2024 Poliovirus Containment Re-Survey of Member Public Health, Agriculture and Environmental Laboratories

APHL is conducting this re-survey of laboratory inventories in support of poliovirus containment, working closely with the US National Authority for Containment of Poliovirus (NAC), located in the Centers for Disease Control and Prevention, Office of Readiness and Response. The re-survey is being performed to obtain updated information on relevant materials that are currently held in our member laboratories.

Prior to starting the survey, we strongly recommend that you review the PDF of the full survey to help you in preparing your responses. This document is not intended to be used as a substitute for completing the online version of the survey. Please do not submit this paper version, as the survey must be completed online.

This survey does not need to be completed in one session. When you use your link to access your submission, it will open the survey where you last left off. Once you select the *Submit* button following the *Attestation* survey section, you will be able to download a copy of your responses but you will be unable to make further changes to your submission.

When completing the survey, please keep in mind the definition of poliovirus potentially infectious material (PIM). PIM includes human upper respiratory secretion and fecal specimens or environmental samples collected for non-polio related work in a time and place where wild poliovirus (WPV) or vaccine-derived poliovirus (cVDPV) was circulating or where oral polio vaccine (OPV) was in use. For the purpose of this survey, PIM should be identified on the basis of where and when the specimens were collected, not on the basis of any test results.

Throughout the survey, instructions and links to additional information will be provided on screen. However, if you have any questions about the survey content, please contact Susan Trow, Specialist, Infectious Diseases, at APHL (susan.trow@aphl.org). If you have specific questions related to infectious material or PIM definitions or types, we can assist you. If you have any questions about the process or encounter technical problems as you complete this survey form online, select the *Email Support* button at the top of the survey page for assistance.

Further definitions for terms used in the survey can be found at https://www.cdc.gov/orr/polioviruscontainment/nipc.htm

Survey Instructions

This survey is divided into six modules:
A. Facility Information

B. Material Types
C. Inventory Information
D. Disposition of Materials
E. Key Facility Personnel
F. Attestation

Instructions throughout the survey will direct you through the relevant modules based on your survey answers. Modules E and F will be completed by all survey recipients. The time needed to complete the online survey will vary depending on the complexity of your facility and the availability of needed information.

Module A - Facility Information

1. Please provide the following information about your laboratory:

- ○ Name of Laboratory _____
- ○ Physical address of Laboratory (no mailing or P.O. Box addresses) _____
- ○ City _____
- ○ State/Territory _____
- ○ Zip code _____

If your response to this survey will cover multiple laboratory sites or other additional facility locations, please provide the information for each location.

Do you need to enter location information for an additional site or location?

- ○ Yes
- ○ No

Display This Question:

If your response to this survey will cover multiplesites or other additional facility... = Yes

Multiple additional laboratory information fields can be added as needed.

1.1 Please provide the following information about your laboratory:

If your response to this survey will cover multiple laboratory sites or other additional facility locations, please provide the information for each location.

- Name of Laboratory _____
- Physical address of Laboratory (no mailing or P.O. Box addresses) _____
- City _____
- State/Territory _____
- Zip code _____

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2. Which of the following best describes the primary funding source for your institution?

Please note: hovering over underlined text will show any relevant definitions.
Hover-over definitions may not be available using mobile view; definitions are listed in the notes below.

- Public
- Private
- Mixed
- Foundation

Public: Functions with public resources
Private: Functions with resources from partners
Mixed: Functions with both public and private resources
Foundation: Funded by a foundation or other not-for-profit entity

3. What is the area of influence for this institution's activities?
Please select all that apply.

- [ ] Public Health
- [ ] Environmental laboratory
- [ ] Agricultural laboratory

4. As the person completing this survey, you will be the point of contact for any follow-up questions. Please provide your contact information below.

- ○ Full Name _____
- ○ Title _____
- ○ Work Email _____
- ○ Work Phone Number _____

5. Does the laboratory have the capacity for storing samples at temperatures of -20°C or below?

- ○ Yes
- ○ No

6. Does the laboratory perform cell or tissue culture?

- ○ Yes
- ○ No

Module B – Types of Stored Materials

The questions in Module B ask about the general type(s) of sample(s) that are worked with or stored in your specific laboratory. Definitions for terms used in Module B can be found in the appendices listed on the NAC survey webpage

Below is a list of specimen/sample types common to many laboratories. The questions in this section help us to determine if you have materials that may be relevant to this survey.

