



Feasibility of large scale Mass Drug Administration for malaria in Angumu Health zone, DRC

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Mass Drug Administration for Malaria

‘Administration of a full therapeutic course of antimalarial medicine (irrespective of the presence of symptoms or infection) to a defined population living in a defined geographical area at approximately the same time and often repeated at intervals.’

WHO recommends MDA in complex emergency settings.

Context: Angumu, Ituri, DRC

- Since 2017, conflict in Ituri caused ++ displacement of population
- Ongoing influx of displaced to Angumu Health Zone
 - 30,000 IDPs (2018) / 68,000 IDPs (2020)
- CMR and U5MR above emergency thresholds (2018 and 2020)
 - Main cause of mortality: malaria



Malaria in Angumu & MSF response

Access to Testing & Treatment:

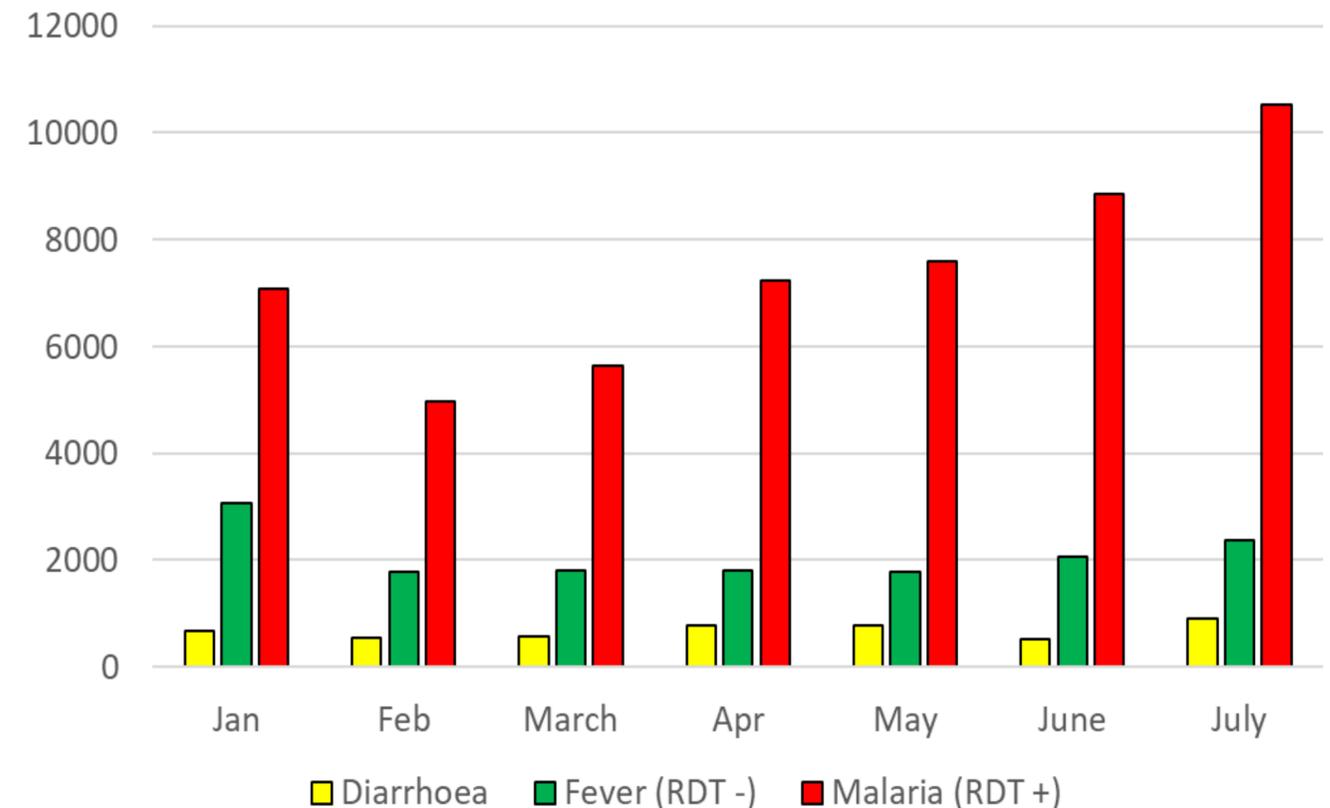
- Community level, primary & secondary level care
- Referral system between the levels of care

