Section A: Information on respondent

In this section, you are requested to provide some background about yourself and/or your institution.

Please identify your role(s) in responding to this survey.

- as a WHO Member State
- CBD/Nagoya Protocol Party
- Regional economic integration organization
- Intergovernmental organization
- Non-State actor in official relations with WHO
- Non-State actor *not* in official relations with WHO
- WHO Collaborating Centre
- Academia/University
- Laboratory
- Professional organization/federation
- Private sector
- Responding as an individual eg researcher
- Other (please provide details)

If "Other", please provide details

Please provide your full name

Please provide your title

Please provide the title and address of the entity you represent or where you work

Name of entity (eg Ministry of Health/division/office, name of company/division/office or laboratory, etc.)

Street

City

Post code

Country

Contact information (we may contact you for further clarification)

- Phone
- Email

Section B: Current pathogen sharing practices and/or arrangements

In this section of the questionnaire, you will be asked to provide information on current pathogen sharing practices and/or arrangements that are implemented by your country, in your facility or by your colleagues, based on your experience. This includes practices for all pathogens, including seasonal and pandemic influenza viruses, unless otherwise noted.

In your experience, how are pathogens routinely shared (focus is on human pathogens/ pathogens with potential to cause disease in humans):

Check any that apply

- Bilaterally (ie country-to-country)
- Formal professional network(s)
- Formal academic network(s)
- Informal network(s)
- Lab to lab (academic or industrial)
- Other
- (a) If in your experience pathogens are generally shared bilaterally (ie country-to-country), please provide further explanation and/or examples.
- (b) If in your experience pathogens are generally shared through formal professional network(s), please provide further explanation and/or examples.
- (c) If in your experience pathogens are generally shared through formal academic network(s), please provide further explanation and/or examples.
- (d) If in your experience pathogens are generally shared through informal network(s), please provide further explanation and/or examples.
- (e) If in your experience pathogens are generally shared Lab to lab (academic or industrial), please provide further explanation and/or examples.
- (f) If in you selected other to describe how pathogens are routinely shared, please provide further explanation and/or examples.

FOR MEMBER STATES: To the best of your knowledge, has your country enacted legislation and/or regulatory measures relevant to pathogen sharing, such as (but not limited to) those pertaining to biosafety, general tracking of genetic resources, or biosecurity?

Yes, no, I don't know

- (a) If yes, has the implementation of legislation and/or regulatory measures improved pathogen sharing, made pathogen sharing more difficult or is there no change?
 - Pathogen sharing is improved
 - · Pathogen sharing is made more difficult
 - There is no change in pathogen sharing
 - Don't know/ it is unclear
- (b) If your country has pathogen-sharing legislation or regulations, please provide links or digital copies of any relevant legislation or regulatory measures

FOR NON-STATE ACTORS: To the best of your knowledge, have you engaged in pathogen sharing in or with a country that has implemented legislation or regulations about pathogen sharing (eg pertaining to biosafety, general tracking of genetic resources, or biosecurity)?

Yes, no, I don't know

- (a) If yes, did the implementation of the country's legislation or regulatory measures improve pathogen sharing, make pathogen sharing more difficult or has there been no change?
 - · Pathogen sharing is improved
 - Pathogen sharing is made more difficult
 - There is no change in pathogen sharing
 - Don't know/ it is unclear
- (b) Please provide comments or examples to support your answer.

FOR MEMBER STATES: To the best of your knowledge, do your country's existing pathogen-sharing practices or arrangements (including legislation or regulations, if relevant) apply to physical samples of pathogens only, or do they extend to digital sequence information (eg genetic sequence data)?

- Yes, existing pathogen-sharing practices in my country include both physical samples and digital sequence information (e.g. genetic sequence data)
- Sometimes (i.e. only physical samples for some pathogens but both physical samples and digital sequence information (e.g. genetic sequence data) for other pathogens)
- No, existing pathogen-sharing practices in my country apply only to physical samples
- Don't know /it is unclear
- (a) If yes or sometimes, please provide relevant section(s) of legislation or regulation, if applicable, or examples to support your answer to 8

FOR NON-STATE ACTORS: To the best of your knowledge, do existing pathogen sharing practices or arrangements (including legislation and regulations) apply to physical samples of pathogens only, or do they extend to digital sequence information (eg genetic sequence data)?