7. Does your laboratory currently work with or store any of the types of specimens or samples listed below?
Please select all that apply.

Samples or Specimens of Human Origin

- ☐ Respiratory secretion specimens, collected for any purpose
- ☐ Fecal specimens, collected for any purpose
- ☐ Unfixed tissue samples (including autopsy), for any purpose

Samples or Specimens of Animal Origin

- ☐ Experimental animals infected with poliovirus
- ☐ Unfixed tissues/samples from experimental animals

Samples or Specimens of Environmental Origin

- ☐ Concentrated sewage
- ☐ Bodies of water (other sources, untreated, natural and artificial)
- ☐ Untreated surface water

Isolates

- ☐ Virus isolate(s) of human, animal, or environmental origin

8. For the specimens or samples listed above that are present in your laboratory, were any: Please select all that apply.

- [ ] Collected outside of the United States
- [ ] Collected within the United States prior to the year 2000
- [ ] Collected at an unknown time and/or location
- [ ] Collected in a location and at a time in which cVDPV was identified (e.g., in Rockland County, New York, on or around July 2022)
- [ ] Known to have been collected from populations involved in international travel or recent migrant populations (or to have been collected from environmental sources in regions with these populations)
- [ ] ⊗ None of these options apply

9. Does your laboratory work with or store any of the material types listed below?

Viruses

☐ Known poliovirus

☐ Novel poliovirus strains* (e.g., novel live attenuated oral poliovirus)

Nucleic Acid

☐ Extracted nucleic acid of a human, animal, or environmental origin

☐ Nucleic acid extracted from poliovirus*

Materials Derived from Recombinant Nucleic Acids or Synthetic Biology*

☐ Recombinant or synthetic materials containing poliovirus capsid sequences*

☐ Replication competent derivatives produced in the laboratory with capsid sequences from wild polioviruses, unless demonstrably proven to be safer than Sabin strains

☐ Replication competent derivatives produced in the laboratory with capsid sequences from OPV/Sabin strains or other attenuated PV

☐ ⊗ None of these options apply

Additional information and definitions can be found in the appendices listed on the NAC survey webpage.

*Please note that novel poliovirus strains, nucleic acid extracted from poliovirus, or recombinant or synthetic derivatives containing poliovirus capsid sequences are considered infectious poliovirus material (WHO, 2014).

World Health Organization. (2014). Global action plan III: WHO global action plan to minimize

poliovirus facility-associated risk. Geneva, Switzerland: World Health Organization; available at http://polioeradication.org/wp-content/uploads/2016/12/GAPII_2014.pdf

Display This Question:

If 8. For the specimens or samples listed above that are present in your laboratory, were any: Pleas... = None of these options apply

And 9. Does your laboratory work with or store any of the material types listed below? = None of these options apply

Because you have selected "n*one of these options apply*" for question 8 and question 9, you will be redirected to the final survey sections.

You will still be able to review and change your responses to the previous questions until you submit your survey submission on the next page.

Skip To: Module E If you have selected "none of these options apply" for question 8 and question 9.

Module C – Inventory Information

The questions in this module ask about the type(s) of sample(s) that are stored in your laboratory and whether they are known to contain poliovirus or are potentially infectious materials.

Definitions for terms used in Module C and a summary of last polio cases by country can be found in the appendices listed on the NAC survey webpage.

10. Do you currently have any of the following material types?
Please select all that apply.

- ☐ Clinical materials confirmed to contain poliovirus
- ☐ Respiratory secretion specimens known to contain WPV or cVDPV
- ☐ Respiratory secretion specimens known to contain Sabin/OPV or other attenuated PV
- ☐ Fecal specimens known to contain WPV or cVDPV
- ☐ Fecal specimens known to contain Sabin/OPV or other attenuated PV
- ☐ Other clinical specimens (not fecal or respiratory) known to contain WPV
- ☐ Other clinical specimens (not fecal or respiratory) known to contain Sabin/OPV or other attenuated PV
- ☐ Environmental samples of water or sewage that have tested positive for the presence of poliovirus
- ☐ Isolates from cell cultures and reference strains of poliovirus
- ☐ Seed stocks and infectious materials used in the production of IPV vaccines
- ☐ Seed stocks and infectious materials used in the production of OPV/Sabin vaccines

