Summary Report of the Activities of the USAID Applying Science to Strengthen and Improve Systems Project in Jamaica

This summary report was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Charlene Coore Desai, Victor Boguslavsky, Gina-Anne Cameron-Turner, Chevaughn Miller, and Thomas Gallemore of URC under the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project. The work of the USAID ASSIST Project to improve Zika-related health services is made possible by the generous support of the American people through USAID.
Summary Report of the USAID Applying Science to Strengthen and Improve Systems Project in Jamaica

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DISCLAIMER
This summary report was written by University Research Co., LLC (URC). The opinions expressed herein do not necessarily reflect the views of the United States Agency for International Development or the Government of the United States.
Acknowledgments
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For more information on the work of the USAID ASSIST Project, visit http://www.usaidassist.org/ or write to: assist-info@urc-chs.com.

Recommended citation
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Acronyms
AAP American Academy of Pediatrics
ANC Antenatal care
ASSIST USAID Applying Science to Strengthen and Improve Systems Project
CHA Community Health Aide
CME Continuing medical education
CSaZ Congenital Syndrome associated with Zika virus
ECHO Extension for Community Health Care Outcomes
FY Fiscal year
IDB Inter-American Development Bank
IFRC International Federation of Red Cross and Red Crescent Societies
KM Knowledge management
MOHW Ministry of Health and Wellness
OPHT Other Public Health Threats
NDS Neurodevelopmental Surveillance
PAHO Pan American Health Organization
PHC Primary health care centers
PSS Psychosocial support
QI Quality improvement
R&E Research and evaluation
SSP Scale-up and Sustainability Plan
TOT Training of trainers
UNICEF United Nations Children’s Fund
URC University Research Co., LLC
USAID United States Agency for International Development
WHO World Health Organization
Executive Summary

As part of the USAID response to Zika, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project provided technical assistance to the Ministry of Health and Wellness (MOHW) of Jamaica from January 2018 through December 2019. ASSIST provided support to 60 facilities (48 primary health care centers and 12 hospitals) to carry out quality improvement (QI) activities aimed at:

- Increasing the proportion of infants attending well-child clinics who are appropriately screened for microcephaly and neurodevelopmental milestones during their first two years of life
- Increasing the proportion of infants identified with potential development deficiencies who are referred for care and support services as per Ministry of Health and Wellness (MOHW) guidelines
- Increasing the proportion of pregnant women in antenatal care who present with a potential Zika infection and mothers or caregivers of infants affected by Zika who receive appropriate psychosocial support (PSS)
- Increasing the proportion of infants who were born with Congenital syndrome associated with Zika virus infection (CSaZ) who receive health care and support services in accordance with the MOHW guidelines

ASSIST applied several strategies in Jamaica for achieving these objectives, including providing recommendations to the MOHW on updating guidelines and protocols on clinical management, care and support for infants and families affected by Zika, neurodevelopmental surveillance (NDS) of infants and young children in well-baby clinics, and psychosocial support (PSS). ASSIST also provided support in training and mentorship to increase Zika-related knowledge and skills of health care providers in a number of areas. Another strategy focused on the development and dissemination of job aids and training curricula for the health care providers related to NDS, PSS, and the clinical management protocol for pediatric patients. Finally, ASSIST Jamaica worked closely with the MOHW to develop frameworks and protocols to improve access to and quality of care and support for infants affected by CSaZ.

Key results of the USAID ASSIST Project in Jamaica include:

- Updating the MOHW Pediatric Clinical Management Protocol for Zika Virus Infection and developing guidelines for health providers on psychosocial support for women and families affected by Zika
- Developed a case management framework and defined the functions of case managers to support ongoing coordination of care of children affected by CSaZ and other developmental delays
- Developed the Well-Child Visit Milestone Table (NDS tool) to support Neurodevelopmental Surveillance (NDS) and incorporated the table into the MOHW Child Health Record form, which is pending formal approval by the MOHW
- Developed a Classification and Treatment Guideline and a booklet “Milestones in a Child’s Development: What to expect at each well-child visit”
- Trained master trainers and health care providers in NDS and quality improvement and improved neurodevelopmental surveillance in ASSIST-supported well-child clinics by using the updated NDS tools
• Developed guidance and training materials on psychosocial support (PSS), developed a cadre of master trainers, and trained health care providers in PSS
• Supported capacity building and furnished equipment to enable the MOHW to serve as a hub for Project ECHO in Jamaica, enabling a sustainable platform for educating health workers in Jamaica on a variety of health topics
• Jointly with the MOHW developed a Scale-Up and Sustainability Plan to sustain achievements and activities throughout the country after the end of ASSIST activities in December 2019
• In September 2019, ASSIST/Jamaica team received the U.S. Embassy’s Partnership Impact Award for demonstrated and sustained exceptional partnership with the Jamaica’s counterparts and stakeholders

Sustainability has been at the forefront of the work in Jamaica. In late 2018, the MOHW and ASSIST collaborated on the creation of Scale-Up & Sustainability Plan (SSP) which outlined key sustainability objectives, milestones, and scale-up parameters for how the MOHW will continue project activities formerly supported by ASSIST. On December 5, 2019, ASSIST held a meeting with key counterparts from the MOHW, the Family Health Unit, Regional Health Authorities, master trainers, and other health care providers and technical personnel to re-examine the SSP and discuss the inclusion of additional interventions and elements to sustain beyond the project’s end. The meeting was a successful one that highlighted several project-based interventions that participants wished to sustain after the conclusion of ASSIST. Four of these interventions were selected for more detailed discussion at the meeting using ASSIST-developed matrices designed to help with sustainability and transition planning:

