style-type: none"> - identify and map by location and type of population - identify available health facilities - collect and analyze health seeking behavior - adjust the surveillance network (i.e., conducted SOP of reviewing active surveillance network every 6 months) - complement with CBS (identify informants), if feasible and appropriate - conduct active case search, where needed - assess the need for supplementary activities (e.g., healthy children sampling, setting up ad hoc ES sites, contact sampling) in coordination with the lab - stratify data analyses - plan to conduct internal and external surveillance reviews to identify such shortcomings and develop plans to rectify the shortcomings.

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AFP surveillance	<p>Poor or non-existent AFP reporting network - incl. lack of surveillance activities in Transit Corridors</p>	<p>1) If an AFP surveillance network is absent: Admin 2 (district) level surveillance officers, with the support and guidance of Admin 1 (provincial) level surveillance officers to: - identify and map by location and type of population - identify available health facilities - collect and analyze health seeking behavior - set up an active surveillance network - complement with CBS (identify informants), if feasible and appropriate - assess the need for supplementary activities (e.g., healthy children sampling, setting up ad hoc ES sites, contact sampling) in coordination with the lab - stratify all data analyses</p> <p>2) If (infra)structures are absent, seek alternative to implement surveillance: Admin 2 (district) level surveillance officers, with the support and guidance of Admin 1 (provincial) level surveillance officers to: - identify NGO on the ground and sensitize / train staff to identify and report AFP cases - start Community Based Surveillance</p>
Environmental surveillance	<p>Inappropriately or poorly located ES site(s) - e.g., in security-compromised areas that cannot be sampled routinely, pit latrines)</p>	<p>The national surveillance officer or person responsible for ES to: - ensure that the latest ES field guidance are available at all levels and to increase awareness of additional resources (e.g., GPEI website) - follow guidance when selecting sites in coordination with regional level (follow criteria of selection, validation, performance analysis at the 6-month mark to add or not, follow-up to adjust or close) - ensure that assigned ES supervisors conduct regular supervisions and provide feedback, incl. on poorly located / inappropriately located sites</p>
Environmental surveillance	<p>Low EV yielding ES sites - possibly due to poor location, and/or due to systematic poor sampling procedure and/or handling of samples</p>	<p>1) If low EV rate due to poor location: The national surveillance officer or person responsible for ES to: - ensure that the latest ES field guidance are available at all levels and to increase awareness of additional resources (e.g., GPEI website) - follow guidance when selecting sites in coordination with regional level (follow criteria of selection, validation, performance analysis at the 6-month mark to add or not, follow-up to adjust or close) - ensure that assigned ES supervisors conduct regular supervisions and provide feedback, incl. on poorly located / inappropriately located sites</p> <p>2) If low EV yielding ES site due to poor sampling and/or handling: The national or subnational level ES supervisor to: - conduct re-training (incl. on the job training) to correct mistaken sampling/handling - ensure supervision is appropriately conducted - ensure corrective action are taken immediately - monitor performance on a regular basis</p>

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Environmental surveillance	Low sensitivity ES sites persist/not relocated	With the support of the WHO country (and/or regional) office, the national ES officer to advocate with the appropriate ministry for the changing of the location (explaining the need to optimize the ES sites)
Environmental surveillance	Delayed initiation/roll out of ES network in high-risk, feasible areas	<p>With the support of the WHO country (and/or regional) office, the national ES officer to advocate with the appropriate ministry for the roll out of ES network, and seek support from police / ministry of defense for additional protection / security if needed.</p> <p>Advocacy with WHO country office and Government and ensure that the initiation and roll out of ES network is included in the annual surveillance workplans and enhanced surveillance work plans in the high risk and outbreak countries.</p>
Environmental surveillance	Poorly trained ES staff - e.g., suboptimal collection time, sampling	<p>National ES supervisor and, if applicable, Admin 1 (provincial) and/or Admin 2 (district) ES officer to:</p> <ul style="list-style-type: none"> - ensure regular monitoring of ES performance is conducted to identify gaps and address them quickly - ensure supervision visits are conducted as scheduled, making sure that on-the-job training and supportive supervision is conducted - provide regular formal training to staff (to be included and budgeted in yearly surveillance plan) - ensure all equipment and tools are available
Cross-cutting	Inadequate training of VPD/HE staff on polio surveillance	<p>The polio surveillance unit at national level to:</p> <ul style="list-style-type: none"> - ensure that all trainings are integrated / include VPDs (and outbreak response) - ensure that VPD staff take part in all training workshops and facilitation of all workshops <p>Polio surveillance officers at all admin levels:</p> <ul style="list-style-type: none"> - Where possible conduct joint polio/VPD/HE supervisory visits, esp. as the country moves towards integration and transition - When developing calendars of activities, explore the possibility of conducting joint field visits, maximizing the use of resources (e.g., vehicles) and joint trainings to foster better understanding of each other's programmes and foster a sense of (joint) ownership
Cross-cutting	Incomplete / Inadequate / Ineffective integration of polio surveillance into the broader surveillance system - such as IVB/VPD or WHE or in Other program(s) - incl. loss of case-based system, for data at the time of Transition	<p>With the guidance and support of the Regional Office, the national (polio) surveillance program to:</p> <ul style="list-style-type: none"> - organize coordination meetings between different national stakeholders, counterparts, departments to ensure clear pathways are found for the eventual inclusion of polio surveillance functions into other program(s), and for the development of integrated tools - use lessons learned in other countries, and/or exchange experience (Global level to help facilitate) - ensure the sustainability and continued measurement of polio surveillance performance

