Meeting Targets and Maintaining Epidemic Control (EpiC)

Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS)

Using Multimonth Dispensing to Improve Outcomes for Children and Adolescents Living with HIV in Nigeria: A Technical Brief

APRIL 2021

Funded by the President's Emergency Plan for AIDS Relief through the U.S. Agency for International Development

Acknowledgments

This publication was developed by Caterina Casalini, Moses Bateganya, Olusola Sanwo and Chika Obiora-Okafo. Valuable technical reviews and inputs were provided by Rose Wilcher. The authors would like to thank Omoluoye Majekodunmi, Majeed Adisa, Augustin Idemudia, Phillip Imohi, Pius Nwaokoro, Abimbola Oduola, Hadiza Khamofu, Frank Eyam, and Satish Raj Pandey for their role in implementation.

This work was made possible by the generous support of the American people through the United States Agency for International Development (USAID) and the U.S. Presidents Emergency Plan for AIDS Relief (PEPFAR) through the Meeting Targets and Maintaining Epidemic Control (EpiC) project (Cooperative Agreement Number: 7200AA19CA00002) and the Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project (Cooperative Agreement Number: AID-620-A-11-00002).

The contents are the responsibility of the EpiC and SIDHAS projects and do not necessarily reflect the views of USAID, PEPFAR, or the United States Government.

Suggested citation: Casalini C, Bateganya M, Sanwo O, Obiora-Okafo C. Using multimonth dispensing to improve outcomes for children and adolescents living with HIV in Nigeria: a technical brief. Durham (NC): FHI 360; 2021.

EpiC is a global cooperative agreement dedicated to achieving and maintaining HIV epidemic control. It is led by FHI 360 with core partners Right to Care, Palladium International, Population Services International (PSI), and Gobee Group. For more information about EpiC, including the areas in which we offer technical assistance, click here.

BACKGROUND

The **Strengthening Integrated Delivery of HIV/AIDS Services (SIDHAS) project** works to sustain the integration of HIV and AIDS care with tuberculosis care in Nigeria by building the country's capacity to deliver high-quality, comprehensive prevention, care, and treatment services. The project is funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR) through the U.S. Agency for International Development (USAID) and is implemented in two high-burden states (Akwa Ibom and Cross River) with a prevalence of HIV of 4.8% and 1.8%, respectively, among people aged 15–64.[1] The key result areas of the project are:

- Increased access to high-quality comprehensive HIV, AIDS, and TB prevention, treatment, care, and related services through improved efficiencies in service delivery
- Improved cross-sectional integration of high-quality HIV, AIDS, and TB services
- Improved stewardship by Nigeria Institutions for the provision of high-quality comprehensive HIV, AIDS, and TB services

At the end of quarter 1 fiscal year (FY) 21 (October–December 2020), SIDHAS was supporting 151 health facilities and 134,254 people living with HIV (PLHIV) on antiretroviral therapy (ART), including 6,760 children and adolescents. Both states have hard-to-reach areas and access to health facilities can be challenging. Implementing HIV service delivery models that reduce the frequency of clinical visits and antiretroviral (ARV) drug pickups and further decentralize drug distribution are critical for improving access to treatment for all populations and optimizing HIV program and clinical outcomes. Among adults currently on treatment, at the end of December 2019, 33% (21,494/65,946) were on multimonth dispensing (MMD)—receiving three or more months of ARVs at a time—compared to 18% (784/4,251) of children and adolescents (age 18 and younger).

In October 2019, USAID provided the Meeting Targets and Maintaining Epidemic Control (EpiC), Reaching Impact, Saturation, and Epidemic Control (RISE), and Adolescents and Children HIV Incidence Reduction, Empowerment and Virus Elimination (ACHIEVE) projects (three global mechanisms) with Headquarter Bridging Funds (HBF) to support scale-up of MMD among eligible children and adolescents living with HIV (CALHIV) in Akwa Ibom, Lagos, and Cross River states in order to improve adherence to treatment, retention in care, and sustained viral suppression. **In Akwa Ibom and Cross River states, EpiC and SIDHAS teams collaborated on the provision of technical assistance (TA) to high-volume ART sites to increase the uptake of MMD among CALHIV. In this technical brief, we present progress through December 2020 at EpiC- and SIDHAS-supported sites, the impact on outcomes such as viral load suppression, and lessons learned.**

Notably, in March 2020 in response to the COVID-19 pandemic, the Nigerian government expanded MMD eligibility criteria to all ART clients and recommended fast-tracking MMD to minimize ART clients visiting health facilities.

[1] NGA-FMOH-NAIIS-2018-v1.01. YEAR, 2018

GEOGRAPHIC COVERAGE

The EpiC and SIDHAS teams focused their technical assistance to 36 high volume sites, across the two states (Table 1). The sites ranged from primary health care centers to tertiary level hospitals. The technical assistance was provided through a data-driven approach, whereby sites were prioritized and activities specific to the site and the age group in which MMD gaps were observed were rolled out. High volume sites with limited progress against the 85% MMD PEPFAR benchmark were prioritized.

Table 1. High volume SIDHAS-sites supported through HBF, in Nigeria.