• Development and implementation of a plan to continue master training regiments and increase the number of master trainers in neurodevelopmental surveillance, psychosocial support, quality improvement, and gender, and potential expansion into other areas.
• Development and implementation of a system to manage training materials and job aids for ensuring they are regularly updated and accessible or distributed to care providers, both physically and digitally.
• Publish recommended quality improvement processes and guidelines for properly carrying out data collection and analysis.
• Development and implementation of a plan to increase the scope of content taught through ECHO and improving its accessibility for care providers.
1 Introduction

As part of the USAID response to Zika, the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project implemented from 2016-2019 health systems strengthening efforts to provide specific support to health systems affected by the Zika virus in Latin America and the Caribbean. ASSIST worked to improve the capacity of health services related to Zika to provide consistent, evidence-based, respectful, and person-centered quality care focused on pregnant women, newborns, and women of reproductive age, supporting Ministries of Health and Social Security Institutions to:

- Increase awareness of Zika risks and preventive measures among health care providers and women of reproductive age, such as condom use to prevent Zika sexual transmission during pregnancy
- Increase availability and quality of prenatal care in relation to counseling, detection, diagnosis, and monitoring of suspected, probable, or confirmed Zika infection in pregnant women and recommended care implementation
- Improve clinical detection of Congenital Syndrome associated with Zika (CSaZ) in newborns and increase the number and proportion of babies and children affected by Zika who receive recommended and high-quality care and support
- Strengthen the provision of quality psycho-emotional support services for women and families affected by Zika.

In Jamaica, technical assistance activities in response to the Zika epidemic began in January 2018 with the needs assessment implemented in select health facilities and were concluded in December 2019. ASSIST provided support to 60 facilities (48 primary health care centers and 12 hospitals) to carry out quality improvement (QI) activities aimed at:

- Increasing the proportion of infants attending well-child clinics who are appropriately screened for microcephaly and neurodevelopmental milestones during their first two years of life
- Increasing the proportion of infants identified with potential development deficiencies who are referred for care and support services as per Ministry of Health and Wellness (MOHW) guidelines
- Increasing the proportion of pregnant women in antenatal care who present with a potential Zika infection and mothers or caregivers of infants affected by Zika who receive appropriate psychosocial support (PSS)
- Increasing the proportion of infants who were born with Congenital syndrome associated with Zika virus infection (CSaZ) who receive health care and support services in accordance with the MOHW guidelines

Figure 1 shows the 60 health care facilities in Jamaica which received technical support from ASSIST over the life of the project.

In Jamaica, ASSIST applied several strategies for achieving these objectives including providing recommendations to the MOHW on updating guidelines and protocols on clinical management, care and support for infants and families affected by Zika, neurodevelopmental surveillance (NDS) of infants and young children in well-baby clinics, and psychosocial support (PSS). ASSIST also provided support in training and mentorship to increase Zika-related knowledge.
and skills of health care providers in a number of areas. Another strategy focused on the
development and dissemination of job aids and training curricula for health care providers
related to NDS, PSS, and the clinical management protocol for pediatric patients. Finally,
ASSIST worked closely with the MOHW to develop frameworks and protocols to improve
access to and quality of care and support for infants affected by CSaZ.

Figure 1. Sites where ASSIST worked to improve the capacity of MOHW services in each
of the four Regional Health Authorities

ASSIST staff and their roles
Table 1 lists ASSIST staff in Jamaica and their positions.

Table 1. ASSIST team in Jamaica

<table>
<thead>
<tr>
<th>Employee’s name</th>
<th>Job title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Charlene Coore-Desai</td>
<td>Resident Advisor / Chief of Party</td>
</tr>
<tr>
<td>Shernette Effs</td>
<td>Finance and Administration Officer</td>
</tr>
<tr>
<td>Chevaughn Miller</td>
<td>Data and Administration Assistant</td>
</tr>
<tr>
<td>Gina-Anne Cameron-Turner</td>
<td>Coordinator for Knowledge Management</td>
</tr>
</tbody>
</table>

The ASSIST home office’s Dr. Diana Chamrad, Improvement Director, Vulnerable Children &
Families, Mental Health, provided short-term technical assistance in PSS and case
management for children and families affected by Zika, and Dr. Victor Boguslavsky, Deputy
Director, provided overall technical and management support to the country team, including
quality improvement methodology.

