ARP SHARP Guidance 2021 P1 Activity B1 MDRO Prevention Plan Needs Assessment

Introduction

Historically, efforts to prevent the spread of novel and targeted multidrug-resistant organism (MDROs) have been response-based and triggered by MDRO detection within individual healthcare facilities (i.e., "containment"). The addition of a proactive, preventative approach to MDRO detection and infection control improvements, based on healthcare facility risk factors rather than detection of a case, and strategically coordinated across multiple healthcare facilities, is predicted to limit spread more effectively and efficiently. Prompt, successful implementation of these prevention strategies is crucial, as the COVID-19 pandemic has the potential to accelerate the spread of MDROs in the United States through its unprecedented strain on healthcare system resources. Indeed, multiple reports of MDRO outbreaks in COVID-19 observation and treatment units in the U.S. and elsewhere have been published. Thus, an urgent need exists for expanded public health efforts to mitigate the pandemic's effect on MDRO spread by improved infection prevention and control and enhanced MDRO detection.

CDC's "Interim Guidance for Public Health Measures to Prevent the Spread of Novel and Targeted Multidrug-Resistant Organisms" is in development and expected to be published in 2022; it will provide guidance for developing and implementing a MDRO Prevention Plan. A MDRO Prevention Plan for both novel and targeted organisms is a proactive and comprehensive approach, coordinated by public health, to prevent the spread of these organisms among a group of healthcare facilities. These activities complement, but do not duplicate or replace, MDRO "Containment" response activities. A fully developed MDRO Prevention Plan should comprise activities from four prevention strategies: education, improve infection prevention and control practices, detect colonized individuals, and communication. The specific prevention activities selected should be tailored to different healthcare facility types and guided by an area's evolving MDRO epidemiology to have the greatest impact for a jurisdiction.

Purpose

This Needs Assessment is a tool to support jurisdictions receiving Epidemiology and Laboratory Capacity program (ELC) funding in their assessment of current capacity and future needs to develop and implement an MDRO Prevention Plan. It will provide feedback to CDC on areas where more support may be required for successful MDRO Prevention Plan implementation. Last, it should be used during the development of the required ELC MDRO Prevention Workplan (P1 Activity B2), which will highlight the jurisdiction's MDRO Prevention Plan within the scope of expected work as dictated by the Strengthening HAI/AR Program (SHARP) guidance.

Abbreviations

ACH	Acute Care Hospital
APIC	Association of Professionals in Infection Control
AR	Antimicrobial Resistance
ARIE	Antimicrobial Resistance Information Exchange
ARLN	Antimicrobial Resistance Laboratory Network
C auris	Candida auris
CIC	Certification in Infection Control
CP	Contact Precautions
CPOs	Carbapenemase-producing organisms
CRAB	Carbapenem-Resistant Acinetobacter Baumannii
CRE	Carbapenem-Resistant Enterobacterales
CRPA	Carbapenem-Resistant Pseudomonas Aeruginosa
ELC	Epidemiology and Laboratory Capacity program
EVS	Environmental Services
HAI	Healthcare Associated Infections
HAN	Health Alert Network
HCP	Healthcare Personnel
HH	Hand Hygiene
IMP	Imipenemase
IPC	Infection Prevention and Control
KPC	Klebsiella pneumoniae carbapenemase
LTACH	Long-Term Acute Care Hospital
MD	Medical Doctor
MDRO	Multidrug-Resistant Organism
NDM	New Delhi Metallo-β-Lactamase
OXA	Oxacilliinase
PH	Public Health
PPE	Personal Protective Equipment
PPS	Point Prevalence Survey

RN   Registered Nurse

SNF   Skilled Nursing Facility (not providing ventilator care)

VIM   Verona Integron-encoded Metallo- β-Lactamase

vSNF   ventilator-capable Skilled Nursing Facility

Instructions: Thank you for completing this Needs Assessment. The tool consists of questions about key MDRO prevention planning strategy areas and should be answered by members of the jurisdiction's HAI/AR program in consultation with other partners such as laboratory staff, if needed. If you have questions about this tool, please contact HAIAR@cdc.gov.

ELC Jurisdiction	
Respondent 1 Name	
Respondent 1 Title/ Role in HAI/AR program	
Time in this role (# months and years)	
Respondent 2 Name	
Respondent 2 Title/Role in HAI/AR program	
Time in this role (# months and years)	
Date	

General Questions	Q ID	Question	Response Options * * - responses with asterisk will follow with "Please explain" prompt if selected*
The following questions will gather general information specific to your jurisdiction's HAI/AR program.			
Jurisdictional Overview	O1	Does your jurisdiction currently have a complete, current inventory of non-outpatient healthcare facilities within the jurisdiction?	- Yes (answer O1.i) - No * (skip to O2) - Don't Know (skip to O2)
Jurisdictional Overview	O1.i	If yes, does your jurisdiction have sufficient information to appropriately identify all non-outpatient healthcare facilities by type (e.g., ACH, LTACH, SNF, vSNF) to prioritize for MDRO Prevention Activities?	- Yes - No *

