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Assessment of Primary Healthcare System's Response Capacity to Outbreaks of Communicable Diseases in Armenia: COVID-19 Experience. PHC Facilities observation

Brief Report

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Project Description

The Support to Control COVID-19 and Other Infectious Disease Outbreaks Activity strengthens the national capacity to control COVID-19 and other communicable disease outbreaks and emergencies of potential public health concern, advancing the Public Health Emergency Preparedness and Response strategy in Armenia. The activity is funded by the United States Agency for International Development (USAID) and is implemented by the American University of Armenia Fund, in collaboration with the Ministry of Health (MoH) of Armenia.

The project focuses on the following spheres:

1. To strengthen the capacity of the Government of Armenia to formulate and implement public policies and services to prevent and respond to emergencies of potential public health concerns.
2. ***To advance the health sector capacity for the surveillance, detection, assessment, early notification, and response to disease outbreaks and other emergencies of potential public health concern.***
3. To improve literacy on COVID-19 and other communicable diseases among the Armenian population.

The AUAF team conducted comprehensive assessments of the PHC system and laboratory network to identify existing gaps. Based on this work, the team was able to develop an action plan for strengthening the capacity of the healthcare system to be able to better balance the demands of a direct public health emergency response to with the need to simultaneously maintain delivery of essential health services.

Assessment of Primary Healthcare System's Response Capacity to Outbreaks of Communicable Diseases in Armenia: COVID-19 Experience. PHC Facilities observation

Introduction

The study was conducted in the spring of 2021 by the Turpanjian College of Health Sciences, American University of Armenia, as part of the USAID-funded "Support to control COVID-19 and other infectious diseases outbreaks in Armenia" project.

The observations aimed to:

- Assess the Infection Prevention and Control (IPC) environmental adaptation measures in primary healthcare facilities.
- Assess the existing IPC guidelines, protocols, written procedures, as well as standard operating procedures (SOP) of Infection Prevention and Control (IPC) measures at the primary healthcare level.
- Investigate the measure ensuring the safety of health care providers, visitors, and patients in the context of IPC.
- Observe the behavior of health care providers, visitors, and patients to ensure IPC.
- Assess the need for clinical and non-clinical equipment, services, and other resources necessary for the implementation of IPC measures in PHC facilities.

Brief methodology

For the purpose of primary healthcare (PHC) facilities' observation, 36 polyclinics were randomly selected in Armenia, of which 13 were located in Yerevan, and 23 in the 10 regions of Armenia. Three of the selected facilities were private, while the other 33 were public healthcare facilities.

The data collection took place from May through August 2021, using a standardized checklist. The latter was developed based on local and international scientific literature, then pretested, adapted accordingly, and then used for the observation.

The facility observation instrument consisted of the following domains: a) IPC measures implemented in the facility, including the PHC providers' rooms, and available clinical guidelines b) visitors and healthcare providers' behavioral adherence to IPC, and c)

availability of PPE resources.
The brief findings of the observation are presented in the main sections below.

Findings

Adaptation and Control of the Environment - Hand sanitizers were available in the rooms of all family physicians who participated in the observation, at the entrances of all observed polyclinics, and in the waiting areas of 73.5% of them. In 73.5 % of the waiting rooms of the observed polyclinics, the surfaces and the furniture were smooth, non-porous, and easy to clean. 76.5% of polyclinics had waste bins for used masks, and 88.6% had hand-free waste bins. Except for 1 polyclinic, all had at least 2 functioning toilets. Of the observed polyclinics, 82.9% had queue markings on the floor. However, despite the markings, patients and visitors were not maintaining proper distance.
Although all respondents (managers, IPC responsible people) reported proper rearrangement of the furniture in the waiting areas, only 48.6% of the observed facilities had a distance of at least 1 meter between the chairs in the waiting rooms.
Having a specific part of the polyclinic's building allocated for isolation was reported by 93.9% of respondents. A separate entry was reported for 94.3 % of isolation areas.
Separation of clean and infected rooms in the isolation areas by 91.4% of facilities. All polyclinics reported following a proper standard procedure approved by the MOH for medical waste disposal.
Specimen collection was performed in 80.6% of polyclinics; in some regions near Yerevan, only rapid tests were available, and not PCR. 93.1 % of the sampling rooms had natural ventilation.