☐ Attenuated poliovirus strains not licensed for use as live vaccines

☐ Infected animals or samples of these animals, including transgenic mice containing human poliovirus receptors

☐ Genetically modified materials (including materials produced by synthetic biology) that have complete poliovirus capsid sequences

☐ Full length enterovirus cDNA or RNA that include sequences of capsid derived from poliovirus

☐ Cells persistently infected with virus whose capsid sequences are derived from poliovirus

☐ ⊗ None of these options apply *(If selected, skip questions 11 and 12)*

Display This Question:

If 10. Do you currently have any of the following material types? Please select all that apply. != (does not equal) None of these options apply

11. Inventory of Infectious Materials (Type and Amounts)

Thinking about the materials from question 10, please provide an approximate number of vials/containers containing infectious material for each sample type below using the amount ranges provided below (e.g., None, 1-99, 100-999).

Please note that if WPV and OPV were both circulating at the time and geographic location where the samples or specimens were collected, enter those materials as WPV. If samples contain a combination of virus types, please indicate each type separately.

	None	1-99	100-999	1,000-4,999	5,000-9,999	10,000-50,000	>50,000
WPV or cVDPV Type 1	○	○	○	○	○	○	○
WPV or cVDPV Type 2	○	○	○	○	○	○	○
WPV or cVDPV Type 3	○	○	○	○	○	○	○
WPV or cVDPV Untyped/Unknown	○	○	○	○	○	○	○
Sabin/OPV or other attenuated PV Type 1	○	○	○	○	○	○	○
Sabin/OPV or other attenuated PV Type 2	○	○	○	○	○	○	○
Sabin/OPV or other attenuated PV Type 3	○	○	○	○	○	○	○
Sabin/OPV or other attenuated PV Untyped/Unknown	○	○	○	○	○	○	○

Display This Question:

If 10. Do you currently have any of the following material types? Please select all that apply. != (does not equal) None of these options apply

12. Were any of the vials/containers accounted for in the table above previously reported in an earlier NAC National Inventory for Poliovirus Containment survey and retained?

- ○ Yes
- ○ No
- ○ Unsure

In the previous questions, you may have indicated having materials collected in a time and place where poliovirus was circulating or oral polio vaccine was in use. It is therefore possible that your materials may contain poliovirus even if not collected for purposes specifically related to polio. For the purpose of this survey, those materials will be considered potentially infectious for poliovirus or as having the potential to produce infectious poliovirus.

For the items in question 13 below, refer to Appendix E: WHO Country and Territory-Specific Poliovirus Data for dates and geographic locations of last known poliovirus cases by country and to Appendix B for information about last use of trivalent oral polio vaccine (tOPV) by country (appendices listed on the NAC survey webpage.). For quick reference, the information provided by these resources specifically for the US is summarized here:

For reference:

United States of America	**Last year of use of trivalent oral polio vaccine**:			
	2000			
	Dates and geographic locations of last known poliovirus cases:			
	WPV/VDPV potentially infectious material dates			OPV2/Sabin2 potentially infectious material dates
	WPV1/cVDPV1	WPV2/cVDPV2	WPV3/cVDPV3	
	• Until Dec 1971 • Jan 1979 – Dec 1979	•Until Dec 1965 •Jun 2022 – ongoing* *(VDPV circulation detected in New York State)	Until Dec 1968	Jan 1969 – Mar 2000

13. Do you have any of the following materials types?
Please select all that apply.

- [ ] Respiratory secretion samples collected for any purpose at a time and in a geographic area when wild poliovirus (WPV) or vaccine-derived poliovirus (cVDPV) was circulating [a]

- [ ] Respiratory secretion samples collected for any purpose at a time and in a geographic area where Sabin/OPV was being used in routine or supplemental immunization programs[b]

- [ ] Fecal specimens collected for any purpose at a time and in a geographic area when wild poliovirus (WPV) or vaccine-derived poliovirus (cVDPV) was circulating [a]

- [ ] Fecal specimens collected for any purpose at a time and in a geographic area where Sabin/OPV was being used in routine or supplemental immunization programs [b]

- [ ] Environmental samples of water or sewage that have not been tested for the presence of poliovirus

- [ ] Uncharacterized viral isolates from poliovirus susceptible/sensitive cells [c, d]