Jurisdictional Overview	O2	Using best available information, how many facilities in your region are vSNFs or LTACHs, or care for a similar patient/resident population of high acuity with long lengths of stay, and are therefore at high risk of MDRO transmission? *Healthcare facilities at high risk for MDRO transmission are those facilities that have characteristics associated with increased risk of importation and transmission of MDROs (e.g., high-acuity patients, long length of stay). These generally are long-term acute-care hospitals or ventilator-capable skilled nursing facilities but may also include other facility types.*	- Open Ended - Don't Know
Jurisdictional Overview	O3	For what proportion of facilities at higher risk for MDRO transmission (e.g., vSNFs and LTACHs), does the jurisdiction currently understand the patient transfer networks? *Transfer networks refers to the facilities that higher risk facilities most frequently receive patients from and transfer to.*	a) All high-risk facilities b) More than half of high-risk facilities c) Half of the high-risk facilities d) Less than half of high-risk facilities e) Not available for any high-risk facilities f) No high-risk facilities in the jurisdiction g) Don't Know
Jurisdictional Overview	O4	Please describe the current general relationships the HAI/AR program has with the following facility types for MDRO response activities:	(i) ACH, (ii) LTACH, (iii) vSNF, (iv) SNF a) Most facilities are collaborative b) Some facilities are collaborative c) Few facilities are collaborative d) Don't know e) N/A - we do not have these facilities in our jurisdiction - (O3.i) Please use this space to share any additional information about the HAI/AR program and its working relationships with different healthcare facilities that you believe to be relevant to this needs assessment. - Open ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *italic* - responses with asterisk will follow with "Please explain" prompt if selected
Education		A key strategy of MDRO Prevention planning is to enhance education about MDROs to healthcare facilities, healthcare personnel (HCP), and other partners. This section aims to identify current HAI/AR program educational activities and opportunities related to both novel and targeted MDROs and to determine capacity for future educational activities or strategies.	
Education	E1	In the last 3 years (2019-2021), has the HAI/AR program conducted **virtual** MDRO educational trainings (such as webinars) for healthcare personnel (HCP)?	-Yes (answer E1.i) -No* -Don't Know (E1.i) If Y, please indicate approximate number of virtual trainings (Optional) (E1.ii) If Y, please briefly describe training activities. (Optional)
Education	E2	Is the HAI/AR program **currently** able to conduct **virtual** MDRO educational trainings (such as webinars) for HCP?	-Yes, with support from partners (answer E2.i) -Yes, without support from partners (answer E2.i) -No -Don't Know (E2.i) If Y, does the HAI/AR program have the capacity to continue conducting **virtual** trainings for HCP in the **future**? (Yes/No)
Education	E3	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to conducting **virtual** educational trainings (such as webinars) for HCP. *(select all that apply)*	Checkboxes: a) None b) Insufficient time to organize c) Insufficient time to implement d) Insufficient staff with expertise to conduct the training e) Insufficient funds f) Insufficient IT support (e.g., IT platform needed to hold large audiences) g) Insufficient training materials h) Insufficient facility internet connectivity i) Low attendance due to competing facility priorities j) Insufficient HAI/AR program time due to other competing priorities k) Other (please specify): l) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *_- responses with asterisk will follow with "Please explain" prompt if selected_*
Education	E4	In the last 3 years (2019-2021), has the HAI/AR program conducted **on-site**, educational trainings (formal or informal) about MDROs for HCP **at healthcare facilities** with **high-risk for MDRO transmission** (e.g., ventilator capable skilled nursing facilities (vSNFs)/long-term acute care hospitals (LTACHS))? ***Onsite trainings for HCP** – typically conducted at single HCP solely for that facility's staff and tailored to MDROs and infrastructure/challenges in that facility*	-Yes -No * -Don't Know
