#### Appendix B – Requisition Form for Carbapenemase-Producing Organisms (CPO) Testing

BC Centre for Disease Control	Public H 655 West 12th www.bccdc.ca	Avenu	e, Vancouv	_		Bacteriolog papenemase Pro			-	
Section 1 - Patient Inform										LAD.
PERSONAL HEALTH NUMBER (o	rout-of province He	ulth Nun	nber and	DOB (no)	MMM/YYYY)	GENDER M F	ППИК	DATE RECEIVED	D	
PATIENT SURNAME				PATIENT FIR	ST AND N	MIDDLE NAME	_ orac		ABORAT	OPV.
ADDRESS				CITY POSTAL CODE			TAL CODE	USE ONLY		
Section 2 - Submitting La	boratory D	etails								
CONTACT PERSON				HOSPITAL (	Name and ad	dress for report delivery)		SAMPLE REF.	NO.	
TELEPHONE NUMBER				PHSA CLIENT N	0.			DATE COLLEC		
ADDITIONAL COPIES TO:										
Section 3 - Specimen Det	ails							1		
ORGANISM IDENTIFICATION:	Genus			Spe	cies		SPECIMEN SOURCE	respirator	у 🗆 Ь	olood
SCREENING ISOLATE	П	CLINIC	AL ISOLATE		☐ CO!	NTACT TRACING	SOURCE	urine	_	wound
PREVIOUS CPO SCREENIN	G: □!	NO	☐ YES	DATE:				rectal	·	others
Automated Antibiogram:										
Antibiotic	MIC	Inter	pretation	(S, I, R)	Antib	lotic	MIC	Interpret	ation (S,	L R)
Ampicillin		S	ı					S	ΙП	R□
Ampicillin/Clavulanate		S	I	R	Imipe	nem		S	10	R□
Aztreonam		S	ı	R 🗆	Levof	loxacin		S		R 🔲
Amikacin		S	ı	R 🗆	Merop	penem		S 🗆		R 🔲
Cefazolin		S	I	R	Minoc	cycline		S 🗆		R 🗆
Cefepime		S	ı	R	Nitrof	urantoin		S 🗆		R 🔲
Cefoxitin		S	ı	R	Peflox	racin		S 🗆	1 🗆	R 🗆
Cefpodoxime		S	ı	] R_	Pipera	acillin		S 🗆		R 🖂
Ceftazidime		S	I	R □	Pipera	acillin/Tazobactam		S 🗆		R 🗆
Cefixime		S	I	R	Rifam	pin		S 🗆		R 🗆
Ceftriaxone		S	I	R	Ticaro	illin		s 🗆	ΙП	R□
Cephalothin/Cephalexin		S	ı	R	Ticarc	illin/Clavulanic Acid		5 🗆	П	R 🖂
Ciprofloxacin		S	1		Tigec	ycline		S	10	R 🗆
Colistin		S	I	R 🗆	Tobra	mycin		S	10	R 🗆
Ertapenem		S	ı	R	Trime	thoprim/Sulfamethoxaz	ole	S 🗆		R 🗆
		OR,	See attach	ned for auto	mated A	ST results				
Phenotypic Confirmation:						Other Results:				
E-test/discs						ESBL E-test Interpretati	on:			
Antibiotic MIC 2	Zone diamete	er In	iterpretati	lon		Lobe E-test interpretati	on.			
Ertapenem						Other Tests and Interne	etation:			
Meropenem		+				Other Tests and Interpr	etation:			
Imipenem		$\top$					_			
Rosco Disc Interpretation:						CPO PCR Interpretation	ı: _			
							_			

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# Appendix C - Surveillance Form for Carbapenemase-Producing Organisms (CPO) OR *Candida* auris (C. auris) Identified in Acute Care Facility