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Cross-cutting	<p>Failure to prepare and guide countries adequately on integration and transition:</p> <ul style="list-style-type: none"> - insufficient advocacy (upstream/ahead of time) at the highest level (lack of sense of urgency, lack of sense of responsibility/ownership of the process/accountability for its success,...) - lack of clear guidance on integration and transition (Global level guidance exists but is it too general / lacking in scenarios for different country profiles?) - insufficient support in the process for countries with weak health infrastructure 	<p>Global and Regional levels:</p> <ul style="list-style-type: none"> - to advocate with countries to own the process, and help with clear path towards integration and transition <p>With the guidance and support of the Regional Office, the National Surveillance programme to:</p> <ul style="list-style-type: none"> - organize coordination meetings between different national stakeholders, counterparts, departments to ensure clear pathways are found for the eventual inclusion of polio surveillance functions into other program(s), and for the development of integrated tools - use lessons learned in other countries, and/or exchange experience (Global level to help facilitate) - ensure the sustainability and continued measurement of polio surveillance performance
Information system	<p>Failure to (adequately) integrate polio data:</p> <ul style="list-style-type: none"> - mobile data collection for polio with other VPDs (incl. information on cases and on supervision) - AFP data into broader IDSR or DHIS2 systems 	<p>With the guidance and support of the Regional Office, the national polio program to:</p> <ul style="list-style-type: none"> - present and train VPD data managers and surveillance officers on the polio data and information system - hold regular (frequency tbd) meetings with VPD to go over issues, and ensure a smooth hand-over and transition
Laboratory	<p>Delays in laboratory processing due to overload</p>	<p>The Laboratory with the national level surveillance programme to:</p> <ul style="list-style-type: none"> - assess the needs and, if possible, capacitate the laboratory for the handling of the extra load - explore alternate laboratories to distribute workload - develop a contingency plan for shipment of samples
AFP surveillance + Environmental surveillance	<p>Delays in case detection and/or in case investigation</p> <ul style="list-style-type: none"> - incl. due to issues with logistics, lack of supplies and materials [not related to transportation] 	<p>Sub-national surveillance officer to:</p> <ul style="list-style-type: none"> - ensure CIFs include fields relevant to HSB and health encounters - ensure systematic analyses of HSB and health encounters are done - analyze / Identify reasons for delayed detection and referral - adjust the active surveillance network if needed - sensitize health care providers - ensure that logistics for sample collection and case investigation (kits and supplies) - ensure capacity building of surveillance officers - ensure reasonable work load for surveillance officers
Cross-cutting	<p>Delays in sample transport</p> <ul style="list-style-type: none"> - incl. due to insufficient resources (e.g., means of transport, consumables, or incentives) 	<p>The national surveillance officer to:</p> <ul style="list-style-type: none"> - identify where in process delays occur - ensure funds are made available according to agreed-upon budgeted plan(s) - avoid batching - ensure all paperwork (e.g., permits) is available in advance - track specimens to identify bottlenecks - have contingency plans for alternative routes, carriers, and laboratories - establish good coordination / communication with courier - ensure adequate storage at all level (reverse cold chain) - kits, cold chain are available