Education	E5	Is the HAI/AR program **currently** able to conduct **on-site**, educational trainings (formal or informal) about MDROs for HCP **at healthcare facilities** with **high-risk for MDRO transmission** (e.g., vSNFs/LTACHs)?	-Yes, with support from partners (answer E5.i) -Yes, w/o support from partners (answer E5.i) -No -Don't Know (E5.i) If Y, does the HAI/AR program have the capacity to continue conducting HCP trainings **on-site at healthcare facilities** with high-risk for MDRO transmission (e.g., vSNFs/LTACHs) in the **future**? (Yes/No)
Education	E6	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to conducting **on-site**, educational HCP trainings **at healthcare facilities** with **high-risk for MDRO transmission** (e.g., vSNFs/LTACHs)? *(select all that apply)*	Checkboxes: a) None b) COVID-19 gathering restrictions c) Insufficient time to organize d) Insufficient time to implement e) Insufficient staff with expertise to conduct the training f) Insufficient funds (e.g., for travel) g) Insufficient training materials h) Low attendance due to competing facility priorities i) Insufficient HAI/AR program time due to other competing priorities j) Other (please specify): k) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Education	E7	In the last 3 years (2019-2021), has the HAI/AR program conducted **in-person** MDRO educational trainings such as **workshops or conferences** for **HCPs**? *Workshops or conferences – typically attended by multiple healthcare facilities –and focused on general MDRO and IPC information*	-Yes -No * -Don't Know
Education	E8	Is the HAI/AR program **currently** able to conduct **in-person** MDRO educational trainings such as **workshops or conferences** for **HCPs**?	-Yes, with support from partners (answer E8.i) -Yes, w/o support from partners (answer E8.i) -No -Don't Know (E8.i) If Y, does the HAI/AR program have the capacity to continue conducting **in-person** educational trainings, such as workshops or conferences, for **HCP** in the **future**? (Yes/No)
Education	E9	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to conducting **in-person** educational trainings such as **workshops or conferences** for **HCPs**? *(select all that apply)*	Checkboxes: a) None b) COVID-19 gathering restrictions c) Insufficient time to organize d) Insufficient time to implement e) Insufficient staff with expertise to conduct the training f) Insufficient funds (e.g., for travel) g) Insufficient training materials h) Low attendance due to competing facility priorities i) Insufficient HAI/AR program time due to other competing priorities Other (please specify): j) Don't Know
Education	E10	In the last 3 years (2019-2021), has the HAI/AR program conducted **in-person and/or virtual** MDRO educational trainings for non-HCP/HCF audiences, such as **state healthcare facility survey agencies and licensing boards**?	-Yes -No * -Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Education	E11	Is the HAI/AR program **currently** able to conduct **in-person and/or virtual** MDRO educational trainings for **non-HCP/HCF audiences** such as **healthcare facility survey agencies and licensing boards**?	-Yes, with support from partners (answer E11.i) -Yes, w/o support from partners (answer E11.i) -No -Don't Know
Education	E12	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to conducting **in-person and/or virtual** educational trainings for **non-HCP/HCF audiences** such as **healthcare facility survey agencies and licensing boards**? (*select all that apply*)	Checkboxes: a) None b) COVID-19 gathering restrictions c) Insufficient time to organize d) Insufficient time to implement e) Insufficient staff with expertise to conduct the training f) Insufficient funds g) Insufficient training materials h) Insufficient facility internet connectivity i) Low attendance due to competing priorities for targeted audience j) Insufficient HAI/AR program time due to other competing priorities k) Other (please specify): l) Don't Know
Education	E13.i & E13.ii	i. Does the HAI/AR program need additional staff trainings or educational materials to expand the program's capacity to offer MDRO education to HCF and other partners?	- Yes (answer E14.i) - No (skip to E15) - Don't Know (skip to E15)
		ii. Are training materials for HCP and facilities needed that would improve capacity to offer facility MDRO education?	- Yes (answer E14.ii) - No (skip to E15) - Don't Know (skip to E15)