- Yes, they include both physical samples and digital sequence information (e.g. genetic sequence data)
- Sometimes (ie only physical samples for some pathogens but both physical samples and digital sequence (e.g. genetic sequence data) information for other pathogens)
- No, they only apply to physical samples
- Don't know/ it is uncleaar
- (a) If yes or sometimes, please provide examples to support your answer.

FOR MEMBER STATES: To the best of your knowledge, do your country's pathogen-sharing practices or arrangements (including legislation or regulations, if relevant) specifically address public health (including the need for rapid sharing of pathogens during public health emergencies)?

- Yes, public health is specifically addressed
- No, public health is not specifically addressed
- Don't know
- (a) If yes, please provide materials addressing public health/ public health emergencies

FOR NON-STATE ACTORS: To the best of your knowledge, is public health (including the need for rapid sharing of pathogens during public health emergencies) specifically addressed or mentioned in your pathogen-sharing practices and/or arrangements? Yes, no, I don't know

(a) If yes, please provide examples reflecting provisions on public health/ public health emergencies.

FOR MEMBER STATES: To the best of your knowledge, do your country's pathogen-sharing practices or arrangements (including legislation or regulations, if relevant) differentiate between pathogens or are all pathogens treated the same – that is, are there special provisions for sharing specific pathogens, such as influenza virus or high threat pathogens such as Ebola virus or the pathogens associated with foodborne illness, or are all pathogens treated the same?

(Drop down menu):

- Different pathogens have different requirements
- All pathogens are treated the same
- Don't know /it is unclear
- (a) If different pathogens have different requirements, please provide text or other information that indicates how pathogens are differentiated

FOR NON-STATE ACTORS: To the best of your knowledge, do your pathogen-sharing practices or arrangements differentiate between pathogens or are all pathogens treated the same – that is, are there special provisions for sharing specific pathogens, such as influenza virus or high threat pathogens such as Ebola virus or the pathogens associated with foodborne illness, or are all pathogens treated the same? (*Drop down menu*):

- Different pathogens have different requirements
- All pathogens are treated the same
- Don't know
- (a) If different pathogens have different requirements, please provide text or other information that indicates how pathogens are differentiated

Section C: Access and benefit-sharing measures

In this section of the questionnaire, you will be asked, based on your experience, to provide information on the access and benefit-sharing measures for sharing pathogens that are currently implemented by your country, in your facility or by your colleagues. This includes practices for all pathogens, including seasonal and pandemic influenza viruses, unless otherwise noted.

FOR MEMBER STATES: Does your country have legislation and/or regulations that address access and benefit sharing (for example, implementing the Nagoya Protocol or Convention on Biological Diversity if your country is a Nagoya Protocol party or other access and benefit sharing measures)?

- Yes
- No
- Don't know

NB: IF NO TO 11, SKIP TO QUESTION NUMBER 27

(a) If yes, please provide links or electronic versions of the provisions on access and benefit sharing.

FOR MEMBER STATES: Do your country's access and benefit-sharing legislation and/or regulations, specifically address public health (including public health emergencies; for example, do pathogens related to public health/public health emergencies receive special consideration given the need for rapid sharing)

- Yes
- No
- Don't know
- (a) If yes, please provide links or electronic copies of the provisions relating to public health.

FOR MEMBER STATES: Do your country's access and benefit-sharing legislation and/or regulations apply to pathogens (whether or not they are specifically mentioned in the measures)?

- Yes
- No
- Don't know

NB: IF NO TO 13, SKIP TO QUESTION NUMBER 16

- (a) If yes and pathogens are explicitly mentioned, please provide links or electronic copies.
- (b) If yes but pathogens are not explicitly mentioned, please provide an information on how they have been interpreted to apply to pathogens
- (c) If yes, does the legislation, the regulations or practices provide for the fair and equitable sharing of benefits resulting from the sharing of pathogens?

