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The Maternal and Child Survival Program's Zika Response Activities Annual Progress Report

October 1, 2017 to September 30, 2018

www.mcsprogram.org

MCSP is a global USAID initiative to introduce and support high-impact health interventions in 25 priority countries to help prevent child and maternal deaths. MCSP supports programming in maternal, newborn, and child health, immunization, family planning and reproductive health, nutrition, health systems strengthening, water/sanitation/hygiene, malaria, prevention of mother-to-child transmission of HIV, and pediatric HIV care and treatment. MCSP will tackle these issues through approaches that also focus on household and community mobilization, gender integration, and digital health, among others.

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Table of Contents

Acronyms and Abbreviations	iv
Activity Overview	v
Zika Response Program Activity Details.....	v
Annual Highlights/Executive Summary	vi
Progress Narrative and Activity Implementation	1
Objective 1: Provide Global Technical Leadership by participation in key global and regional fora to share and disseminate information, tools and resources	1
Objective 2: Adapt, develop, and disseminate tools and resources related to identification and care of ZIKV-affected infants and their families.....	3
Objective 3: Increase the available ZIKV content on ORB and increase the functionality of the ORB platform	4
Objective 4: Provide STTA and related support to five selected countries in the Eastern and Southern Caribbean (Barbados, St. Lucia, Guyana, Trinidad, and Grenada)	5
Reporting Project Implementation Data	10
Implementation Challenges and Modifications Made.....	12
Collaboration	13
Learning	14
Planned Activities for Next Reporting period	15
Communications and Dissemination.....	17
Sustainability and Exit Strategy.....	17
Annexes	20
Annex I	20
Annex II Training Report	23
Annex III Pictures (events, trainings, etc.).....	26
Annex IV Sub-Grants under the Activity.....	29

Acronyms and Abbreviations

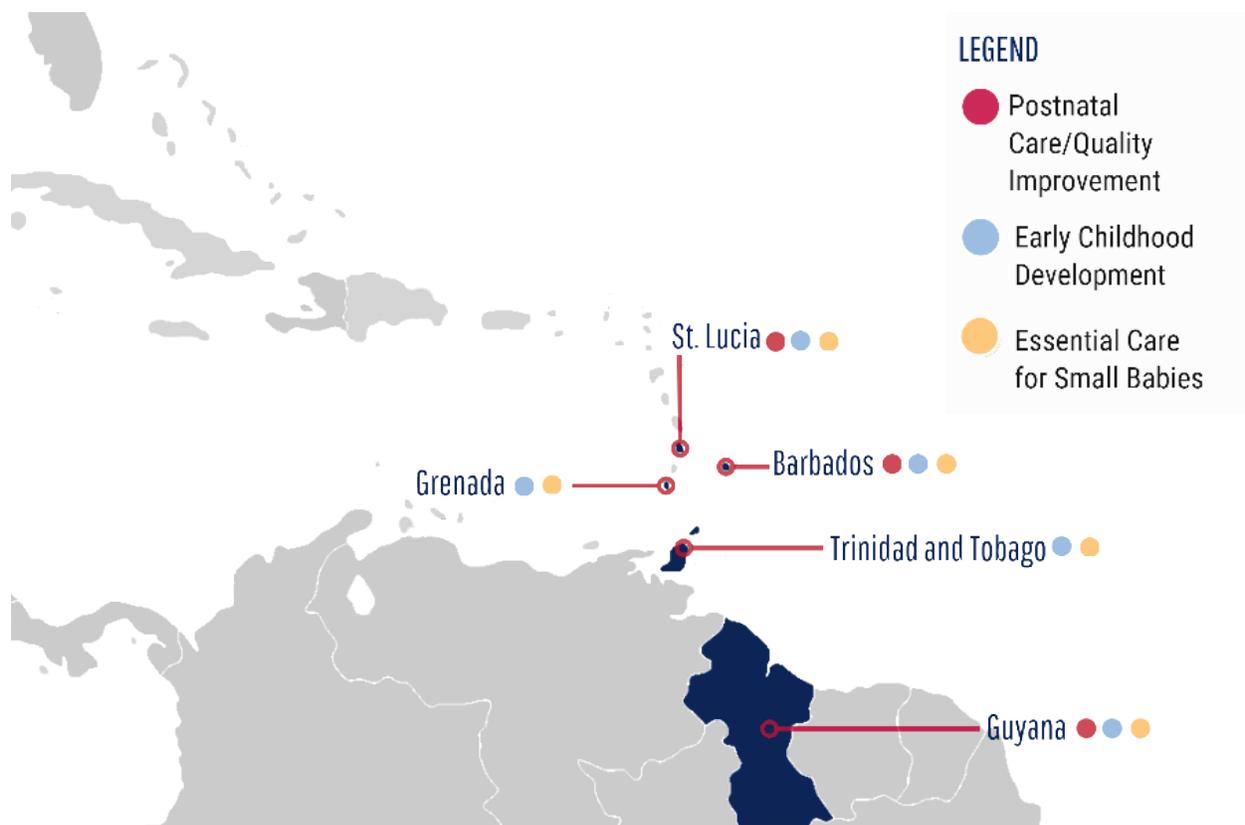
ASSIST	Applying Science to Strengthen and Improve Systems	NCRHA	North Central Regional Health Authority
AVF	Altino Ventura Foundation	PAHO	Pan American Health Organization
CARPHA	Caribbean Public Health Agency	PNC	Postnatal Care
CAZ	Community Action on Zika	POCQI	Point of Care Quality Improvement
CDC	Centers for Disease Control and Prevention	PPFP	Postpartum Family Planning
CRMA	Caribbean Regional Midwives Association	PSS	Psychosocial Support
CZS	Congenital Zika Syndrome	QI	Quality Improvement
EBF	Exclusive Breastfeeding	SGU	St. George's University
ECD	Early Childhood Development	STTA	Short-term Technical Assistance
ECEB	Essential Care for Every Baby	TES	Therapeutic Early Stimulation
ECSB	Essential Care for Small Babies	TOT	Training of Trainers
ESC	Eastern and Southern Caribbean	TWG	Technical Working Group
GPHC	Georgetown Public Hospital Corporation	USAID	United States Agency for International Development
Grencase	Grencase Caregivers	WHO	World Health Organization
HBB	Helping Babies Breathe	WINDREF	Windward Islands Research and Education Foundation
KMC	Kangaroo Mother Care	UNICEF	United Nation's International Children's Emergency Fund
LAC	Latin American and the Caribbean	ZIKV	Zika Virus
M&E	Monitoring and Evaluation		
MOH	Ministry of Health		
MCSP	Maternal and Child Survival Program		

Activity Overview

Zika Response Program Activity Details

The Maternal and Child Survival Program (MCSP) provides leadership, globally and regionally in the Eastern and Southern Caribbean (ESC), on technical issues related to the Zika outbreak response, particularly with regard to the care and support of Zika-affected children and their families. MCSP leverages relationships with a range of global, regional, and country-level partners and collaborates with national and regional Ministries of Health (MOH) and professional associations to address gaps in health system and provider capacity to care for women, newborns, children, and families affected by Zika virus (ZIKV). Activities led by MCSP within the Zika response build on MCSP's extensive experience providing technical assistance in maternal newborn health, family planning, early childhood development (ECD), service delivery strengthening, and facility-based quality improvement (QI). These efforts include providing key technical resources and information, sharing the latest evidence, disseminating materials, linking with regional and national professional associations, building the capacity of health providers, parents, and teachers in the area of ECD, and promoting mPowering's new online portal.

In collaboration with Ministries of Health and local partners, MCSP is working to strengthen service delivery in Barbados, Grenada, Guyana, St Lucia, and Trinidad and Tobago. Technical areas of focus include ECD, strengthening postnatal care (PNC) services, improving newborn care through the Essential Care for Small Babies (ECSB) curriculum, and research on neurodevelopmental effects of congenital Zika syndrome (CZS) on infants. MCSP developed an overall core workplan, including individual country workplan objectives for the five country programs in consultation with the MOH and the United States Agency for International Development (USAID), with foci on improving the quality of facility-based PNC service delivery and strengthening ECD services, specifically for children 0-3 years old.



Annual Highlights/Executive Summary

From November 2017 to January 2018, MCSP's Zika Response team conducted rapid scoping visits to meet with MOHs and regional partners to assess current needs and identify priorities in five countries in the ESC region in response to the recent Zika outbreak. Visits contributed to context-specific country workplans that focused on improving quality of PNC services (especially through implementation of the MCSP Data Use Package), and ECD. MCSP implemented activities through subawardees, short-term technical assistance (STTA), and on-going remote support, working in partnership with host governments, regional professional associations, local non-governmental nonprofits, and research organizations.

In this reporting period, MCSP provided global technical leadership at key global and regional fora by presenting at conferences in eight countries. A complete list of the conferences, the presenters and the key takeaways is listed below in Table 1. Zika-related materials were distributed at each of these events. The sub-regional workshop hosted by MCSP and partners in Trinidad and Tobago in June 2018 included 85 representatives from 18 countries, and resulted in the formation of an ongoing regional technical working group (IWG) focusing on care and support for Zika-affected infants and children. This workshop also provided technical updates in the context of the Zika outbreak, and programmatic updates from the USAID-funded partners and sub-awardees working on Zika in the region. Due to workshop activities, some public sector providers attending the workshop were made aware of community-based services, new Zika-related resources, and research on affected children in their own countries, which had previously been unknown to them.

MCSP also worked to disseminate several MCSP and partner developed Zika-related materials. Table 2 summarizes the materials, their target audiences, and key takeaways. Similarly, MCSP added Zika-related materials to the ORB online platform that delivers digital content for frontline health workers, including images of MCSP Zika Pregnancy Wheels and accompanying briefers in English, Haitian-Creole, French, Portuguese, and Spanish, and MCSP's new brifer, "Early Childhood Development: An integral part of Zika response programs." MCSP also worked with mPowering to increase the functionality of ORB and understand user needs accessing the site. ORB is an online repository of resources that houses digital content such as job aids, training packages, eLearning modules and videos to be used by frontline health workers in their own trainings or for their own education.

MCSP worked closely with MOHs and partners in the ESC region to address gaps in services and strengthen health systems to better address current needs related to the Zika outbreak. As a result, MCSP worked with countries to strengthen programming for ECD, build capacity for inpatient and outpatient MNH providers, and implemented data use and QI processes for facility-based providers. In this program year, MCSP developed a set of materials focusing on therapeutic early stimulation (TES) and trained health care and special education providers to integrate the package into their routine activities. Additionally, MCSP supported institutionalization of ECD activities through revision and development of ECD policy and curricula in Guyana, Barbados, and St. Lucia.