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Education	E14.i & E14.ii	i. Please describe the additional training or educational materials that would be helpful for HAI/AR program staff or "train the trainer" purposes ii. Please describe the additional training or educational materials that would be helpful for HCP or HCF audiences *(select all that apply)*	
Education	E15	Which types of audiences does the HAI/AR program target with training materials? *(select all that apply)*	Check boxes: a) Regulatory agencies b) Other Health Departments c) Acute Care Hospitals d) Long Term Care Facilities e) Other (please specify): f) Don't Know
Education	E16	Which types of HCP does the HAI/AR program target with training materials? *(select all that apply)*	Check boxes: a) Nurses b) Nursing aides c) Physicians d) Mid-level clinicians (e.g., Physician Assistants) e) Environmental Services personnel f) Non-clinical personnel (e.g., Administrators) g) Infection Preventionists h) Ancillary staff (e.g., Respiratory Therapy, Physical Therapy, etc.) i) Other (please specify): j) Don't Know
Education	E17	Are there audiences the HAI/AR program would like to reach, but is not currently able?	-Yes (answer E17i) -No -Don't Know (E17.i) If yes, which audiences and what is the gap? What educational materials would be helpful?

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Education	E18	Does the HAI/AR program **currently** use any educational materials in languages **other than English**? If so, which languages?	-Yes (answer E18.i) -No -Don't Know (E18.i) If Y, please indicate which languages (checkboxes - select all that apply)
Education	E19	Does the HAI/AR program **currently need** educational materials in languages other than English, but not have the ability to develop them?	- Yes (answer E19.i) - No - Don't Know (E19.i) If Y, please indicate which languages (checkboxes - select all that apply):
Education	E20	Please use this space to share any additional information about MDRO education for HCPs, healthcare facilities and partners, including areas where additional support is needed.	- Open-ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Infection Prevention and Control	Another key strategy is to improve infection prevention and control (IPC) within healthcare facilities. This section aims to identify the IPC technical support practices within the HAI/AR program as well as any challenges or limitations experienced in their implementation.		
Infection Prevention and Control	IPC1	Please indicate which staff **within the HAI/AR program** conduct MDRO targeted IPC assessments (**virtual or onsite**). (*select all that apply*)	Checkboxes: a) HAI/AR program coordinator/manager b) Public Health Nurse c) Staff Infection Preventionist d) HAI/AR Epidemiologist e) Other (please specify): f) Don't Know
Infection Prevention and Control	IPC2	What is the highest level of IPC training held by staff **within the HAI/AR program** who conduct MDRO targeted IPC assessments? (*select all that apply*)	Checkboxes: a) Clinical degree (e.g., RN, MD) b) Certification in Infection Control (CIC) c) On-the-job training d) Other (please specify): e) Don't Know
Infection Prevention and Control	IPC3	Are other partners, contract agencies or regulatory bodies involved in MDRO targeted IPC assessments (**virtual or onsite**)?	- Yes (answer IPC3.i) - No - Don't Know (IPC3.i) If Y, please specify:

Infection Prevention and Control	IPC4	In the last 3 years (2019-2021), has the HAI/AR program ever conducted **IPC assessments for MDROs** (for either response or prevention purposes) at:
		  i. Acute Care Hospitals (ACH)
		  ii. Long-term Acute Care Hospitals (LTACH)
		  iii. Ventilator-capable Skilled Nursing Facilities (vSNF)
		  iv. Skilled Nursing Facilities not providing ventilator care (SNF)
			- Yes, onsite but not virtually
			- Yes, virtually but not onsite
			- Yes, both onsite and virtually
			- No *
			- Don't Know

Infection Prevention and Control	IPC5	Does the HAI/AR program **currently** use a database (or other electronic tracking system) to document which facilities have had an MDRO targeted IPC assessment?	- Yes - No * - Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Infection Prevention and Control	IPC6	Does the HAI/AR program provide the facility with written recommendations following an IPC assessment?	- Yes (answer IPC6.i) - No * (skip to IPC7) - Don't Know (skip to IPC7)
Infection Prevention and Control	IPC6.i	If yes, does the HAI/AR program track implementation of recommendations by the facility?	- Yes - No - Don't Know

Infection Prevention and Control	IPC7	How often does the HAI/AR program **typically** (in the last 3 years, 2019-2021) perform **on-site** IPC assessments (full or MDRO-targeted ICAR) in **response** to **MDRO case identification** as recommended by CDC's Interim Guidance for a Public Health Response to Contain Novel or Targeted MDROs?
		  i. ACH
		  ii. LTACH
		  iii. vSNF
		  iv. SNF
			a) Always
			b) Most of the time
			c) Some of the time
			d) Rarely
			e) Never
			f) N/A – Jurisdiction has not had novel or targeted MDRO in this setting in last 3 years
			g) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options * - responses with asterisk will follow with "Please explain" prompt if selected
Infection Prevention and Control	IPC8	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to routinely performing **on-site**, MDRO-targeted IPC assessments in **response** to **single MDRO case identification** as recommended by [CDC's Interim Guidance for a Public Health Response to Contain Novel or Targeted MDROs](#)? 　i.　Acute Care Hospitals (ACH) 　ii.　Long-term Acute Care Hospitals (LTACH) 　iii.　Ventilator-capable Skilled Nursing Facilities (vSNF) 　iv.　Skilled Nursing Facilities not providing ventilator care (SNF) *(select all that apply)*	Checkboxes: a) None b) COIVID-19 restrictions for on-site work c) Insufficient HAI/AR program staff time to coordinate (e.g., schedule) d) Insufficient HAI/AR program staff time to conduct e) Insufficient staff with expertise to conduct the assessments f) External support needed to conduct the assessments (e.g., academic partners, outside consultants such as APIC, etc.) g) Insufficient travel funds h) Insufficient assessment materials i) Facility non-responsiveness/Unable to reach facilities by phone/email to schedule visit j) Competing priorities for facilities limit participation k) Difficult to reach facilities due to distance or hard-to-reach location l) Competing HAI/AR program time priorities m) N/A – we have not performed assessment in this facility type n) N/A – we do not have this facility type in our jurisdiction o) Other (please specify): p) Don't Know
Infection Prevention and Control	IPC9	Does the HAI/AR program **currently** have the capacity to systematically select facilities at high risk for MDRO transmission for **proactive** (i.e., regardless of MDRO case identification), **on-site** MDRO-targeted IPC assessments? *Higher risk facilities defined as certain health care facilities, such as long-term acute-care hospitals or ventilator-capable skilled nursing facilities, which have characteristics that are associated with increased risk of importation and transmission of MDROs (e.g., high-acuity patients, long length of stay).*	- Yes - No - Don't know - N/A – there are no high-risk facilities in our jurisdiction