Vector control:

- LLIN distributions

Health Promotion

Illnesses treated in children under 5 by MSF Supported CHWs in IDP camps, Angumu Health Zone, Ituri, DRC, 2020



Indication of MDA in Angumu health zone

- **Mobile population**
- **Vector control & access to diagnostics and treatment** challenging
- **Overwhelmed** health structures (risk of COVID-19 transmission)
- **High malaria mortality**
- **Year round malaria**
- **Trend of excess rains**

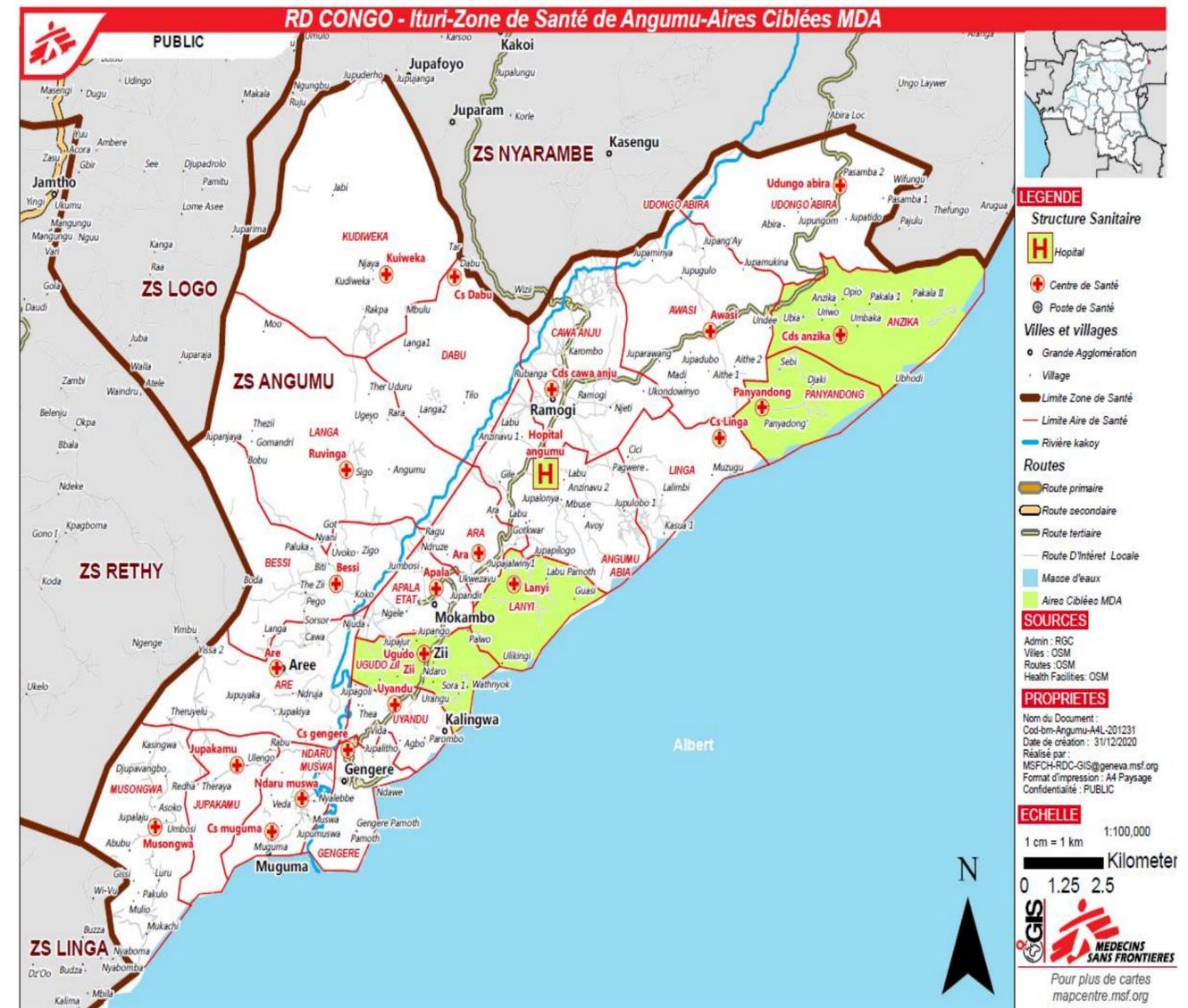
Methods: MDA Planning

Target population:

- 4 Health Areas with highest incidence of malaria (villages and IDP camps)
- Whole population
- Target population of 53,000 people/round

Exclusion criteria:

- 1st trimester, < 2 months, severe malaria, jaundiced and very sick patients, allergies, recently treated for malaria



Methods: MDA Planning

Round 1&2:

ASAQ: 1st line treatment, known drug,
available, 0.76€ per treatment

Round 3:

Pyramax: Most recently validated ACT,
3.36€ per treatment

Timing:

Oct/Nov/Dec 2020



Methods: Implementation Strategy

- Collaboration with authorities
- COVID: masks, no-touch, hand-washing
- CHW, door to door
- 350 teams of 2 people!
- 1st dose DOTS
- 20 min per household
- Sensitization before, during and after
