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Trends and Characteristics of CDC Global Rapid Response Team Deployments—A 6-Month Report, October 2018–March 2019

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Abstract

The Centers for Disease Control and Prevention (CDC) Global Rapid Response Team (GRRT) was launched in June 2015 to strengthen the capacity for international response and to provide an agency-wide roster of qualified surge-staff members who can deploy on short notice and for long durations. To assess GRRT performance and inform future needs for CDC and partners using rapid response teams, we analyzed trends and characteristics of GRRT responses and responders, for deployments of at least 1 day during October 1, 2018, through March 31, 2019. One hundred twenty deployments occurred during the study period, corresponding to 2645 person-days. The median deployment duration was 19 days (interquartile range, 5-30 days). Most deployments were related to emergency response (n = 2367 person-days, 90%); outbreaks of disease accounted for almost all deployment time (n = 2419 person-days, 99%). Most deployments were to Africa (n = 1417 person-days, 54%), and epidemiologists were the most commonly deployed technical advisors (n = 1217 person-days, 46%). This case study provides useful information for assessing program performance, prioritizing resource allocation, informing future needs, and sharing lessons learned with other programs managing rapid response teams. GRRT has an important role in advancing the global health security agenda and should continuously be assessed and adjusted to new needs.

Keywords

disease outbreaks, emergency preparedness, emergency response, global health, rapid response team

In response to challenges encountered during the 2014-2016 outbreak of Ebola virus disease (EVD) in West Africa, the Centers for Disease Control and Prevention (CDC) launched the Global Rapid Response Team (GRRT) in June 2015 to strengthen global emergency-response capacity and provide an agency-wide roster of qualified surge-staff members who are capable of deploying on short notice and for long durations.[1] Recruiting annually, GRRT has ensured a monthly roster of more than 50 on-call staff members and has supported more than 55 emergency responses worldwide since its inception. In addition, CDC provides regular consultations to partner programs using the rapid response team model.[2]

In April 2019, the GRRT roster included 348 members throughout CDC, with a wide range of intermediate-to-expert skills and experiences, including: (1) data management and analysis (n = 225, 65%), management and operations (n = 213, 61%), communications (n = 145, 42%), logistics (n = 90, 26%), and laboratory technical advisors (n = 79, 23%); (2) language skills in 6 languages other than English (n = 194, 56%), including Spanish (n = 106, 30%), French (n = 51, 15%), Portuguese (n = 17, 5%), Chinese (n = 9, 3%), Arabic (n = 7, 2%), and Russian (n = 4, 1%); and (3) previous experience in public

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health emergencies, including infectious disease outbreaks (n = 284, 82%), natural disasters (n = 154, 44%), and complex humanitarian emergencies (n = 177, 51%).[3]

This case study describes GRRT deployments during a 6-month period to inform resource allocation, prioritize future deployment needs, and share lessons learned that could be useful to our partners and other organizations in managing their rapid response teams.

Methods

We analyzed trends and characteristics of responses and responders by using the database of GRRT deployments. We included deployments of at least 1 day during October 1, 2018, through March 31, 2019 and stratified results by month. We calculated medians and interquartile ranges (IQRs) for deployment duration, and we calculated total person-days and percentages for categorical characteristics, including type of deployment (emergency response or other [eg, capacity building, meetings, nonemergency technical support]), emergency type (related to a disease or natural disaster), event name (EVD, hepatitis A, or poliomyelitis), region, and role of responder (epidemiologist, management and operations, laboratorian, health communication, or other). This project was reviewed in accordance with CDC human research protection procedures and was determined to be a nonresearch public health program activity.

Table. Trends and characteristics of CDC GRRT deployments, October 2018–March 2019[a,b]