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Cross-cutting	<p>Poor logistics infrastructure to transport specimens - incl. due to lack of sense ownership/accountability in the shipping of specimens in country and out of country to polio labs</p>	<p>The national surveillance officer / unit of the MOH to:</p> <ul style="list-style-type: none"> - ensure responsibilities are clearly assigned and understood at all the steps in the transport of samples - closely monitor and follow-up on status of transport at each step - coordinate and communicate with the lab
AFP surveillance + Environmental surveillance	<p>Lack of telecommunications infrastructure - to support electronic-based activities (e.g., mobile data collection, specimen transport monitoring, etc.), and</p> <p>Lack of availability of mobile data collection devices All leading to delays in or inability to roll out of mobile data collection (AFP case investigation, supervision).</p>	<p>National level surveillance officer / unit (MOH) to request funding from GPEI, domestic and/or international partners</p> <p>National level surveillance officer (MOH) to secure technical support (and funds, if needed) from the Regional Office to conduct capacity building on the use of electronic devices, their applications, and the processing and analyzing of collected data</p> <p>National surveillance officer / unit to obtain permission / authorization from the Ministry of Health (or other ministry-ies) to use mobile devices.</p>
Cross-cutting	<p>Absence / Lack of accountability framework - leading to responsibilities being vague (e.g., who is responsible for ensuring ES sites are functional) or the absence of 'incentive' to address identified gaps in surveillance</p>	<p>When developing the yearly surveillance action plan, the national surveillance officer / unit to:</p> <ul style="list-style-type: none"> - ensure any planned activity, action point has an assigned responsible person/entity - clear lines of responsibility and accountability exist for the funding and implementation of activities during integration and transition. In this, the national surveillance officer / unit to work with VPD / HE to ensure there is both agreement and coordination
Cross-cutting	<p>Absence of / Insufficient funding for technical assistance and training</p>	<p>The national surveillance officer / unit to:</p> <ul style="list-style-type: none"> - make sure budgeted yearly surveillance strengthening / action plans are realistic - ensure that budgets are discussed with the respective, relevant Ministries within the Government, as well as with the GPEI (Regional office) and WHO Country to ensure that funds are available for all jointly agreed-upon activities
Cross-cutting	<p>Rapid turn-over of staff - with consequent limited or no training and a loss of institutional memory/knowledge of conducting quality surveillance</p>	<p>Surveillance officers / units at the different admin levels, to:</p> <ul style="list-style-type: none"> - promote a positive work environment through regular contact with surveillance staff, informants and volunteers (e.g., by making calls and/or supervisory visits) and by conducting periodical refresher and on-the-job training. - ensure that all new staff are properly trained in polio surveillance before integration / transition, and closely monitor and supervise during and after process
Cross-cutting	<p>Poor supervision/management of surveillance activities (AFP, ES, iVDPV, laboratory) - due to lack of or insufficient training, or due to competing priorities</p>	<p>National and provincial (admin 1) surveillance officers to ensure that:</p> <ul style="list-style-type: none"> - newly appointed supervisors are trained in and understand supportive supervision - supervisory tools are available (incl. integrated ones) - the work load of supervisors is reasonable and activities are integrated to the extent possible with activities of VPD/HE programs. Review terms of reference and workplans on a yearly basis.