Another key area of technical assistance has been building facility capacity to use data for QI, by introducing the MCSP Data Use Package. In this reporting period, MCSP worked closely with the Caribbean Regional Midwives Association (CRMA) to implement QI activities, with particular focus on PNC service delivery elements that are related to the Zika response. MCSP provided STTA to Barbados, St. Lucia, and Guyana, working with a total of 72 health providers across 36 facilities on technical updates in Zika, family planning, and maternal newborn health. Health providers learned how to develop QI plans based on identified needs, with the associated tools and processes. Teams then returned to their facilities to introduce QI plans and adjust if necessary. MCSP worked with clinical mentors embedded within health systems and identified by the MOH to provide monthly support and mentoring visits to assist staff in implementing QI and improving quality of services. Ten facilities in Barbados, ten facilities in Guyana, and 13 facilities in St. Lucia are currently implementing QI plans and seeking to improve quality of routine PNC, with several common indicators across the majority of facilities, e.g., as related to postpartum family planning (PPFP) and exclusive breastfeeding (EBF), two areas with particular relevance to PNC in the context of the Zika response.

Progress Narrative and Activity Implementation

Objective 1: Provide Global Technical Leadership by participation in key global and regional fora to share and disseminate information, tools and resources

MCSP continues to provide leadership in regional and global fora on technical issues related to the Zika response, particularly the care and support of Zika-affected children and their families, summarized in Table 1 below.

Sub-Regional Workshop

MCSP facilitated the *Sub-Regional Workshop on Care for Zika-affected Infants and Families* on 27-28 June in Port of Spain, Trinidad and Tobago, in collaboration with the Trinidad and Tobago Ministry of Health, USAID's Applying Science to Strengthen and Improve Systems (ASSIST), CRMA, and other partners. Approximately 85 representatives from 18 countries participated, including the ASSIST-supported Antigua and Barbuda, Dominica, St Vincent and the Grenadines, Jamaica, and St Kitts and Nevis, providing opportunities to network with MCSP focal countries and be oriented to ongoing MCSP activities. Experts from the Colombian Kangaroo Mother Care (KMC) Foundation and the Brazilian Altino Ventura Foundation presented their experiences on the provision of special services for disabled children impacted by Zika infection and prematurity. The Pan American Health Organization (PAHO) and the United Nations International Children's Emergency Fund (UNICEF) presented updates on the Zika outbreak in the Latin American and Caribbean (LAC) region, and continued efforts to support those affected by it.

The workshop provided technical and programmatic updates related to CZS, PNC, and health services in the context of the Zika outbreak in the region. MCSP presented clinical updates on PNC, the relevance of healthy timing and spacing of pregnancy to families of disabled children, and ECD. Moderators also led country-specific group exercises each day, which were reported out to the larger group. During the workshop, MCSP coordinated and facilitated a meeting with partners interested in developing and maintaining a regional CZS TWG to support ESC countries after end of project. MCSP drafted and shared a Terms of Reference for the TWG, and will initiate regular virtual meetings to respond to the needs identified by MOHs and professional associations, including technical document review, webinars, translation, and dissemination of materials. As a result of the workshop, Guyana representatives expressed interest in initiating KMC at Georgetown Public Hospital Corporation (GPHC). MCSP followed up with a virtual meeting to orient the staff on implementation. As an additional result of the meeting, Barbados will be changing their screening threshold for referral based on measurement of newborn head circumference.

Summary of Regional and Global Fora with MCSP Zika Participation (MCSP materials shared at all events)

MCSP technical advisors and program implementers attended a variety of global and regional fora from November 2017 through September 2018. Conference foci included ECD, care and support of Zika-affected infants, children, and families, and social and behavioral change communication. MCSP presented and disseminated the suite of Zika-related materials such as the Zika pregnancy wheel, the ECD observation checklist, and others with regional colleagues. The latest technical updates were discussed among other technical experts and lessons learned were gathered from other implementing partners in the region.

Table 1. Global and Regional Conferences

Conference	Date/Location	MCSP Participation and Key Takeaways
JHU Digital Health Day	October 18, 2017 Baltimore, USA	Shared tablet-based ultrasound service delivery assessment tools with participants.
8th International Conference on Birth Defects and Disabilities in the Developing World	Nov 6-12, 2017 Bogota, Colombia	Provided technical expertise at a workshop on methodology for surveillance of birth defects. Shared MCSP experiences on Zika response work.
ASSIST's International Workshop for Strengthening Health Services to Fight Zika	November 28-30, 2017 Santo Domingo, Dominican Republic	Led technical discussions with key stakeholders on ZIKV epidemiology, family planning, and clinical features of CZS.
WHO Technical Consultation on Postnatal Care Implementation	February 19-22, 2018 Geneva, Switzerland	Contributed to discussions on improving quality of PNC services and measurement (MCSP Core maternal health funding).
2018 International SBCC Summit	April 12-20, 2018 Bali, Indonesia	Participated in 2018 International SBCC Summit and was a panelist for "Amplifying Community Voices", which focused on children as change agents during the Zika response.
CARPHA Pregnancy Registry Design Meeting I	March 5-6, 2018 Port of Spain, Trinidad and Tobago	Facilitated comprehensive forum to discuss feasibility, design, and future implementation of a Zika pregnancy registry for the Caribbean region.
AIUM Conference	March 24-25, 2018 New York, USA	Presented ultrasound capacity assessment tools and other MCSP materials.
BMGF Maternal Immunization	May 2-5, 2018 Amsterdam, Netherlands	Shared MCSP materials (Jhpiego funding).
CARPHA Pregnancy Registry Design Meeting 2	May 21, 2018 Kingston, Jamaica	Co-led discussions with CARPHA on potential approaches to design of a CARPHA-led pregnancy registry for use in the ESC region. Discussed current status of outcome data collection related to Zika virus exposure in pregnancy. Discussed operational parameters for implementation of a national and regional Zika registry.
ACNM Annual Meeting	May 20-24, 2018 Savannah, Georgia, USA	Presented an update on epidemiology of the Zika virus epidemic and MCSP Zika response activities.
MCSP Sub-Regional Workshop	June 26-29, 2018 Trinidad and Tobago	Provided technical and programmatic updates related to CZS, PNC, and health services in context of the Zika outbreak. MCSP facilitated a meeting with partners to develop and maintain an ESC regional CZS TWG.
Center for Disease Control's International Conference on Emerging Infectious Diseases	August 28, 2018 Atlanta, Georgia, USA	Presented ultrasound capacity assessment tools.

Objective 2: Adapt, develop, and disseminate tools and resources related to identification and care of ZIKV-affected infants and their families

Throughout PY4, the MCSP Zika Response team developed numerous materials with Zika content. These materials included technical briefers, job aids, a board game, surveillance registers, and technical standardization guidance and materials, among others. Key audiences for these materials were frontline providers working in maternal newborn health and ECD services delivery settings across the LAC region, end line beneficiaries, local and regional professional associations, MOHs, USAID Missions, and other USAID implementing partners. These materials were disseminated through STTA visits, conference attendance, e-blasts, listservs, USAID Zika implementing partners' meetings, and the ORB online platform. Materials were developed to facilitate MCSP-supported activities in the region, fill gaps in resources available to local providers and MOHs, and/or in response to a request from USAID Washington.

Table 2. MCSP Zika Response Materials Adaptation and Development

Material	Key Content
Combat Zika Board Game (CAZ) (Spanish)	This board game will be used in schools in CAZ focal countries to orient users ZIKV facts and how to prevent transmission, including elimination of breeding sites and identification of symptoms.
Community Protocol (CAZ) (Spanish)	Sets out guidelines for communities to implement in the prevention of ZIKV. The protocol will be disseminated in CAZ focal countries.
Early Childhood Development: An Integral Part of Zika Response Programs Briefing (English and Spanish)	Describes relevance of ECD to a comprehensive Zika response, and what related technical support is offered by MCSP in the ESC and other regions. The briefer describes training content, the cascade training model, knowledge sharing across the five MCSP countries in ESC, and can be used as an advocacy tool for strengthening ECD services for families affected by ZIKV and other congenital anomalies and developmental disabilities.
TES Home Visit and Support Group Observation Checklist	Job aides for supervisors that can be used at the household or group level to assess health care provider TES knowledge and quality of activity implementation.
Family Planning Choice Chart Stamp	This stamp is a tool to add a succinct list of FP method choices to individual patient care records to record patient choice systematically redesign and reprint of client charts.
Gestational Age Wheel and Accompanying Briefing with ZIKV Content (French, Spanish, Haitian Creole, Portuguese, English)	The wheel is a job aid that helps providers estimate gestational age and provides reminders for counseling mothers/families on Zika content (e.g., prevention, symptoms, protection, etc.) and recommended case reporting by health care providers.
Grenada Early Stimulation Video	Grenada Caregivers is developing a video to introduce and demonstrate Early Stimulation therapies in the local environment for caregivers and parents.
LARC Learning Resource Package (English, French, Spanish)	MCSP Zika Response team funded Spanish and French translations of the LARC Learning Resource Package (LRP) and implementation guidance, which provides facilitators and program staff with a comprehensive resource for high-quality LARC training using a modular, facility-based approach for capacity-building and mentorship.
Postnatal Care Checklist and Poster with ZIKV Content (French, Spanish, English)	The PNC Poster and Pre-discharge Checklist are job aids listing recommended standards, reminders, and actions that should take place before a mother-baby dyad is discharged from the PNC ward.

Material	Key Content
Prevention of Zika Virus Infection: Key Points for Counseling Women of Reproductive Age	This brief summarizes key points to include when counseling women of reproductive age on prevention of Zika virus infection, including recommended prevention strategies for infants and children.
Psychosocial Support Training Manual and Presentation (English and Spanish)	The PSS materials are used in TOTs and cascade trainings in the ESC region and beyond to strengthen emotional support received by Zika-affected families and caregivers.
Social Behavior Change Communication TOT Guide (CAZ) (Spanish)	The SBCC TOT Guide provides guidance to community health workers to conduct behavior change activities for prevention of ZIKV transmission. This guide will be used in CAZ trainings in Central America.
Scoping Visit Assessment Tool	This tool was developed by MCSP and used by MCSP and ASSIST (adapted version) to prioritize areas for Zika response activities in the ESC region. Responses are collected via interview with stakeholders across the health system. At the request of USAID, MCSP adapted the tool for general use in any country.
Adaptable Clinical Update Resource Slides	This adaptable set of PowerPoint slides will provide epidemiologic and technical updates on ZIKV and the care and support of Zika-affected infants and their families.
Therapeutic Early Stimulation Training Manual, Activity Cards, Presentation, and Handouts (English and Spanish)	The TES materials are used in TOTs and cascade trainings in the ESC region and beyond to strengthen ECD-related skills of providers and caregivers. The content covers care and support for children with disabilities.
Ultrasound Capacity Assessment Reports for Five Countries and Summary Report and IPC Guidance	The five country reports and summary report communicate findings from the Ultrasound Capacity Assessments in 2016-2017. The reports include survey tools as well as an adaptable “Basic First- and Second-Trimester Ultrasound Checklist” for provider use.
Ultrasound Capacity Assessment Tools	These tools were used in five countries (Guatemala, El Salvador, Dominican Republic, Haiti, and Honduras) to assess equipment functionality, provider capacity, and environment of care for obstetric ultrasound in the context of the Zika response.