Variable	October 2018	November 2018	December 2018	January 2019	February 2019	March 2019	Total
No. of person-days	288	307	444	452	592	562	2645
No. of deployments[c]	20	21	24	24	60	32	120
Median duration (IQR), d	—	—	—	—	—	—	19 (5-30)
Deployment type, no. (%)							
Emergency response	288 (100)	289 (94)	436 (98)	406 (90)	459 (78)	489 (91)	2367 (90)
Other[d]	0	18 (6)	8 (2)	46 (10)	133 (22)	47 (9)	252 (10)
Emergency type, no. (%)							
Disease related	247 (94)	277 (100)	426 (100)	437 (100)	487 (100)	545 (100)	2419 (99)
Natural disaster	15 (6)	0	0	0	0	0	15 (1)
Event, no. (%)							
Ebola virus disease	130 (45)	225 (73)	251 (57)	245 (54)	253 (44)	370 (71)	1474 (57)
Hepatitis A	3 (1)	56 (18)	175 (39)	152 (34)	131 (23)	60 (12)	577 (22)
Poliomyelitis	155 (54)	7 (2)	0	0	58 (10)	44 (8)	264 (10)
Other[e]	0	19 (6)	18 (4)	55 (12)	133 (23)	46 (9)	271 (10)
Region, no. (%)							
Africa	209 (73)	129 (42)	149 (34)	209 (46)	297 (50)	424 (76)	1417 (54)
WHO in Geneva[f]	71 (25)	107 (35)	104 (23)	91 (20)	76 (13)	77 (14)	526 (20)
Domestic United States	3 (1)	63 (21)	181 (41)	152 (34)	216 (37)	60 (11)	675 (26)
Other[g]	5 (2)	8 (3)	10 (2)	0	0	0	23 (1)
Role, no. (%)							
Epidemiologist	173 (60)	139 (45)	251 (57)	184 (41)	212 (36)	258 (46)	1217 (46)
Management and operations	115 (40)	107 (35)	85 (19)	146 (32)	252 (43)	257 (46)	962 (36)
Laboratorian	0	26 (8)	58 (13)	57 (13)	25 (4)	31 (6)	197 (7)
Health communication	0	16 (5)	32 (7)	45 (10)	15 (3)	0	108 (4)
Other	0	19 (6)	18 (4)	20 (4)	88 (15)	16 (3)	161 (6)

Abbreviations: CDC, Centers for Disease Control and Prevention; GRRT, Global Rapid Response Team; IQR, interquartile range; WHO, World Health Organization.

[a]Data source: GRRT deployments database (unpublished data).

[b]Lower totals for some variables reflect missing data for these variables.

[c]Having at least 1 day within the specified period.

[d]Includes capacity building, meetings, and non-emergency technical support.

[e]Includes cyclone response, capacity building, and technical assistance to the United Nations.

[f]Deployed to the WHO headquarters in Geneva.

[g]Includes Jordan and Papua New Guinea.

Outcomes

A total of 120 deployments occurred during the study period, corresponding to 2645 person-days (Table). The median deployment duration was 19 days (IQR, 5-30 days), 27 (23%) deployments were >30 days, and the longest deployment was 91 days. Most deployments were related to an emergency response (n = 2367 person-days, 90%), including responses to outbreaks of disease and natural disasters. Outbreaks accounted for almost all deployment time (n = 2419 person-days, 99%), including 1474 (57%) person-days for EVD, 577 (22%) person-days for hepatitis A, and 264 (10%) person-days for poliomyelitis.

Most international deployments were to Africa (n = 1417 person-days, 54%) followed by the World Health Organization headquarters in Geneva (n = 526 person days, 20%), where most responders provided support to the EVD outbreak in the Democratic Republic of Congo (Table). Epidemiologists were the most commonly deployed technical advisors (n = 1217 person-days, 46%), followed by management and operations staff members (n = 962 person-days, 36%), laboratorians (n = 197 person-days, 7%), and health communicators (n = 108 person-days, 4%). Most responders worked at the CDC Center for Global Health (n = 782 person-days, 30%) or the National Center for Emerging and Zoonotic Infectious Diseases (n = 230 person-days, 9%).

Lessons Learned

During the study period, the outbreak of EVD in the Democratic Republic of Congo and poliomyelitis worldwide used the most GRRT deployment resources (1738 person-days, 67%) and required substantial financial resources.[4-6] Of particular concern, many outbreaks are occurring in challenging environments—including remote areas and armed-conflict zones[5,6]—that require greater effort to control an outbreak and, consequently, more frequent and longer deployments. To address these challenges, GRRT has an increased need for highly skilled technicians who are also French speakers, which may be useful to consider for future planning.

CDC is one of many global organizations that deploy technical advisors to provide support during international public health emergencies. Understanding characteristics of GRRT deployments is key to assessing program performance, prioritizing resource allocation, and informing future needs. This case study is the first to describe GRRT characteristics and provides a baseline for future comparison. It also provides valuable information to other organizations that are considering developing, or are currently managing, rapid response teams during their programmatic planning. Of particular interest to these organizations are lessons learned about technical expertise, language skills, and deployment needs. Rapid response programs should provide adequate technical and language training and the programmatic framework for frequent and long deployments. Lastly, managing responder resilience and motivation is key, especially given the challenging nature of the environments to which rapid response teams are deployed.[7]

GRRT plays an important role in strengthening CDC's global outbreak-response capacity and advancing the global health security agenda. Thus, its work should be continuously assessed and adjusted to new and emerging needs, and lessons learned could inform successful implementation at other organizations.

Declaration of Conflicting Interests

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