COVID-19 Awareness-Raising and Reduction of Interaction Between Visitors - Almost all observed polyclinics had posters pinned on walls of common areas on physical distancing, respiratory and hand hygiene, COVID-19 vaccination, PPE usage, and other COVID-19-related topics. Only one polyclinic was missing any posters, which was explained by only recently having moved to the new building.
Of queried respondents, 82.4% reported some system of queuing visitors for at least one service, either through the ARMED e-health system or by phone calls. Queuing was performed at all facilities located in Yerevan, and at 71.4 % of regional facilities.

Visitors' and Healthcare Personnel's Behavior and Their Screening - Only 25.7% of the observed polyclinics maintained adequate distancing between visitors. In all such cases, the total number of visitors to the polyclinic was very small.
In general, the visitors were not following respiratory and hand hygiene (see table 1). In particular, out of 672 observed visitors in all the observed polyclinics, only 50 (7.5%) disinfected their hands at the entrance. Moreover, in only one clinic there was a nurse at the door, making sure everyone disinfected their hands at the entrance.
In all of the observed polyclinics, out of a total of 1352 visitors present in the waiting rooms, only 498 wore masks (~ 36,8%). The picture of respiratory hygiene was not much different among the healthcare personnel: out of 361 medical workers observed, only 144 wore masks (~ 39,9%). Of the family physicians/general practitioner participants, 53.6% wore a mask during the completion of the checklist.

Visitors and healthcare personnel's behavior and their screening - There was staff positioned at the entrance for screening the visitors (through measuring temperature) at 68.6% of polyclinics. However, only 1.4% of polyclinics were the visitors' temperatures measured. In only 2 polyclinics were visitors being asked about symptoms. In 62.5% of polyclinics, visitors were asked to wear a mask. And in only two polyclinics were the temperatures being recorded in a journal, but only for some visitors.
In 94.3 % of polyclinics, the temperature of healthcare personnel was measured and recorded.

Availability of personal protective equipment (PPE), as well as other equipment and services - The availability and adequate supply of various PPE and related equipment reported by the facility managers or IPC-responsible people can be found in table 1.

Table 1: The availability and adequate supply of various PPE and related equipment reported by the managers or IPC-responsible personnel

	~% available	~% adequate supply
Protective gowns	97	82

Masks, medical/surgical	100	86
Gloves	100	86
Goggles	97	86
Face shields	100	86
Respirator masks (N95 or FFP2)	77	67

The availability and adequate supply of various PPE and other equipment reported by general practitioners and family physicians can be found in Table 2.

Table 2: The availability and adequate supply of various PPE and other equipment reported by general practitioners and family physicians

	~% available	~% adequate supply
Infrared thermometers	86	75
Digital thermometers	37	96
Pulse-oximeters	97	88
Stethoscopes	99	90
Oxygen devices	11	88
Protective gowns	99	91
Masks, medical/surgical	97	91
Gloves	94	96
Goggles	77	96
Face shields	96	94
Respirator masks (N95 or FFP2)	54	76

The need for certain services and equipment mentioned by the respondents is summarized in Table 3.

Table 3: The need for certain services and equipment mentioned by the respondents

	~% mentioned need among managerial staff	~% mentioned need among general practitioners and family physicians
X-ray	35	18
CT	12	22
Thermometers	9	-
Lab tests	9	16
Oxygen concentrator	-	24
Transportation	-	15
Better organization	-	17
Other*	59*	47**

*Other needs mentioned by managerial staff included elbow sanitizer dispenser, elbow-opening sinks, disinfecting hydro stations, steam disinfection, disinfecting doors, shoe cover dispensers waterproof protective gowns, oxygen devices, fluorography, disinfecting lamps, rapid tests, hand-free waste bins, blood pressure monitors (sphygmomanometers), facility infrastructure improvements, toilets renovation, and COVID-related training.

**Other needs mentioned by the general practitioners included height measuring devices, air conditioners, medications, proper furniture, availability of frequently updated guidelines, computers, batteries for pulse-oximeters (including for patients), stethoscopes, paper towels, PPE, new face shields, antibody tests, ultrasound machine (including duplex and Doppler examinations and lung sonography), infrared thermometers, electro-cardiograph machine (ECG), higher salary, the opportunity to access the ARMED system from home, the opportunity for counseling/mentoring from more experienced colleagues, and availability of an epidemiologist at the facility.