#	State	LGA	Sites
1	CROSS RIVER	Akpabuyo	Akpabuyo St. Joseph Hospital
2		Biase	Akpet Central Cottage Hospital
3		Calabar Municipality	Calabar General Hospital
4		Calabar South	Dr Lawrence Henshaw Memorial Hospital
5		Ugep	Eja Memorial Hospital
6		Calabar South	Ekpo Abasi PHC
7		Ikom	Holy Family Catholic Hospital
8		Bakassi	Ikang Primary Health Centre
9		Odukpani	Ikot Effiong Otop Comprehensive Health Centre (UCTH Annex)
10		Akamkpa	Mfamosing PHC
11		Akamkpa	Mma Efa PHC
12		Boki	Okundi Comprehensive HC
13		Yakurr	Ugep GH
14		Calabar Municipality	University of Calabar TH
15	AKWA IBOM	Nsit Ibom	Afaha Effiong OP Base Model PHC
16		Ikot Abasi	Base Ikot Abasi PHC
17		Etinan	Ekpene Obom QIC Rehabilitation Hosp
18		Mbo	Enwang PHC
19		Etinan	Etinan GH
20		Beno	Ibeno Cottage Hospital
21		Ikot Abasi	Ikot Abasi GH
22		Ukanafun	Ikot Akpa Ntuk PHC
23		Eket	Ikot Ebak Poly Clinic
24		Oruk	Ikot Okoro GH
25		Eket	Immanuel GH
26		Uruan	Ituk Mbang Methodist GH
27		Besikpo Asutan	Nung Udoe Model PHC
28		Okobo	Okobo GH
29		Okobo	Okopedi PHC
30		Onna	Onna Comprehensive HC
31		Oron	Oron General Hospital (Iquita)
32		Oron	Oron Operational Base PHC
33		Urue Offong/Oruko	Oruko GH
34		Uyo	St. Luke's Hospital Anua
35		Uyo	University Teaching Hospital
36		Uyo	Uyo Base PHC

GH=General Hospital, PHC=Primary Health Center, TH=Teaching Hospital

INTERVENTIONS

The EpiC and SIDHAS teams' approach to scaling up MMD among C&ALHIV over the 15-month implementation period is outlined in Table 2. The SIDHAS team led implementation of the intervention activities from October 2019 to December 2020. Additional TA from EpiC occurred from May 2020 to December 2020. EpiC TA to the SIDHAS project served to boost the project's efforts in reaching the MMD PEPFAR benchmark at selected high-volume sites. The TA focused on conducting joint data analysis and data reviews at site level, discussing key bottlenecks, and designing actionable solutions. The solutions, such as mentoring, line listing clients, rolling out the pediatric regimen calculator and the optimized regimens, as well the ART community distribution and the pediatric ART groups were then implemented by the SIDHAS team.

Table 2. Activities and Timeline

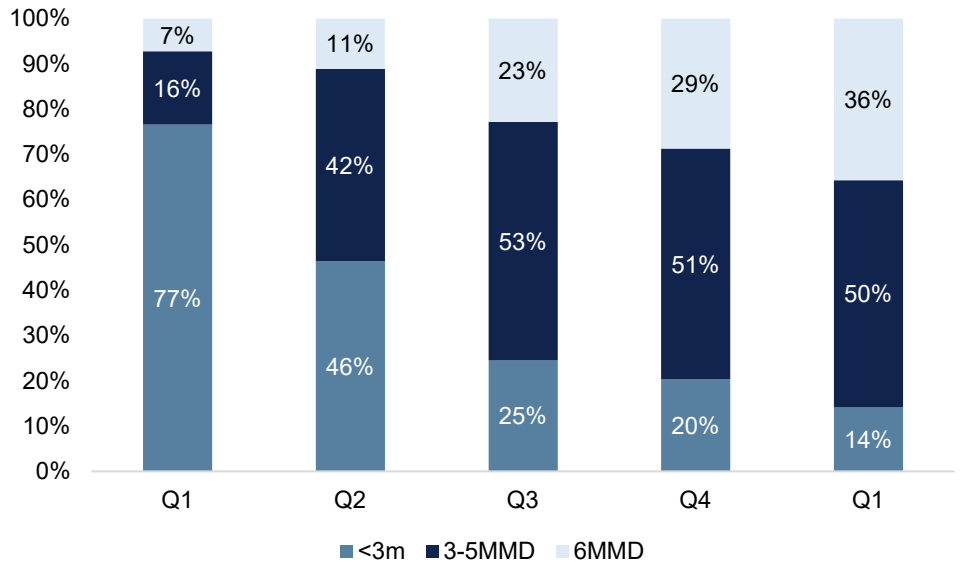
Activity	Description	Timeline					Technical Assistance
		Oct-Dec 2019 (baseline)	Jan-Mar 2020	Apr-Jun 2020	Jul-Sep 2020	Oct-Dec 2020 (endline)	
		Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20	Q1 FY21	
Weekly and monthly **data analysis and review**	Sites and age groups were prioritized for site visit and mentoring activities, by using a color-coded approach against set standards on VL and MMD			X	X	X	**EpiC**
Sites visit to assess the progress on the following viral load (VL) and MMD indicators	▪ Proportion of C&ALHIV currently on treatment who had a documented VL test result among those who were eligible to receive such test	X	X	X	X	X	**SIDHAS**
	▪ Proportion of C&ALHIV currently on treatment who were virally suppressed among those who had a documented VL test result	X	X	X	X	X	
	▪ Proportion of C&ALHIV currently on treatment who were on 3 to 5 and on 6 months MMD among those who were eligible to receive such service	X	X	X	X	X	
Mentoring to the health care providers in person and remotely (via phone, WhatsApp and other virtual platforms)	▪ How to calculate and monitor the VL and MMD indicators		X	X	X	X	**SIDHAS**
	▪ How to identify the C&ALHIV eligible for VL test and for MMD		X	X	X	X	
	▪ Strategies to rapidly contact the C&ALHIV eligible for VL test and/or MMD; collect the VL specimen; transition into MMD. It refers to reaching the C&ALHIV through the treatment supporter, the peers or caregivers' network, phone calls and home visits; and the collection of VL specimen within the community where the C&ALHIV lives.		X	X	X	X	