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Infection Prevention and Control	IPC10	Among **facilities at high risk for MDRO transmission (e.g., vSNFs and LTACHS) in the jurisdiction**, at **what proportion** is the HAI/AR program be able to conduct **proactive, on-site** MDRO IPC assessments at least annually?	a) All facilities b) More than half of facilities c) Half of the facilities d) Less than half of facilities e) None of the facilities f) N/A– there are no high-risk facilities in our jurisdiction g) Don't Know
Infection Prevention and Control	IPC11	Please indicate any challenges or limitations the HAI/AR program currently has or anticipates having with performing **proactive, on-site** MDRO-targeted IPC assessments at facilities at high risk for MDRO transmission (e.g., **vSNFs and LTACHs)** in the jurisdiction? *(select all that apply)*	Checkboxes: a) None b) COIVID-19 restrictions for on-site work c) Insufficient HAI/AR program staff time to coordinate (e.g., schedule) d) Insufficient HAI/AR program staff time to conduct e) Insufficient staff with expertise to conduct the assessments f) External support needed to conduct the assessments (e.g., academic partners, outside consultants such as APIC, etc.) g) Insufficient travel funds h) Insufficient assessment materials i) Facility non-responsiveness/Unable to reach facilities by phone/email to schedule visit j) Competing priorities for facilities limit participation k) Difficult to reach facilities due to distance or hard-to-reach location l) Competing HAI/AR program time priorities m) N/A – we have not performed assessment in this facility type n) N/A – we do not have this facility type in our jurisdiction o) Other (please specify): p) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*

Infection Prevention and Control	IPC12	Please indicate the frequency by facility type that the HAI/AR program **currently** conducts **follow-up assessments** (**on-site or virtual**) after critical infection control gaps are noted on a MDRO-targeted infection control assessment (response-based or proactive)
		  i. ACH
		  ii. LTACH
		 iii. vSNF
		 iv. SNF
		
		Critical gaps include gaps in knowledge about MDROs among HCP, gaps in IPC practices, gaps in communication practices, etc.
			a) Always
			b) Most of the time
			c) Some of the time
			d) Rarely
			e) Never
			f) N/A – we have not performed assessment or have not identified critical gaps in this facility type
			g) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Infection Prevention and Control	IPC13	Please indicate any challenges or limitations by facility type that the HAI/AR program **currently** experiences related to providing infection control **follow-up assessments (on-site or virtual**)? i. Acute Care Hospitals (ACH) ii. Long-term Acute Care Hospitals (LTACH) iii. Ventilator-capable Skilled Nursing Facilities (vSNF) iv. Skilled Nursing Facilities not providing ventilator care (SNF) *(select all that apply)*	Checkboxes: a) None b) COVID-19 restrictions for on-site work c) Insufficient HAI/AR program staff time to coordinate (e.g., schedule) and/or conduct d) Additional healthcare facility staff needed to coordinate and/or conduct e) Insufficient number of staff with expertise to conduct the follow-up f) External support (e.g., academic partners, outside consultants such as APIC, etc.) needed to conduct follow-ups (virtually or onsite) g) Insufficient funds h) Lack of reliable web platform required to conduct virtual assessment i) Competing priorities for facilities limit participation j) Insufficient facility internet connectivity k) Facility unwilling to allow camera use during virtual assessment l) Difficult to reach facilities due to distance or hard-to-reach location m) Insufficient HAI/AR program time due to other competing priorities n) Restrictions for going onsite o) N/A – we have not performed assessment in this facility type p) N/A – we do not have this facility type in our jurisdiction q) Other (please specify): r) Don't Know
Infection Prevention and Control	IPC14	Is the HAI/AR program **currently** able to provide **virtual** MDRO-targeted infection control assessments with facility visualization via **camera** use?	- Yes - No - Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Infection Prevention and Control	IPC15	Please indicate any challenges or limitations the HAI/AR program experiences related to providing **virtual** MDRO-targeted infection control assessments via **camera** use? *(select all that apply)*	Checkboxes: a) None b) Insufficient HAI/AR program staff time to coordinate (e.g., schedule) and/or conduct c) Additional healthcare facility staff needed to coordinate and/or conduct d) Insufficient number of staff with expertise to conduct the virtual assessment e) External support needed to conduct the virtual assessment f) Lack of reliable web platform required to conduct the assessment g) Competing priorities for facilities limit participation h) Insufficient facility internet connectivity i) Facility unwilling to allow for camera use j) Insufficient HAI/AR program time due to other competing priorities k) Other (please specify): l) Don't Know
Infection Prevention and Control	IPC16	How often does the HAI/AR program **currently** recommend nursing homes implement Enhanced Barrier Precautions (EBP) as part of MDRO containment response?	a) Always b) Most of the time c) Some of the time d) Rarely e) Never f) Don't Know
Infection Prevention and Control	IPC17	Please use this space to share any additional information including areas where additional support for MDRO related IPC practices is needed?	- Open-ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Communication		Another key strategy for MDRO Prevention is improving communication between healthcare facilities, between healthcare facilities and public health, and between public health jurisdictions. This section aims to describe current HAI/AR program communication practices.	
Communication	C1	Please indicate which of the following mechanisms the HAI/AR program uses to support healthcare facility interfacility communication during patient/resident transfer. *(select all that apply)*	Checkboxes: a) None b) Health department tracks patients with novel and targeted MDRO and notifies healthcare facilities at transfer *(e.g., phone call, email)* c) Healthcare facilities are encouraged to use a standard interfacility communication form d) Healthcare facilities are mandated to use a standard interfacility communication form e) Antibiotic Resistance Information Exchange (ARIE) *(e.g., MDRO registry)* f) Other (please specify): g) Don't Know
Communication	C2	Does the HAI/AR program **currently** have a mechanism to rapidly communicate MDRO-related epidemiological and surveillance information (e.g., an increase in NDM-CRE cases or first detection of *Candida auris* in a region) to healthcare facilities?	- Yes (answer C2.i and C2.ii) - No * (skip to C3) - Don't Know (skip to C3)
Communication	C2.i	If yes, how is this usually conducted? *(select all that apply)*	Checkboxes: a) Email b) Phone c) Text alert d) Fax e) Health alert network (HAN) notification f) Other (please specify) g) Don't Know
Communication	C2.ii	If yes, does the HAI/AR program currently have a way to ensure contact lists for healthcare facilities are maintained?	- Yes - No * - Don't Know

