

Framework for the Response of Integrated Health Service Delivery Networks to COVID-19

Health Services and Access Unit
HS/HSS



PAHO

Framework for the Response of Integrated Health Service Delivery Networks to COVID-19

Introduction

In response to the emergency generated by the new coronavirus (COVID-19), which emerged in Wuhan, Hubei Province in the People's Republic of China during December 2019 and the WHO Director-General statement on 11 March 2020 characterizing the COVID-19 outbreak as a pandemic, Dr. Carissa Etienne, Director of the Pan American Health Organization (PAHO), has instructed to raise the level of preparedness of health services in the Region of the Americas.

Given this situation, the PAHO Emergency Operations Center (EOC) been activated to ensure that health delivery services in the countries of the Americas are prepared to respond to sustained community transmission of COVID-19.

PAHO's Department of Health Systems and Services (HSS) has defined these general guidelines for the response to the emergency of COVID-19 based on the Primary health care strategic approach and the transformation toward integrated health service delivery.

Key principles governing the current emergency include:

1. To **Save Lives**: through early identification, diagnosis and appropriate management of cases;
2. Containment of transmission by reducing secondary transmission to close contacts and health workers.
3. Planning and preparedness for the progressively reorganization of health services in response to the emergency while maintaining the capacity to respond to other emergencies.
4. Ensuring the health and protection of health workers by preventing stress and promoting their mental and physical health during and after the emergency.
5. Progressive activation of the entire network of services from the first level of care, emergency services, specialized services and hospitals; utilizing resources in the most efficient way to respond to the emergency while still meeting the needs of the population.
6. Ensuring information and communication to authorities and other stakeholders involved to sensitize and train health workers and to empower the population in response to the emergency.

Since the inception of the Incident Management Support system at the regional level, HSS in collaboration with the EOC has conducted activities and developed technical support tools for health services in Member States. One of these tools is the Hospital Readiness Checklist.

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A workshop was held from March 3 to 6 with health service delivery experts and PAHO advisors of the EOC and HSS, after which an adaptation of the integrated health services networks (IHSDNs) framework was developed, to respond to the COVID-19 outbreak. This adaptation constitutes a reference guide for the planning, organization and management of health service networks in response to the emergency.

Purpose

To support health services networks in preparing, containing, responding and mitigation of the COVID-19 emergency, involving persons, families, and communities, as well as other sectoral and intersectoral stakeholders.

Goals

1. To identify actions and interventions that the network of services should implement for the preparation, containment, response and mitigation of the COVID-19 outbreak with the primary objective of Saving Lives.
2. To support decision-making in the forecasting, organization and management of health services as the COVID-19 epidemic evolves.
3. To guide actions that favor the sectoral, intersectoral and community approach.
4. To guide PAHO/WHO technical support and cooperation to Member States during the epidemic.

To whom it is addressed

- PAHO/WHO Health Systems and Services Systems advisors
- PAHO/WHO Incident Command members
- National health authorities
- Directors of health services and networks

Description

The following table contains five columns:

1. The four *domains* of the IHSDNs framework.
2. *Attributes* adapted to the COVID-19 emergency.
3. *Essential actions* for each attribute.
4. *Interventions* according to the evolution of the emergency.
5. *Tools and instruments* that support the verification of implementation of actions and interventions for each attribute.

Integrated Health Service Networks Interventions in Response to a COVID-19 Outbreak

Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
Model of care: Interventions in response to COVID-19 outbreaks	1	Definition of the population and territory: Identification of population groups most at risk based on epidemiological criteria of the COVID-19 outbreak.	Identification of population groups most at risk: <ul style="list-style-type: none"> • Older adults (60 years old and over). • Patients with chronic diseases. • Populations living temporarily or permanently in institutions (prisons, nursing homes, children's homes). • People in conditions of vulnerability (overcrowding, some disabilities, older adults living alone, caregivers of patients). Define risk stratification and prioritization mechanisms based on responsiveness. Population mapping using epidemiological risk criteria and according to projected cases.	<ul style="list-style-type: none"> • Verify participation of first level of care teams in the identification of population groups at risk. • Intensify information and health education actions. • Perform monitoring activities of risk groups. • Develop a home or institutional visiting program • Monitoring and control of the visiting program • Outpatient care programming based on priority criteria. 	<ul style="list-style-type: none"> • Operational considerations: https://www.who.int/publications-detail/operational-considerations-for-managing-covid-19-cases-outbreak-on-board-ships • Laboratory testing in suspected human cases https://www.who.int/publications-detail/laboratory-testing-for-2019-novel-coronavirus-in-suspected-human-cases-20200117
	2	Network of healthcare facilities:	Mapping of health facilities in the network defining those units with response capacity	<ul style="list-style-type: none"> • Verify the response capacity of the 	<ul style="list-style-type: none"> • IHCN COVID-19 tool