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
AFP surveillance	Lack of coordination across districts, provinces, countries of detected poliovirus - leading to delays in cross-notification and detection of additional viruses	<p>The national level to facilitate coordination and to coordinate between the different administrative levels and countries (seek help and support from the Regional level to do so too, if needed, especially for cross-countries notifications)</p> <p>The national level to ensure that direct communication is in place between surveillance officers across the country's different geographic areas. The admin 1 (provincial) level to insure that admin 2 levels have a quick and easy way of communicating with it.</p> <p>In the case of cross-border activities: the national level and/or the admin 1 (provincial) level to ensure that a mechanism is set up and in place for the exchange of information regarding investigation, and the coordination of surveillance and response activities (e.g., regular cross-border meetings)</p>
Cross-cutting	Limited human resources / attrition	<p>National surveillance officer to:</p> <ul style="list-style-type: none"> - ensure vacant positions are filled as quickly as possible within the surveillance unit (this presupposes the drafting of a realistic, budgeted yearly workplan) - advocate with the respective Ministries that vacant positions be filled as soon as possible - identify and train suitable person as the "deputy" to the surveillance focal point so that surveillance does not slip during the transition period.
Cross-cutting	Confusion in countries that were previously polio-free and have a polio outbreak - about the source of means to strengthen VPD (incl. polio) surveillance and about surveillance targets to reach	<p>WHO Country office to:</p> <ul style="list-style-type: none"> - advocate with the Ministry of Health for a continued focus on polio surveillance - provide technical assistance, short and long-term
Cross-cutting	Competing priorities/polio surveillance low priority	<p>National surveillance program to:</p> <ul style="list-style-type: none"> - plan and implement polio surveillance trainings and ensure that VPD/HE programs take part in them - share polio surveillance SOPs and guidelines with surveillance officers at all relevant levels - ensure monitoring of polio surveillance performance is maintained; conducted regularly and fed back to the higher admin levels to maintain interest and focus - involve VPD and HE programs in all relevant polio (surveillance) meetings to create interest, buy-in, a sense of ownership
AFP surveillance	Lack of security forces to support to access to inaccessible populations	<p>Where relevant, national or provincial (admin 1) surveillance officer to:</p> <ul style="list-style-type: none"> - create opportunities to sensitize other Government agencies to the need to risk of polio importations and/or emergencies and thus have sensitive surveillance in those populations - enlist support of other Government agencies and NGOs to act as liaison or 'informants' for AFP surveillance
Information system	No or limited data management / quality assurance (data quality) and Underutilization (and review) of surveillance data to identify gaps (at the lowest possible admin level); infrequent desk and field reviews	<p>The national level (polio) surveillance programme (with the support of the Regional Office, when needed) to:</p> <ul style="list-style-type: none"> - ensure that data managers at all relevant administrative levels are regularly trained and supported with appropriate tools - develop yearly plans for internal reviews (peer reviews), and external reviews (desk reviews every 6 months, followed by targeted field reviews as directed by findings).

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
Information system	Weak Monitoring and Evaluation system - No or limited disaggregated analysis of the data - Absence of / Limited monitoring or probing the data beyond NP AFP rates and stool adequacy rate indicators resulting in missed gaps and poorly guided action	The national (polio) surveillance officer together with the data manager to: - systematically review all CIFs to ensure that they collect all the variables for disaggregated analyses (incl. by gender and by HSB) - include stratified analyses in all reviews and reports - ensure that surveillance officers at admin 1 (provincial) and admin 2 (district) understand what data is available for analysis and what analyses are needed to help identify gaps in surveillance. - ensure that surveillance officers understand the importance of working jointly with data managers on the analyses of data and the presentations of results
Information system	Inadequate review and use of data to improve timeliness of detection	National surveillance officers to: - familiarize themselves with new GPSAP indicators and understand the difference between certificate standard indicators and timeliness indicators; and share this knowledge with data managers and counterparts. - ensure that timeliness indicators for AFP surveillance and ES be regularly monitored and broken down by intervals to identify bottlenecks and areas of delays. Ensure to take actions accordingly and promptly when gaps are identified.
Cross-cutting	Poor coordination, management, accountability, and planning across multiple agencies and/or departments to transition polio infrastructure and resources	Formulate a working group comprising of participants from VPD, Polio, Emergencies, labs and other departments to come up with a clear transition plan
Cross-cutting	Collapse of systems and structures once polio funding is gone	Ensure that this a viable and implementable polio transition plans in place for smooth transition of polio assets to the VDP surveillance program
iVDPV	No iVDPV surveillance in high-risk countries for PIDs	Regional Office to: - advocate with countries with high / moderate risk for iVDPV - visit to select at least 1 sentinel site for iVDPV - train surveillance officers, immunologists, and lab - coordinate work btw surveillance, immunologists and lab - ensure data sharing - reach out to immunology societies for sensitization
iVDPV	Lack of visibility / vision in both short-term and longer-term: - lack of short-term plan for highest risk countries - lack of long-term plan for iVDPV surveillance sustainability	Regional Office to: - update risk modeling based on data shared by country - request countries to share their data - decide on short- long-term priorities - request the Global level to finalize data sharing agreement