Activity	Description	Timeline					Technical Assistance
		Oct-Dec 2019 (baseline)	Jan-Mar 2020	Apr-Jun 2020	Jul-Sep 2020	Oct-Dec 2020 (endline)	
		Q1 FY20	Q2 FY20	Q3 FY20	Q4 FY20	Q1 FY21	
	▪ Counseling messages about MMD to C&ALHIV and their caregivers. Messages included: weight monitoring, drug storage, adverse drug monitoring and adherence to medication.		X	X	X	X	
Regular line listing of C&ALHIV eligible to receive VL testing and MMD at each site	Development of a list of C&ALHIV using the electronic medical records to identify those eligible for VL testing and MMD	X	X	X	X	X	**SIDHAS**
Roll out of the **Pediatric Regimen Calculator**	An android application calculating of the weight of children and informing professional health care providers on the right regimen	X	X	X	X	X	**SIDHAS**
Provision of **Optimized Pediatric Regimen**	▪ Monthly stock monitoring of pediatric ART	X	X	X	X	X	**SIDHAS**
	▪ Accurate reporting of the ART usage and stock and timely ordering of the necessary supply based on MMD projections	X	X	X	X	X	
	▪ Medications' redistribution across facilities if any shortage	X	X	X	X	X	
	▪ Provision of the following optimized ART regimens: Weight <20kg: ABC/3TC/LPV/r; weight 20-30kg: ABC/3TC/DTG; weight >30kg: Tenofovir/3TC/DTG	X	X	X	X	X	
Provision of **Community ART Distribution**	Distribution of the ART refill within the community at the C&ALHIV and caregivers' preferred venue; typically, closer to the CALHIV and caregivers' residence compared to the health facility of registration	X	X	X	X	X	**SIDHAS**
Provision of **Pediatric and Caregivers Groups**	Peer-led community or facility-based groups whereby C&ALHIV and their caregivers meet to receive regular ART counseling and refills	X	X	X	X	X	**SIDHAS**

RESULTS

Figure 1 shows quarter on quarter progress in scale up of MMD from Q1 of FY20, baseline to Q1 of FY21 (end-line). Over the implementation period, the proportion of C&ALHIV receiving MMD increased from 23% to 86%, exceeding the 85% PEPFAR global benchmark. As of December 2020, half of the C&ALHIV were receiving 3 to 5 MMD, while a third were receiving 6 MMD. Scale up of 6 MMD was limited by stock availability.

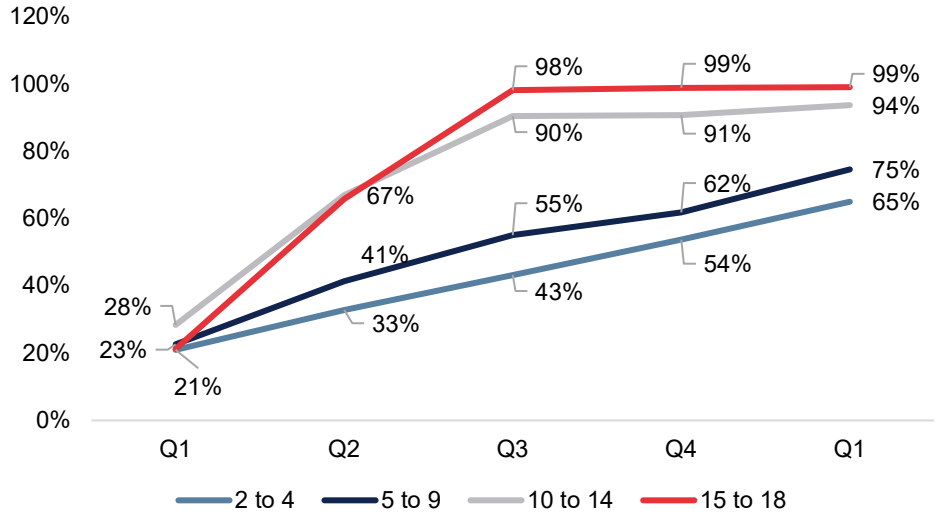
Figure 1: Proportion of C&ALHIV ages 2-18 years receiving MMD among those currently on ART at 36 SIDHAS-supported sites, by quarter, FY20-21



Age group	C&ALHIV currently on ART				
	Q1 FY20 (Baseline) (Oct-Dec 2019)	Q2 FY20 (Jan-Mar 2020)	Q3 FY20 (Apr-Jun 2020)	Q4 FY20 (Jul-Sep 2020)	Q1 FY21 (End line) (Oct-Dec 2020)
2 to 18	2,647	3,722	3,915	4,318	4,423

When disaggregated by age group, in Q1 FY20, about quarter to a third of the C&ALHIV in each age group were receiving MMD; in Q2 FY20, 99% of adolescents (ages 15-18 years), 94% of 10 to 14 year old, 75% of 5 to 9 year old, and 65% of 2 to 4 year old were on MMD (Figure 2).

Figure 2: Proportion of C&ALHIV on MMD among those currently on ART at 36 SIDHAS-supported sites, by age group and quarter, FY20-21



Age groups	C&ALHIV currently on ART				
	Q1 FY20 (Baseline) (Oct-Dec 2019)	Q2 FY20 (Jan-Mar 2020)	Q3 FY20 (Apr-Jun 2020)	Q4 FY20 (Jul-Sep 2020)	Q1 FY21 (End line) (Oct-Dec 2020)
2 to 4	391	539	560	622	651
5 to 9	787	1,009	1,034	1,079	1,070
10 to 14	726	895	929	1,016	1,059
15 to 18	659	1,150	1,257	1,449	1,521

Scale up of MMD by State

Table 2 shows the proportion of C&ALHIV on MMD by state with results color-coded to show age groups where more efforts are needed: red <70%; yellow 70-94% and green >94% of C&ALHIV on MMD. When comparing baseline to end-line, in Cross River state, the proportion of C&ALHIV on MMD increased from 22% in Q1 of FY20 to 90% in Q1 of FY21 while the increase in Akwa Ibom state was from 24% to 85% over the same time-period.

Table 2. Proportion of CALHIV on MMD at 36 SIDHAS-supported sites by state, Q1 FY20 versus Q1 FY21

State	#sites	Q1 FY20 (Oct-Dec 2019) baseline							Q1 FY21 (Oct-Dec 2020) endline						
		C&ALHIV currently on ART	MMD						C&ALHIV currently on ART	MMD					
			0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
Cross River	14	**744**	24%	24%	22%	22%	24%	22%	**1,086**	79%	76%	87%	94%	98%	90%
Akwa Ibom	22	**1,903**	14%	20%	23%	32%	20%	24%	**3,337**	61%	61%	70%	93%	99%	85%
Total	**36**	**2,647**	**17%**	**21%**	**23%**	**28%**	**21%**	**23%**	**4,423**	**66%**	**65%**	**75%**	**94%**	**99%**	**86%**

Scale up of MMD by Site

We applied the same performance matrix for the proportion of C&ALHIV on MMD at site level (red <70%; yellow 70-94% and green >94% of C&ALHIV on MMD). When comparing the baseline in Q1 of FY20 to the end-line in Q1 of FY21, the proportion of sites scoring red, reduced from 100% to 30%. (Table 3). From Q2 of FY20 onwards, highest volume sites reporting the lowest proportion of C&ALHIV on MMD were prioritized for more frequent site visits and mentoring.

