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The use of delivery tracking system

to ensure efficiency and accountability in the implementation of seasonal malaria chemoprevention (SMC) in the PMI supported regions of Cameroon

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Agenda

- Context
- Methodology
 - Distribution plan and developing itineraries
 - Excel-based delivery tracking tool (delivery schedules, monitoring deliveries, and mode of transportation)
- Results
- Conclusions
 - Lessons learned



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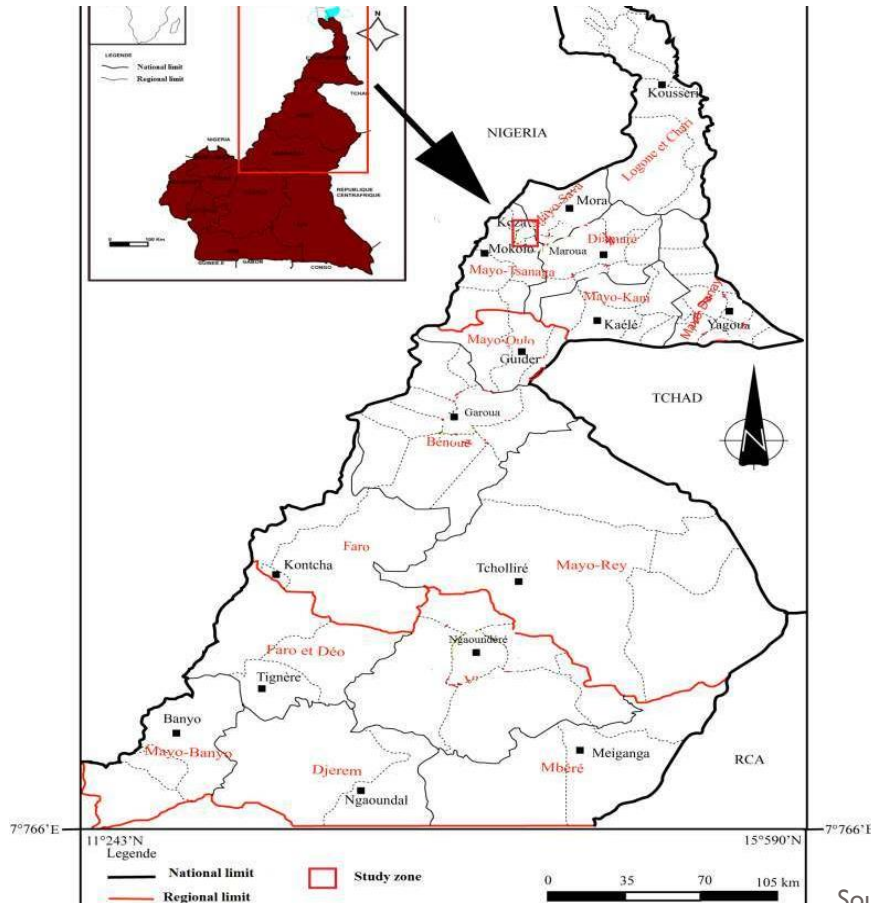
Context

Demography in Far North and North regions

- Population: 7.2 million
- Infant mortality: 103% (highest in Cameroon)
- 0-59 Months: 1.6 million (a third experience malaria)

Socio-economic

- Poorest regions in the country
- Heavily enclaved, with 74% living below the poverty line
- Economy limited to cattle rearing, agriculture, and small trading
- Literacy rate: 26%



Source: Populations cibles de Santé 2018 – WHO, UNICEF Annual Report 2017, Cameroon