2 Program Summary

Key accomplishments of ASSIST support for the MOHW by December 2019 are presented in
the table below.
<table>
<thead>
<tr>
<th>What did we achieve?</th>
<th>At what scale?</th>
<th>Chronology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Update MOHW guidelines that refer to care and support for infants affected by CSaZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Updated and submitted to the MOHW for review and approval the following guidelines:</td>
<td>Nationwide</td>
<td>August 2018 – December 2019</td>
</tr>
<tr>
<td>- MOHW “Psychosocial Support for Women and their Families, and Persons with Guillain Barré Syndrome, affected by Zika Virus: Guidelines for Health Providers”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Printed and delivered to the MOHW 1000 copies each of the MOHW-approved guidelines</td>
<td>Nationwide</td>
<td>August 2018 – December 2019</td>
</tr>
<tr>
<td>2. Improve access to and quality of care and support for infants affected by CSaZ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• ASSIST developed an operational protocol for an automated case management tool to ensure the care and support of children with congenital syndrome associated with Zika Virus infection (CSaZ) in Jamaica</td>
<td>Nationwide</td>
<td>August 2018 – December 2019</td>
</tr>
<tr>
<td>• Developed a Case Management framework including Case Manager functions</td>
<td>Nationwide</td>
<td>September 2019 – December 2019</td>
</tr>
<tr>
<td>3. Increase Zika-related knowledge and skills of health care providers in psychosocial support, neurodevelopmental surveillance, and quality improvement (QI)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Neurodevelopmental surveillance (NDS): Developed training modules on neurodevelopmental surveillance for child health visits.</td>
<td>Nationwide</td>
<td>January 2018 – December 2019</td>
</tr>
<tr>
<td>• NDS: Conducted two training of trainers (TOT) and trainings for health care providers in well childcare settings.</td>
<td>66 participants, who included 12 quality improvement (QI) coaches from three other Caribbean islands (Antigua &amp; Barbuda, Dominica, and St. Kitts &amp; Nevis)</td>
<td>November 2018 and June 2019</td>
</tr>
<tr>
<td>What did we achieve?</td>
<td>At what scale?</td>
<td>Chronology</td>
</tr>
<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>NDS: Supported master trainers in their trainings of health care providers from participating health facilities.</td>
<td>21 NDS cascade trainings of health care providers from ASSIST supported facilities in almost every parish. Master trainers have trained 481 of their colleagues in NDS and in the use of the updated child health record form</td>
<td>February 2019 – November 2019</td>
</tr>
<tr>
<td>Provided QI coaching and support to health care providers on measuring the improvements in the use of NDS tools</td>
<td>Monthly/bi-monthly visits were conducted with 24 QI teams at ASSIST-supported Health Centers to review data collection and progress on measuring implementation of the new NDS tool</td>
<td>May 2018 – November 2019</td>
</tr>
<tr>
<td>Provided ongoing ECHO tele-mentoring to health care providers on the implementation of neurodevelopmental surveillance</td>
<td>Open to 60 master trainers and QI teams at their facilities</td>
<td>March 2019 – November 2019</td>
</tr>
<tr>
<td>Three learning sessions were held to foster shared learning on the use NDS tools and the provision of care and support services for children with CSAZ</td>
<td>QI teams and master trainers from ASSIST-supported facilities</td>
<td>May 2019, July 2019, October 2019</td>
</tr>
<tr>
<td>Data Webinars hosted by ASSIST Jamaica’s Data and Administrative Assistant to review mechanisms to present the data collected on quality improvement indicators</td>
<td>25 master trainers</td>
<td>November 2019</td>
</tr>
<tr>
<td>What did we achieve?</td>
<td>At what scale?</td>
<td>Chronology</td>
</tr>
<tr>
<td>----------------------</td>
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<tr>
<td>Psychosocial Support (PSS): Developed training materials for psychosocial support for health care providers on the provision of basic psychosocial support.</td>
<td>Nationwide</td>
<td>January 2018 – December 2019</td>
</tr>
<tr>
<td>PSS: Conduct eight training sessions for health care providers from the participating health facilities on the provision of basic psychosocial support (including gender sensitization).</td>
<td>192 health care providers (including doctors, nurses, community health aides, health promotion officers, and program development officers)</td>
<td>October 2018 – September 2019</td>
</tr>
<tr>
<td>PSS TOT workshop</td>
<td>16 health sector participants</td>
<td>May 2019</td>
</tr>
<tr>
<td>ASSIST and its partner WI-HER, LLC conducted training on gender integration into Zika-related health programming</td>
<td>29 Jamaican health care providers and program officers</td>
<td>March 2019</td>
</tr>
<tr>
<td>ECHO immersion training (jointly organized with AAP and the MOHW)</td>
<td>37 stakeholders from the Jamaican health sector</td>
<td>June 2019</td>
</tr>
<tr>
<td>Harvest Meeting</td>
<td>30 participants from the MOHW, RHAs and medical sector in Jamaica</td>
<td>December 2019</td>
</tr>
<tr>
<td>Sustainability &amp; Transition Meeting</td>
<td>32 participants from the MOHW, Family Health Unit (FHU), RHAs, master trainers, and other health care providers and technical personnel</td>
<td>December 2019</td>
</tr>
</tbody>
</table>
What did we achieve? | At what scale? | Chronology
---|---|---
- ASSIST produced a number of job aids for NDS, PSS, QI, Gender, Early Stimulation, Care & Support (See Table 4 for a full listing) | Nationwide | January 2018 – December 2019
- ASSIST procured and delivered laptops to all participating facilities, to allow for data collection, analysis, and communication, and to facilitate the staff’s participation in the neurodevelopmental surveillance ECHO | 60 ASSIST-supported sites | February 2019 - September 2019
- ASSIST procured and delivered two televisions, a video conferencing system, and a desktop for the MOHW's ECHO hub. | Nationwide impact | October 2019
- ASSIST procured and delivered video monitors to display early stimulation and PSS videos in clinics | 60 ASSIST-supported sites | Date TBC

4. Conduct research on barriers and facilitators to head circumference and neurodevelopmental assessment and screening in well-baby clinics

- The ASSIST Jamaica team completed research on “Barriers and facilitators to neurodevelopmental surveillance and head circumference measurements in well child clinics in Jamaica”. The main aim of the study was to help health care providers to improve the use of updated NDS tools. | 8 ASSIST support sites (2 from each RHA) | October 2018 – September 2019

How we worked with and advised local counterparts

There were a number of ways in which ASSIST provided technical assistance to the MOHW during the project. This began with a Zika-related health services needs assessment that was implemented in 11 facilities (seven hospitals and four primary health care centers) from January 25 – March 2, 2018. This assessment identified several priorities for support including: improving health care providers’ knowledge about Zika transmission and associated health risks; strengthening the neurodevelopmental surveillance of young children in well-child clinics and follow-up of babies born with abnormalities; provision of services for children with special needs (including early childhood stimulation); and the provision of psychosocial support for families of babies born with congenital abnormalities.