Communication	C3	Are there any barriers in communicating MDRO-related information to other jurisdictional health departments (e.g., local health departments (LHDs), other state health departments)?	- Yes (answer C3.i) - No - Don't Know (C3.i) If Y, please specify.
Communication	C4	Please use this space to share any additional information, including areas where additional support could facilitate interfacility and facility-health department communication?	- Open-ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Detect Colonized Individuals		Another key strategy is to proactively detect colonized individuals. This section aims to determine current practices and capacity for active colonization surveillance within the HAI/AR program and to identify any challenges or limitations experienced in implementation.	
Detect Colonized Individuals	DCI1	In the last 3 years (2019-2021), has the HAI/AR program facilitated any **MDRO colonization screening** (includes PPS, admission, or discharge screening)?	-Yes (answer DCI2) -No * (skip to DCI3) -Don't Know (skip to DCI3)
Detect Colonized Individuals	DCI2	If yes, which of the following MDRO* colonization screening strategies has the HAI/AR program performed/facilitated? *For the purpose of this question MDROs refer to the targeted MDROs *C. auris* and CPOs. *(CPOs include carbapenemase producing CRE, CRPA, and CRAB)*	DCI1.i - Admission screening – Y/N/DK (then check which organism and mechanism, where applicable) – C auris; CPOs with KPC, VIM, IMP, OXA-48-like, NDM; CRAB with OXA-23,-24/40, -58) DCI1.ii - Discharge screening – Y/N/DK (then check which organism (and mechanism, where applicable) – C auris; CPOs with KPC, VIM, IMP, OXA-48-like, NDM; CRAB with OXA-23,-24/40, -58) DCI1.iii - PPS in response to cases at a facility – Y/N/DK (then check which organism – C auris; CPOs with KPC, VIM, IMP, OXA-48-like, NDM; CRAB with OXA-23,-24/40, -58) DCI1.iv - PPS at facility without known case (proactive) – Y/N/DK (then check which bug – C auris; CPOs with KPC, VIM, IMP, OXA-48-like, NDM; CRAB with OXA-23,-24/40, -58)
Detect Colonized Individuals	DCI3	How often is the HAI/AR program **currently** able to conduct **colonization screenings** (e.g., screening of high-risk contacts, point prevalence surveys [PPSs]) in response to a **case** of a novel or targeted MDRO as recommended by CDC's Interim Guidance for a Public Health Response to Contain Novel or Targeted MDROs?	Please answer for i.) short stay facilities (ACH); and ii.) long stay facilities (e.g., LTACH, SNF, vSNF): a) Always b) Most of the time c) Some of the time d) Rarely e) Never f) Screening has not been conducted in this facility type in our jurisdiction g) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Detect Colonized Individuals	DCI4	Please indicate any challenges or limitations the HAI/AR program **currently** experiences related to conducting **colonization screenings** in response to a **case** of a novel or targeted MDRO? *(select all that apply)*	Checkboxes: a) None b) Insufficient public health laboratory resources to screen desired number of contacts c) Insufficient staff within the HAI/AR program to coordinate screenings d) Insufficient staff outside the HAI/AR program (e.g., local health departments) to coordinate screenings e) Insufficient HAI/AR program time due to other competing priorities f) Limited experience with screening among HAI/AR program staff g) Facilities unwilling to perform screening h) High refusal rates among patients/residents i) Challenges with packing and shipping (please describe) j) High specimen rejection rates (e.g., due to improper labeling, leakage) k) Other (please specify): l) Don't Know
Detect Colonized Individuals	DCI5	During the **SHARP funding timeframe**, in what proportion of high-risk facilities (i.e., vSNFs, LTACHs) does the HAI/AR program **anticipate** instituting at least one **proactive PPSs** for targeted MDROs (e.g., CPOs, C. auris)? *Proactive PPS: PPS performed for prevention purposes at facility selected based on risk factors for MDRO transmission. Differs from PPS performed in response to new case of a novel or targeted MDRO.*	a) No targeted PPS possible at this time (skip to DCI6) b) All high-risk facilities in jurisdiction (answer DCI5.i) c) More than half of high-risk facilities in jurisdiction (answer DCI5.i) d) About half of high-risk facilities in jurisdiction (answer DCI5.i) e) Less than half of the high-risk facilities in jurisdiction (answer DCI5.i) f) Not necessary in this jurisdiction / Not epidemiologically important in this jurisdiction (skip to DCI6) g) N/A-no high-risk facilities in the jurisdiction (skip to DC16) h) Don't Know (skip to DCI6)
Detect Colonized Individuals	DCI5.i	Please indicate the anticipated frequency for conducting proactive PPSs (per targeted facility) in your jurisdiction.	a) Once a year b) Twice a year c) Quarterly d) More frequent than quarterly e) Don't know f) Other (please specify):