Sensitive Surveillance

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
AFP surveillance + Environmental surveillance	Missed and/or prolonged or delayed detection of transmission due to poor surveillance may result in a large outbreak which would have significant public health impact	The national level in charge of surveillance, to maintain sensitive surveillance so as to identify outbreaks should: - conduct regular risk assessments - monitor performance indicators for deterioration and take corrective actions to get them back on track, and - consider establishing or expanding ES in high risk areas If an outbreak occurs it is imperative to improve AFP surveillance, especially at the subnational level by conducting active search, expanding ES and increasing the frequency of sampling
AFP surveillance	Poor sub-national level surveillance due to insufficient human resources or funding leads to missed or delayed detection of transmission	With the support of the national level, sub-national authorities responsible for surveillance should: - conduct passive surveillance with weekly e-reporting involving public and private health facilities, as well as - conduct active case search in priority reporting sites integrated with supervisory visits for other activities such as Immunization or comprehensive surveillance.
Cross-cutting	Insufficient financial resources to implement surveillance plans/activities may negatively impact surveillance performance, especially if it is prolonged/chronic	The national programme should: - conduct advocacy to ensure that surveillance is part of the MOH implementation budget - request support from WHO to advocate at the MOH the importance of continuous investment and funding of polio programme to minimize the risk of missed transmission and sustain good surveillance
Cross-cutting	Other health emergencies take focus and resources from routine polio surveillance and lab work affecting surveillance	The national programme should, whenever possible: - implement integrated response activities without compromising quality
Cross-cutting	Public trust in government and public health is broken.	The national programme should: - keep advocacy and engagement with the community as a priority to maintain / build trust and confidence.
Laboratory	Missed containment breaches or not reported (for any reason)	The Laboratory, with the support of the MOH and other Ministries, should: - ensure that ES be used as a monitoring tool near facilities with PV - invest in communication so that PEFs are not afraid to report incidents but are encouraged to report so as to improve gaps in the system (avoid blaming for reporting, but use as incentive to close gaps)

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
Laboratory	Laboratory does not have surge capacity plan and can't cope with increased testing.	The Laboratory, with the support of the MOH should: <ul style="list-style-type: none"> - prepare a surge capacity plan - ask for referral of samples to another lab/country
Laboratory	Country doesn't have polio lab so AFP and ES samples need to be sent outside the country for testing and depending on referrals of samples regularly for testing, at least once a month.	The polio programme in the country to look to: <ul style="list-style-type: none"> - improve shipment system by finding a reliable courier, or - identify alternate reference lab in another country that could shorten the shipment time. - Upon GPLN validation, consider capacity building to have DD or DDNS implemented in the country to improve timeliness of detection.
Laboratory	Laboratory has shortage of staff /inadequate laboratory capacity who -are not proficient in polio diagnostics, or -cannot test samples from AFP surveillance and ES on time, thus creating a backlog of testing and further delaying detection.	The Laboratory, with the support of the programme to: <ul style="list-style-type: none"> - ensure continuous training of staff for polio diagnostics, and - polio diagnostic trainings for other laboratory departments that can assist with testing, if needed.
Laboratory	No regulatory framework for import permits/procurement of laboratory supplies for testing and thus delayed detection	The national programme to: <ul style="list-style-type: none"> - advocate to the MOH for the strengthening of the regulatory system to allow issuance of import permit - ensure that the national lab has adequate supplies and proper inventory system for continuous procurement (NB: some countries experienced delays in detection due to a lack of reagents, due to international sanctions)
Laboratory	In countries w/out polio lab or no referral system due to no flights/ natural disaster/pandemic - country is closed (one cause of delays in shipment)	The Laboratory to explore alternative shipment, incl. the use of emergency operations/humanitarian aid.
Environmental surveillance + Laboratory	Low EV detection due to laboratory technique/modification of recommended protocol, or using not recommended or accepted methods	The national laboratory to conduct re-training to correct erroneous laboratory processing.