Table 3. Proportion of C&ALHIV on MMD by site, Q1 FY20 versus Q1 FY21

#	State	Local Government Authority	Site	Q1 FY20 (Oct-Dec 2019) baseline							Q1 FY21(Oct-Dec 2021) endline						
				C&ALHIV currently on ART	MMD						C&ALHIV currently on ART	MMD					
					0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
1	CROSS RIVER	Akpabuyo	cr Akpabuyo St. Joseph Hospital	**40**	-	33%	69%	63%	70%	63%	**83**	83%	100%	100%	100%	100%	99%
2		Biase	cr Akpet Central CH	**22**	100%	100%	33%	25%	25%	41%	**25**	100%	43%	80%	100%	67%	72%
3		Calabar Municipality	cr Calabar GH	**161**	0%	19%	10%	25%	24%	19%	**187**	67%	90%	94%	92%	100%	94%
4		Calabar South	cr Dr Lawrence Henshaw MH	**85**	-	0%	7%	11%	19%	12%	**106**	100%	100%	94%	100%	100%	98%
5		Ugep	cr Eja MH	**21**	-	0%	13%	0%	0%	5%	**24**	-	75%	63%	50%	100%	71%
6		Calabar South	cr Ekpo Abasi PHC	**23**	0%	14%	0%	0%	0%	4%	**35**	100%	75%	63%	71%	100%	80%
7		Ikom	cr Holy Family Catholic Hospital	**86**	100%	33%	23%	19%	64%	29%	**130**	83%	100%	100%	100%	100%	99%
8		Bakassi	cr Ikang PHC	**32**	29%	25%	33%	33%	13%	25%	**48**	100%	33%	45%	100%	100%	67%
9		Odukpani	cr Ikot Effiong Otop HC (UCTH Annex)	**14**	-	50%	0%	0%	50%	21%	**46**	67%	60%	82%	100%	100%	83%
10		Akamkpa	cr Mfamosing PHC	**4**	-	-	-	0%	33%	25%	**30**	-	87%	88%	100%	100%	90%
11		Akamkpa	cr Mma Efa PHC	**6**	0%	0%	-	-	0%	0%	**42**	-	100%	100%	100%	100%	100%
12		Boki	cr Okundi HC	**22**	-	67%	100%	0%	0%	41%	**52**	-	50%	88%	96%	100%	90%
13		Yakurr	cr Ugep GH	**79**	0%	13%	11%	23%	0%	15%	**98**	-	56%	83%	100%	100%	92%
14		Calabar Municipality	cr University of Calabar TC	**149**	0%	28%	24%	26%	12%	21%	**180**	100%	71%	77%	86%	91%	83%
15	AKWA IBOM	Nsit Ibom	ak Afaha Effiong OP Base Model PHC	**75**	0%	0%	0%	0%	7%	3%	**122**	75%	81%	79%	75%	100%	88%
16		Ikot Abasi	ak Base Ikot Abasi PHC	**36**	33%	44%	44%	60%	10%	36%	**102**	100%	87%	95%	100%	100%	97%
17		Etinan	ak Ekpene Obom QIC RH	**19**	-	100%	75%	40%	25%	58%	**22**	100%	100%	100%	100%	100%	100%