ASSIST and its partners then worked closely with the MOHW to implement strategies in each of these priority areas. One such partner was the American Academy of Pediatrics (AAP), tasked with assisting the MOHW in updating Zika care guidelines and associated health facility tools. The AAP’s team of Zika Technical Advisors reviewed the MOHW’s 2016 Pediatric Zika guidelines and developed a set of recommendations based on updated knowledge of the Zika virus, CSaZ, and appropriate follow-up. This led to a revision of the pediatric protocol for the clinical management of Zika and of the neurodevelopmental surveillance tool at the facility level.
to address the need for improved sensitivity and specificity in the existing child health record surveillance tool. The updated tool included more red flag milestones to reduce over-identification and referral, which was a key issue identified during the needs assessment. The AAP, in collaboration with ASSIST and the MOHW, also designed two NDS job aids (i.e., Classification and Treatment Guide and Milestones Booklet) that contributed to improved neurodevelopmental surveillance at the clinic level.

The AAP also provided technical assistance through training. In partnership with the MOHW and ASSIST, the AAP participated in two Training of Trainers (TOT) workshops on NDS in November 2018 and June 2019. The purpose of the training was to develop a cadre of MOHW well-child practitioners representing all parishes that would be champions for the newly introduced NDS tool and ensure that all well-child practitioners were knowledgeable on the possible impact Zika had on their patient population. At the first TOT workshop (November 2018), the AAP served as the primary faculty of the training, with support from ASSIST Jamaica and the MOHW. However, the second TOT was led by the previously trained master trainers, with support of AAP and MOHW. The second TOT was also adapted from lessons learned from the November training, including additional training on appropriate head circumference measurement and plotting and coaching on introducing and leading role plays.

The AAP also provided technical assistance through the administration of the Extension for Community Healthcare Outcomes (ECHO) telementoring program. This included working with the MOHW and ASSIST to design a novel curriculum on NDS in the age of Zika and the coordination of 11 bi-weekly ECHO sessions over a five-month period. ASSIST’s strategy for measuring and improving quality of care focused on working with health care providers to apply quality improvement (QI) science methods to ensure that NDS was delivered at high quality for every baby in accordance with MOHW guidelines. This involved the formation of QI teams in participating facilities aimed at examining and improving NDS and other health care delivery processes. The ASSIST team also provided ongoing mentoring on NDS and PSS through clinic visits, webinars, virtual meetings, learning sessions, and a harvest meeting. Through these avenues, health care providers had opportunities to receive expert feedback and support on their experiences in implementing NDS and PSS services.

The MOHW was also given technical assistance in the area of care and support for Zika-affected infants and children. ASSIST designed and implemented a robust PSS program in Jamaica which included an extensive revision of the MOHW’s guidelines for health providers related to psychosocial support for individuals affected by Zika. ASSIST also partnered with the MOHW to train a number of health care providers in the provision of PSS and to develop a cadre of PSS master trainers to ensure continuity of the program. Gender considerations were integrated into all PSS materials and training curricula to ensure sensitivity and inclusivity.

In addition, ASSIST’s strategy for the care and support of children and families impacted by Zika included the design of a Case Management Framework and the clarification of referral pathways for children with developmental delays. ASSIST worked with the MOHW to design an operational protocol for the development and use of an automated CSaZ case management system with the hope that they could use this as a blueprint for an electronic registry and case management tool in the future. Technical assistance in this area also focused on the design and provision of job aids, such as early stimulation materials to be disseminated both at the clinic level and through the MOHW’s social media channels and a referral directory of services for children with developmental concerns.
ASSIST also provided equipment to support its activities in Jamaica. This included the procurement and delivery of a laptop to each of the participating facilities, to allow for data collection, analysis, and communication, and to facilitate the staff's participation in the neurodevelopmental surveillance ECHO. ASSIST also provided each site with a mobile hotspot to facilitate internet connectivity for health facility teams joining ECHO sessions and webinars. Additionally, ASSIST supported the MOHW’s plan to centralize the administration of ECHO programs in Jamaica by procuring the necessary equipment for the hub (i.e., two video monitors, one video conferencing system, one desktop computer, one wireless router, three wireless keyboards, one utility shelf, two Uninterruptable Power Supplies, and one Ethernet switch). In response to concerns about the ability of health care providers to adequately track developmental milestones during busy well-child clinics, ASSIST delivered 120 kits (two per site) to participating health facilities. Each kit contained sensory stimulation toys and books to be used by nurses to conduct neurodevelopmental surveillance during well-child clinics.

During the period of technical assistance to the MOHW, 885 health professionals were trained. The training topics were neurodevelopmental surveillance, introduction to quality improvement, psychosocial support, gender integration, and ECHO immersion training.

Table 2: Number of people trained by ASSIST in Jamaica

<table>
<thead>
<tr>
<th>Topic or Focus Area</th>
<th>Number of People Trained</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychosocial Support</td>
<td>191</td>
</tr>
<tr>
<td>Neurodevelopmental Surveillance/QI: Training of Trainers</td>
<td>56</td>
</tr>
<tr>
<td>Gender Awareness</td>
<td>29</td>
</tr>
<tr>
<td>ECHO Immersion</td>
<td>32</td>
</tr>
<tr>
<td>Psychosocial Support: Training of Trainers</td>
<td>16</td>
</tr>
<tr>
<td>Neurodevelopmental Surveillance: Cascade</td>
<td>561</td>
</tr>
<tr>
<td>Total Unique Individuals Trained</td>
<td>885</td>
</tr>
</tbody>
</table>

Collaboration with other implementing partners

ASSIST Jamaica regularly attended and contributed to the monthly Zika Partners Coordination meetings that were organized by the USAID Zika Advisor to Jamaica, Kristen Alavi. These meetings were designed to provide updates on Zika-related activities in Jamaica and to harmonize efforts in the country. The meetings were also attended by UNICEF Jamaica, PAHO, ZAP, Jamaica Red Cross, International Federation of Red Cross and Red Crescent Societies, and the MOHW.