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
Cross-cutting	Countries are unable to maintain sensitivity of AFP and ES surveillance due to various reasons (i.e. competing priorities, reduced external funding).	The national programme to: <ul style="list-style-type: none"> - advocate to the MOH, or wider government, for the need to maintain a sensitive surveillance system - use risk assessment to inform of the gaps - request technical support to Partners, when necessary - reach out to advisory groups, via Partners, to deliver important messages to national authorities, when needed
Cross-cutting	Delayed detection due to incomplete transition to national funding and lab does not have operational cost to conduct testing	The national level responsible for surveillance to: <ul style="list-style-type: none"> - prepare transition plan in advance for government review and approval - identify and define gaps in funding and prepare cost estimates to maintain a minimum requirement and budget for timely reporting
Cross-cutting	Management of surveillance shifts from WHO to gov't could result in loss of surveillance quality	The national level responsible for surveillance to advocate for: <ul style="list-style-type: none"> - the restructuring national resources/ integration - continue with capacity building for surveillance and - advocate for outside technical support
Cross-cutting	Inability to identify other donor resources in lieu of full national government transition	The national programme to advocate strongly for the intensification of resource mobilization and the revision of national health financing
Cross-cutting	Lack of proper collaboration with other VPDs and integration of polio surveillance into DHIS2	The national programme to: <ul style="list-style-type: none"> - establish communication within the health department and identify what are the limitations, risks, gaps for transition - ensure that investments are not lost and experience and knowledge can be used for other VPDs without threat of replacing jobs/competing priorities. <p>Work on bringing benefits and transition is not overnight but carefully planned and done.</p>
Cross-cutting	Transition of polio functions from GPEI to WHE/IVB - (region/country specific?)	The national programme should promote and advocate for a sustainable VPD national surveillance
Cross-cutting	Complacency and low priority of polio programme	The national programme to: <ul style="list-style-type: none"> - continue advocacy with the government for a strong surveillance system - communicate within the health department to encourage that investments done with polio be used in other VPDs and to encourage building on experiences in polio to strengthen overall VPD surveillance.

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
Cross-cutting	Inadequate human resources	The national programme to: - ensure that restructuring national resources/integration is considered by the MOH so as not to negatively impact surveillance during transition - work to build capacity at the subnational level that will support the national level.
Cross-cutting	Risk of decreasing government ownership over time	The national programme to: - continue advocacy with the government for a strong surveillance system - conduct regular monitoring and evaluation of the programme, and update risk assessments to address gaps and inform of new or accumulated risks; especially if PEF in the country the risk is always there as long as polio is used and that should be communicated with the government.
AFP surveillance + Environmental surveillance	Decline in ES/AFP surveillance quality when integrated into other disease surveillance systems	The national programme to: - continue advocacy with the government for a strong surveillance system - ensure that all institutional memory (from the polio programme) is transferred/communicated with the new responsible department - transfer knowledge and best practices in transition period.
Laboratory	Governments may not be willing to receive samples from other countries that don't have a polio lab	The national programme to sensitize the national government to the need to engage in bilateral dialogue with the potential collaborating government, and provide support in drawing up an agreement.
AFP surveillance + Environmental surveillance	Lack of funding for ES/AFP surveillance	The national programme should : -advocate for the integration of polio programme into the national budget; -reach out to other donors or explore to mobilize local resources / consider integration of programs
Cross-cutting	Lack of coordination between surveillance and routine immunization programs and WHE	The national programme, with the support of the WHO country office when needed, to: - develop a SOP to clarify the roles of EPI and WHE teams - engage in monthly meetings and in the sharing of information and situation reports based on event-based surveillance and EPI surveillance.
Cross-cutting	Challenge coordinating logistics and procurement for AFP surveillance/ES	The national programme, together with the Laboratory, to: - collaborate with a reputable courier for logistics - work towards a better coordination between hospitals/health centers and the lab - prepare a procurement plan and maintain good inventory of supplies/reagent

Area(s) of Surveillance	Risk Factors <i>(blue font: top five risks)</i>	Risk Mitigation Measures
Cross-cutting	Lack of adequate monitoring/supervision	The national programme to: - assign supervisory roles and develop monitoring plan, and ensure its implementation - empower local staff for this role
Cross-cutting	Other competing priorities and lack of will to prioritize polio within VPD surveillance	Continue advocacy at the government level on importance of polio integration into VPD surveillance and requirements of a disease under eradication protocol
Information system	Limited surveillance capacity including, data maintenance, data analysis, and monitoring	The national programme to maintain routine refresher trainings for data management and analysis.
Cross-cutting	Loss of confidence in polio transition process	The national programme, with the support of the WHO country office, to: - communicate clearly the transition process, with all its elements, to the MOH and wider government - prepare a timeline with achievable goals - communicate with partners for support and coordination - identify and/or share best practices from other countries that have successfully completed the transition process - implementation the plan