Objective 3: Increase the available ZIKV content on ORB and increase the functionality of the ORB platform

The ORB platform is a repository of training resources aimed to support frontline health workers. The resources include job aids, briefers, eLearning modules and training packages. Resources uploaded to the Zika domain include images of MCSP Zika Pregnancy Wheels and accompanying briefers in English, Haitian-Creole, French, Portuguese, and Spanish and MCSP’s new brifer “Early Childhood Development: An integral part of Zika response programs”. The pregnancy wheel was downloaded a total of 26 times; the brifer was viewed 129 times and downloaded 19 times.

mPowering added a function to the Zika domain on ORB to track usage statistics by type of user and intended use. This function proved to be prohibitive to users and resulted in a decline in resource downloads. The feature has thus been removed. In August and September, key program and technical staff were surveyed to better understand uptake and usage of the ORB platform. The survey showed that guidance on how to incorporate the ORB platform into projects is needed. mPowering will create this guidance in addition to providing examples for how the platform/resources can be used in programs.

The Zika ORB domain was promoted to 400+ frontline health workers through trainings, STTA visits and sub-regional workshops. It was also promoted through mPowering's website, MCSP's external-facing webpage, and social media.

Objective 4: Provide STTA and related support to five selected countries in the Eastern and Southern Caribbean (Barbados, St. Lucia, Guyana, Trinidad, and Grenada)

Strengthen Programming and Policies for Early Childhood Development

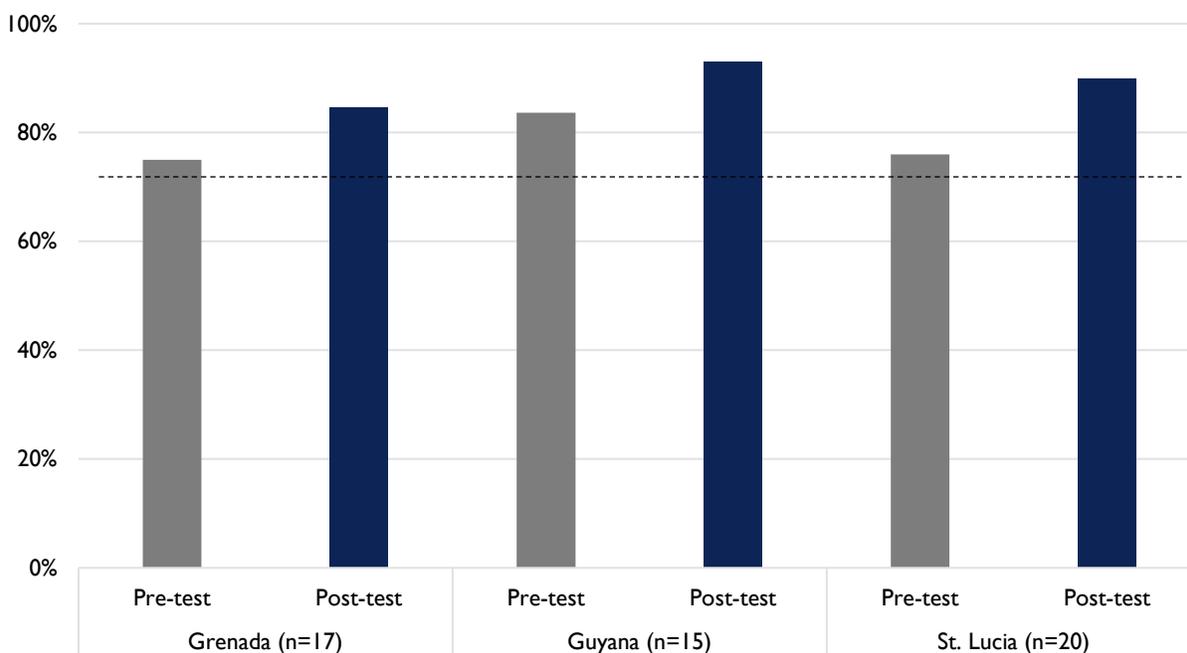
Improving the quality and coverage of facility and community-based ECD services has emerged as a key priority area in the ongoing, local responses to ZIKV in Barbados, Grenada, Guyana, St. Lucia, and Trinidad and Tobago. In light of overwhelming evidence on the importance of early intervention in infants with disabilities and delays, including affected by in utero exposure to ZIKV, MCSP has developed a set of materials focusing on TES. This package of materials builds the capacity of health care and special education providers to address developmental delays through provision of pediatric therapies, including physical, occupational, orientation/mobility, and speech/language therapies. Through specialized training, providers learn how to integrate ECD into their routine clinical services, as well as how to coach parents on providing therapies at home. Empowering caregivers to complete exercises at home increases the dosage and frequency of engagement, which is important for the brain architecture of children with profound delays.

In PY4, MCSP implemented the TES package via 3.5-day training of trainers (TOT) of health care and special education providers. The package provides guidance on early stimulation for children ages 0-3 with disabilities or delays, combining activities for brain development with evidenced-based practices from pediatric therapies. The package empowers providers and the families they serve to integrate activities into their daily routines supporting higher dosage and frequency of therapies.

To date, trainings have taken place in Grenada (Q3, 28 trained), Guyana (Q4, 26 trained), and St. Lucia (Q4, 22 trained). Those trained by MCSP will go on to hold step-down trainings to ensure coverage of additional regions. In Grenada, MCSP supported development of step-down training agendas and budgets for a sub-awardee. In Guyana, MCSP provided technical support to locally funded step-down trainings to ensure quality and adherence to MCSP's TES package. In St. Lucia, MCSP provided remote support to the MOH to plan step-down trainings, which will take place through January 2019. In PY5, TES TOTs and step-down trainings will also take place in Trinidad and Tobago, Barbados, and El Salvador (added as a priority LAC country). Please see the training table below for further details (page 6).

As TES is a new technical area and responsibility for many of the health care providers, MCSP is assessing knowledge attained during the trainings with pre and post-tests. This information demonstrates the need for further investment in TES education as well as empowers MOHs to understand gaps in knowledge. See graph 1 for average assessment scores. Additionally, MCSP will assess the feasibility of integrating TES into routine health services through supervisory checklists. Information collected will inform the team of challenges with implementation and areas for further improvement.

Graph I. Average Zika ECD Training Assessment Scores



MCSP is also addressing another key challenge in access to and quality of care to children with delays and disabilities, caregiver well-being. As many caregivers face high levels of stress and depression, MCSP developed a psychosocial support (PSS) package to aid health care providers in development of support groups as well as individualized support. The PSS package utilizes the arts to lead participants through conversation and introspection. Support groups will create a network among caregivers that often feel alone and misunderstood. Like the TES materials, the PSS package will be rolled out via TOTs with health care providers, which have the mandate of starting support groups as well as sharing PSS information with other local providers. PSS trainings will take place in Trinidad and Tobago, Barbados, Guyana, St. Lucia, and El Salvador in PY5, Q1.

In addition to improvement of ECD service delivery, MCSP also supported revision and development of ECD policy and curricula, and provided technical review of materials that will have lasting impact on institutionalization of ECD in national frameworks. MCSP built ECD capacity in Guyana by integrating material into curriculum at the University of Guyana. In conjunction with the Assistant Dean and other faculty members, MCSP reviewed university curriculum and identified three courses with the best fit for integration of TES materials: “Public Health Nursing”, “Child Physical Health and Rehabilitation”, and “Human Development” courses. MCSP added instructions on TES and relevant information into these three courses to enhance the sustainability of TES teachings by making them a permanent part of Guyanese medical curricula. These courses enable students pursuing a nursing degree or a B.S. in Medical Rehabilitation to learn TES as soon as spring 2019. MCSP review of ECD policy and curricula in Barbados and Trinidad and Tobago will commence in PY5, Q1.

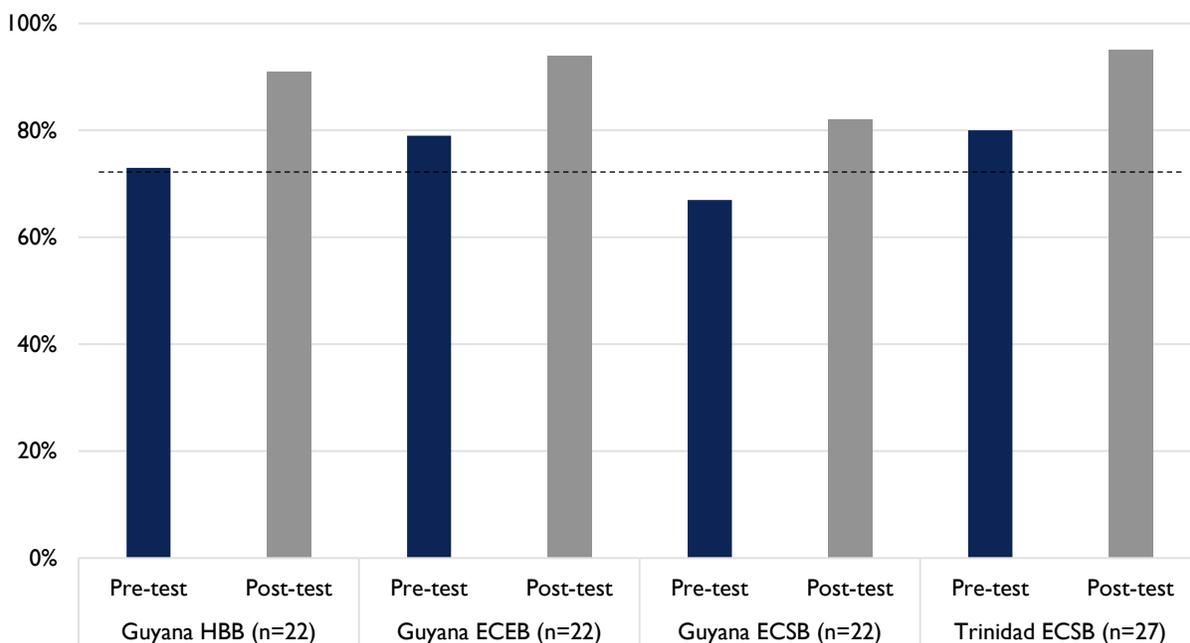
Build Capacity for Inpatient and Outpatient Facility-Based MNH providers

The ECSB training teaches health providers the basic special care needed for small or premature babies born in low resource areas. While several ESC countries have moved into middle and higher income strata, gaps in equity remain across the region with regard to care of small and preterm babies, including those impacted by congenital exposure to Zika virus infection. The curriculum emphasizes temperature maintenance, appropriate feeding, infection prevention, and management of complications at primary levels of care. ECSB improves the capacity of health care workers to support the needs of preterm and low-birthweight babies through hands-on learning and practice using the MamaBreast and PremieNatalie simulators. ECSB is one of three components of the AAP Helping Babies Survive strategy, together with Helping Babies Breathe (HBB) and Essential Care for Every Baby (ECEB).