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
3		Define the health services and human resources needs focused on responding to the increased demands of the population related to COVID-19	for COVID-19 (this includes first level of care and hospitals)	designated COVID-19 reference facilities. • Verification of the availability of medical supplies, laboratory reagents and other materials. • Verification of the availability and planning of future requirements and distribution of human resources.	
			Identification of private health services that can respond to COVID-19 epidemic.		
3		First level of care: Ensure the resolution capacity of the first level of care (primary care) to reinforce its role in the COVID-19 epidemic response.	Inventory and availability of equipment and means of transportation.	• Verify the availability and deployment of first level of care teams. • Verify the implementation of safety conditions and availability of personal protection equipment as appropriate for health care workers. • Verify the dissemination and implementation of all protocols designated for the management of a COVID-19 emergency.	<ul style="list-style-type: none"> IHCN COVID-19 tool Advice on the use of masks https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak Coronavirus disease (COVID-19) technical guidance:
			Inventory and distribution of human resources, by professional profile, available for the COVID-19 outbreak.		
3		First level of care: Ensure the resolution capacity of the first level of care (primary care) to reinforce its role in the COVID-19 epidemic response.	Ensure the availability and deployment of teams in first level of care health facilities for the response to COVID-19.	• Verify the availability and deployment of first level of care teams. • Verify the implementation of safety conditions and availability of personal protection equipment as appropriate for health care workers. • Verify the dissemination and implementation of all protocols designated for the management of a COVID-19 emergency.	<ul style="list-style-type: none"> IHCN COVID-19 tool Advice on the use of masks https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak Coronavirus disease (COVID-19) technical guidance:
			Guarantee the safety of health care workers.		
3		First level of care: Ensure the resolution capacity of the first level of care (primary care) to reinforce its role in the COVID-19 epidemic response.	Availability and use of protocols that include: <ul style="list-style-type: none"> • Identification of suspected cases • Ambulatory management of cases <input type="checkbox"/> Home visit and follow-up of cases <input type="checkbox"/> Triage 	• Verify the availability and deployment of first level of care teams. • Verify the implementation of safety conditions and availability of personal protection equipment as appropriate for health care workers. • Verify the dissemination and implementation of all protocols designated for the management of a COVID-19 emergency.	<ul style="list-style-type: none"> IHCN COVID-19 tool Advice on the use of masks https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak Coronavirus disease (COVID-19) technical guidance:

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
			<ul style="list-style-type: none"> Referrals (based on patient conditions) Isolation at home for mild cases <p>Ensuring the diagnosis, communication and proper transfer of patients.</p>	<ul style="list-style-type: none"> Verify the infrastructure and conditions to provide care of the health facilities assigned for patient care. Verify the conditions for triage and isolation of patients with respiratory symptoms. Definition of roles and responsibilities of health care teams (individual and collective). 	<p>Infection prevention and control / WASH: https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/infection-prevention-and-control. Includes guidance on PPE, masks, etc.</p> <ul style="list-style-type: none"> Occupational safety and health in public health emergencies: A manual for protecting health workers and responders (2018): https://www.who.int/publications-detail/occupational-safety-and-health-in-public-health-emergencies Getting your workplace ready for COVID-19: https://www.who.int/docs/default-source/coronaviruse/getting-workplace-
			<p>Definition of the support structure that ensures resolution capacity (diagnostic support, mobilization of community care teams and patient transportation).</p>		

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
					ready-for-covid-19.pdf
	4	Delivery of specialized services: Guarantee priority criteria and care of patients referred for specialized care during COVID-19 epidemic.	Identify and define mechanisms for accessing outpatient consultations. Have a progressive activation plan by phases in accordance with the projected evolution of the epidemic.	<ul style="list-style-type: none"> • Verify the development and application of protocols for referral and consultations to specialized care. • Verify the capacity for reorganization of specialized services: Intensive care unit, hospitalization and isolation rooms 	<ul style="list-style-type: none"> • Readiness – checklist https://hsvce.paho.org/public/coronavirus https://www.paho.org/en/documents/checklist-covid-2019-pandemic-risk-and-impact-management • Clinical management: https://www.who.int/publications-detail/clinical-management-of-severe-acute-respiratory-infection-when-novel-coronavirus-(ncov)-infection-is-suspected • Infection prevention: https://www.who.int/publications-detail/infection-prevention-and-control-during-health-