- [ ] Isolates from poliovirus-sensitive cells with cytopathic effect resembling uncharacterized enterovirus from countries which are known or suspected to have had circulation of wild poliovirus or vaccine- derived poliovirus (cVDPV) at the time of collection (see Appendix B) for areas and dates)

- [ ] Stocks of respiratory virus isolated from specimens collected in a time and geographic location where WPV, Sabin/OPV, or cVDPV was circulating (see Appendix B) and handled under conditions conducive to maintaining the viability or enabling the replication of incidental poliovirus[b, c, d]

- [ ] Stocks of enteric virus isolated from specimens collected in a time and geographic location where WPV, Sabin/OPV, or cVDPV was circulating (see Appendix B) and handled under conditions conducive to maintaining the viability or enabling the replication of incidental poliovirus[b, c, d]

☐ Nucleic acid extracted from fecal or respiratory secretion specimens, or environmental samples collected for any purpose at a time and in a geographic area with circulating wild poliovirus including cVDPV or OPV/Sabin

☐ ⊗ None of these options apply *(if selected, skip questions 15 and 16)*

☐ Unsure, please elaborate

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[a] Refer to *WHO's Annex 2: Country and Territory-Specific Poliovirus Data*
[b] See Appendix B for information about the last use of trivalent OPV by country
[c] See Appendix C for information about poliovirus susceptible/sensitive cell lines and animals
[d] Virus (characterized or uncharacterized) derived from respiratory or enteric specimens which were collected in a time and or geographic location where WPV/cVDPV was circulating or where OPV was in in use is considered potentially infectious material.

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14. Were any of the materials above inoculated into cells or animals susceptible to poliovirus?

○ Yes

○ No

○ Unsure

Display This Question:

If 13. Do you have any of the following materials types? Please select all that apply. != (does not equal) None of these options apply

15. Inventory of Potentially Infectious Materials

Thinking about the materials from question 13, please provide an approximate number of vials/containers containing potentially infectious material for each sample type below.

Please note that if WPV and OPV were both circulating at the time and geographic location where the samples or specimens were collected, enter those materials as WPV.

Also note that any specimens collected in countries using monovalent OPV2 after 2016 may contain OPV2 (refer to Appendix B) and should be indicated in the table below as Sabin/OPV Type 2.

	None	1-99	100-999	1,000-4,999	5,000-9,999	10,000-50,000	>50,000
WPV or cVDPV Type 1	○	○	○	○	○	○	○
WPV or cVDPV Type 2	○	○	○	○	○	○	○
WPV or cVDPV Type 3	○	○	○	○	○	○	○
WPV or cVDPV Untyped/Unknown	○	○	○	○	○	○	○
Sabin/OPV Type 1	○	○	○	○	○	○	○
Sabin/OPV Type 2	○	○	○	○	○	○	○
Sabin/OPV Type 3	○	○	○	○	○	○	○
Sabin/OPV Untyped/Unknown	○	○	○	○	○	○	○

Display This Question:

If 13. Do you have any of the following materials types? Please select all that apply. != (does not equal) None of these options apply

16. Were any of the vials/containers accounted for in the table above previously reported in an earlier NAC National Inventory for Poliovirus Containment survey and retained?

- ○ Yes
- ○ No
- ○ Unsure

Display This Question:

If 10. Do you currently have any of the following material types? Please select all that apply. = None of these options apply

And 13. Do you have any of the following materials types? Please select all that apply. = None of these options apply

Because you have selected "n*one of these options apply*" for question 10 and question 13, you will be redirected to the final survey sections.

You will still be able to review and change your responses to the previous questions **until you submit your survey submission on the next page.**

Skip To: Module E If you have selected "none of these options apply" for question 10 and question 13.

Module D – Disposition of Materials

17. Has your facility previously identified infectious and/or PIM inventory in a National Inventory for Poliovirus Containment survey conducted by the NAC in 2015 or later?

- ○ Yes
- ○ No
- ○ Unsure

Display This Question:

If 17. Has your facility previously identified infectious and/or PIM inventory in a National Invento... = Yes

17.1 If yes, has your facility previously conducted any of these actions to manage that inventory?
Please select one option per category.