In July 2019, ASSIST Jamaica’s Resident Advisor co-facilitated a three-day UNICEF-led Early Years Care and Support Workshop that brought together government partners, civil society counterparts, and decision makers involved in the design and implementation of Early Years Care & Support services for families with infants and young children affected by congenital malformations, including those affected by Zika.
Strategy to achieve institutionalization and sustainability

As early as September 2018, the MOHW and ASSIST Jamaica team engaged in discussions regarding various strategies to sustain and scale project interventions. On November 20, 2018, Dr. Melody Ennis, the MOHW Family Unit Director, and Dr. Julia Rowe-Porter, Program Development Officer, met with ASSIST Jamaica management and agreed to draft a concept note that outlined benchmarks and improvement milestones to achieve within three years following the conclusion of the program. The meetings were held with the understanding that any plan developed would require approval from USAID before the commencement of implementation, which ultimately led to the creation of the Scale-Up & Sustainability Plan (SSP).

The SSP was based on ASSIST and the MOHW’s shared objective to “Achieve by January 2022 the use of the updated MOHW approved neurodevelopmental surveillance tool with 90% of babies attending state well-child clinics in Jamaica,” and lists objectives such as the procurement of equipment and materials, including technical equipment needed to operate ECHO, job aids, videos, and other support tools for health workers. The SSP also outlines the goal to scale interventions nationwide with the involvement of 317 Primary Health Care Centers (PHCs) from all four Regional Health Authorities and called for the participation of key stakeholders, including the Pediatric Association of Jamaica, Nurses Association of Jamaica, Jamaica Midwives Association, Medical Association of Jamaica, and the Media.

3 Results

Improvements in quality of care

The key improvement indicators in the project focused on the implementation of the updated neurodevelopmental surveillance tools, accurate head circumference measurement, and referral to further assessments in accordance with MOHW guidelines. The following five indicators were tracked:

1. Proportion of NDS forms that are filled completely by health care providers
2. Proportion of NDS forms that are filled correctly by health care providers
3. Proportion of children whose head circumference is correctly documented and interpreted
4. Proportion of children who have met all red flag milestones for the specific age
5. Proportion of children who are referred for neurological and psychomotor assessment

Figures 2-5 illustrate the changes in each indicator on a national level across the ASSIST-supported facilities. Approximately 8,071 Child Health Medical Records were reviewed, and 4,260 sampled from 213 submissions across 24 QI teams. The figures show 28 datapoints collected over a seven-month period. Overall, the data shows steady improvement in each of the process indicators (Figures 2-4) and indicates sustained provider knowledge in conducting child’s neurodevelopmental assessment and results interpretation in accordance with the updated NDS tool and guidance from the booklet “Milestones in a Child’s Development: What to Expect at Each Well-Child Visit” (Figure 5). By the end of the data collection period, there was also improvement demonstrated in the referral of children identified with having suspected developmental delay to neurological and psychomotor assessment. For indicator 5, the data showed that 144 children were classified as suspected developmentally delayed during the data collection period. Of those 144 children identified as having a suspected developmental delay, 77 (53%) were referred for further assessment. Although health care providers reported an
increase in referrals based on using the updated NDS tools, there were several reasons cited for the non-referral of children identified as having suspected developmental delays. First, based on their clinical judgement, health care providers sometimes opted to have more intensive follow-up with children classified as having a suspected developmental delay rather than move straight to referral. Second, some children were classified as needing a referral based on their head circumference measurement. However, many of these children were classified as macrocephalic and were not referred because of a family history of larger head size or regional variations in larger head circumference measurements in that population. Finally, some cases were genuinely missed. Sometimes, the well-child clinic nurse did not refer the identified child to the in-house doctor or to other relevant referral sites. In other cases, the overseeing nurse, when reviewing the records, did not flag all identified children for referral. The MOHW therefore needs to highlight and strengthen the accurate and consistent referral of children with suspected developmental delays for neurological and psychomotor assessments, as this remains a MOHW priority.

Figure 2. Indicator 1 - Proportion of NDS forms that are filled completely by health care providers
Figure 3. Indicator 2 - Proportion of NDS forms that are filled correctly by health care providers

Figure 4. Indicator 3 - Proportion of children whose head circumference is correctly documented and interpreted
During ASSIST-facilitated learning sessions, QI teams discussed a number of change ideas for improving the implementation of the NDS tools. **Table 3** provides a summary of the main ideas that emerged from these discussions.

**Table 3. Summary of improvements in the implementation of the NDS tool at ASSIST-supported sites**

<table>
<thead>
<tr>
<th>Change ideas implemented</th>
<th>Where it was put into practice</th>
</tr>
</thead>
</table>
| Refresher training on the NDS tools for all levels of staff (e.g., during preconference meetings at each clinic or staff meetings) | Grange Hill Health Center  
Highgate Health Center  
Kellits Health Center  
Port Antonio Health Center  
Brown’s Town Health Center  
Cambridge Health Center  
Montego Bay Type V Health Center  
Maxfield Park Health Center  
Newport Health Center |
| More frequent data collection (e.g. scheduling bi-weekly meetings for two nurses to do data collection) | Claremont Heath Center of Excellence  
Highgate Health Center  
Cambridge Health Center  
Montego Bay Type V Health Center |
### Review of dockets post clinic conference