1	Organism  CPO OR C. auris  If a patient is colonized and/or infected with both CPO and C. auris, please fill out two separate forms for each organism
2	Unique Identifier – assigned by BCCDC Public Health Laboratory (PHL)
3	Patient's status   ☐ Inpatient   ☐ Other, please specify
4	Date of admission or visit (dd/mmm/yyyy)
5	Name of the facility
6	Status ☐ Infection (please also complete appendix D) ☐ Colonization ☐ Unknown
7	Did the patient travel outside of Canada within the past 12 months?
	☐ Yes. Please specify the name of the country ☐ Country not provided
	☐ No. Please skip Question 8.
	☐ Unknown or patient is discharged. <i>Please skip Question 8</i> .
8	If answered Yes to Question 7, did the patient have a health-care encounter outside of Canada within the past 12 months?
	☐ Yes, an overnight stay in a hospital or undergone medical/surgical procedure outside of Canada
	☐ Yes, other health-care encounter, e.g., visited GP, walking clinic, dentist, ER, etc.
	☐ No health-care encounter ☐ Unknown
9	Did the patient have an overnight stay in a Canadian facility or undergo medical/surgical procedure in Canada (including BC) within the past 12 months?  Yes. Please specify the name of the province (s)  No. Please skip to question 11.  Unknown. Please skip to question 11.
10	If answered Yes to Question 9 and one of the provinces identified was BC, what types of health-care encounters has the patient had in BC in the past 12 months (excluding current admission)? (Check all that apply)
	☐ An acute care unit/facility admission
	☐ A long-term care facility admission
	☐ A medical/surgical procedure in an outpatient setting
	☐ No health-care encounter ☐ Unknown
11	Is the unit/facility in which the patient is currently admitted under investigation for transmission of organism identified in question 1?
	☐ Yes
	□No
	☐ Unknown or patient is discharged
12	Did the patient have contact [minimum 12 hours] with a known case or environmental sources for the organism (CPO or C. auris) identified in question 1 within the past 12 months? (Check all that apply)
	☐ Yes, within an acute care facility
	☐ Yes, within a long-term care facility
	☐ Yes, private household

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	☐ Yes, other <i>please specify</i>		
	□ No. Please skip Question 13.		
	☐ Unknown. Please skip Question 13		
13	If answer Yes to Question 12, what was the nature of the contact? (Check all that apply)		
	☐ Roommate ☐ Person in the same unit/facility or house ☐ Health-care provider ☐ Friend/Relative		
	☐ Environmental sources (e.g., contaminated sink or other surface, medical equipment, etc.)		
	☐ Other, please specify		
	□ Unknown		

Once completed, please send it to PICNet at <a href="mailto:picnet@phsa.ca">picnet@phsa.ca</a>

### Description and notes for Appendix C

1	Organism	Specify whether this is a CPO or <i>C. auris</i> case
2	Unique Identifier	CPO: Record the ID number assigned by PHL on their laboratory report. The format of ID includes yyyy###-##-## yyyy is the year of the first CPO test for the patient; #### is the serial number of the patient being tested for CPO in the year beginning from 0001 each year; ### is a serial number for the isolate being tested from the patient, and ## is a serial number of carbapenamase genes identified from the patient.
		C. auris: Record the ID number assigned by PHL on their laboratory report.  The format of ID includes yyyy####-Caur-## #### is the serial number of the patient being tested for C. auris in the year beginning from 0001 each year; ## is a serial number for the isolate being tested from the patient
		If the ID number has not been received for this case or there are any questions about ID, please contact PHL
3	Patient's status	Check 'Inpatient' (hospitalized) if the patient was admitted to an acute care unit. Otherwise, check 'Other' and specify in written text the location where the sample was collected (e.g., Emergency Department, Hemodialysis or Oncology Clinic, etc)
4	Date of admission or visit (dd/mmm/yyyy)	Record the Day (e.g., 17), Month (e.g., Jul) and Year (e.g. 2014) in this order (e.g., 17-Jul-2014). Write out the month (e.g. Jan, Mar, Aug, etc.).
5	Name of the Facility	Specify the name of the facility where the patient was admitted or visited at the time when the sample was collected.
6	Status	Specify the patient's CPO or C. <i>auris</i> status in terms of infection, colonization or unknown according to the following definitions:
		Infection is defined as a patient with evidence of clinical signs and symptoms resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) in addition to a positive culture of CPO or C. auris. Clinical evidence may be derived from direct observation of the infection site (e.g., a wound), or review of information in the patient chart or other clinical records, or a physician or surgeon diagnosis of infection. Please refer to the 2015 "CDC/NHSN Surveillance Definitions for Specific Type of Infections" for definitions and criteria of all specific types of infections (http://www.cdc.gov/nhsn/PDFs/pscManual/17pscNosInfDef current.pdf). (Note that by checking infection, Appendix D needs to be completed.)  Colonization is the presence of CPO on skin, on mucous membranes, in open wounds, or in excretions or secretions but are not causing adverse clinical signs or symptoms.
		<b>Unknown</b> if there is no or insufficient information to define whether the patient's CPO or C. <i>auris</i> status represents an infection or colonization.
7	Did the patient travel outside of Canada within the past 12 months?	Select <b>Yes</b> if the patient had travelled to other countries or had health-care encounter outside Canada in the past 12 months. Specify which country the patient travelled.  Select <b>No</b> if the patient did not travel in the past 12 months and skip the
		Question 8.
8	If answered Yes to Question 7, did the patient have a	Select <b>one</b> that applies based on the information available