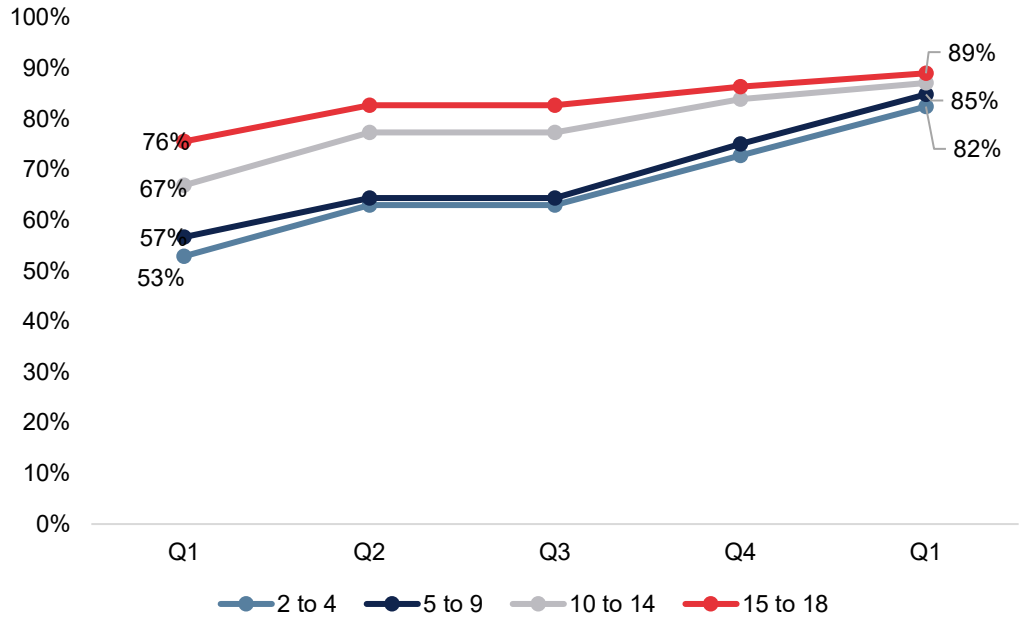
#	State	Local Government Authority	Site	Q1 FY20 (Oct-Dec 2019) baseline							Q1 FY21(Oct-Dec 2021) endline						
				C&ALHIV currently on ART	MMD						C&ALHIV currently on ART	MMD					
					0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
18		Mbo	ak Enwang PHC	**156**	67%	33%	58%	45%	27%	43%	**387**	92%	96%	95%	98%	100%	98%
19		Etinan	ak Etinan GH	**80**	-	25%	18%	39%	19%	25%	**147**	0%	25%	32%	80%	100%	67%
20		Beno	ak Ibeno CH	**55**	0%	13%	0%	10%	0%	4%	**126**	25%	52%	58%	87%	100%	79%
21		Ikot Abasi	ak Ikot Abasi GH	**36**	0%	20%	33%	40%	33%	31%	**45**	100%	100%	100%	100%	100%	100%
22		Ukanafun	ak Ikot Akpa Ntuk PHC	**16**	0%	0%	0%	50%	25%	13%	**72**	100%	85%	88%	100%	100%	92%
23		Eket	ak Ikot Ebak Poly Clinic	**55**	0%	9%	0%	20%	18%	9%	**159**	64%	67%	76%	90%	98%	86%
24		Oruk	ak Ikot Okoro GH	**41**	0%	20%	0%	14%	0%	7%	**171**	0%	6%	50%	95%	99%	69%
25		Eket	ak Immanuel GH	**120**	75%	50%	13%	31%	36%	31%	**158**	50%	63%	73%	96%	96%	82%
26		Uruan	ak Ituk Mbang Methodist GH	**95**	11%	11%	26%	40%	15%	19%	**218**	100%	68%	40%	92%	100%	80%
27		Besikpo Asutan	ak Nung Udoe Model PHC	**-**	-	-	-	-	-	-	**2**	-	0%	-	-	100%	50%
28		Okobo	ak Okobo GH	**58**	0%	10%	6%	36%	46%	22%	**64**	0%	29%	26%	92%	100%	53%
29		Okobo	ak Okopedi PHC	**351**	0%	6%	8%	4%	3%	4%	**496**	83%	61%	81%	100%	100%	95%
30		Onna	ak Onna HC	**26**		10%	44%	50%	0%	31%	**101**	67%	48%	74%	94%	100%	80%
31		Oron	ak Oron GH (Iquita)	**133**	0%	28%	35%	28%	35%	31%	**181**	100%	100%	100%	100%	100%	100%
32		Oron	ak Oron Operational Base PHC	**80**	0%	23%	25%	38%	31%	26%	**130**	67%	67%	81%	100%	100%	85%
33		Urue Offong/Oruko	ak Oruko GH	**15**		25%	33%	50%	0%	27%	**78**	0%	30%	55%	93%	100%	74%
34		Uyo	ak St. Luke's Hospital Anua	**144**		27%	18%	38%	39%	30%	**151**	100%	100%	100%	100%	100%	100%
35		Uyo	ak University TH	**197**	0%	31%	39%	57%	69%	52%	**205**	33%	67%	85%	85%	91%	84%
36		Uyo	ak Uyo Base PHC	**115**	0%	4%	9%	36%	16%	12%	**200**	13%	0%	2%	72%	100%	45%
Total				**2,647**	**17%**	**21%**	**23%**	**28%**	**21%**	**23%**	**4,423**	**66%**	**65%**	**75%**	**94%**	**99%**	**86%**

PHC: Primary Health Center; HC: Health Center; GH: General Hospital; CH: Cottage Hospital; TH: Teaching Hospital; MH: Memorial Hospital; RH: Rehabilitation Hospital

Viral suppression among C&ALHIV

Figure 3 shows proportion of C&ALHIV who were virally suppressed during the implementation period. Overall, the proportion of children who were virally suppressed increased from 64% in Q1 of FY20 to 86% in Q1 of FY21. The increase in the proportion of C&ALHIV virally suppressed was observed across all age groups but was highest among children aged 2 to 4 years (from 52% in Q1 FY20 to 82% in Q1 of FY 21) and lowest among adolescents (76% in Q1 of FY20 to 89% in Q1 of FY21).

Figure 3: Proportion of C&ALHIV at 36 SIDHAS-supported sites who are virally suppressed among those with a viral load test result within the past 12 months, by age group and quarter, FY20-21



Age groups	C&ALHIV with a documented viral load test within the past 12 months				
	Q1 FY20 (Baseline) (Oct-Dec 2019)	Q2 FY20 (Jan-Mar 2020)	Q3 FY20 (Apr-Jun 2020)	Q4 FY20 (Jul-Sep 2020)	Q1 FY21 (End line) (Oct-Dec 2020)
2 to 4	242	297	316	342	439
5 to 9	584	716	702	730	878
10 to 14	565	677	675	716	908
15 to 18	438	677	775	919	1,167

Viral suppression among C&ALHIV by State

There were state level differences in the proportion of C&ALHIV who were virally suppressed. Table 4 shows the proportion of C&ALHIV who were virally suppressed among those with a documented viral load test within the past 12 months, by state. Results were color-coded with red indicating <70%; yellow 70-94%; and green refers to >94% of C&ALHIV virally suppressed. Although the proportion of virally suppressed C&ALHIV increased in both states, more effort is needed especially among the younger age groups.

Table 4. Proportion of virally suppressed C&ALHIV at 36 SIDHAS-supported sites among those with a viral load test result within the past 12 months, by state, Q1 FY20 versus Q1 FY21

State	#sites	Q1 FY20 (Oct-Dec 2019) (Baseline)							Q1 FY21 (Oct-Dec 2020) (End line)						
		C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months						C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months					
			0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
Cross River	14	460	80%	64%	68%	67%	76%	69%	775	60%	76%	83%	84%	88%	83%
Akwa Ibom	22	1,399	60%	50%	53%	67%	76%	62%	2,666	80%	84%	86%	88%	89%	87%
Total	**36**	**1,859**	**63%**	**53%**	**57%**	**67%**	**76%**	**64%**	**3,441**	**78%**	**82%**	**85%**	**87%**	**89%**	**86%**

Viral suppression among C&ALHIV by Site

We applied the same performance matrix for viral suppression rates at site level (red <70%; yellow 70-94% and green >94% of C&ALHIV). When comparing the baseline in Q1 of FY20 to the end-line in Q1 of FY21, the proportion of sites scoring red, reduced from 79% to 5% (Table 5). From Q2 of FY20 onwards, highest volume sites reporting the lowest proportion of C&ALHIV virally suppressed were prioritized for more frequent site visits and mentoring.