Challenges surrounding last mile delivery in the northern regions of Cameroon

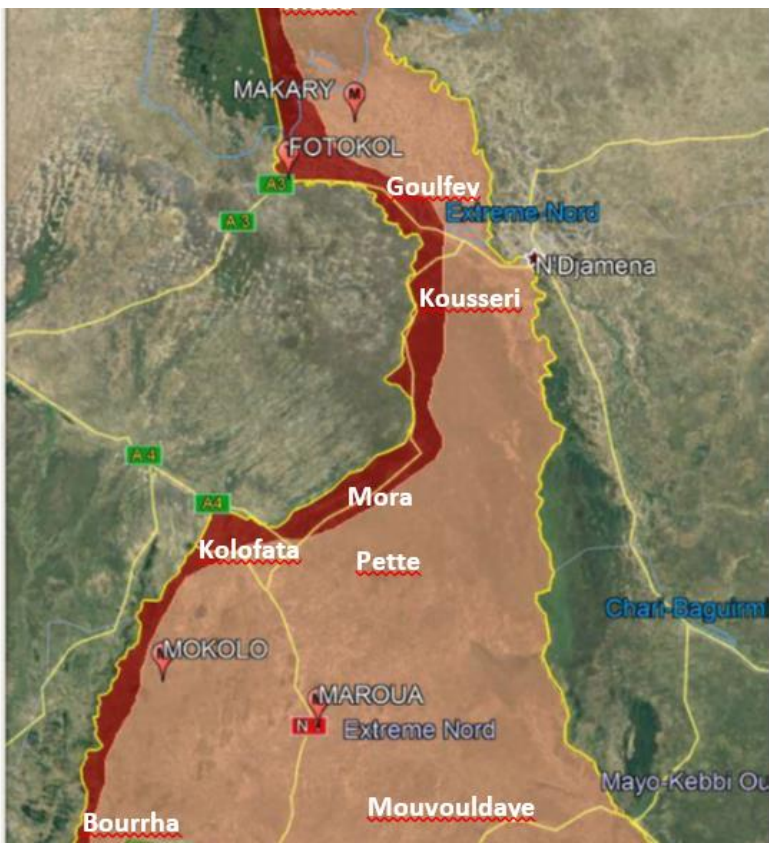
- **No monitoring system in place:** Commodities leaving central and regional tiers are minimally monitored
- **Poor documentation:** Most service delivery points (SDPs) do not confirm receipt (<30% documentation)
- **Insecurity and poor terrain:** Commodities have often failed to reach their destination
- **Ambitious target:** For the 2018 SMC campaign, commodities were going to be delivered to all SDPs in ten days



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Security concerns, poor road network and flooding negatively impact distributions

Districts inaccessible due to Boko Haram



UNDSS Cameroon

Districts inaccessible due to poor infrastructure

District	Distance from Maroua (km ²)	Population at risk
Bourrha	114	76,945
Goulfey	276	101,416
Guere	150	122,053
Kolofata	82	123,518
Kousseri	224	372,386
Mada	297	152,592
Makary	320	208,835
Mora	60	262,785
Mouvoudaye	71	144,596
Pette	58	58,195
Total POP		1,623,321



SMC to prevent malaria for children and strategies to ensure delivery to last mile

Malaria Prevention

- SMC campaigns have proven effective in reducing the malaria burden for children aged 3 to 59 months
- 2018 SMC campaign had 4 cycles between July and October