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
					care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125 <ul style="list-style-type: none"> Laboratory shipping specimens: https://www.who.int/publications-detail/guidance-for-laboratories-shipping-specimens-to-who-reference-laboratories-that-provide-confirmatory-testing-for-covid-19-virus Resource needs analysis tool for pandemic care
	5	Coordinated care throughout the network: Define the mechanisms for coordination of care in the continuum of health services for patients according to	Establish referral mechanisms (algorithm for care and transfer of COVID-19 patients). Define criteria for management of domiciliary isolation of patients and requirements for safe environment for home isolation.	<ul style="list-style-type: none"> Verify the existence of referral protocols specific to COVID-19 emergency. Verify the existence of protocols for home care and domiciliary isolations. 	<ul style="list-style-type: none"> Home care for patients: https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
		protocols adjusted for COVID-19 response.			and-management-of-contacts
	6	Person-, family- and community-centered care: Empowering people, families and communities in containment and mitigation measures for the COVID-19 emergency.	Identify the mechanisms and materials for community information and education in preventing transmission of COVID-19	<ul style="list-style-type: none"> • Verify availability of call centers and help lines. • Verify human resources profile and competencies, and operational procedures for call centers and help lines (FAQ, protocols, etc.). • Verify the implementation of community information and education interventions about COVID-19. • Verify the conditions for support and follow-up of domiciliary isolation. 	<ul style="list-style-type: none"> • Risk communications: https://www.who.int/publications-detail/risk-communication-and-community-engagement-readiness-and-initial-response-for-novel-coronaviruses-(-ncov)
			Identify training needs for caregivers of persons in home isolation.		
			Identify sources of extrabudgetary resources and mechanism to obtain them for the COVID-19 response.		

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
Governance: Strategies for the Response to the epidemic	7	Governance system: Define a single governance instance for decision-making during the COVID-19 epidemic	Identify stakeholders, roles, and the communication and coordination mechanisms for leading the COVID-19 response.	<ul style="list-style-type: none"> • Verify the existing legal frameworks that support the performance of health services during emergencies and epidemics, including for the progressive recruitment of human resources. • Verify stakeholder communication mechanisms. • Verify availability of bioethical advisory reviews to inform decision making as appropriate. 	
			Identify special dispensations for hiring and mobilizing human resources, purchasing and distributing supplies and equipment.		
	8	Community participation: Implement mechanisms that ensure social participation	Mapping of community leaders and stakeholders that can be activated for the response to COVID-19.	<ul style="list-style-type: none"> • Verify alliances to ensure the care of patients in vulnerable conditions and the prevention of COVID-19. 	
			Promote the role of community stakeholders in the response to the epidemic (information, communication, community monitoring of cases).	<ul style="list-style-type: none"> • Verify the implementation of community training and education activities to prevent and contain COVID-19. 	

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	9	Intersectoral action: Implement actions with other sectors involved in the control of the epidemic by activating the existing intersectoral coordination mechanisms.	Mapping of intersectoral actors (education, local and regional governments, social development, police, military forces, communal governments, churches) to be activated for the COVID-19 response. Determine the role of intersectoral actors in the response. Identify sources of extrabudgetary resources and mechanism to obtain them for the response to the COVID-19 emergency.	<ul style="list-style-type: none"> • Verify alliances to support interventions in the emergency of COVID-19. • Verify the training and education actions of sectoral institutions in the prevention and containment actions of COVID-19. 	
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Domain	Attributes (adapted for COVID-19 Outbreaks)		Essential Actions	Interventions	Tools
Organizational and management: Management capacity and conditions for the response to the epidemic	10	Integrated management: Ensuring the flow of supplies, equipment, maintenance and logistic support necessary for the effective of	Plan the availability and timely supply of personal protective equipment, supplies for the clinical management of patients, including medications, infection control supplies, hand hygiene supplies.	<ul style="list-style-type: none"> • Verify the operation of the critical supply chain • Verify the inventory and availability of equipment and supplies: ventilators oxygen pulse oximeters 	<ul style="list-style-type: none"> • Health care workers https://www.who.int/publications-detail/protocol-for-assessment-of-potential-risk-factors-for-2019-novel-coronavirus-(2019-ncov)-infection-among-