Table 5: Proportion of C&ALHIV virally suppressed among those with a viral load test result within the past 12 months by site, Q1 FY20 versus Q1 FY21

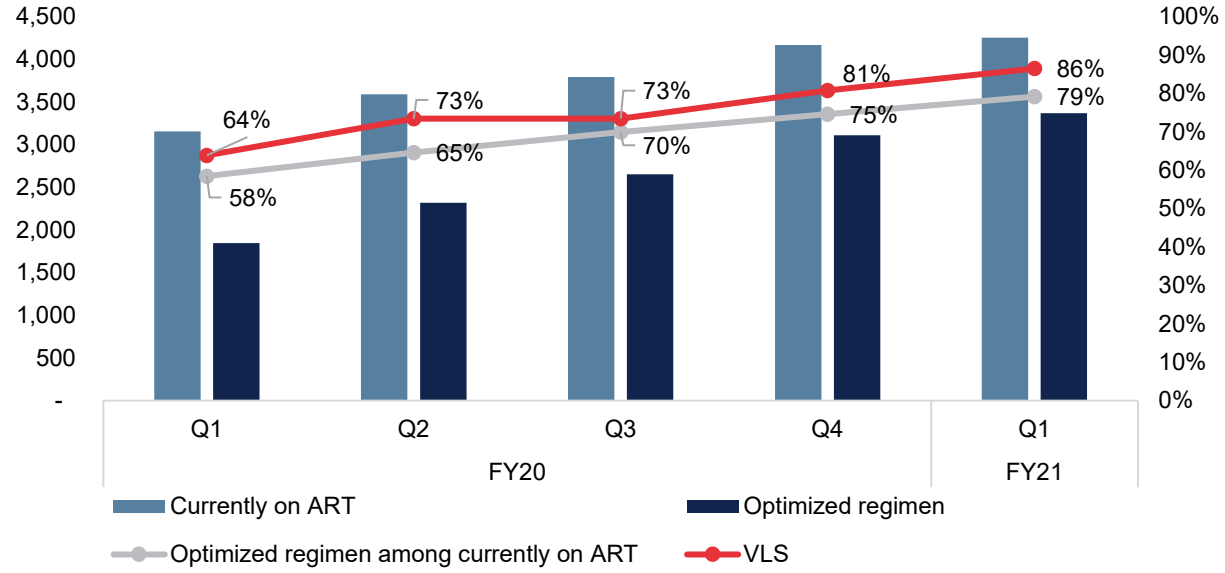
#	State	Local Government Authority	Site	Q1 FY20 (Oct-Dec 2019) (Baseline)							Q1 FY21 (Oct-Dec 2020) (End line)						
				C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months						C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months					
					0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
1	CROSS RIVER	Akpabuyo	cr Akpabuyo St. Joseph Hospital	18	-	50%	50%	40%	67%	50%	51	0%	89%	92%	87%	93%	88%
2		Biase	cr Akpet Central CH	5	-	-	100%	50%	0%	60%	19	-	83%	33%	67%	75%	68%
3		Calabar Municipality	cr Calabar GH	98	-	67%	89%	74%	75%	78%	126	0%	89%	87%	95%	92%	90%
4		Calabar South	cr Dr Lawrence Henshaw MH	66	-	50%	86%	74%	86%	80%	90	-	0%	85%	85%	97%	87%
5		Ugep	cr Eja MH	16	-	33%	83%	67%	100%	75%	21	-	50%	100%	100%	100%	90%
6		Calabar South	cr Ekpo Abasi PHC	5	50%	100%	100%	-	-	80%	25	-	43%	67%	83%	67%	64%
7		Ikom	cr Holy Family Catholic Hospital	64	-	0%	52%	55%	89%	58%	101	100%	43%	70%	73%	87%	73%
8		Bakassi	cr Ikang PHC	9	-	0%	67%	67%	100%	67%	34	100%	100%	100%	67%	100%	97%
9		Odukpani	cr Ikot Effiong Otop HC (UCTH Annex)	2	-	-	0%	100%	-	50%	18	100%	100%	71%	50%	75%	72%
10		Akamkpa	cr Mfamosing PHC	-	-	-	-	-	-	-	8	-	80%	100%	100%	-	88%
11		Akamkpa	cr Mma Efa PHC	3	100%	-	-	-	50%	67%	20	-	67%	50%	67%	89%	75%
12		Boki	cr Okundi HC	4	-	0%	-	100%	0%	50%	39	-	100%	92%	91%	67%	90%
13		Yakurr	cr Ugep GH	59	-	50%	65%	64%	60%	63%	79	-	71%	79%	85%	75%	81%
14		Calabar Municipality	cr University of Calabar TC	111	100%	84%	46%	71%	69%	68%	144	-	87%	84%	82%	84%	84%
15	AKWA IBOM	Nsit Ibom	ak Afaha Effiong OP Base Model PHC	58	50%	58%	35%	25%	78%	57%	88	67%	79%	73%	67%	83%	77%