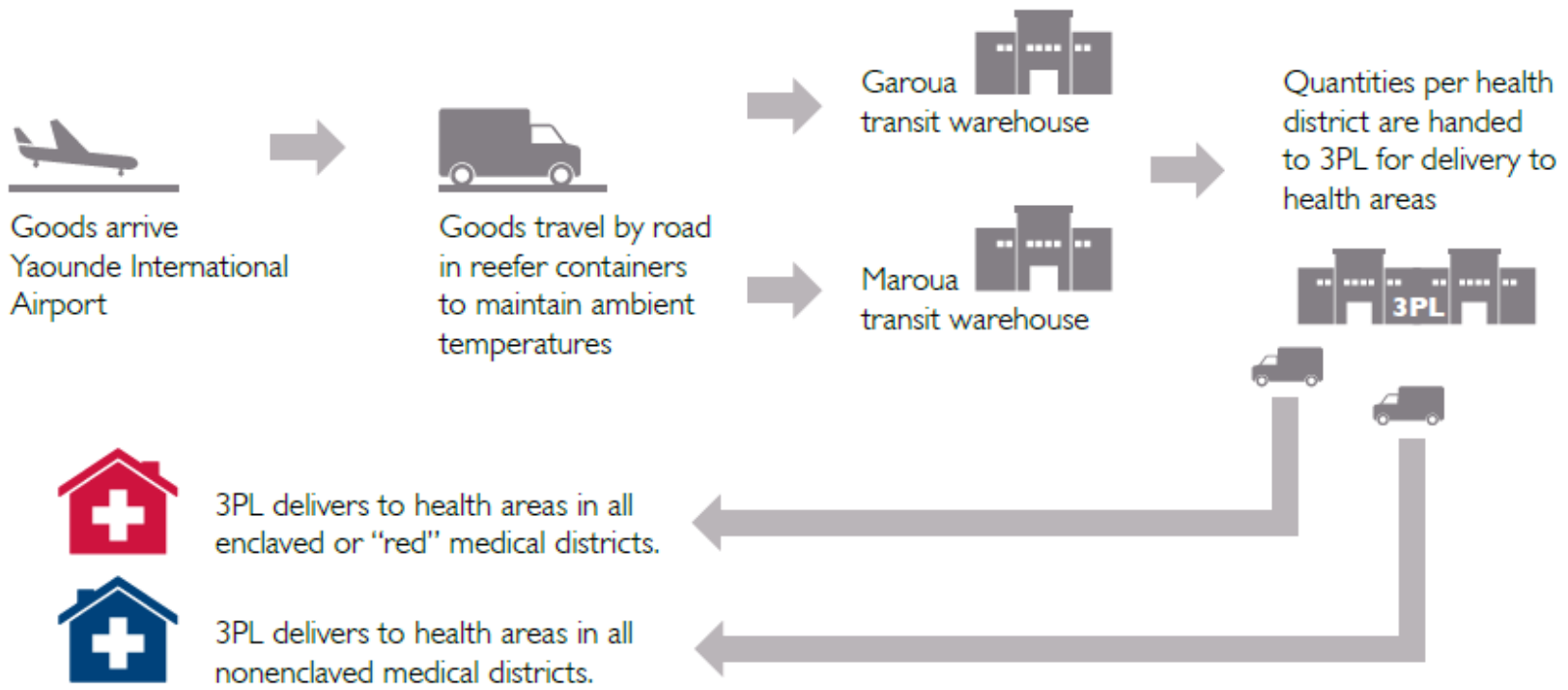
Ensure last mile delivery

- Introduced new delivery tracking system to monitor commodity deliveries at the last mile
- Coupled with various means of transportation



An efficient and accountable supply chain contributes to a successful SMC campaign

Distribution Cycle





Method –Strategy to guarantee deliveries

Liaised w/ Nat. Malaria Control Program (NMCP) on procurement & transport

Identified hard-to-reach districts and developed a detailed distribution plan

Developed an innovative excel-based delivery tracking tool to monitor status

Worked with 3PL to design itineraries and appropriate transportation for all 487 SDPs

Repackaged & labeled commodities; developed schedules for max 10-day delivery

3PL relayed delivery info and transportation means to GHSC-PSM to update the delivery status for analysis

Government/project task force reviewed delivery status, transportation means & took corrective action



Excel tool – description of delivery status

Status	Description
Pending	New shipments added that are pending to track, or new shipments without tracking information available yet.
Info received	Carrier has received request from shipper and is about to pick up the shipment.
Out for delivery	Carrier is ready to pick up.
In transit	Carrier has picked up shipment from shipper. The shipment is on the way.
Delivered	The shipment was delivered successfully.
Received	The delivery notification has returned to GHSC-PSM warehouse and is entered in the system.
Failed attempt	Carrier attempted to deliver but failed, and usually leaves a notice and will try to deliver again.
Exception	Undelivered, returned shipment to sender, or any shipping exceptions.