*(increased monitoring and evaluation)*

- Maxfield Park
- Claremont Health Center of Excellence

### Involve the CHAs in the data collection process

- Brown’s Town Health Center

### Records department placed the new NDS tool close to the old tool in each docket so that nurses can easily find it, especially for the larger dockets

- Linstead Health Center

### Nursing supervisor shares feedback from the results gathered through data collection at staff meetings, offers praise for things that are being done well, and offers insights into ways to improve areas with lower scores

- Grange Hill Health Center
- Port Antonio Health Center
- Maxfield Park Health Center

### One-on-one conversations with nurses who experience challenges in using the new NDS tools

- Bethel Health Center
- Linstead Health Center

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### ECHO program

Project ECHO (Extension for Community Health Care Outcomes) is an innovative hub and spoke program, designed to create knowledge networks bringing together health care providers in low-resource settings with experts through a tele-mentoring program using didactic and case-based presentations. Using basic, widely available videoconferencing technology, clinical management tools, and case-based learning, health care providers develop knowledge and self-efficacy on diseases/conditions they might otherwise refer to a specialist or utilize methods they may be unaccustomed to using.

In collaboration with the AAP, ASSIST Jamaica facilitated an ECHO program on NDS in the Age of Zika, which included 11 sessions between March and July 2019. The NDS ECHO, the first of its kind worldwide, was designed as a forum to further develop clinician knowledge and enhance capacity to improve monitoring, screening, and follow-up care for children from birth through six years, with functional impairments of neurocognition, self-regulation, and adaptive functioning as well as improve their skills as trainers. The Jamaican Ministry of Health and Wellness began a second phase of the NDS ECHO program in November 2019. The second phase includes a ten-session series featuring topics such as referral to specialist care, early stimulation, and team approaches to treatment. As of January 2020, there have been three successful ECHO sessions administered entirely by the MOHW.

Based on the success of the NDS ECHO and other ECHO programs in Jamaica, the MOHW expressed interest in sustaining and integrating the efforts in the country by becoming a central administrative hub for ECHO programs in Jamaica. In this role, the MOHW would engage the Regional Health Authorities, agencies, and related organizations that make up the public health system to strengthen capacity for health care delivery across the island. Using the ECHO platform, public sector health care providers throughout the country would have access to the
expertise of the central MOHW and subject matter experts without having to travel and, in some cases, refer patients. Health care providers can connect via their Smartphones, laptops, or other computer systems. By becoming a centralized hub, the MOHW could use the ECHO platform to educate community health workers, nurses, midwives, public health nurses, and other health providers in a vast array of health topics.

To this end, ASSIST, in collaboration with the MOHW and the AAP, supported ECHO immersion training June 25-28, 2019 in St. James, Jamaica. Thirty-seven stakeholders gathered to review the principles and the importance of fidelity to the ECHO model. The workshop covered various stakeholder roles and responsibilities, best practices in the ECHO curriculum, case form development, and fundamental skills for ECHO session facilitation. Participants also reviewed the ECHO experience in Jamaica to date and discussed future opportunities for ECHO in Jamaica. ASSIST procured and delivered 60 laptops to the Phase 1 and 2 facilities supported by the project, to facilitate the staff’s participation in the NDS ECHO, as well as ECHO equipment to be utilized in the ECHO Hub. Through a loan from the Inter-American Development Bank (IDB), the MOHW has also been able to secure staff for the proposed ECHO Hub. This is a promising development for the sustainability of ECHO model in the country.

**Gender integration activities**

ASSIST partnered with WI-HER, LLC to support the implementation of the project’s activities from a perspective of gender. Specifically, WI-HER conducted a desk review of key gender issues influencing Zika response in Jamaica and contributed to the review of the MOHW guidelines for health care providers on “Psychosocial Support for Women and Families affected by Zika” to ensure gender-sensitive content. WI-HER also presented on gender inequality and gender integration approaches in service delivery for children and families affected by Zika at the National Consultation Meeting held in Kingston in March 2019.

Gender content was integrated in the curriculum for the eight training workshops that ASSIST offered to 192 participants between October 2018 and September 2019, which focused on sensitization and skills building in gender-sensitive psychosocial support for MOHW staff.

On the MOHW’s request, from March 18-20, 2019, ASSIST and WI-HER conducted training on gender integration into Zika-related health programming for 29 Jamaican health care providers and program officers. The participants were taught to conduct gender analysis and to develop and support the implementation of gender-sensitive activities.

**Knowledge management products**

The ASSIST team supported the development of a series of job aids and tools to facilitate and systematize care for pregnant women and children with CSaZ. Table 4 lists the products developed for the MOHW with the support of the USAID ASSIST Project.