MCSP conducted a sub-regional TOT in Port of Spain, Trinidad in Q3 to train 28 instructors from Barbados, Grenada, Guyana, Trinidad and Tobago, and St. Lucia. These instructors later served as facilitators for national trainings for physicians, nurses and midwives in each of their countries. To date, national trainings have taken place in St. Lucia (Q3, 23 trained), Guyana (providers from Region 7 trained in the three components of HBS) Q4, 22 trained), and Trinidad and Tobago (Q4, 27 trained). Please see the training table below for more details (page iii).

In all countries supported to date, the knowledge post-tests showed important improvement, and all participants passed the OSCEs (clinical scenarios) required for certification. Importantly, the above technical standardization activities provided the opportunity across five countries to discuss opportunities to improve quality of services and remove barriers to evidence-based care of preterm and low birthweight babies at the facility and community level.

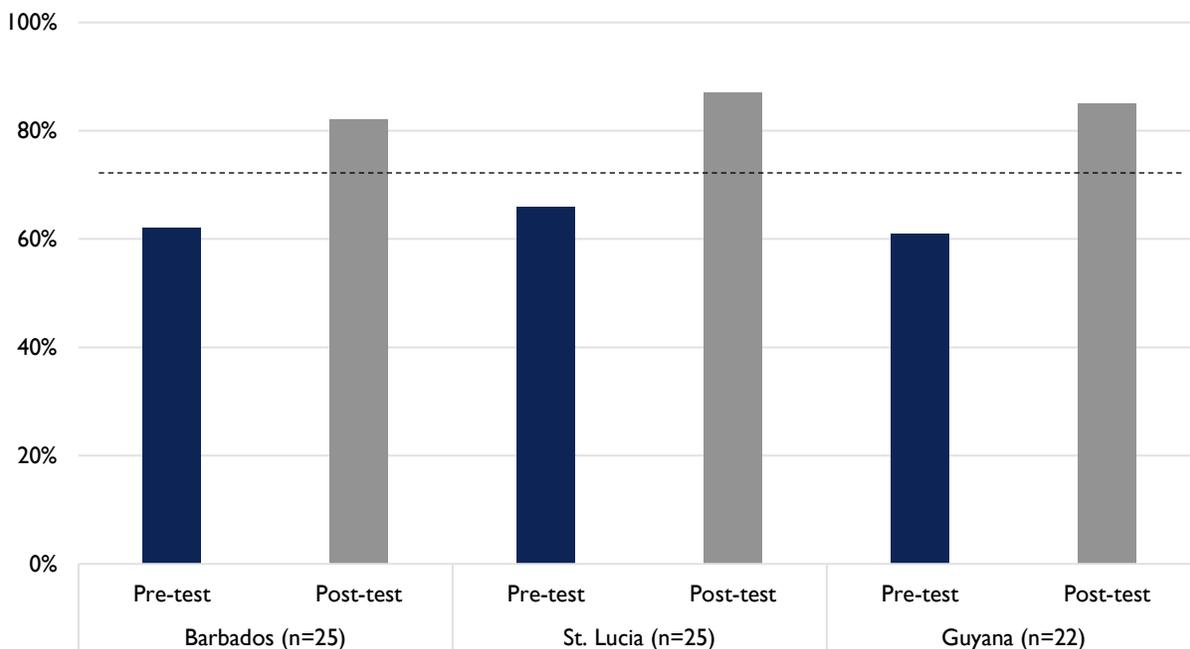
Graph 2. Average MCSP Zika ECSB training assessment scores



Implement and Support Data Use and Quality Improvement Processes for Facility-based Providers

MCSP worked with the MOH in Barbados, Guyana, and St. Lucia to design and implement QI activities focusing on PNC. Between March and May of PY4, MCSP worked in collaboration with each country’s MOH to identify service delivery sites. Key staff were provided with technical updates on maternal health, newborn health, postpartum family planning and Zika, as well as on QI tools and processes – a module developed from the World Health Organization’s (WHO) Point of Care Quality Improvement (POCQI) training module and MCSP’s Data Use Package. MCSP assisted teams to develop facility-specific QI plans focusing on a range of areas related to care of mothers and infants including improving temperature management of newborns (critical for all newborns), rates of EBF (recommended for all infants, including those with mothers exposed to Zika virus in pregnancy), and coverage of PFP counseling (a recognized public health strategy to prevent Zika-affected pregnancies). In the final two days of training all teams introduced PNC/QI activities in their own facilities, updated registers for new data collection, and finalized plans onsite. A total of 72 providers from 36 facilities across Barbados, St. Lucia, and Guyana participated in this PNC/QI initiative. These efforts were continued in collaboration with representatives of CRMA, who provided on-the-ground support for QI activities at MCSP-supported facilities. Local, clinical mentors from CRMA embedded in facilities conducted monthly visits with facility-based teams to provide technical support on implementing their QI plan, including identifying methods of and sources for data collection, visualizing data using a wall chart, and completing an indicator tracker to monitor improvements in service delivery. Each country has collected a minimum of four months of data to date, and the clinical mentors continue to work with staff at each facility to brainstorm ways to improve quality of care.

Graph 3. Average Zika PNC/QI Training Assessment Scores



Most facilities (13/33) are tracking postpartum family planning acceptance, an indicator collected in all three countries. All technical standardization activities included information on USAID’s standards for informed choice and voluntarism in the context of family planning service delivery. Other common indicators include EBF and completed routine PNC contacts. Promoting and helping to maintain rates of EBF are critical for all health systems, including those impacted by Zika outbreaks, which may be subject to misinformation around the safety of breastfeeding.

Barbados

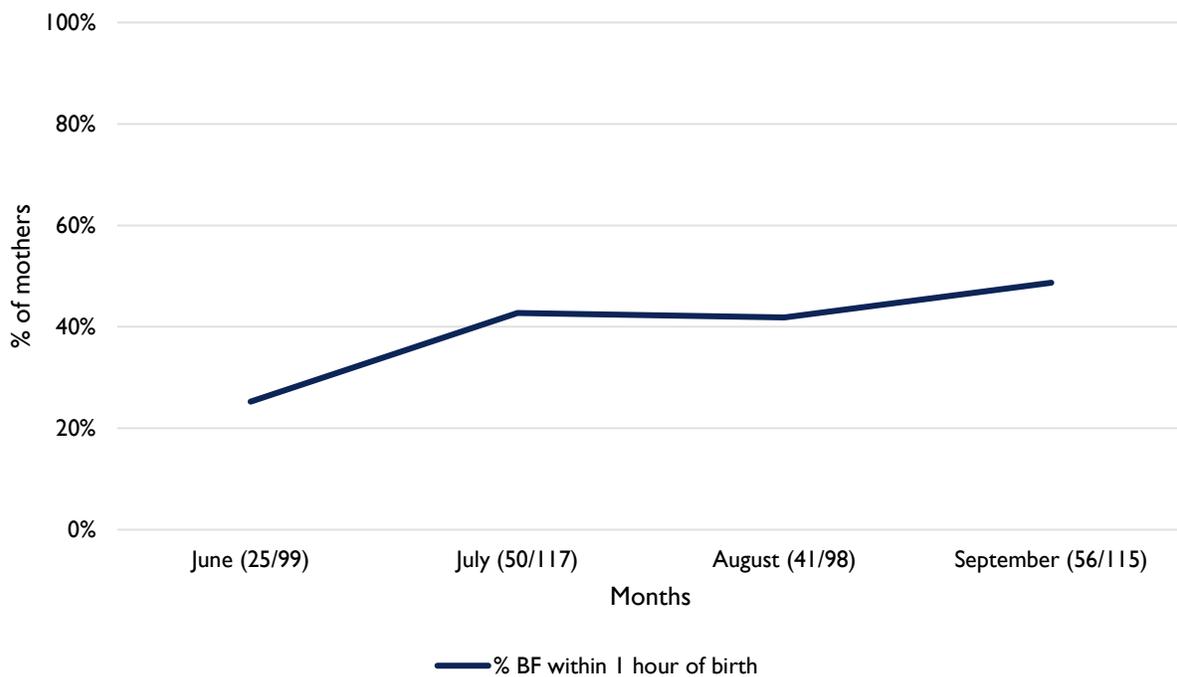
STTA covering technical standardization for PNC and QI took place in March 2018 with 25 staff from Queen Elizabeth Hospital and nine polyclinics, constituting 100% of public sector facilities providing PNC on the island. The local CRMA clinical mentor worked with facilities to adjust registers as necessary to collect data on quality of care indicators such as counseling on exclusive breastfeeding and skin-to-skin contact after birth. Sites have collected data since April 2018. All sites have adjusted registers, collected data, and plotted data. The MCSP team is focusing on ensuring the majority of sites are using data to brainstorm as a team on how to improve PNC services and quality of care. Facilities have noted that few home visits are conducted within two weeks of birth, due to growing staff shortages. New ideas from the sites to address these challenges include developing a checklist to identify babies at highest risk so that nurses can prioritize those cases and call mothers to check on them. Staff at MCSP-supported facilities are also investigating the possibility of mobilizing domestic resources to use mHealth strategies to reach mothers and families with key PNC counseling messages, including EBF.

St. Lucia

STTA covering technical standardization for PNC and QI took place in May 2018 with 25 staff from Victoria Hospital, St. Jude’s Hospital, and 14 health centers. The number was reduced to two hospitals and 11 health centers due to closure of one center, lack of patients/data at another, and a third never developing a QI plan, constituting over 87% of all operating public sector facilities. The local CRMA clinical mentor worked with facilities to adjust registers as necessary to collect quality of care indicators such as counseling on EBFS and placing newborns skin-to-skin after birth. Sites have collected data between June and September 2018. All sites adjusted registers, and collect and plot data. Most data plotting continues to happen in collaboration with the CRMA clinical mentor, although a few centers now independently track, plot, and analyze their own data prior to the mentor’s monthly visit. CRMA and the MCSP team are focusing on ensuring the majority of remaining sites are using data to brainstorm as a team on how to improve their services and quality of care.

Facilities seeking to improve rates of EBF noted 28 of 67 (42%) six week old babies exclusively breastfeeding between June and September. While the caseload at one center was very small, the other health center saw a rise from 17% of six week old babies exclusively breastfeeding when the project started in May, to 72% by the end of September. The health system as a whole elected to focus on exclusive breastfeeding, beginning at the hospital within one hour of birth. The following graph shows the rate of postpartum women at the hospital breastfeeding their newborns within an hour. Follow-up with the hospital ensured that a nurse was tasked with the responsibility for ensuring that all newborns receiving formula had a medical reason to do so.