FOR MEMBER STATES: To the best of your knowledge, do your legislation and/or regulations differentiate between pathogens or are all pathogens treated the same (that is, are there distinct/separate provisions for sharing specific pathogens such as influenza virus, high threat pathogens such as Ebola virus or the pathogens associated with foodborne illness)?

- Human pathogens have different requirements from animal pathogens
- · Different human pathogens have different requirements
- All human pathogens are treated the same
- Don't know
- (a) If pathogens are treated differently, please provide links or electronic copies of the relevant provisions.

FOR MEMBER STATES: To the best of your knowledge, do your country's access and benefit-sharing legislation or regulatory measures apply to physical samples of pathogens only, or do they extend to digital sequence information (eg. genetic sequence data)?

- Yes, they include both physical samples and digital sequence information (e.g. genetic sequence data)
- Sometimes (ie only physical samples for some pathogens but both physical samples and digital sequence information (e.g. genetic sequence data) for other pathogens)
- No, they apply only to physical samples
- Don't know
- (a) If yes, please provide links or electronic copies of the provisions relating to digital sequence information (eg. genetic sequence data).

FOR MEMBER STATES: To the best of your knowledge, has your country ever received benefits resulting from the sharing of pathogens? Yes, no, I don't know

(a) If yes, please provide further information (eg. type of benefits, including whether they are monetary or non-monetary)

In you experience, where is the process of negotiating access and benefit sharing arrangements/agreements is conducted? Please choose all that apply.

- Health sector
- Environment sector
- Agriculture sector
- Commerce/trade sector
- Other sector
- Cross sectoral
- Don't know

FOR MEMBER STATES: In your experience, does finalization of an access and benefit sharing arrangements for sharing pathogens require approval of a government ministry? Yes, no, I don't know

- (a) If yes, please choose all the ministries whose approval is required to finalize an access and benefit sharing arrangement for sharing pathogens:
 - Health ministry
 - Environment ministry
 - Agriculture ministry
 - Commerce/trade ministry
 - Other ministry
 - Multiple ministries
 - Don't know

FOR NON-STATE ACTORS: To the best of your knowledge, have you or your institution been involved in a pathogen-sharing exchange that included access and benefit-sharing arrangements?

- Yes
- No
- Don't know

NB: IF NO TO 19, SKIP TO QUESTION NUMBER 25

(a) If yes, please provide supporting information.

FOR NON-STATE ACTORS: To the best of your knowledge, was public health (including public health emergencies) specifically mentioned in any access and benefits-sharing arrangement that you or your institution have been part of?

- Yes
- No
- Don't know
- (a) If yes, please provide supporting information.

FOR NON-STATE ACTORS: To the best of your knowledge, do any access and benefits-sharing arrangements that you or your institution have been part of differentiate between pathogens or are all pathogens treated the same (for example, are there distinct/separate provisions for sharing specific pathogens, such as influenza virus, high threat pathogens such as Ebola virus or the pathogens associated with foodborne illness)?

- Human pathogens are treated differently from animal or plant pathogens
- Different human pathogens are treated differently
- All pathogens are treated the same
- Don't know
- (a) If there is a distinction between types of pathogens, please provide supporting information.

FOR NON-STATE ACTORS: To the best of your knowledge, do any access and benefits-sharing arrangements that you or your institution have been part of differentiate between pathogens or are all pathogens treated the same (for example, are there distinct/separate provisions for sharing specific pathogens, such as influenza virus, high threat pathogens such as Ebola virus or the pathogens associated with foodborne illness, is there a distinction drawn between human pathogens vs animal pathogens, etc.)?

- Human pathogens are treated differently from animal or plant pathogens
- Different human pathogens are treated differently
- All pathogens are treated the same
- Don't know
- (a) If yes, please provide supporting information.