Resources

Topics	Key words	Resources	Links
Polio Surveillance	Surveillance resource Hub on GPEI	Resource Hub at GlobalPolioEradication.org	https://polioeradication.org/resource-hub/
AFP surveillance	Health seeking behavior, special populations, reporting network, case investigation form , active surveillance, AFP sensitization, specimen collection and transport, workforce capacity, monitoring, data for action	Global guidelines for AFP surveillance in the context of poliovirus eradication 2023	https://polioeradication.org/wp-content/uploads/2024/05/Global-AFP-guidelines-pre-publication-version-2023.pdf
AFP surveillance	Active surveillance, reporting network, specimen collection and transport, workforce capacity, monitoring, data for action	Best Practices in Active Surveillance for Polio Eradication	https://polioeradication.org/wp-content/uploads/2018/12/Best-practices-in-active-surveillance-for-polio-eradication.pdf
AFP surveillance and Environmental Surveillance	Special populations, security challenges, adjusting reporting network, modified surveillance activities	Guidelines for implementing polio surveillance in hard-to-reach areas and populations	https://polioeradication.org/wp-content/uploads/2024/05/Guidelines-polio-surveillance-H2R-areas.pdf
AFP surveillance	Community-based surveillance, special populations	Community-based polio surveillance toolkit	https://sites.google.com/view/toolkit-for-polio-cbs/
AFP surveillance	Health seeking behavior, special populations, reporting network, active surveillance, AFP sensitization, specimen collection and transport, workforce capacity, monitoring, data for action	Surveillance Training Package 2024 Also available upon request to polio_info@who.int	https://worldhealthorg.sharepoint.com/sites/ws-sld/Key%20documents/Forms/AllItems.aspx?id=%2Fsites%2Fws-sld/Key%20documents%2Fsurveillance%20training%20package%2FAFP%20surveillance%20training%20guide&p=true&ga=1
AFP surveillance	Health seeking behavior, special populations, reporting network, active surveillance, AFP sensitization, specimen collection and transport, workforce capacity, monitoring, data for action	4 self-paced, online courses on AFP surveillance, WHO iLearn platform	https://who.csod.com/client/who/default.aspx
Environmental Surveillance	Environmental surveillance per GPEI recommendations	Field guidance for the implementation of environmental surveillance for poliovirus	https://polioeradication.org/wp-content/uploads/2024/05/Field-Guidance-for-the-Implementation-of-ES-20230007-ENG.pdf
iVDPV surveillance	iVDPV surveillance per GPEI recommendations	Guidelines for implementing polio surveillance among PID	https://polioeradication.org/wp-content/uploads/2024/05/Guidelines-for-Implementing-PID-Suveillance_EN.pdf
iVDPV surveillance	iVDPV surveillance per GPEI recommendations	Training available upon request to polio_info@who.int	

Topics	Key words	Resources	Links
Laboratory surveillance	Global Polio Laboratory Network - manuals and supplements, guidance papers, and reports	GPLN Resource Hub at <i>GlobalPolioEradication.org</i>	https://polioeradication.org/resource-hub/page/2/?rh_policy_and_report_types=global-polio-laboratory-network-reports
Outbreak Response	Enhancements to polio surveillance	E-learning course: GPEI Outbreak Response Training - 2020	https://agora.unicef.org/course/view.php?id=24988
Outbreak Response	Enhancements to polio surveillance	Webinar: Updated and revised polio outbreak response SOPs - 2022	https://www.youtube.com/watch?v=BddhYPFgXhs
Outbreak Response	Enhancements to polio surveillance	Interim Quick Reference on Strengthening Polio Surveillance during a Poliovirus Outbreak	https://polioeradication.org/wp-content/uploads/2021/12/Quick-Reference_Strengthening-Surveillance-during-Poliiovirus-Outbreaks_24-March-2021.pdf
Outbreak Response	Enhancements to environmental surveillance	Polio environmental surveillance enhancement following investigation of a poliovirus event or outbreak	https://polioeradication.org/wp-content/uploads/2024/05/SOPs-for-Polio-ES-enhancement-following-outbreak-20210208.pdf