Destroyed Materials

- ☐ Yes
- ☐ No
- ☐ Unsure

Inactivated Materials

- ☐ Yes
- ☐ No
- ☐ Unsure

Transferred Materials

- ☐ Yes
- ☐ No
- ☐ Unsure

Retained Materials

- ☐ Yes
- ☐ No
- ☐ Unsure

18. What do you intend to do with the infectious and potentially infectious materials that are currently held at your laboratory?
Please select all that apply.

Please note that laboratories are strongly encouraged by the NAC to destroy all unneeded materials.

- [ ] Destroy Materials
- [ ] Inactivate Materials
- [ ] Transfer Materials
- [ ] Retain Materials

Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Destroy Materials

19. Tell us about the materials that you plan to destroy. Please note that if you opt to destroy material, you will be contacted and asked to complete an attestation of destruction questionnaire.
See Appendix D for information about preferred destruction methods.

If materials contain a combination of virus types, please indicate each type separately.
Please select all that apply.

Infectious Materials - WPV or cVDPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Infectious Materials - Sabin/OPV or other attenuated PV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - WPV or cVDPV

- [ ] None

- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - Sabin/OPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Destroy Materials

20. Please provide an explanation of the type of material to be destroyed and the destruction method(s) that will be used.

(Refer to the Appendix D for a description of preferred destruction methods)

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Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Inactivate Materials

21. Tell us about the materials that you plan to inactivate. Please note that you will be contacted and asked to complete a form to document the inactivation of this material.
Please select all that apply.

Infectious Materials - WPV or cVDPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Infectious Materials - Sabin/OPV or other attenuated PV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - WPV or cVDPV

- [ ] None
- [ ] Type 1
- [ ] Type 2

- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - Sabin/OPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped None

Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Inactivate Materials

22. You indicated that you plan to inactivate infectious materials (e.g., extraction, gamma irradiation). Please provide a brief statement to explain.

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Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Transfer Materials

23. Tell us about the materials that you plan to transfer but please note that poliovirus materials can only be transferred to a registered poliovirus essential facility (PEF). It is the responsibility of your facility to coordinate with the receiving PEF for the transfer of materials. Please contact the NAC at 404-718-5160 or poliocontainment@cdc.gov to discuss the transfer of any infectious poliovirus or potentially infectious materials.

If you intend to transfer samples to another facility, please provide a brief statement including the type and amount of material(s) to be transferred, the anticipated date of transfer (if known), the name and contact information for the intended recipient, and any other information that may seem relevant to the transfer.

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Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Retain Materials

24. Tell us about the materials that you plan to retain. If materials contain a combination of virus types, please indicate each type separately.
Please select all that apply.

Infectious Materials - WPV or cVDPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Infectious Materials - Sabin/OPV or other attenuated PV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Infectious Materials - Nucleic acid

- [ ] None
- [ ] Type 1
- [ ] Type 2

- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - WPV or cVDPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - Sabin/OPV

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3
- [ ] Unknown/Untyped

Potentially Infectious Materials - Nucleic acid

- [ ] None
- [ ] Type 1
- [ ] Type 2
- [ ] Type 3

☐ Unknown/Untyped

Display This Question:

If 18. What do you intend to do with the infectious and potentially infectious materials that are cu... = Retain Materials

25. If you plan to retain stored samples, please tell us what types of samples (e.g., fecal specimens, respiratory specimens, nucleic acid) you plan to retain. Please include any information available about the particular poliovirus strains present, or potentially present, in materials you plan to retain (e.g., Mahoney, Cox, etc.).

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Module E – Key Facility Personnel

26. Please include the name and contact information for your Lab Director and Biosafety Officer.

- ○ Lab Director Full Name _____
- ○ Lab Director Work Email _____
- ○ Biosafety Office Full Name _____
- ○ Biosafety Officer Work email _____

☐ Click here if the facility or institution does not have a named Biosafety Officer

Module F – Consent and Attestation

27. Do you grant permission for APHL to share the responses collected in this survey with the US National Authority for Containment of Poliovirus (NAC), located in the Centers for Disease Control and Prevention, Office of Readiness and Response? If no, response data will be used for internal aggregate purposes only.

- ○ Yes
- ○ No

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28. I have completed this survey on behalf of my laboratory.

Please use the signature fields below to confirm the statement below.

*I, **[full name as indicated below]**, acknowledge that the information provided in this survey is correct to the best of my knowledge and that it reflects the reality of the laboratory at **[name of facility indicated below]**.*

- ○ Full Name _____
- ○ Name of Laboratory _____