FOR NON-STATE ACTORS: To the best of your knowledge, has any access and benefit-sharing arrangement involving pathogens that you or your institution have been part of ever resulted on benefits being shared? Yes, no, I don't know

(a) If yes, please provide further information (eg. type of benefits, including monetary or non-monetary, and for what genetic resources)

FOR NON-STATE ACTORS: To the best of your knowledge, did any access and benefits-sharing arrangement that you have been part of apply to physical samples of pathogens only, or did they extend to digital sequence information (eg genetic sequence data)?

- Yes, they include both physical samples and digital sequence information (eg genetic sequence data)
- Sometimes (ie only physical samples for some pathogens but both physical samples and digital sequence information (eg genetic sequence data) for other pathogens)
- No, they only apply to physical samples
- Don't know
- (a) If yes, please provide text or other information reflecting how pathogens are differentiated

FOR NON-STATE ACTORS: In you experience, where is the process of negotiating access and benefit sharing arrangements/agreements is conducted? Please choose all that apply.

- Health sector
- Environment sector
- Agriculture sector
- Commerce/trade sector
- Other sector
- Cross sectoral
- Don't know

FOR NON-STATE ACTORS: In your experience, does finalization of an access and benefit sharing arrangements for sharing pathogens require approval of a government ministry? Yes, no, I don't know

- (a) If yes, please choose all the ministries whose approval is required to finalize an access and benefit sharing arrangement for sharing pathogens:
 - Health ministry
 - Environment ministry
 - Agriculture ministry
 - Commerce/trade ministry
 - Other ministry
 - Multiple ministries
 - Don't know

Have you experienced a difference in pathogen-sharing practices with or in countries that are Parties to the Nagoya Protocol, implementing related domestic legislation and procedures, versus those that are not Party to the Protocol?

(Drop down menu):

- Yes
- No
- Don't know

Please explain your answer.

Section D: General questions on international and cross-sectoral pathogen sharing

In this section of the questionnaire, you will be asked to provide general information on international and cross-sectoral pathogen sharing. This includes practices for all pathogens, including seasonal and pandemic influenza viruses, unless otherwise noted.

On a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", entities (governments or non-governmental actors) wishing to transfer/share pathogens internationally generally find domestic requirements relating to such transfers easy to understand and to comply with.

- (a) If you have any, please provide examples of easy transfer/sharing.
- (b) If you have any, please provide examples of challenging transfer/sharing.

Based on your experiences with sharing pathogens internationally and the implementation of related domestic legal/regulatory procedures, what range of challenges have you encountered:

(Drop down menu, can select from one to all):

- Lack of clarity around requirements
- · Delays in processing
- Delays in sharing of pathogens
- · Restricted sharing of pathogens
- Differing treatment
- Other

If "other", please provide further information

Based on your experience with sharing pathogens internationally and the implementation of domestic procedures what improvement have you seen:

(Drop down menu, can select from one to all):

- Improved processes
- Clarification of responsibilities
- Improved benefit sharing
- Other

If "other", please provide further information

On a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", entities (governments or non-governmental actors) wishing to transfer/share pathogens internationally generally find domestic requirements relating to general tracking of genetic resources easy to understand and to comply with.

- (a) If you have any, please provide examples of easy tracking of genetic resources.
- (b) If you have any, please provide examples of challenging tracking of genetic resources.

On a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", entities (governments or non-governmental actors) wishing to transfer/share pathogens internationally generally find domestic requirements relating to biosafety procedures easy to understand and to comply with.

- (a) If you have any, please provide examples of easy biosafety procedures.
- (b) If you have any, please provide examples of challenging biosafety procedures.

On a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", entities (governments or non-governmental actors) wishing to transfer/share pathogens internationally generally find domestic requirements relating to procedures related to access and benefit sharing arrangements easy to understand and to comply with.

- (a) Please provide examples of easy access and benefit sharing arrangements.
- (b) Please provide examples of challenging access and benefit sharing arrangements.

Are you aware of any mechanisms that enable or promote collaboration between the human health sector and the **agriculture sector** regarding access and benefit-sharing measures for pathogens?