Graph 4. Percentage of Newborns Breastfeeding within One Hour of Birth



Data source: St. Jude and Victoria Hospital Labor and Delivery Register

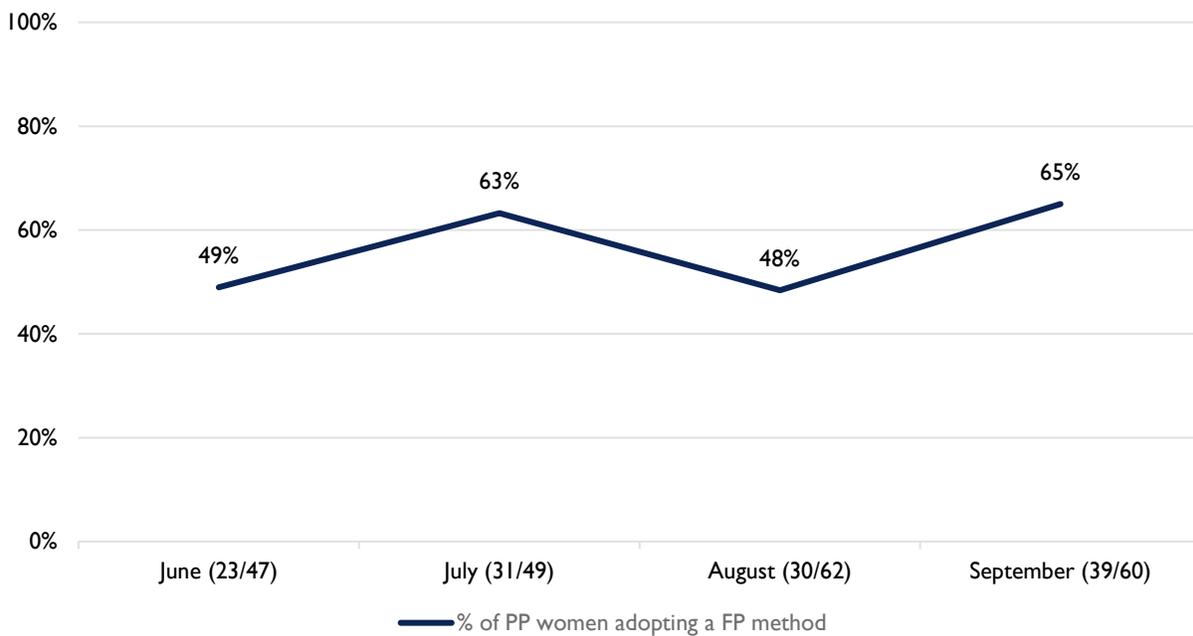
At the facility level, health care providers are encouraging working mothers to continue breastfeeding, suggesting to mothers to delay maternity leave when appropriate until closer to the estimated date of delivery to facilitate longer durations of exclusive breastfeeding.

Guyana

MCSP provided targeted STTA covering technical standardization for PNC and QI in Guyana in May 2018 with 30 health providers from nine facilities across three regions, including representation from the MOH and USAID. The MOH selected facilities that included the national public hospital as well as more remote rural clinics. Following training, each health facility team selected indicators to track QI efforts and monitor using an MCSP wall chart. Three CRMA clinical mentors worked with facilities to adjust registers and conducted monthly mentoring visits. All sites collected and reported data on quality indicators between June and September 2018. During the scoping visit and mid-way through the project, MCSP also worked with PAHO – the leading QI implementation partner in Guyana – to ensure coordination of activities and a potential hand-over of findings, tools and processes at the end of the project.

The five sites working on improving quality of care indicators related to PFP saw 39 (65%) of the 60 patients attending PNC initiate a method of family planning during the four-month reporting period. Sites identified and implemented approaches to improve PFP service provision, including group and one-on-one counseling sessions and a “marketplace” for ANC, PNC, and teenage youth groups where health workers showcased the available methods of contraception. These approaches were based on marketplace demonstrations conducted by MCSP staff, and resulted in an increase in PFP choice at many sites. Also during the reporting period, the national public hospital saw 658 (38%) of 1,739 newborns placed skin-to-skin immediately after birth for one hour from June to September. September marked the first month that the hospital recorded the temperatures and numbers of newborns with hypothermia (one percent of babies born in September).

Graph 5. % of PP Women Adopting a FP method (# PNC clients adopting a FP method/# of PNC clients)

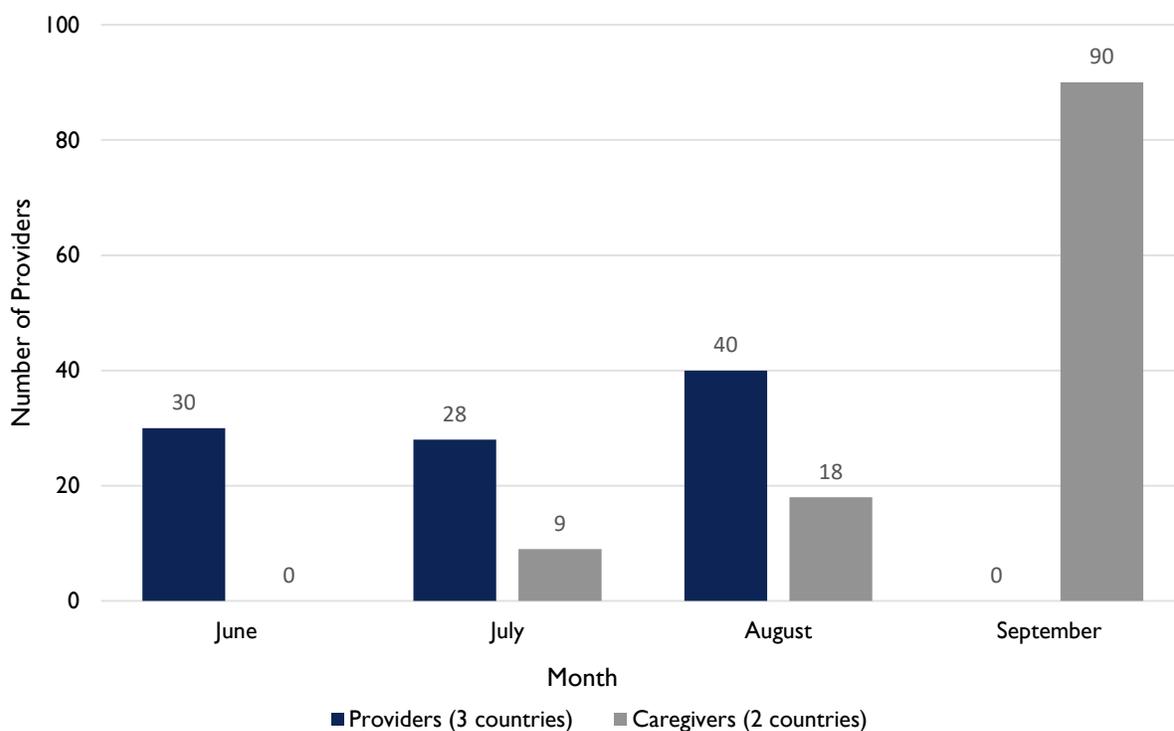


Data source: Facility PNC register

Reporting Project Implementation Data

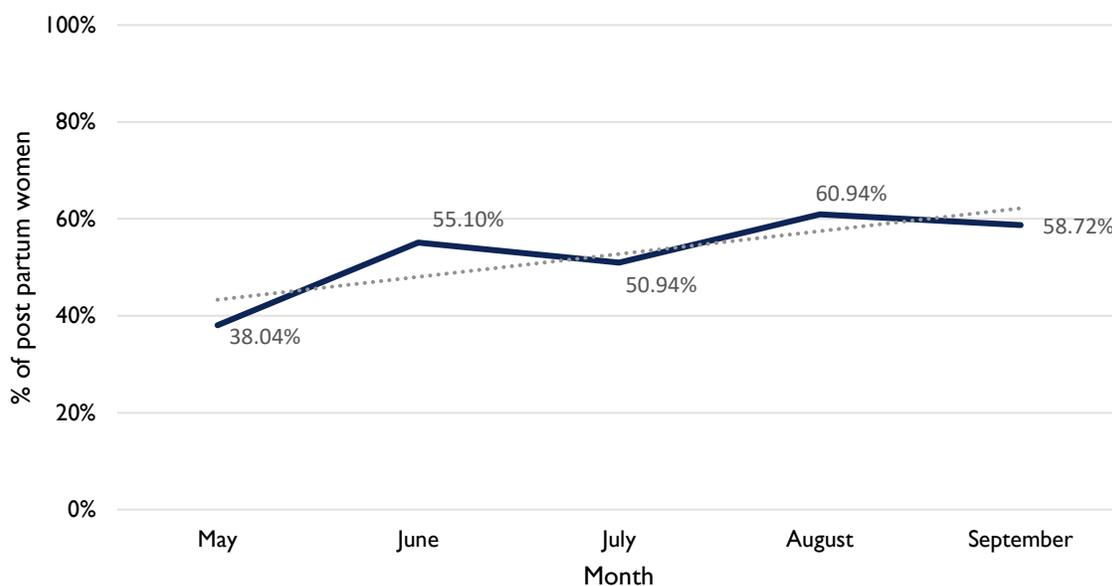
The graph below shows the number of providers trained in TES (providers counted within indicator 2a) and the number of caregivers of referred children (0-3) trained in stepdown trainings (indicator 4a). MCSP is training providers, specifically supervisors, who will train other providers or caregivers throughout the country. By the end of PY4, MCSP trained providers in three ESC countries and caregivers in two ESC countries. The increase in number of caregivers trained shows the roll down of ECD trainings and that MCSP is supporting local capacity to teach and sustain ECD best practices.

Graph 6. Number of Providers and Caregivers Trained by ECD in PY4



Below are PNC/QI data aggregated across all three PNC/QI countries for percent of postpartum women accepting a family planning method recorded during PNC visits. Individual country level data are reported in Annex Ib.

Graph 7. Percentage of Postpartum Women Accepting a Family Planning Method (# PNC clients adopting a FP method/# of PNC clients) in all three PNC/QI countries



Data source: Facility PNC register

Data show that since PNC technical standardization activities were completed, the percent of postpartum women accepting a family planning method has increased. In Barbados, St. Lucia, and Guyana, practices for family planning have been improving as well. A renewed focus on family planning counseling during ANC and counseling on LAM has occurred, with emphasis on informed choice. Sites in Guyana have begun providing family planning “marketplaces” at ANC for women to see the different types of family planning offered to them and how they are administered. Sites in Barbados have also begun emphasizing quality counseling for family planning during the postnatal period.

Individual country level data for both indicators are reported in Annex Ib.

Implementation Challenges and Modifications Made

MCSP worked with multiple partners and sub-awardees to execute the USAID-approved regional workplan and five country workplans in this program year. The successful completion of most activities and the collaboration from partners during the course of this program year has affirmed the collaborative relationship MCSP shares with national government entities, professional associations, and other local organizations. In this program year, the main modification made to the workplan was simplification of the ECSB assessment (activity 1.2.2) to omit previously considered human subjects research. In addition, while workplan activity 1.1.1 in country workplans included policy review, some governments had recently had policies revised and prioritized other areas of collaboration over policy revision.