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	health-care encounter outside of Canada within the past 12 months?	
9	Did the patient have an overnight stay in a Canadian facility or undergo medical/surgical procedure in Canada (including BC) within the past 12 months?	Select <b>Yes</b> if the patient an overnight stay in a Canadian facility or underwent a medical/surgical procedure in Canada (including BC) within the past 12 months. Specify which province the patient had the health encounter. If the patient had a health encounter in multiple provinces, write the provinces name in the blank.
10	If answered Yes to Question 9, what types of health-care encounters has the patient had in BC in the past 12 months (excluding current admission)??	Check <b>all</b> that apply based on the patient's health-care encounter history
11	Is the unit/facility in which the patient is currently admitted under investigation for transmission of organism identified?	Select <b>Yes</b> if the patient was admitted to a unit which was under investigation for on-going CPO or C. <i>auris</i> transmission during his/her stay in the unit.  Select <b>No</b> if the was <b>NOT</b> under investigation for CPO or C. auris transmission during his/her stay in the unit.
12	Did the patient have contact [minimum 12 hours] with a known case or environmental sources for the organism (CPO or C. auris) identified in Question 1 within the past 12 months? (Check all that apply)	Check <b>all</b> that apply based on the patient's contact with a known CPO or C. auris case
13	If answered Yes to Question 10, what was the nature of the contact?	Check <b>all</b> that apply based on the nature of the contact

### Appendix D – Addendum Form for Carbapenemase-Producing Organisms (CPO) OR *Candida* auris (C. auris) Infections Identified in Acute Care Facility

**NB:** This form should be complete if a) the case was identified as a CPO or *C. auris* infection; b) the case was initially reported as colonization, and subsequently developed into a CPO or *C. auris* infection within a year from initial identification. Please ensure that the surveillance form for CPO or *C. auris* (*Appendix C*) has been completed for this case.

1	Organism CPO OR C. auris  If a patient is colonized and/or infected with both CPO and C. auris, please fill out two separate forms for each organism
2	Unique Identifier – assigned by BCCDC Public Health Laboratory (PHL)
3	Patients' status
4	Date of admission or visit (dd/mmm/yyyy)
5	Name of the facility
6	Date of CPO infection identification (dd/mmm/yyyy)
7	Site(s) of infection ☐ Bloodstream ☐ Urinary tract ☐ Respiratory tract ☐ Wound ☐ Surgical site ☐ Other, please specify
8	Was ICU admission required due to the infection or the complications associated with the infection within 30 days after identification of the infection?
	$\square$ Yes – the patient was admitted to ICU as a result of the infection or complications associated with the infection.
	☐ No — the patient was not admitted to ICU
	$\square$ N/A – patient was already in ICU due to other medical conditions
	☐ Unknown
9	Patient outcome within 30 days after identification of the infection
	$\square$ Patient alive and still in hospital 30 days after identification of the infection
	☐ Patient survived and discharged
	☐ Patient survived and transferred
	☐ Patient died