#	State	Local Government Authority	Site	Q1 FY20 (Oct-Dec 2019) (Baseline)							Q1 FY21 (Oct-Dec 2020) (End line)						
				C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months						C&ALHIV with a documented viral load test result within the past 12 months	C&ALHIV virally suppressed within the past 12 months					
					0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18		0 to 1	2 to 4	5 to 9	10 to 14	15 to 18	total ≤18
16		Ikot Abasi	ak Base Ikot Abasi PHC	25	100%	60%	57%	80%	86%	72%	69	100%	100%	100%	90%	97%	97%
17		Etinan	ak Ekpene Obom QIC RH	15	-	0%	67%	40%	33%	47%	18	-	100%	100%	80%	75%	89%
18		Mbo	ak Enwang PHC	85	100%	71%	47%	67%	69%	60%	289	75%	94%	93%	88%	91%	91%
19		Etinan	ak Etinan GH	66	-	67%	33%	84%	71%	59%	119	50%	78%	82%	79%	70%	76%
20		Beno	ak Ibeno CH	29	75%	33%	63%	71%	86%	69%	98	-	72%	85%	94%	93%	88%
21		Ikot Abasi	ak Ikot Abasi GH	28	-	14%	38%	67%	75%	46%	40	100%	88%	100%	100%	100%	98%
22		Ukanafun	ak Ikot Akpa Ntuk PHC	11	-	0%	0%	50%	100%	45%	50	100%	89%	75%	88%	82%	84%
23		Eket	ak Ikot Ebak Poly Clinic	43	-	22%	33%	75%	88%	49%	139	100%	90%	93%	96%	100%	96%
24		Oruk	ak Ikot Okoro GH	25	-	50%	8%	0%	100%	28%	128	100%	96%	86%	93%	93%	92%
25		Eket	ak Immanuel GH	98	100%	43%	37%	52%	55%	47%	142	100%	90%	90%	89%	88%	89%
26		Uruan	ak Ituk Mbang Methodist GH	65	50%	36%	53%	56%	57%	51%	99	100%	69%	63%	67%	85%	74%
27		Besikpo Asutan	ak Nung Udoe Model PHC	-	-	-	-	-	-	-	1	-	-	-	-	100%	100%
28		Okobo	ak Okobo GH	47	0%	57%	29%	50%	91%	51%	53	100%	86%	94%	100%	100%	94%
29		Okobo	ak Okopedi PHC	192	100%	47%	71%	74%	76%	72%	446	100%	80%	94%	97%	93%	93%
30		Onna	ak Onna HC	22	-	71%	75%	67%	0%	68%	92	50%	95%	100%	81%	93%	92%
31		Oron	ak Oron GH (Iquita)	107	100%	67%	64%	64%	84%	68%	164	60%	95%	93%	94%	88%	91%
32		Oron	ak Oron Operational Base PHC	65	50%	39%	59%	50%	67%	52%	113	100%	67%	85%	87%	90%	83%
33		Urue Offong/Oruko	ak Oruko GH	10	-	50%	20%	0%	100%	30%	48	-	75%	77%	90%	90%	85%
34		Uyo	ak St. Luke's Hospital Anua	126	-	64%	55%	71%	68%	64%	129	0%	88%	67%	84%	65%	75%
35		Uyo	ak University TH	186	100%	92%	79%	73%	90%	80%	182	100%	82%	90%	84%	85%	86%
36		Uyo	ak Uyo Base PHC	96	50%	32%	67%	83%	80%	64%	159	33%	68%	70%	84%	70%	71%
Total				**1,859**	**63%**	**53%**	**57%**	**67%**	**76%**	**64%**	**3441**	**78%**	**82%**	**85%**	**87%**	**89%**	**86%**

PHC: Primary Health Center; HC: Health Center; GH: General Hospital; CH: Cottage Hospital; TH: Teaching Hospital; MH: Memorial Hospital; RH: Rehabilitation Hospital

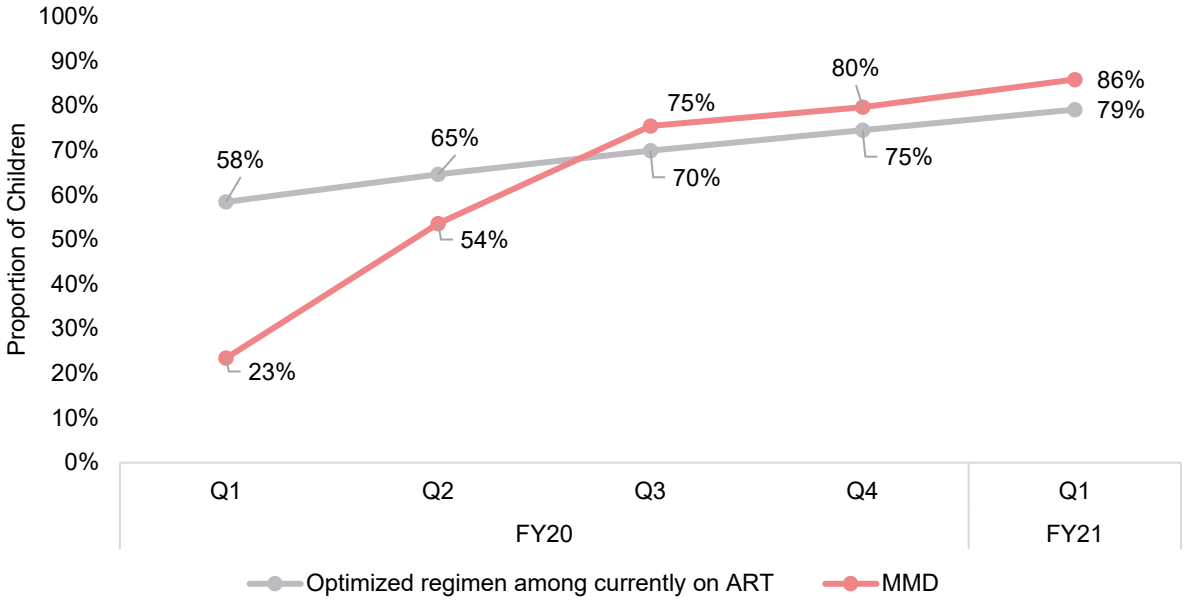
When comparing the trends over time, both viral load suppression and transition to optimized pediatric regimens, progressively increased at similar rate (Figure 4) suggesting a temporal if not causal relationship.

Figure 4: Proportion of C&ALHIV ages 2-18 years currently on ART who are on optimized pediatric regimen and those who are virally suppressed at 36 SIDHAS-supported sites by quarter, FY20-21



Among the interventions, the team also rolled out the use of an android application for the calculation of the pediatric dosage, which contributed to increase the proportion of C&ALHIV on optimized regimens[2] and also facilitated scale up of MMD. (Figure 5).