**Table 4. Knowledge management products developed with the support of ASSIST**

<table>
<thead>
<tr>
<th>Job Aids, Guides, and Tools</th>
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<tbody>
<tr>
<td>Protocols &amp; Guidelines</td>
</tr>
<tr>
<td><strong>MOHW Zika Virus Infection: Clinical Management Protocol for Pediatrics</strong></td>
</tr>
<tr>
<td><strong>MOHW Psychosocial Support for Women and their Families, and Persons with Guillain Barré Syndrome, affected by Zika Virus: Guidelines for Health Providers (see Figure 7)</strong></td>
</tr>
<tr>
<td>Neurodevelopmental Surveillance</td>
</tr>
<tr>
<td>------------------------------------------------</td>
</tr>
<tr>
<td><strong>MOHW Child-Health Record for Well-Child Visit</strong> (integrated updated NDS Milestone Table) (see <strong>Figure 6</strong>)</td>
</tr>
<tr>
<td><strong>Classification and Treatment Guide for Neurodevelopmental Surveillance</strong></td>
</tr>
<tr>
<td><strong>Milestones in a Child’s Development: What to Expect at Each Well-Child Visit Booklet</strong></td>
</tr>
<tr>
<td><strong>Neurodevelopmental Surveillance Kits</strong></td>
</tr>
<tr>
<td><strong>NDS Training Curriculum (including videos, PowerPoint presentations, trainer manual)</strong></td>
</tr>
<tr>
<td><strong>Video: NDS Training of Trainers Workshop</strong></td>
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<tr>
<td><strong>Quality Improvement</strong></td>
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<tr>
<td><strong>Data Collection Summary Form</strong></td>
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<tr>
<td><strong>Data Collection Indicator Spreadsheet</strong></td>
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<tr>
<td><strong>Recording: Data Webinar</strong></td>
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<tr>
<td><strong>Psychosocial Support (Annexes to the PSS Guidelines)</strong></td>
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<tr>
<td><strong>MOHW Directory of Mental Health Providers</strong></td>
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<tr>
<td><strong>Psychosocial Support Provider – Patient Checklist</strong></td>
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<tr>
<td><strong>Communication Skills</strong></td>
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<tr>
<td><strong>Applying a Gender Lens</strong></td>
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<tr>
<td><strong>Breaking Bad News</strong></td>
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<tr>
<td><strong>Breathing Exercises</strong></td>
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<tr>
<td><strong>Progressive Muscle Relaxation</strong></td>
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<tr>
<td><strong>Scheduled Worry Time</strong></td>
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<tr>
<td><strong>Parenting Children with Special Needs</strong></td>
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<tr>
<td><strong>Provider Burnout – Identifying Burnout and Preventing/Reducing Burnout</strong></td>
</tr>
<tr>
<td><strong>Mental Health/Psychosocial Support Warning Indicators</strong></td>
</tr>
<tr>
<td><strong>Mental Health/Psychosocial Support Referral Pathways</strong></td>
</tr>
<tr>
<td><strong>Understanding Gender-based Violence</strong></td>
</tr>
<tr>
<td><strong>Video: PSS Training Workshop</strong></td>
</tr>
<tr>
<td><strong>Video: Delivering Bad News</strong></td>
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<tr>
<td><strong>Video: Circle of Influence</strong></td>
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<tr>
<td><strong>Video: Caregiver Burnout</strong></td>
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<tr>
<td><strong>Video: Teach Back</strong></td>
</tr>
<tr>
<td><strong>Early Stimulation</strong></td>
</tr>
<tr>
<td><strong>Early Stimulation Posters (2 versions) (see <strong>Figure 9</strong> for Version #1)</strong></td>
</tr>
<tr>
<td><strong>Video: Raising Michael</strong></td>
</tr>
</tbody>
</table>
**Video: Raising Leah**

**Care & Support**

*Case Management Framework*

**Referral Pathways by Parish**

*Referral Directory: Services for Children with Developmental Concerns (see Figure 8)*

*Operational Protocol for the Development and Use of an Automated Case Management of Congenital Syndrome Associated with Zika Virus Infection (CSaZ)*

**Case Studies**

*Enhancing the Connectivity and Confidence of Healthcare Officers in Jamaica through Project ECHO*

*An Argument for Paternity Leave and Progressive Maternity Policies: Lessons from Country Governments and Private Sector in the Caribbean*

**Technical Reports**

*Zika-related health services needs assessment in Jamaican health care facilities*

*Jamaica Neurodevelopmental Surveillance in the Age of Zika ECHO Evaluation*

*Barriers and facilitators to neurodevelopmental surveillance and head circumference measurements in well child clinics in Jamaica*

*Jamaica: Gender Considerations in the Context of Zika Emergency Response Programming*

**Success Stories / Blogs**

*Zika Response – “Not Too Late” in Jamaica: ASSIST's Innovative Approach Integrating Gender to Strengthen Psychosocial Support Services Today, for Tomorrow*

*World Mental Health Day: Jamaican Health Care Workers providing Psychosocial Support to Children and their Caregivers*

*Jamaica: From Zika Outbreak to Sustained Response*

**Conference Presentations**

*The MOHW’s abstract “Strengthening Health Services in the Context of Zika in Jamaica: Improving Neurodevelopmental Surveillance of Infants and Young Children in Well-Child Clinics” was accepted for a poster display at the International Forum on Quality & Safety in Health in Care in Copenhagen, April 28-30, 2020*
Figure 6. Child Health Record – Well Child Visit Milestone Table

<table>
<thead>
<tr>
<th>Milestone</th>
<th>2 Months</th>
<th>3 Months</th>
<th>6 Months</th>
<th>9 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor</td>
<td>Must sit up with supported head and neck.</td>
<td>Must sit up without support.</td>
<td>Must sit on floor.</td>
<td>Must sit without support while holding object.</td>
</tr>
<tr>
<td></td>
<td>Hold objects fine.</td>
<td>Make sounds in response to having name called.</td>
<td>Wipes mouth with adult’s help.</td>
<td>Transfers objects from hand to hand.</td>
</tr>
<tr>
<td></td>
<td>Makes sounds in response to having name called.</td>
<td>Talks at age-appropriate level.</td>
<td>Supports self in standing.</td>
<td>Duplicates simple, single sounds.</td>
</tr>
<tr>
<td></td>
<td>Stands up to support.</td>
<td>Stands up to support with adult’s help.</td>
<td>Stands up to support.</td>
<td>Plays with objects or other materials.</td>
</tr>
<tr>
<td></td>
<td>Must sit up without support.</td>
<td>Makes sounds in response to having name called.</td>
<td>Wipes mouth with adult’s help.</td>
<td>Transfers objects from hand to hand.</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

Well-Child Visit Milestone Table

Instructions:
- Use this milestone table to collect information on the child as you observe, listen, and learn from the caregiver. As you go through each domain, mark O if observed, N if not observed, or N/A if not applicable.
- Referral milestones are considered red flag milestones. All children should be obtaining these milestones at that age.