- Referral system for severe patients and patients with severe side-effects



Methods: Monitoring and Evaluation

Pharmacovigilance (CHWs, Nurses, Teachers)

Routine surveillance data: malaria morbidity data health structures and community activities



Methods: Retrospective mortality, morbidity and MDA-coverage survey

- Cross-sectional population-based retrospective mortality survey stratified by villages/IDP sites and MDA/non-MDA locations.
- Villages: two-stage cluster sampling methodology
- IDP sites: surveyed with systematic random sampling
- Main outcomes:
 - Crude and under-5 mortality (long recall period)
 - Morbidity in the 2 weeks prior to the survey (2 months after end of MDA).
 - MDA coverage
- Ethics approval: MSF ERB and ERB of University of Kisangani.

Coverage: Administrative

Target Population: 53,000

1st round: 74.847 people, 133%

2nd round: 75.487 people, 134%

3rd round: 78.227 people, 139%



Coverage: From Survey

	Round 1		Round 2		Round 3	
	Village	IDP	Village	IDP	Village	IDP
Covered based on documentation	85.8% (82-90)	92.7% (90-95)	86.0% (82-90)	92.9% (91-95)	85.6% (81-90)	93.1% (91-95)
Covered based on oral reporting	6.8% (4-10)	3.7% (2-6)	7.0% (4-10)	3.7% (2-6)	7.2% (4-10)	3.7% (2-6)