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Innovative strategy – Excel tracking tool

2018 SMC Campaign in North and Far North deliveries_final - Excel

Glenn Gemuh Muffih

File Home Insert Draw Page Layout Formulas Data Review View E-Maps AB Data Tell me what you want to do

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AC3 Received

	A	B	C	D	E	I	M	Y	Z	AA	AB	AC	AD
	Districts	Itinerary	Aires de sante	Contact person	Telephone number	Total in Blisters	Total in Blisters	Planned Delivery date	Actual Delivery date	Estimated transportation time	Means of transportation	Delivery Status	Observations
42	GUERE	Axe 2	Buffer Stock to stay at the district	Dr MONTHE LOUIS ROGER	699710080	1100	5050	29-Jun-18	4-Jul-18		Motorcycle	Received	
43	GUERE	Axe 2	BANGANA	Mr MATNA BADEKREO ALE	696 45 56 44	4200	19200	29-Jun-18	4-Jul-18		Motorcycle	Received	
44	GUERE	Axe 2	DJOUGOUMTA	Mr MATNA BADEKREO ALE	696 45 56 44	2000	11800	29-Jun-18	4-Jul-18		Motorcycle	Received	
45	GUERE	Axe 2	DOMPYA	Mr MATNA BADEKREO ALE	696 45 56 44	2000	9400	29-Jun-18	4-Jul-18		Motorcycle	Received	
46	GUERE	Axe 2	GOBO	Mr MATNA BADEKREO ALE	696 45 56 44	4400	22400	29-Jun-18	4-Jul-18		Motorcycle	Received	
47	GUERE	Axe 2	GUIBI	Mr MATNA BADEKREO ALE	696 45 56 44	3000	14800	29-Jun-18	4-Jul-18		Motorcycle	Received	
48	GUERE	Axe 2	NOULDAINA	Mr MATNA BADEKREO ALE	696 45 56 44	5200	19400	29-Jun-18	5-Jul-18		Motorcycle	Received	Received 60 packs for SPAQ 2
49	GUERE	Axe 2	POLGUE	Mr MATNA BADEKREO ALE	696 45 56 44	1000	4600	29-Jun-18	4-Jul-18		Motorcycle	Received	
50	GUERE		GUERE Total			22900	106650						
51	GUIDIGUIS	Axe 2	Buffer Stock to stay at the district	Dr DANAH	691740280	1500	3400	29-Jun-18	29-Jun-18		Car	Received	30 packs less of SPAQ 1, 300 Pplus blisters c
52	GUIDIGUIS	Axe 2	BARLANG	AWOULAWAR NESTOR	699065645	1600	3500	29-Jun-18	5-Jul-18		Motorcycle	Received	
53	GUIDIGUIS	Axe 2	BIZILI	AWOULAWAR NESTOR	699065645	3000	5800	29-Jun-18	5-Jul-18		Motorcycle	Received	
54	GUIDIGUIS	Axe 2	DONGROSSE	AWOULAWAR NESTOR	699065645	800	2200	29-Jun-18	5-Jul-18		Motorcycle	Received	
55	GUIDIGUIS	Axe 2	DOUBANE	AWOULAWAR NESTOR	699065645	3000	5500	29-Jun-18	5-Jul-18		Motorcycle	Received	Less than 1 pack SPAQ 1
56	GUIDIGUIS	Axe 2	DZIGUILAO_1	AWOULAWAR NESTOR	699065645	1200	2400	29-Jun-18	5-Jul-18		Motorcycle	Received	
57	GUIDIGUIS	Axe 2	DZIGUILAO_2	AWOULAWAR NESTOR	699065645	1800	4500	29-Jun-18	5-Jul-18		Motorcycle	Received	
58	GUIDIGUIS	Axe 2	GOLONGHINI	AWOULAWAR NESTOR	699065645	1400	3700	29-Jun-18	5-Jul-18		Motorcycle	Received	
59	GUIDIGUIS	Axe 2	GOUNDAYE	AWOULAWAR NESTOR	699065645	2000	9200	29-Jun-18	5-Jul-18		Motorcycle	Received	
60	GUIDIGUIS	Axe 2	GUEGO	AWOULAWAR NESTOR	699065645	1200	3100	29-Jun-18	29-Jun-18		Motorcycle	Received	
61	GUIDIGUIS	Axe 2	GUEREME	AWOULAWAR NESTOR	699065645	3000	4500	29-Jun-18	29-Jun-18		Motorcycle	Received	
62	GUIDIGUIS	Axe 2	GUIDIGUIS	AWOULAWAR NESTOR	699065645	3000	6400	29-Jun-18	29-Jun-18		Car	Received	
63	GUIDIGUIS	Axe 2	KABLA	AWOULAWAR NESTOR	699065645	1200	2700	29-Jun-18	5-Jul-18		Motorcycle	Received	1 pack of SPAQ 1 extra
64	GUIDIGUIS	Axe 2	KOFIDE	AWOULAWAR NESTOR	699065645	1800	4100	29-Jun-18	29-Jun-18		Motorcycle	Received	
65	GUIDIGUIS	Axe 2	KOURBI	AWOULAWAR NESTOR	699065645	1400	3300	29-Jun-18	29-Jun-18		Motorcycle	Received	
66	GUIDIGUIS	Axe 2	TOULOU	AWOULAWAR NESTOR	699065645	3000	6900	29-Jun-18			Car	Received	
67	GUIDIGUIS		GUIDIGUIS Total			30900	71200						