Once completed, please send it to PICNet at <a href="mailto:picnet@phsa.ca">picnet@phsa.ca</a>

### Description and notes for Appendix D

1	Organism	Specify whether this is a CPO or C. auris case
2	Unique Identifier	Record the ID number assigned by PHL for the positive isolate that was associated with the infection.
		If the ID number has not been received for the isolates or there are any questions about ID, please contact PHL.
3	Patient's status	Check 'Inpatient' (hospitalized) if the patient was admitted to an acute care unit. Otherwise, check 'Other' and specify in written text the location where the sample was collected (e.g., Emergency Department, Hemodialysis or Oncology Clinic, etc)
4	Date of admission or visit (dd/mmm/yyyy).	Record the Day (e.g., 17), Month (e.g., Jul) and Year (e.g. 2014) in this order (e.g., 17-Jul-2014). Write out the month (e.g. Jan, Mar, Aug, etc.).
5	Name of the Facility	Specify the name of the facility where the patient was identified with infection
6	Date of CPO infection identification (dd/mmm/yyyy)	Record the date when the CPO infection was identified, based on collection date, and enter Day (e.g. 17), Month (e.g. Jul) and Year (e.g. 2014) in this order (e.g., 17-Jul-2014).
7	Site(s) of infection	Check the site(s) of infection – check <b>all</b> that apply or specify the site(s) of infection(s).
8	Was ICU admission required due to the infection or the complications associated with the infection within 30 days after identification of the infection?	Select <b>one</b> of the options that applies to the patient
9	Patient outcome within <u>30 days</u> after identification of the infection	Select <b>one</b> of the options that apply to the patient at 30 days or at the time of discharge after the infection was identified.

# Appendix E – Notification of Ongoing Carbapenemase-Producing Organisms (CPO) or *Candida* auris (C. auris) Transmission

Please complete this form for notification of ongoing CPO transmission/C. auris case investigation in your facility or health authority and email to <u>picnet@phsa.ca</u>

A. Notification Information					
Health Authority:	Facility Name:	Unit:			
Contact Person:		<del></del>			
Contact Phone:	Email:				
Facility type: Acute Care Hospital	Long-term Care Facility	Other			
Is this report: Notification of CPO or <i>C. auris</i> transmission investigation (complete section B)  Notification of CPO or <i>C. auris</i> transmission investigation resolved (complete section C)					
B. Investigation Notification					
Organism: CPO C. auris					
Date of the source case* identified (dd,	/mmm/yyyy):	_			
Date investigation initiated (dd/mmm/	уууу):				
If CPO, please specify:					
Organism (Genus species):					
CPO gene identified (e.g. NDM, KPC):					
* A case that makes health authority suspected of CPO transmission. It may be or may not be the first case in the transmission.					
C. Transmission Investigation Resolved  Date investigation closed (dd/mmm/yyyy):					
Notes:					
Reported by:	_ Date:				

Once completed, please send to PICNet at <a href="mailto:picnet@phsa.ca">picnet@phsa.ca</a>