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Detect Colonized Individuals	DCI5.ii	For which organisms do you anticipate instituting proactive PPSs? *(select all that apply)* *(CPOs include CRE, CRPA, and CRAB)*	a) C auris b) CPOs with KPC, VIM, IMP, OXA-48-like, NDM c) CRAB with OXA-23, -24/40, -58 d) Don't Know
Detect Colonized Individuals	DCI6	Please indicate any challenges or limitations you anticipate the HAI/AR program experiencing related to **proactive PPSs**? *(select all that apply)*	Checkboxes a) None b) Insufficient public health laboratory resources to implement screening at desired number of facilities (DCI6.b.i) Please explain further c) Insufficient public health laboratory resources to implement screening at desired frequency (DCI5.i) Please describe target frequency d) Challenges with coordinating logistics (e.g., coordinating with facilities and regional labs and PH staff onsite) e) Insufficient staff within the HAI/AR program to coordinate PPSs f) Current HAI/AR program staff lack experience to implement proactive PPS colonization screening g) Insufficient staff outside of the HAI/AR programs (e.g., local health departments) to coordinate PPSs h) Insufficient HAI/AR program time due to other competing priorities i) Facilities unwilling to participate j) Too logistically complicated for facilities to initiate or maintain k) "Snowball" effect of PPS identifying hidden outbreaks and needing to implement response activities or broaden screening l) N/A – no PPS planned at this time m) Other (please specify): n) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *italic* *- responses with asterisk will follow with "Please explain" prompt if selected*
Detect Colonized Individuals	DCI7	Please indicate any **challenges or limitations** the HAI/AR program currently has or anticipates having with instituting **admissions screenings**? *(select all that apply)*	Checkboxes: a) None b) Insufficient public health laboratory resources c) Logistical challenges for public health to coordinate specimen collection and testing d) Logistical challenges to communicate results e) Concerns about impact on patient flow (e.g., admission refusals, inadvertent creation of a test negative requirement from facilities) f) Insufficient staff within the HAI/AR program to coordinate screenings g) Insufficient staff outside the HAI/AR program (e.g., local health departments) to coordinate screenings h) Insufficient time due to other competing priorities i) Facilities unwilling j) Too logistically complicated for facilities to initiate or maintain k) N/A – no current or future plans for admissions screening in the jurisdiction l) Other (please specify): m) Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Detect Colonized Individuals	DCI8	Please indicate **any challenges or limitations** the HAI/AR program currently has or anticipates having with instituting **discharge screening**? *(select all that apply)*	Checkboxes: a) None b) Insufficient public health laboratory resources c) Logistical challenges for public health to coordinate specimen collection and testing d) Logistical challenges to communicate results e) Concerns about impact on patient flow (e.g., admission refusals, inadvertent creation of a test negative requirement from facilities) f) Insufficient staff within the HAI/AR program to coordinate screenings g) Insufficient staff outside the HAI/AR program (e.g., local health departments) to coordinate screenings h) Insufficient time due to other competing priorities i) Facilities unwilling j) Too logistically complicated for facilities to initiate or maintain k) N/A – no current or future plans for discharge screening in the jurisdiction l) Other (please specify): m) Don't Know
Detect Colonized Individuals	DCI9	Please use this space to share any additional information including areas where additional support is needed for the detection of colonized individuals.	- Open-ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Other Areas			
General Surveillance	This section aims to determine what general surveillance activities are routinely implemented by the HAI/AR program in relation to both novel and targeted MDROs.		
General Surveillance	GS1	Does the HAI/AR program currently maintain an electronic database for tracking novel and emerging MDROs within the jurisdiction?	- Yes - No - Don't Know

General Surveillance	GS2	Does the HAI/AR program routinely collect and record epidemiological data on most (e.g., over 80%) reported MDRO cases?
		