Adverse Events Reported

Round	Mild AE	Severe AE
1st (ASAQ)	679	3
2 nd (ASAQ)	425	3
3rd (Pyramax)	220	0

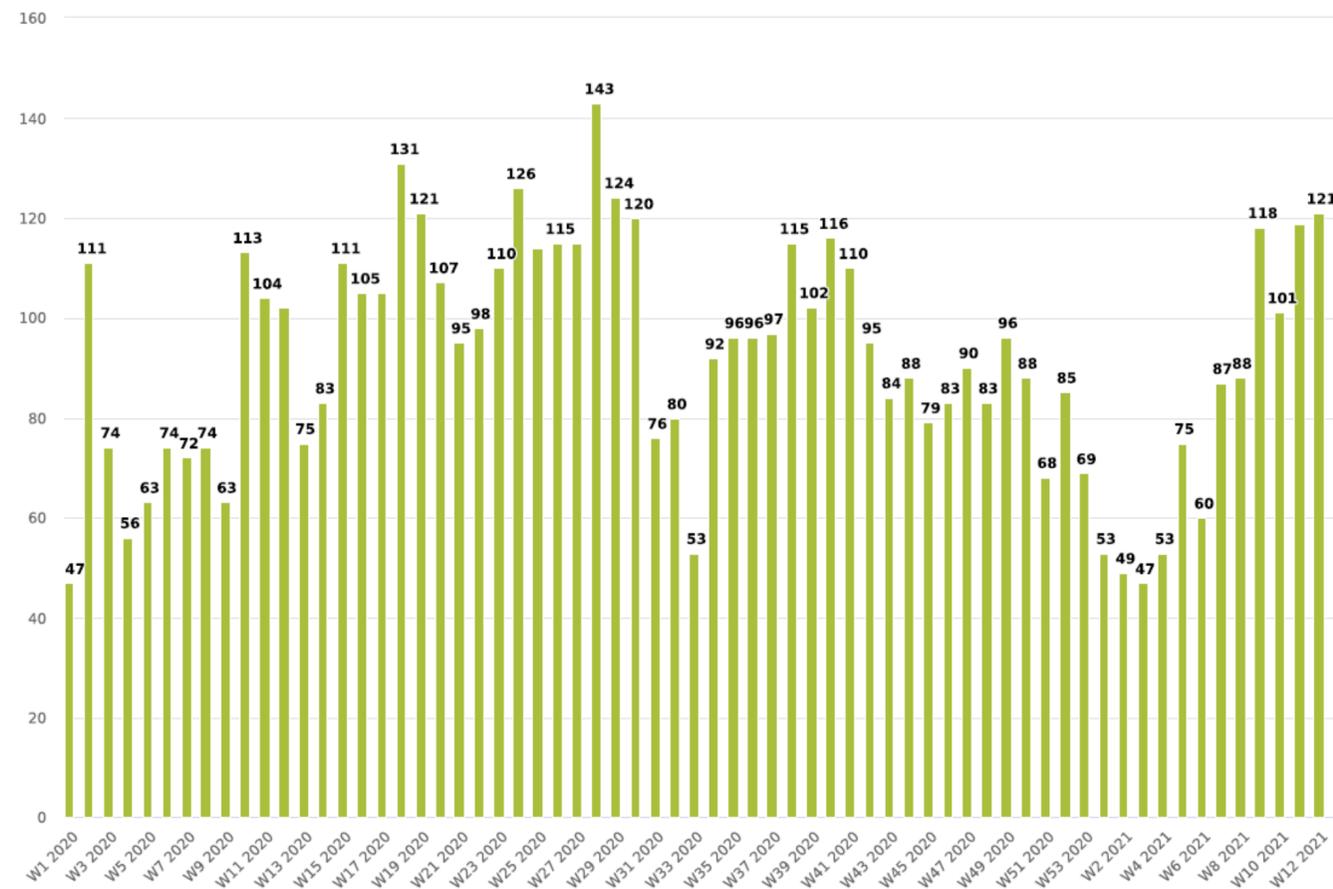
After investigation none of the severe adverse events were associated with the MDA