## Appendix F – Letter to Ordering Provider in Response to CPO or *C. auris*Cases Identified in the Community

Date:
Dear Health Care Provider (ordering provider),
Re: Patient Last name, First name; PHN; DOB
Public Health has received laboratory notification that your patient tested positive for a carbapenemase-producing organism (CPO) $\square$ or <i>Candida auris (C. auris)</i> $\square$ - both emerging public health concerns. As per the Public Health Act and the Communicable Disease Regulation, physicians/administrators for laboratories that identify CPO or <i>C. auris</i> are required to report cases to their local medical health officer.
A provincial non-nominal surveillance program is in place to monitor the epidemiology (e.g. risk factors, laboratory data) of CPO and <i>C. auris</i> in BC. Each patient isolate is assigned a unique identifier for this purpose. The unique identifier for your patient is  Attached is a surveillance form. We ask that you complete this form to the best of your ability and return it by email to the Provincial Infection Control Network of BC at picnet@phsa.ca.
CPOs and <i>C. auris</i> both pose significant risk to vulnerable patients in health-care facilities. In the case of CPOs, these are multi-drug resistant gram negative bacteria for which antibiotics available to treat infections are very limited. <i>C. auris</i> is an emerging yeast, which is often resistant to at least one class of antifungals. Due to this risk, please request that your patient inform any health-care facility on admission and/or routine health-care encounters (such as hemodialysis, oncology clinics, BMT day care) that they have tested positive for CPO or <i>C. auris</i> . Infection Control measures will be put in place to decrease the likelihood of spreading these bacteria or yeast to other patients.
At this time, little is known about the carriage and clearance of CPO infections in the community after treatment. Follow-up testing of clearance is not recommended, as carriage may return after treatment with a carbapenem antibiotic. After treatment for <i>C. auris</i> infections, patients can remain colonized, perhaps indefinitely.

Interpretation of this laboratory result should be in context of the overall health of your patient. In the community, patients who test positive for a CPO or *C. auris* do not generally pose a risk to others. Patients should be advised to maintain good personal hygiene and avoid sharing personal items to prevent spread to others. Added precautions are NOT required in the community office setting.

Attached is a patient information sheet for your patient (CPO or *C. auris* Health file). Further information on CPO is available at BCCDC website. Further information on *C. auris* is available at PICNet website.

#### Appendix G - Enhanced Surveillance Form for Carbapenemase-Producing Organisms (CPO) OR Candida auris (C. auris) Identified in the Community

1	Organism CPO OR C. auris  If a patient is colonized and/or infected with both CPO and C. auris, please fill out two separate forms for each organism		
2	Unique Identifier – assigned by BCCDC Public Health Laboratory (PHL)		
3	Status Infection Colonization Unknown		
4	Date of visit (dd/mmm/yyyy)		
5	At what care setting was the patient identified with the organism identified in Question 1?		
	Outpatient clinic Emergency room Community health center/clinic		
	Long-term care facility GP's office Other, please specify		
6	Did the patient travel outside of Canada within the past 12 months?		
	Yes, please specify the name of the country Country not provided		
	No. Please skip Question 7. Unknown. Please skip to question 7.		
7			
,	If answered Yes to Question 6, did the patient have a health-care encounter outside of Canada within the past 12 months?		
	$\square$ Yes, an overnight stay in a hospital or undergone medical/surgical procedure outside of Canada		
	☐ Yes, other health-care encounter, e.g., visited GP, walking clinic, dentist, ER, etc.		
	☐ No health-care encounter ☐ Unknown		
8	Did the patient have an overnight stay in a Canadian facility or undergo medical/surgical procedure in Canada (including BC) within the past 12 months?		
	Yes. Please specify the name of the province (s)		
	No. Please skip to question 10.		
	Unknown. Please skip to question 10.		
9	If answered Yes to Question 8 and one of the provinces identified was BC, what types of health-care encounters has the patient had in BC in the past 12 months (excluding current admission)? (Check all that apply)		
	☐ An acute care unit/facility admission ☐ No health-care encounter		
	☐ A long-term care facility admission ☐ Unknown		
	☐ A medical/surgical procedure in an outpatient setting		
10	Did the patient have contact [minimum 12 hours] with a known case or environmental sources for the organism identified in question 1 within the past 12 months? (Check all that apply)		
	☐ Yes, within an acute care facility		
	☐ Yes, within a long-term care facility		
	☐ Yes, private household		
	☐ Yes, other please specify		
	☐ No. Please skip Question 10.		
	☐ Unknown. Please skip Question 10		
11	If answered Yes to Question 9, what was the <i>nature</i> of the contact? (Check all that apply)  ☐ Roommate ☐ Person in the same unit/facility or house ☐ Health-care provider ☐ Friend/Relative		