		Examples of epidemiological data include long term care exposure, international travel history, patient risk factors, etc.
			Answer for:
			(a) CP-CRAB; (b) KPC-CRE; (c) non-KPC CP-CRE; (d) CP-CRPA; (e) C auris
			    - Yes
			    - No
			    - Don't Know

General Surveillance	GS3 (a-d)	Is the HAI/AR program able to analyze available MDRO data *(e.g., state/local surveillance systems output, testing results from the AR Laboratory Network, case report form collection, etc.)* to define jurisdictional epidemiology to guide MDRO prevention and response strategies?	Answer for:
			a) CP-CRAB; (b) KPC-CRE; (c) non-KPC CP-CRE; (d) CP-CRPA; (e) C auris
			    - Yes
			    - No, program does not have analytic capacity
			    -No, program does not have data available to analyze
			    -N/A, this MDRO has not been identified in our jurisdiction
			    - Don't Know

General Surveillance	GS6	Please use this space to share any additional information including areas where additional support is needed for general surveillance.	- Open-ended
Clinical Laboratories and Clinical Isolates	This section aims to identify current practices related to both novel and targeted MDROs and clinical laboratories within the HAI/AR program.		

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Clinical Laboratories and Clinical Isolates	CL1	Does the HAI/AR program **currently** have an up-to-date inventory of all clinical laboratories and which facilities they serve in the jurisdiction?	- Yes - No - Don't Know
Clinical Laboratories and Clinical Isolates	CL2	Does the HAI/AR program **currently** have a mechanism to rapidly communicate epidemiologically important, MDRO-related information (i.e., a rise in detection of isolates producing NDM enzymes) to clinical laboratories in the jurisdiction?	- Yes (answer CL2.i) - No (skip to CL3) - Don't Know (skip to CL3)
Clinical Laboratories and Clinical Isolates	CL2.i	If yes, how is this usually conducted: *(select all that apply)*	Checkboxes: a) Email b) Phone c) Text alert d) Fax e) LIMS f) Other (please specify): g) Don't Know
Clinical Laboratories and Clinical Isolates	CL3	How does the HAI/AR program assess compliance with reporting and isolate submission from clinical laboratories? *(select all that apply)*	a) Audits of reports b) Audits of isolate submission c) N/A - no state or local mandate exists for reporting or isolate submission d) Compliance not assessed e) Other (please describe): f) Don't Know

Clinical Laboratories and Clinical Isolates	CL4	Does the HAI/AR program assess, at least annually, the capacity for clinical laboratories serving health care facilities within the jurisdiction to identify:
		    a) CP CRE
		    b) CP CRPA
		    c) CP CRAB
		    d) C auris
			- Yes
			- No
			- Don't Know

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Clinical Laboratories and Clinical Isolates	CL5	Does the HAI/AR program know which clinical laboratories serving facilities in their jurisdiction can conduct routine colonization screenings such as admission screening or point prevalence surveys?	Answer for: (a) C auris; (b) CPOs with KPC, VIM, IMP, OXA-48-like, NDM; (c) CRAB with OXA-23,-24/40, -58 - Yes - No *(CPOs include CRE, CRPA, and CRAB)*
Clinical Laboratories and Clinical Isolates	CL6	Please use this space to share any additional information, including areas where additional support is needed to understand clinical laboratory practices.	- Open-ended

MDRO Prevention Strategy Area	Q ID	Question	Response Options *- responses with asterisk will follow with "Please explain" prompt if selected*
Health Equity		This section aims to understand what knowledge and/or application of health equity principles and issues HAI/AR programs might have as they relate to MDRO prevention planning efforts. Health Equity continues to be an issue of interest at CDC.	
Health Equity	HE1	Is your jurisdiction aware of any ACH, LTACH or LTC facilities that may be serving marginalized and minority communities with compromised access to adequate healthcare?	- Yes (answer HE1.i) - No (skip to HE2) - Don't know (skip to HE2)
Health Equity	HE1.i	If yes, how are these communities identified at the facility level? What data sources does the HAI/AR program use?	- Open-ended
Health Equity	HE2	Is the HAI/AR program aware of any disparities in health outcomes related to hospital-associated infections (HAIs) and MDROs within jurisdictional healthcare facilities?	- Yes (answer HE3.i) - No - Don't know -(HE3.i) If yes, please specify:
Health Equity	HE3	Please use this space to share any additional information, including areas where additional support or training might be needed related to health equity.	-Open-ended