Yes

- No
- Don't know
- (a) If yes, please describe those mechanisms.
- (b) If yes, on a scale of 1-5, with 1 being "strongly disagree" and 5 being "strongly agree, mechanisms that enable or promote collaboration between the human health sector and the agriculture sector regarding access and benefit-sharing measures for pathogens are easy to understand and implement.

Are you aware of any mechanisms that enable or promote collaboration between the human health sector and the **environmental sector** regarding access and benefit-sharing measures for pathogens?

- Yes
- No
- Don't know
- (a) If yes, please describe those mechanisms.
- (b) If yes, on a scale of 1-5, with 1 being "strongly disagree" and 5 being "strongly agree". mechanisms that enable or promote collaboration between the human health sector and the environmental sector access and benefit-sharing measures for pathogens are easy to understand and implement.

Are there any mechanisms that enable or promote collaboration between the human health sector and the **animal health** sector regarding the development and implementation of access and benefit-sharing measures for pathogens?

- Yes
- No
- Don't know
- (a) If yes, please describe those mechanisms.
- (b) If yes, on a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", mechanisms in place that enable or promote collaboration between the human health sector and the animal health sector regarding the development and implementation of access and benefit-sharing measures for pathogens are easy to understand and implement. (*Scale from 1-5*)

Are there any mechanisms that enable or promote collaboration between the human health sector and the **animal health** sector regarding the development and implementation of access and benefit-sharing measures for pathogens?

- Yes
- No
- Don't know
- (a) If yes, please describe those mechanisms.
- (b) If yes, on a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", mechanisms in place that enable or promote collaboration between the human health sector and the animal health sector regarding the development and implementation of access and benefit-sharing measures for pathogens are easy to understand and implement. (*Scale from 1-5*)

Are there any mechanisms that enable or promote collaboration between the human health sector and the **commerce/trade** sector regarding the development and implementation of access and benefit-sharing measures for pathogens?

- Yes
- No
- Don't know
- (a) If yes, please describe those mechanisms.
- (b) If yes, on a scale of 1-5, with1 being "strongly disagree" and 5 being "strongly agree", mechanisms in place that enable or promote collaboration between the human health sector and the commerce/trade sector regarding the development and implementation of access and benefit-sharing measures for pathogens are easy to understand and implement. (*Scale from 1-5*)

Section E: Potential public health outcomes and other implications

In this section of the questionnaire, you will be asked to provide your views on the potential public health outcomes and other possible implications of pathogen sharing practices. This includes practices for all pathogens, including seasonal and pandemic influenza viruses, unless otherwise noted.

In your view, are there potential public health outcomes and/or implications related to how pathogens are shared (positive, negative or mixed for public health)? Yes No • Don't know IF NO, SKIP TO THE END (a) If yes, please explain. Are the potential public health implications regarding how pathogens are shared different for different pathogens? Yes, the implications are different depending on which pathogen is being shared No, the implications are the same for all pathogens Don't know If yes, please explain. (a) If no, please explain. (b) In your opinion, are the potential public health outcomes or implications regarding how pathogens are currently shared positive, negative or mixed for public health? (Drop down menu): Positive Mixed Negative Please explain your answer. If there are benefits from the current sharing practices/arrangements please give details. If there are challenges for public health please give details. You may give details on both benefits and challenges. Please provide specific details of benefits or challenges for which you have evidence. In your opinion, how should pathogen sharing be managed in the future to allow scientific and public health applications to proceed in a timely manner while addressing the perspectives of both originator and receiver? Please include any thoughts on what should stay the same and what should, if anything, be changed. Should high priority pathogens (ie those with significant epidemic or pandemic potential where timeliness is particularly critical) be viewed differently than any other pathogens? For example, should some pathogens be considered part of national and global health and economic security and others not? In your opinion, are there public health outcomes or other implications if different pathogens (high threat, others, etc.) are treated differently? In your opinion, are the implications different for sharing physical samples than for sharing digital sequence information (e.g. genetic sequence data)? (Drop down menu): Yes No Don't know

Please explain your answer.