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	☐ Environmental sources (e.g., contaminated sink or other surface, medical equipment, etc.)		
	☐ Other, please specify		
	□ Unknown		
If the	If the patient was infected, please answer the following questions		
12	Site(s) of infection (Check all that apply)  Bloodstream Urinary tract Respiratory tract Wound Surgical site Other, please specify		
13	Was the patient admitted to a BC hospital due to the current infection identified in question 1?  Yes, the patient was admitted due to infection. Specify the name of the facility  No, the patient was admitted due to other medical conditions.  No, the patient was not admitted  Unknown		

Once completed, please send by email to <a href="mailto:picnet@phsa.ca">picnet@phsa.ca</a>

### Description and notes for Appendix G

1	Organism	Specify whether this is a CPO or C. auris case
2	Unique Identifier	The unique ID for the CPO or <i>C. auris</i> case assigned by PHL is provided in the letter from medical health officer. If the ID number has not been included or there are any questions about ID, please contact the PHL.
3	Status	Specify the patient's status in terms of infection, colonization or unknown according to the following definitions:
		Infection is defined as a patient with evidence of clinical signs and symptoms resulting from an adverse reaction to the presence of an infectious agent(s) or its toxin(s) in addition to a positive culture of CPO/C. auris. Clinical evidence may be derived from direct observation of the infection site (e.g., a wound), or review of information in the patient chart or other clinical records, or a physician or surgeon diagnosis of infection. Please refer to the 2023 "CDC/NHSN Surveillance Definitions for Specific Type of Infections" for definitions and criteria of all specific types of infections (http://www.cdc.gov/nhsn/PDFs/pscManual/17pscNosInfDef_current.pdf). Colonization is the presence of CPO on skin, on mucous membranes, in open wounds, or in excretions or secretions but are not causing adverse clinical signs or symptoms.
		<b>Unknown</b> if there is no or insufficient information to define whether the patient's CPO status represents an infection or colonization.
4	Date of visit (dd/mmm/yyyy).	Record the Day (e.g., 17), Month (e.g., Jul) and Year (e.g. 2014) in this order (e.g., 17-Jul-2014). Write out the month (e.g. Jan, Mar, Aug, etc.).
5	At what care setting was the patient identified with the organism identified in Question 1?	Check one that applies
6	Did the patient travel outside of Canada within the past 12 months?	If the patient has stayed outside Canada for overnight or longer within the past 12 months, select <b>Yes</b> and specify which country the patient travelled to.
7	If answered Yes to Question 6, did the patient have a health-care encounter outside of Canada within the past 12 months?	Select <b>one</b> that applies based on the information available
8	Did the patient have an overnight stay in a Canadian facility or undergo medical/surgical procedure in Canada (including BC) within the past 12 months?	Select <b>Yes</b> if the patient an overnight stay in a Canadian facility or underwent a medical/surgical procedure in Canada (including BC) within the past 12 months. Specify which province the patient had the health encounter. If the patient had a health encounter in multiple provinces, write the provinces name in the blank.
9	If answered Yes to Question 8, what types of health-care encounters has the patient had in BC in the past 12 months (excluding current admission)? (Check all that apply)	Check <b>all</b> that apply based on the patient's health-care encounter history

10	Did the patient have contact [minimum 12 hours] with a known case or environmental sources for the organism identified in question 1 within the past 12 months? (Check all that apply)	Check <b>all</b> that apply based on the patient's contact with a known CPO or <i>C. auris</i> case
11	If answered Yes to Question 10, what was the nature of the contact?	Check <b>all</b> that apply based on the nature of the contact
12	Site(s) of infection	Check the site(s) of infection – check all that apply or specify the site(s) of infection(s).
13	Was the patient admitted to a BC hospital due to current infection?	Select <b>Yes</b> the patient admitted to a hospital due to current infection. Select <b>No</b> if the patient admitted to a hospital due to other medical conditions, or the patient was not admitted.