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		healthcare facilities in response to the COVID-19.	Management and administrative support to health delivery in times of crisis.	surgical masks, N95/FFP2 surgical gloves eye protection robes • Verify the diagnostic capacity of laboratories • Verify the vulnerability of the supply chain (food, water, basic services, waste management, electricity supply)	health-care-workers-in-a-health-care-setting
			Administrative management of critical supplies.		
11		Human resources: Provide measures for personnel protection, timely replacement and redistribution of the resource in the health service network.	Determine the levels of essential human resources for the delivery of required care and/or its increase according to the evolution of the epidemic.	<ul style="list-style-type: none"> • Verify recruitment planning and decrease induction times • Verify the existence of a lists of health professionals working outside the health services that can be activated for contingencies (universities and training centers, future health workers). • Define options for reallocation, task shifting, and expansion of roles. • Verify the list of essential personnel 	<ul style="list-style-type: none"> • Occupational safety and health in public health emergencies: A manual for protecting health workers and responders (2018): https://www.who.int/publications-detail/occupational-safety-and-health-in-public-health-emergencies • Corona virus disease (COVID-19) outbreak: Rights, roles and responsibilities of health workers, including key considerations for occupational safety and health (English
			Identify the human resource in health outside the network of services for progressive activation.		
			Ensure the required competencies for all workers related to the effective response to the COVID-19 epidemic; including categories such as attendants, domestic personnel, drivers and others.		

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				<p>and telephone numbers.</p> <ul style="list-style-type: none"> • Verify staff training requirements and actions to be implemented. • Verify the availability and/or use of PPE. • Verify the financial allocation, the administrative procedures, and the legal framework in support to the response, so as other agreements and conventions to provide personnel. • Verify monitoring actions to employees and collaborators. 	<p>only): https://www.who.int/docs/default-source/coronaviruse/who-rights-roles-respon-hw-covid-19.pdf?sfvrsn=bcabd401_0</p> <ul style="list-style-type: none"> • Mental health considerations during COVID-19 outbreak: https://www.who.int/docs/default-source/coronaviruse/mental-health-considerations.pdf?sfvrsn=6d3578af_2 • Health workers exposure risk assessment and management in the context of COVID-19 virus: https://apps.who.int/iris/bitstream/handle/10665/331340/WHO-2019-nCov-HCW_risk_assessment-2020.1-eng.pdf
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	12	Information systems: Ensure timely, quality information for decision-making during the COVID-19 emergency.	Identify mechanisms for generating and processing of information that considers clinical, epidemiological data, use of resources and consumption of inputs.	Verify data generation mechanisms: • Susceptible population • Patients treated for respiratory symptoms • Suspect cases • Confirmed cases • Hospital admissions • Home isolation • ICU hospitalization • Deceased • Expenditures • Occupation of beds and length of stays	<ul style="list-style-type: none"> Readiness – Hospital Verification List https://hsvce.paho.org/public/coronavirus https://www.paho.org/en/documents/checklist-covid-2019-pandemic-risk-and-impact-management
			Establish coordination mechanisms for information management between epidemiology and health services for informed decision making.	Verify the information mechanisms in: • Consumption and resource needs • Service providers	
	13	Accountability: Define mechanisms for social accountability mechanisms for COVID-19 epidemic management.	Establish institutional, local, and national accountability mechanisms on the state of the COVID-19 epidemic.	• Verify programming of accountability exercises	
			Identify sources of extrabudgetary resources and mechanism to obtain them for the response to the COVID-19 emergency.		

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Domain	Attributes (adapted for COVID-19 outbreaks)		Essential Actions	Interventions	Tools
Financial allocations: Allocation of resources for the response to the epidemic	14	Allocation and control of financial resources:	Programming and budgeting of financial resources for the response to the epidemic.	<ul style="list-style-type: none"> • Verify the availability of financial resources in specific budget items for the epidemic. • Verify the allocation and availability of financial resources according to the needs of health services. • Verify mechanisms for monitoring the use of resources and obtaining necessary funds. 	
		Define control mechanisms of financing and expenses for the COVID-19 response.	Identify sources of extrabudgetary resources and mechanism to obtain them for the COVID-19 response.		

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