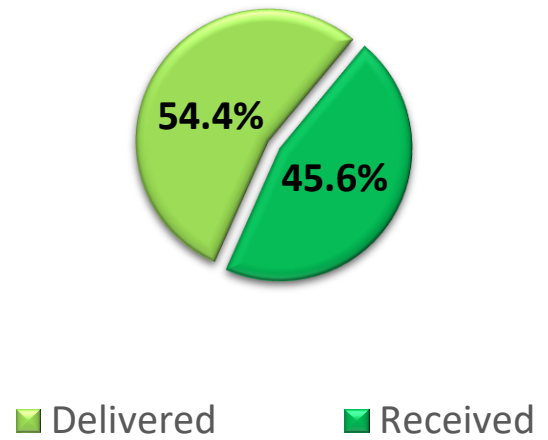
Distribution Plan Extreme North | Distribution Plan North | Delivery status description | Summar ...



An example of delivery and transport means summary for cycle 3 of the SMC

Transportation means	Far North	
	# deliveries	% deliveries
Canoe	2	0.6%
Car	108	32.7%
Motorcycle	179	54.2%
On foot	0	0.0%
Tricycle	19	5.8%
Wheelbarrow	0	0.0%
Total	308	93%

Delivery status on 04 Sept 2018
North Region





Results

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- Confirmed last-mile delivery and documentation in all 487 SDPs
- Commodities for 1.6 million children were prepositioned prior to the onset of the rainy season
- 5.3 million full therapeutic courses were successfully delivered at the SDPs within 10 days
- Deliveries in 51 SDPs were either readjusted or rescheduled
- Improved distribution over the 2017 SMC campaign, which delivered commodities only to 45 health districts



Photo by Alemnkia Agendia/GHSC-PSM



Conclusions

- Delivery tracking systems are essential to ensure that commodities are delivered on-time and in-full
- This intervention was a low-cost solution (in the Northern regions of Cameroon, the cost of communication is comparatively affordable – less than 0.25 cents a day)
- This intervention can be used as a blueprint for establishing an electronic tracking system for commodity distributions



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- Communities
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