Figure 5: Proportion of C&ALHIV ages 2-18 years currently on ART who are on optimized pediatric regimen and those who are on MMD at 36 SIDHAS-supported sites by quarter, FY20-21



[2] Refers to antiretroviral medications that meet efficacy, safety, tolerability benchmarks. In line with WHO 2018 recommendations, optimized pediatric regimens recommend the use of abacavir and lamivudine (ABC/3TC) and either dolutegravir (DTG) or as an alternative, lopinavir/ritonavir (LPV/r) as first line in infants and children <20 kg; ABC/3TC and DTG50 mg in children 20-≤30 kg; and the fixed-dose combination of tenofovir, lamivudine and dolutegravir (TLD) in adolescents ≥30 kg or more.

Table 6 below shows the stock and consumption status of different pediatric regimens. In Q1 of FY 21 all non-optimized regimes were no longer in stock.

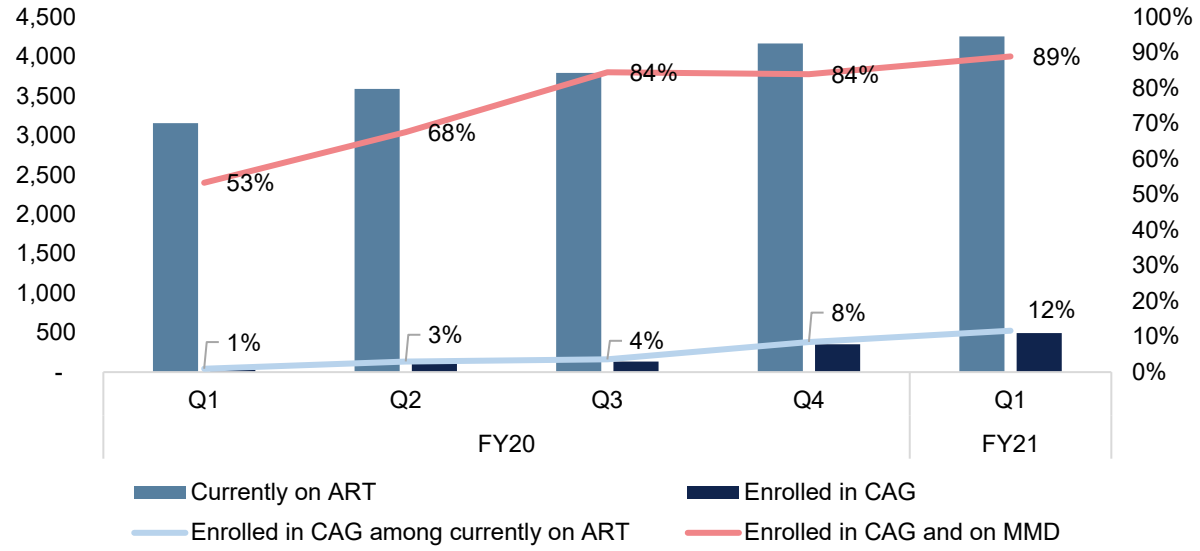
Table 6: Months of stock by pediatric ARV medication at 36 SIDHAS-supported sites, Q1 FY20 versus Q1 FY21

S/N	ARV medication	Q1 FY20			Q1 FY21		
		Stock on Hand	Average Monthly Consumption	Months of Stock	Stock on Hand	Average Monthly Consumption	Months of Stock
1	DTG 50mg	155	450	0.3	825	354	2.3
2	ABC|3TC 120mg|60mg	593	1,405	0.4	4,134	1,287	3.2
3	LPV|r 100mg|25mg	197	117	1.7	1,099	427	2.6
4	LPV|r 40mg|10mg	196	145	1.4	516	153	3.4
5	AZT|3TC 60mg|30mg	126	25	5.0	0	0	0.0
6	EFV 200mg	73	32	2.3	0	0	0.0
7	AZT|3TC|NVP 60mg|30mg|50mg	2,814	377	7.5	0	0	0.0

Other interventions to optimize outcomes for C&ALHIV

Among the various interventions rolled out under this initiative to scale up MMD, C&ALHIV were enrolled in community ART groups (CAGs) and other differentiated service delivery models and such platforms were used to offer MMD. Even though a relatively small proportion of C&ALHIV currently on ART were enrolled in CAGs (12%), most of those enrolled on CAGs were on MMD (89%), as of December 2020 (Q1 FY21) (Figure 6); showing that CAGs represented a platform for the MMD roll out but was not a key contributing factor to the MMD scale up.

Figure 6: Proportion of C&ALHIV ages 2-18 years currently on ART who enrolled in CAG and those who are enrolled in CAG and on MMD at 36 SIDHAS-supported sites by quarter, FY20-21



LESSONS LEARNED

- Intensified technical assistance has been instrumental to ensure health care providers understand the relevance and usefulness of a granular data-driven approach and use the indicators to guide their actions.
- Regularly line listing C&ALHIV for VL testing and MMD transition was key to identify the eligible clients and track progress.
- The use of technology (e.g., virtual platforms for remote mentoring; android application for the calculation of the pediatric dosage) represented an opportunity to increase the pace of MMD scale up and transition to optimized regimens and correct dosing schedules.
- The regular stock monitoring and availability of the right pediatric ART regimens facilitated the transition to MMD.
- Enrollment in community-based ART groups and refills brought the services closer to the C&ALHIV and their caregivers and represented feasible platforms for the MMD role out.
- COVID-19 represented a contributing factor to the MMD scale up, as eligibility criteria expanded following the pandemic.

CONCLUSIONS

MMD is feasible among children and adolescents living with HIV and together with other interventions such as community distribution and pediatric ART groups and innovative technologies such as the pediatric regimen application, contributed to increasing the proportion of C&ALHIV who were virally suppressed.

The collaboration between the EpiC and SIDHAS projects 1) significantly increased the percentage of C&ALHIV on MMD across all age groups; and 2) contributed to increased viral suppression in children of all age groups and adolescents.