MCSP notes several challenges in implementing activities over the past year, including the following:

- *System Delays:* At times, system delays (e.g., ECSB materials held in customs) caused implementation challenges. In such instances, MCSP attempts to mitigate issues through borrowing materials. In this case, training went ahead with fewer materials and the materials – once received in country – were delivered post-training to institutions.
- *In-Country Staff Shortages:* MCSP worked with each facility team to identify indicators relevant to the facilities and feasible to track. Staff shortages, however, contributed to morale issues and decreased time for QI activities among nurses. In Barbados, for example, a site previously with nine nurses has been functioning with four nurses for the last few months. MCSP has been communicating with MOH to help manage expectations and advocate for continued support for facility-based QI.
- *Staff Turnover:* Staff turnover has contributed to disruption in implementing MCSP-supported activities in PNC and ECD. For example, TES and PSS trainings in Trinidad were pushed back from July to October due to delayed response from local partners and shifting point persons within MOH for approval of activities. Timelines were adjusted to accommodate these shifts.
- *Sociocultural Norms:* MCSP worked closely with partners to address the practical challenges faced by beneficiaries, e.g., related to limited social and workplace support for EBF by working mothers. MCSP has worked closely with local mentors and health providers to facilitate solutions in this area.

While the above issues contributed to delays in activities, and at times required a shift of strategy, MCSP prioritized finding ways to troubleshoot and innovate different approaches to work within the local context so that activities moved forward in a locally acceptable manner.

Collaboration

Collaboration with Other USAID or United States Government Activities

Collaboration with ASSIST

MCSP and ASSIST staff met to discuss MCSP's activities in the ESC as ASSIST prepared to open their programs in additional ESC countries. MCSP also met with ASSIST before and during the MCSP Zika regional workshop to harmonize approaches and activities in the ESC region. MCSP also collaborated with ASSIST to coordinate the two regional workshops, one in Spanish led by ASSIST and one in English led by MCSP, including designing the agenda and panel sessions as well as identifying and inviting participants to the workshops.

Collaboration with CAZ

MCSP is collaborating with Community Action on Zika (CAZ) program partners Save the Children and International Red Cross to review, adapt, and disseminate community level guides and tools, including a community health volunteer job aid geared towards use during household visits to ensure the volunteers promote the project's six key behaviors for Zika prevention, materials for care and support and to recognize early signs of CZS, an interactive education kit for schools including an educational board game; and adaptation of materials into languages for most vulnerable populations. MCSP will support validation of materials and dissemination efforts for community health workers and others platforms in PY5, Q1. MCSP will continue to provide support to materials adaptation and validation in PY5.

Collaboration with CARPHA/CDC

MCSP was asked to provide technical support to the Caribbean Public Health Agency (CARPHA) to contribute to the design of a Zika pregnancy registry. Meetings were held with CARPHA, Trinidad and Tobago MOH, Jamaica MOH, USAID ASSIST, USAID ESC, UNICEF, US Centers for Disease Control (CDC), and MCSP to discuss the feasibility, design, and potential implementation of a Zika pregnancy registry for the Caribbean region and to discuss Jamaica's involvement in the registry, understand current data collection strategies in Jamaica, and discuss operational parameters for the registry. CARPHA is finalizing the database and will request MCSP support if needed.

Collaboration and/or knowledge sharing with Partner Entities in Host Government and other Donor Agencies

PAHO

PAHO was initially consulted as a stakeholder in the rapid scoping visits conducted by MCSP in November 2017-January 2018. MCSP continued closer collaboration with PAHO in Guyana to design the high priority areas for the Guyana workplan. PAHO provided technical advice to overcome challenges with PFP indicators and will be a continuing presence in Guyana for QI activities beyond the life of MCSP.

LAC Neonatal Alliance

MCSP shares updated technical information, resources, and job aids with LAC Neonatal Alliance partners who are actively involved in the ongoing regional Zika response, including PAHO, UNICEF, the United National Population Fund (UNFPA), ASSIST, Save the Children, and ASCON (Colombian Neonatology Association), among others.

KMC Foundation

MCSP is learning from the 25-plus years of experience that the foundation has on follow-up and care of babies with disabilities, on strengthening the health systems needed to provide care to Zika affected infants and their families. MCSP has facilitated collaborations between the foundation and LAC countries.

AVF and MOH of Brazil

The Altino Ventura Foundation (AVF) in Pernambuco, Brazil, and the Brazilian MOH have developed models of care for Zika-affected families, complemented with guidelines and protocols that can be adapted by other LAC countries. For example, a guideline from the MOH was translated into French for adaptation in Haiti. MCSP also facilitated collaboration between the AVF and countries requesting it.

Learning

List Major Assessments / Internal Evaluations and Lessons Learned

WINDREF

During this program year, the MCSP Zika Response team supported the Windward Islands Research and Education Foundation (WINDREF), which is an independent nonprofit organization at St. George's University (SGU), School of Medicine, Grenada. Founded in 1994, WINDREF seeks to advance health and environmental development through multi-disciplinary research and education programs. In utero exposure to ZIKV places children at risk for ZIKV infection and CZS. Clinical features of CZS are being characterized as findings emerge from large case series in regions hardest hit by the ZIKV epidemic, such as LAC.

Tracking of cognitive and behavioral outcomes in Zika exposed children is essential to characterizing the full spectrum of ZIKV-associated outcomes and directing resources to rescue neurodevelopment in these vulnerable children. In Grenada, the first babies exposed to ZIKV reached two years of age starting in early summer 2018. It is important to follow these children as they develop to identify specific domains of functional impairment and to begin to provide support for the children and their parents. WINDREF has worked closely with Grenada Caregivers (Grenada) and the Grenada Ministries of Health, Education, and Social Development to track a cohort of infants (and their mothers) who participated in an initial study of pregnant women in Grenada implemented during the ZIKV outbreak. A Stanford-funded study followed up 388 infants born to mothers in the initial pregnancy ZIKV studies and has documented microcephaly in 58 of those infants. Ongoing testing using a pGOLD biochip¹⁰ accurately identified which infants were exposed to ZIKV in utero. WINDREF has followed this infant cohort and administered electroencephalogram and sensitive neuropsychological tests, including the INTER-NDA, a comprehensive neurodevelopmental screening test that WINDREF has validated and performed on other child cohorts in Grenada. This has facilitated early identification of children at increased risk for adverse neurodevelopmental outcomes so that their needs can be best met by Grenadian agencies.

During this program year, 105 of the 150 total neuropsychological assessments were completed, with the remaining 45 to be completed in PY5 Q1. Once the full cohort of 150 infants receives the neuropsychological assessment, WINDREF will analyze outcomes for the full data set.

ECD

To assess the impact of TES trainings in PY4, the MCSP ECD team is utilizing observation checklists to collect information on implementation fidelity and integration of TES activities into routine health services. MCSP assesses health workers' knowledge of TES before and after training, and observes service delivery during clinical sessions and guidance sessions with parents of children with CZS and other disabilities. For the observation element, MCSP created a standard tool to be used by supervisors (those trained during the TES TOTs) during their routine monitoring and mentoring visits with health workers, and will collect supervisor feedback for analysis. Guidance on this process is provided to supervisors as part of the TOT. MCSP will conduct these learning activities as part of project work in Barbados, Guyana and St. Lucia. The results will inform final training materials and implementation guidance for future work in Zika-affected areas. Results and recommendations will be presented in an end of project report.

Research and Publications

Dr. Karen Blackmon, WINDREF/SGU, presented study methodology and preliminary findings at the Zika Regional Workshop held in Port-of-Spain, Trinidad and Tobago.

MCSP published their AIUM meeting abstract titled, “Development of obstetric ultrasound service delivery assessment tools in the context of the Zika virus epidemic in five USAID priority countries” in December 2017 (Volume 217, Issue 6, Pages 724-735) in American Journal of Obstetrics and Gynecology.

MCSP will continue to update the research tracker as appropriate.

Actions and Way Forward

Once the full cohort of 150 receive the neuropsychological assessment, WINDREF will commence analyzing the full data set. MCSP is working to ensure these results are shared with Grencase, who continue to provide home-based care to children with special healthcare needs throughout Grenada.

Planned Activities for Next Reporting Period

In response to USAID’s request to provide STTA within the ESC region, the team will continue to facilitate service delivery strengthening across Barbados, Grenada, Guyana, St Lucia, and Trinidad and Tobago. The MCSP Zika Response team will continue to contribute to global fora and professional working groups to advance the care and support of Zika-affected children and their families, providers, and communities. A summary of discrete activities through June 2019 is included in Table 3 below, but all activities will be integrated within MCSP’s larger approach to and activities supporting capacity-building within the Zika response in the ESC region.

Table 3. Planned Activities for Next Reporting Period

Activity	Location	Description	Length	Dates	Target Audience
“0 to 3” Conference	Denver, Colorado	MCSP presenting at a conference on Early Childhood Development		3-5 October 2018	Technical specialists, implementers
LAC Neonatal Alliance Annual Meeting	Cartagena, Colombia	Technical meeting centered on current priority interventions to address newborn mortality in the LAC region. Attended by 47 participants from 12 LAC countries. Participants from the ESC were invited using Zika funds.	2 days	9-10 October	Technical specialists, implementers, policy makers
FIGO Rio Conference	Rio, Brazil	MCSP presented development and use of ultrasound assessment tools.		14-19 October 2018	Obstetrician/gynecologists
Global Health Mini U	Washington, DC	MCSP presented on maternal infections and ECSB.	1 day	22 October 2018	Technical specialists, implementers,
NCRHA Launch Event	Trinidad and Tobago	NCRHA will hold a launch event to showcase planned activities in collaboration with MCSP.		31 October 2018	Technical specialists, implementers, policy makers

Activity	Location	Description	Length	Dates	Target Audience
MCSP Early Childhood Development Webinar	Washington, DC	MCSP and a colleague from St. Lucia will present on the overlap between Zika, ECD, and TES in a webinar format		1 November 2018	Technical specialists, implementers, policy makers
ECSB National TOT	Grenada	Upcoming	2 days	7-8 November 2018	30 participants, 11 facilities
ECSB national TOT	Barbados	Upcoming	2 days	27-29 November 2018	List of participants and facilities pending
PSS TOT	Guyana	MCSP will train rehabilitation, mental health, and MNCH providers to create caregiver support groups to address stress/depression.	2 days	13-14 November 2018	Technical specialists, implementers
TES Step-down	Guyana	MCSP will support the MOH and in-country stakeholders to conduct a secondary cascade of the original TES training in country.	2 days	15-16 November 2018	Technical specialists, implementers
TES and PSS	El Salvador	MCSP will conduct a TES/PSS training for health and ECD providers.	5 days	10-13 December 2018	Technical specialists, implementers
TES and PSS	Barbados	MCSP will conduct a TES/PSS training for health and ECD providers.	5 days	3-7 December 2018	Technical specialists, implementers
PSS	St. Lucia	MCSP will train rehabilitation, mental health, and MNCH providers to create caregiver support groups to address stress/depression.	2 days	10-11 December 2018	Technical specialists, implementers
Close-out event	Grenada	MCSP will conduct a close-out event and dissemination activity with Grencase.	1-2 days	January 2019	Subawardee and Ministry representatives, MCSP technical specialist and/or program implementer
Zika Partners Meeting	Panama	MCSP to participate in the USAID ASSIST-led partners meeting.	3 days	February 2019	Technical Specialists, policy makers

Communications and Dissemination

Key Communication Activities - Project Promotional, Public or Media Events/Engagements for the Past Year

Launch of the Caribbean Component of the USAID Zika Project

At the invitation of USAID, MCSP attended the launch of the Caribbean component of USAID Zika activities in December 2017. MCSP shared materials with local stakeholders and other partners during launch activities and met with potential local partners in Port of Spain, Trinidad and Tobago, for MCSP-led activities.