Figure 7. Referral Directory – Services for Children with Developmental Concerns

Figure 8. MOHW Psychosocial Support for Women and their Families, and Persons with Guillain Barré Syndrome, affected by Zika Virus: Guidelines for Health Providers
Institutionalization and sustainability achievements

Sustainability has been at the forefront of the work in Jamaica. There have been a number of developments in the area of institutionalization and transition, including:

- Creation of “Enhancing Scale-up and Sustainability of Health Services Strengthening in the Context of Zika in Jamaica Scale-Up & Sustainability Plan (SSP)” in late 2018 which outlined key sustainability objectives, milestones, and scale-up parameters for how the MOHW will continue activities formerly supported by ASSIST
- Integration of the updated NDS tools into the National Child Health Record to be used in every well-child clinic across the island.
- MOHW approval and implementation of the ASSIST-supported redesign of the National Child Health Record
- Data collection tools developed for key indicators of NDS
- Provision of guidelines, protocols, and job aids for every health center in Jamaica
- Master trainers in key areas of technical assistance (i.e., NDS, PSS, Gender)
- Training Curricula in key areas of technical assistance (i.e., NDS, QI, PSS, Gender)
- Transition of NDS ECHO administration from the AAP/ASSIST to the MOHW in August 2019
- Support for the creation of a centralized MOHW ECHO hub
On December 5, 2019, the USAID ASSIST Project convened a meeting with key counterparts from the MOHW, FHU, RHAs, master trainers, and other health care providers and technical personnel to re-examine the SSP and discuss the inclusion of additional interventions and elements to sustain beyond the project’s end. The meeting was a successful one that highlighted several project-based interventions that participants wished to sustain after the conclusion of ASSIST. Four of these interventions were selected for more detailed discussion at the meeting using ASSIST developed matrices that were specifically designed to help with sustainability and transition planning. These interventions are listed below:

- Development and implementation of a plan to continue master training regiments and increase the number of master trainers in neurodevelopmental surveillance, psychosocial support, quality improvement, and gender, and potential expansion into other areas.
- Development and implementation of a system to manage training materials and job aids for ensuring they are regularly updated and accessible or distributed to care providers, both physically and digitally.
- Publish recommended quality improvement processes and guidelines for properly carrying out data collection and analysis.
- Development and implementation of a plan to increase the scope of content taught through ECHO and improving its accessibility for care providers.

A comprehensive Sustainability and Transition report on the mapping of these four interventions, as well as a listing of the other interventions identified during this meeting was provided to the MOHW in January 2020. The MOHW can now use this information as the basis for further discussion and strategic planning surrounding the gains made through the project.

4 Lessons Learned

There were several important lessons learned from key technical areas in the project. Many of these emerged from discussions at learning sessions and the final harvest meeting in December 2019.

**NDS/QI lessons**

- Health care providers are motivated by focusing on the “big picture” (e.g., the benefit of identifying delays lessens developmental delays to create brighter, healthier children and nation). This is important when introducing new tools/systems that may require additional work or major changes to existing routines and procedures.
- Consistent use of NDS tools improves the quality of care for children. It enhances knowledge and skills in assessment, decrease assessment time, and allows for timely data collection.
- Leadership and management support are necessary at all levels.
- A team approach to NDS is vital. For example, having both technical (medical personnel and doctors, nurses) and non-technical staff (e.g., CHAs, records clerks) involved in the process increases staff buy-in.
- The use of technology to enhance the NDS program is crucial. Bi-weekly ECHO sessions provided opportunities for health care providers to share experiences in using the NDS tools and discuss difficult cases and ultimately strengthened the delivery of
services at the clinic level.

- It is important to engage specialists (pediatricians) to improve referrals and case management.
- QI data should be shared with medical officers and other health care providers to facilitate team discussion and problem-solving.
- Continuous review, discussion, and re-training on the NDS tools is critical in the implementation stage.

**ECHO lessons**

- The ECHO platform is a low-resource solution that can be implemented by the MOHW on an ongoing basis to create shared learning spaces for providers, build capacity of ‘champions’ at the clinic level, and connect them with local and international experts.
- ECHO provides a wealth of information that facilitates improved staff competence (especially through the clinical case management).
- Utilizing ECHO as a platform to share clinical updates and reinforce in-person trainings not only alleviates training demands on providers but also allows for continuous exposure to key themes and bolsters learning. When ECHO is institutionalized (through the hub) there will be a mechanism for ongoing updates to protocols and training which will improve the quality of the services that the MOHW offers.

**PSS/gender integration lessons**

- PSS and gender sensitization training improved quality of care. Health care providers were more aware of the ways to properly communicate with patients and their families. Patients and families then, in turn, were more communicative and honest with the information they shared with the health care providers, which led to more accurate assessments.
- Mental health professionals should be active and present at all PSS/Gender training events, to address sensitive or polarizing issues as they are mentioned.
- Communication and coordination are essential for updating the PSS curriculum, organizing training activities, and evaluating the impact of health care providers’ improved skills in offering psychosocial support to their clients. PSS master trainers used the Zoom platform to hold monthly meetings aimed at enhancing the training agenda for PSS at the MOHW and at improving the delivery of PSS at health facilities. These meetings provided an opportunity to discuss sensitive areas of the curriculum, share experiences, and highlight strategies to strengthen PSS in the health sector.