Guyana Media Coverage

In July 2018, MCSP collaborated with MOH and Ptolemy Reid Rehabilitation Center to conduct a TOT for physiotherapists and other health care providers on TES. Representatives from the USAID Mission, as well as members of the media were invited to attend opening ceremonies. Given the unique and important nature of the training, multiple media outlets published stories on USAID/MCSP's support to children with disabilities, particularly those affected by ZIKV. The Department of Public Information disseminated an article titled *Local therapists being trained to work with children born with microcephaly, other delayed developmental disabilities* on 24 July.

MCSP Presence at various global fora

Cross linked with Table 1.

Calendar of Planned Project Promotional, Public or Media Events for Next Year

Launch of North Central Regional Health Authority ECD activities

In October 2018, the North Central Regional Health Authority (NCRHA) team will hold a launch event to showcase planned activities in collaboration with MCSP in Port of Spain, Trinidad and Tobago. This launch will highlight the TES and PSS TOT sessions and locally-led cascade trainings. Chief Executive Officers of the Regional Health Authorities and Ministry of Health Representatives will be in attendance, in addition to local media.

Dissemination Event with Grenada Ministry of Health, Ministry of Education, and Ministry of Social Development

In January 2019, Grencase will coordinate a dissemination event along with the MOH, Ministry of Education, and Ministry of Social Development in Grenada. This dissemination event will provide the opportunity for Grencase to showcase achievements of the project across Grenada. They will share highlights of the Early Stimulation, TES, and PSS TOTs and locally-led cascade trainings. In addition to sharing accomplishments of Grencase activities, the WINDREF research group will share preliminary results for the neurodevelopmental research they have been conducting throughout Grenada. Grencase and WINDREF will share the next steps and support needed to ensure that infants identified through WINDREF's study as needing additional health care services are appropriately referred to Grencase or other services within the public health system.

Sustainability and Exit Strategy

MCSP designed global and regional Zika response activities with the aim of continuity after the project ends. In working with other USAID implementing partners, PAHO, CARPHA, local professional associations, and MOH, MCSP has sought to strengthen health systems and providers in their capacity to roll out QI projects, improve routine PNC, and strengthen service delivery in ECD, including for Zika-affected families. The following outlines the partners, systems, activities, and tools developed per country in an effort to facilitate sustainability after the project ends:

Integration in preservice education: the TES curriculum is currently being integrated into two courses at the University of Guyana, ensuring that best practices in ECD will continue in Guyana beyond the completion of the project through trained health providers.

Identification of children with disabilities and technical assistance to country level partners responsible for working with them: In Trinidad and Tobago, MCSP worked closely with the MOH, specifically the NCRHA, to implement activities in Trinidad and Tobago. During the initial scoping visit, the MOH selected ECD as the priority area for MCSP support of the local Zika response. Trinidad and Tobago MOH selected NCRHA, the national leader for care and support of children with disabilities, as the recipient of an MCSP sub-award to strengthen the existing expertise. This strategy allows for existing health providers to be the implementers and recipients of trainings and materials development included in the scope of work. In addition to ECD trainings focused on TES and PSS, Trinidad and Tobago also participated in regional and national ECSB TOT to ensure that providers continue to receive this training.

In Grenada, MCSP selected Grencase as the recipient of the sub-award in order to strengthen the capacity of the healthcare workers and providers that serve vulnerable populations in Grenada, including children with disabilities. Grencase is embedded within the existing health system and serves as a critical linkage between children with disabilities and the formal health care system. MCSP is also providing support to a research group at WINDREF, an affiliate of SGU in Grenada. This group is following a cohort of Zika-affected children and conducting neurodevelopmental assessments using a locally validated research tool. Part of the sustainability strategy in Grenada is to successfully link the children identified by the WINDREF study as being affected by the Zika virus during pregnancy with Grencase so they receive the early childhood development care and support to meet their full developmental potential and improve their and their families' quality of life.

Working with and through regional professional associations: MCSP worked closely with MOH and CRMA to implement activities in Barbados, St. Lucia, and Guyana. These three countries specifically requested that MCSP activities focus on ECD, data use for improved health services, and building capacity for health providers in MNH care, particularly PNC. Technical updates on PNC, QI, ECSB, and ECD through TES included training trainers who now have capacity to provide and share high-impact interventions; providing material support through simulation and other materials for continued cascade trainings; orienting health providers to tools and processes required to implement QI plans; and by supporting an existing health provider embedded in the public health system to work as a clinical mentor. Ministries of Health can continue these efforts by tasking staff to assist facilities with other QI plans in the future. QI plans can be amended to track and improve any indicator of interest or concern, either related or unrelated to outbreak response. Through material support and cascade trainings, all ESC countries will support national trainers and providers in ECSB and TES.

Working with regional public health authorities: MCSP coordinated activities with regional public health authorities via the following strategies:

- **CARPHA** MCSP supported the CARPHA-led development of a Zika pregnancy registry, which will be used in surveillance of ZIKV and other congenital birth anomalies after the close of MCSP in the ESC region. This registry will provide country health systems with a tool to better anticipate, prepare, and respond to future epidemics.
- **PAHO** In Guyana specifically, conversations are underway with PAHO to transfer knowledge and results to the body assisting the MOPH in the country with QI work. PAHO, with their ongoing QI initiative in Guyana, is well positioned and eager to support QI activities in country after the close of MCSP.

Through working with governmental institutions and regional professional associations, MCSP prioritized work that is relevant at country and regional level. In collaboration with partners, MCSP focused on reinforcing health systems through training embedded health workers to be able to continue transferring skills in key, high-impact interventions to other health providers, introduced best practices in early childhood development through therapeutic stimulation and psychosocial support, and oriented health providers at facilities across countries to develop and implement QI plans. This national and regional support was reinforced through short-term technical assistance and leadership, and collaborating with global partners to develop and disseminate materials so that critical knowledge and tools can be made available to health providers and organizations across the region in an effort to support governments as they work to mitigate the effects of the Zika outbreak on mothers and families.

Annexes

Annex I

Annex Ia. Performance Indicator Reporting Sheet

The table below presents MCSP's performance for USAID Zika indicators. Throughout this project year, MCSP trained over 350 providers on prevention of Zika infection. These providers came from various services, such as Labor and Delivery wards, PNC services, and ECD providers. MCSP has developed and integrated a Zika prevention technical brief, the content of which is integrated into all provider trainings. MCSP's support has led to 160 clinical and non-clinical referrals. At this stage of the outbreak there was only one clinical referral in a newborn in Barbados, but MCSP-supported sites conducted 159 non-clinical referrals of infants and parents with suspected CZS – 69 children were referred directly into TES programs (16 in St. Lucia and 53 in Guyana) and 90 parents were trained through TES step down trainings (72 in Grenada and 18 in Guyana). In the new program year, MCSP anticipates increased referrals through TES enrollment and step down trainings, as the majority of the TES trainings took place in PY4Q4.

	Indicator 2A	Indicator 4A
Q1 Total	0 health providers	0 referrals
Q2 Total	25 health providers	1 referral Clinical: 1 referral Non-Clinical: 0 referrals
Q3 Total	213 health providers	0 referrals
Q4 Totals	117 health providers	159 referrals Clinical: 0 referrals Non-Clinical: 159 referrals
FY2018 Total	355 health providers	160 referrals

Annex Ib. Other Zika Activity Indicators

Data collection began in Q4 for most indicators. The following tables include totals for indicators tracked for Q3 and Q4 for PNC and ECD programs.

Table 4. PNC/QI Indicators

Country	Number/percent of MCSP-supported PNC/QI supported sites that received at least one supervisory visit post-training	Percent of newborns breastfed within one hour of birth	Percent of newborns placed skin-to-skin immediately after birth for 1 hour	Percent of newborns with a temp <36.5 upon admission to Post Natal ward	Number/percent of newborns receiving a postnatal home-visit referred from delivering institution to a MCSP-supported facility	Percent of post-partum women who received adopt a post-partum family planning at MCSP supported facilities	Percent of women who report exclusive breastfeeding at MCSP supported facilities (post-partum time period varies by country)
Barbados	10/10 (100%)			98/510 (19.21%)	24/199 (12.06%)	184/229 (80.35%)	55/76 (72.37%)
Guyana	10/10 (100%)		249/347 (71.76%)			82/135 (60.74%)	529/1588 (33.31%)
St. Lucia	13/13 (100%)	172/429 (40%)			64/113 (56.64%)	31/44 (70.45%)	68/94 (72.34%)
Total	33/33 (100%)	172/429 (40%)	249/347 (71.76%)	98/510 (19.21%)	88/312 (28.21%)	297/408 (72.79%)	652/1758 (37.09%)

Table 5. ECD Indicators

Country	Number/percent of children (age 0-3) with a disability enrolled in therapeutic early stimulation at country specific institution (disaggregated by clinical and confirmed cases of CZS)	Number/percent of facilities or outposts with a provider trained by MCSP in therapeutic early stimulation.	Number/percent of national providers trained by MCSP	Percent of providers passed (scored 80% or above) MCSP TES knowledge and learning survey pre-test	Number of policies, regulations, or guidelines related to capacity to manage ECD that includes provision for care and treatment of disabled newborns and children	Number of curricula of physical, occupational, and speech/ language therapy programs to address gaps in therapeutic early stimulation	Percent of ZIKV-exposed children who score significantly below non-ZIKV-exposed children on neuro-developmental assessment	Percent of ZIKV-exposed children who score significantly below non-ZIKV-exposed children on the neuro-developmental assessment who were referred to specialized services
Barbados ¹								
Grenada	72		48	16/44 (36.36%)			31/89 (34.83%)	0/31 (0%)
Guyana	71		28	23/26 (88%)				
St. Lucia	16		22	21/22 (95%)				
Trinidad ²								
Total	159	0	98	60/92 (65.22%)	0	0	31/89 (34.83%)	0/31 (0%)

¹ Training to take place November

² Training to take place Oct

Annex II Training Report

Training	Country	Curricula	Length	Training Dates	Total Participants Trained
PNC/QI Training	Barbados	MCSP facilitated a workshop focusing on PNC service delivery strengthening and data quality and use (7-8 March, 2018). MCSP technical advisors and monitoring and evaluation specialists, and representative of CRMA conducted visits to 10 supported facilities. During each site visit, the team developed QI action plans to strengthen QI activities chosen during the workshop.	2 days	7-8 March 2018	10 facilities, 25 participants
ECSB sub-Regional TOT	Trinidad and Tobago	A sub-regional ECSB TOT was conducted in Trinidad on 11-12 April, with nine participating countries and five Guyanese co-facilitators. MCSP trained participants from nine ESC countries (five MCSP-supported countries and four additional countries selected by CRMA). Participants were oriented to counselling women of reproductive age on Zika prevention.	2 days	11-12 April 2018	28 participants, 9 countries
PNC/QI Training	St. Lucia	MCSP held a PNC/QI workshop in St. Lucia on 7-8 May, covering technical updates on PNC and Zika, as well as approaches and tools for QI. The workshop was followed by site visits (9-11 May) to 16 facilities, where MCSP staff supported development of QI plans. During the workshop and site visits, four major QI themes emerged, including home visits to mothers/infants within a 10-day period after birth (as outlined in St. Lucia policy); counselling on exclusive breastfeeding; counselling on PFPF ≤6 weeks; and referrals/counter-referrals and information sharing with Child Development and Guidance Center (semi-private facility that receives all children with delays/disabilities).	2 days	7-8 May 2018	25 participants, 16 facilities,
PSS	Grenada	Held in collaboration with Red Cross on May 15-17, 2018 with 27 participants and May 20-28, 2018 with 28 participants.	2 days	15-17 and 28-20 May 2018	55 participants, 6 parishes
PNC/QI Training	Guyana	MCSP held a PNC/QI workshop in Georgetown, Guyana, covering technical updates on PNC, Essential Newborn Care, and Zika, and framework and tools for conducting QI activities in facilities. The workshop included participants from health facilities in Regions 4, 5, and 7, including the central hospital (GPHC) and the Ministry of Public Health (MOPH). All facility teams developed a QI plan including the identification of key indicators. The workshop was followed by site visits, where MCSP and CRMA focal points reviewed facility registers, data collection tools, and QI plans with facility staff.	3 days	15-17 May 2018	22 participants, 10 health facilities
ECSB National TOT	St. Lucia	MCSP supported five MOH representatives from the regional training of trainers (TOT) in Trinidad to conduct step-down ECSB TOT for 23 doctors, nurses and other health providers in St. Lucia.	2 days	12-14 June 2018	23 participants, 5 facilities

Training	Country	Curricula	Length	Training Dates	Total Participants Trained
Therapeutic Early Stimulation and Early Stimulation TOT	Grenada	MCSP conducted a workshop on ES and TES in collaboration with sub-awardee and home-based care provider, Grencase Caregivers. MCSP supported identification of six providers that will go on to facilitate step-down trainings through September 2018. The MCSP ECD specialist provided recommendations on development of ES videos (a deliverable of the Grencase subaward). Workshop participants were also trained on counselling women of reproductive age on Zika prevention.	5 days	25-29 June 2018	30 participants, 6 parishes
Sub-Regional Workshop on Care for Zika-affected Infants and Families	Trinidad	MCSP facilitated a workshop on technical and programmatic updates related to CZS, PNC, and health services in the context of the Zika outbreak in the region. MCSP presented clinical updates on PNC, the relevance of healthy timing and spacing of pregnancy to families of disabled children, and ECD. The workshop was attended by 85 participants from 18 countries.	2 days	27-28 June 2018	85 participants, 18 countries
HBS National TOT	Guyana	MCSP supported four MOH representatives from the regional TOT in Trinidad to conduct step-down training of providers in Region 7, including HBB, ECEB, and ECSB for 22 doctors, medex, nurses, midwives, and community health workers in St. Lucia.	3 days	11-13 July 2018	22 participants, 12 facilities
Therapeutic Early Stimulation TOT	Guyana	MCSP conducted a TES training for physiotherapists, occupational therapists, Pediatricians and health workers from the Ministry of Health, Guyana. Staff administered a pre- and post-test on the training. Trainers also provided hands on experience through practice of TES activities with infants identified with CZS at Ptolemy Reid center.	3.5 days	23-27 July 2018	28 participants, 7 regions
Therapeutic Early Stimulation TOT	St. Lucia	MCSP conducted training for community health nurses, specialists from the Child Development and Guidance Center, and special education teachers.	3.5 days	6-10 August 2018	22 participants, 13 facilities
Therapeutic Early Stimulation Step-down	Grenada	MCSP supported the Grencase Caregivers and in-country stakeholders to conduct a secondary cascade of the original TES training in country.	4 days	25-28 August 2018	18 participants, 7 parishes
Therapeutic Early Stimulation Step-down Parenting Workshop	Grenada	MSCP support Grencase Caregivers to conduct a secondary cascade of the original TES training for parents of young children with disabilities. Training data is not included in indicator 2a because only parents were trained.		24-27 September 2018	72 participants, 6 parishes

Training	Country	Curricula	Length	Training Dates	Total Participants Trained
ECSB National TOT	Trinidad and Tobago	MCSP supported five MOH representatives from the regional TOT in Trinidad to conduct step-down ECSB TOT for 17 physicians, nurses, and midwives in Trinidad and Tobago.	2 days	26-27 September 2018	27 participants, 10 facilities

Annex III Pictures (events, trainings, etc.)



MCSP's R. Perez presents on Therapeutic Early Stimulation at the sub-regional workshop.



CRMA member V. Blackman presents on her work at the sub-regional workshop.



Colleagues from the Guyana Ministry of Health and others pose after attending MCSP's sub-regional workshop.



Attendees listen during a presentation at MCSP's sub-regional workshop.



CRMA mentor V. Blackman coaches a health provider in Guyana on data use for quality improvement as part of MCSP's PNC/QI activities.



Health providers from 10 facilities learn to plot data on a facility wall chart during MCSP's PNC/QI training in Georgetown, Guyana.



A rehabilitation assistant holds a child during MCSP's hands on TES training in Guyana.



Rehabilitation assistants practice therapeutic early stimulation techniques with a child during MCSP's hands on TES training in Guyana.



MCSP Early Childhood Development specialist R. Karnati and staff pose with Ministry of Health, USAID, and trainees after successfully completing the TES training in Georgetown, Guyana.



ECSB TOT in Trinidad and Tobago. Picture taken by Goldy Mazia (MCSP-PATH) with permission.



ECSB training of providers in Kamarang, Guyana. Picture taken by Goldy Mazia (MCSP-PATH) with permission.

Annex IV Sub-Grants under the Activity

Insert Sub-Grant name, amount, duration, description, geographic info, contact information, and main results (if completed).

Sub-Grantee	Amount	Duration	Description	Contact Information	Main results
Caribbean Regional Midwives Association (CRMA); Barbados, Grenada, Guyana, St. Lucia, Trinidad and Tobago	\$45,983	April 15, 2018-March 31, 2019	CRMA, as a regional leader in building practitioner capacity in both education and clinical practice, provides local technical assistance to MCSP ESC countries of Trinidad, St. Lucia, Guyana, Barbados, and Grenada. CRMA provides logistical and administrative support for Zika-related trainings. This includes the regional ECSB TOT, national cascade ESCB trainings, and regional workshop on care of Zika-affected children and their families. CRMA also provides a mentor from within their membership in Barbados, St. Lucia, and Guyana to conduct clinical mentorship visits to track implementation of MCSP-supported facilities' QI plans. Mentors are responsible for visiting each site monthly and completing necessary program and data reporting requirements, as well as identifying strategies to assist facilities with achieving QI aims.	Ms. Shirley Curtis, Former President	<ul style="list-style-type: none"> Signed Sub-award with Documented SOW and Milestone Table Conducted Regional ESCB TOT Completed April-August Mentoring Visits, Reports and Data Coordinated and supported Regional Workshop on Care of Zika-Affected Children
Grencase Caregivers	\$100,156	May 1, 2018-February 28, 2019	Grencase provides MCSP ECD-related training for roving caregivers and daycare workers, community health nurses from the Ministry of Health, preschool teachers from the Ministry of Education, and parents of children referred by roving and daycare workers. Approximately 38 training days were planned between May and August 2018 to cover the following topics within Early Stimulation, TES, and PSS. Also leading the development and dissemination of ECD related training for communities across Grenada. This will include materials for television, radio, print and social media.	Mr. John Williams, Grencase Caregivers	<ul style="list-style-type: none"> Signed Sub-award with Documented SOW and Milestone Table Completed sourcing of materials for roving caregivers, health providers, and educators Conducted Psychosocial Support TOT Conducted ES and TES TOT and secondary cascade training across Grenada for health providers and caregivers, including parents. Began development of ES instructional video

Sub-Grantee	Amount	Duration	Description	Contact Information	Main results
WINDREF Research Group	\$63,867	March 15, 2018 to February 28, 2019	The subaward to WINDREF allows for completion of an additional round of research follow-up for Zika virus-exposed infants, as well as enhanced collaboration and clear pathways articulated for linkages between study activities and community-based ECD activities supported by GRENCASE (a separate MCSP FAA awardee). The scope of work focuses on assessment of neurocognitive functioning in children two years of age who have been exposed to Zika virus in utero.	Dr. Randy Waechter, St Georges University, Grenada	<ul style="list-style-type: none"> Signed Sub-award with Documented SOW and Milestone Table Completed 105/150 neuropsychological data collection from infants of mothers who were pregnant during the ZIKV outbreak
North Central Regional Health Authority (NCRHA), Trinidad and Tobago Ministry of Health	\$74,933	September 1, 2018-February 28, 2019	NCRHA will provide administrative, logistical and technical support to improve ECD service delivery as well as availability of ECD materials in Trinidad and Tobago. NCRHA will train health professionals, primarily in the public sector, on issues related to ECD, relevant early developmental stimulation strategies and PSS for their caregivers. NCRHA will conduct focused developmental evaluations and interventions for a cohort of infants born in Trinidad with confirmed congenital ZIKV infection or history of prenatal ZIKV infection/exposure, providing valuable baseline data. NCRHA is developing and disseminating ECD-related materials for radio, TV, print, and social media.		<ul style="list-style-type: none"> Signed Sub-award with Documented SOW and Milestone Table Conducted the TES TOT Began development of community messaging
AGOG	\$25,084	1 September 2018 to 31 March 2019	Through collaboration with MCSP, AGOG will strengthen competencies of Guatemalan gynecologists and obstetricians to counteract effects of Zika on maternal health. AGOG will facilitate validation and reproduction of USAID approved Zika-related materials for the private sector, strengthening competencies of Guatemalan gynecologists and obstetricians, and holding a symposium for physicians.	Dr. Linda Valencia, AGOG President	<ul style="list-style-type: none"> Signed Sub-award with Documented SOW and Milestone Table
Emory University	\$25,976	November 1, 2017 to October 31, 2018	Dr. Lathrop served as a Maternal Health technical advisor for the MCSP Zika Response team to support Zika response efforts in five countries in the ESC region (Barbados, St. Lucia, Guyana, Trinidad, and Grenada). Dr. Lathrop served as lead technical advisor for St. Lucia activities, including strengthening PNC and data use in health facilities. Dr. Lathrop provided technical assistance to CARPHA as they design and implement a Zika pregnancy registry for Trinidad, Jamaica, and potentially other countries in the ESC region. Specific contributions included writing and editing of technical documents, routine monitoring of the Zika workplan activities, and provision of other technical assistance.	Dr. Eva Lathrop, Emory University	<ul style="list-style-type: none"> Provided technical leadership within MCSP Zika Response team. Provided technical leadership for the collaboration with CARPHA on the development of a Zika pregnancy registry.