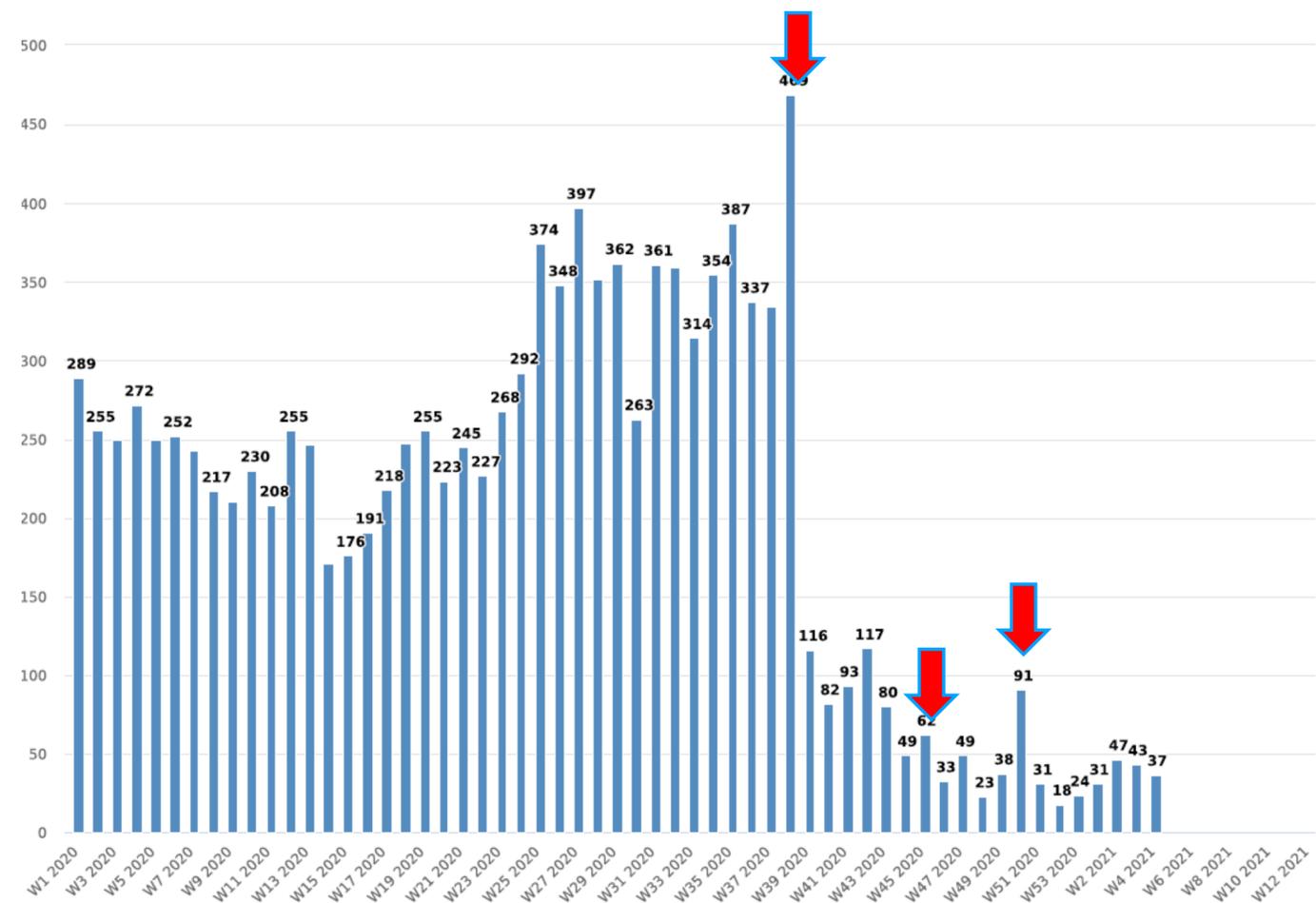
Malaria morbidity: RDT+ cases treated in MSF supported facilities

Jan 2020 – Feb 2021

Ara Health Area – no MDA



Ugudo Health Area - MDA



Retrospective mortality among under 5s in villages and IDPs sites

	Under 5 Mortality / 10000 per / day in IDP camps		Under 5 Mortality / 10000 per / day in Villages	
	MDA	Non-MDA	MDA	Non-MDA
Pre-MDA	2.54 [0.4-4.68]	2.3 [1.19-3.4]	2.06 [1.22-2.9]	2.23 [1.33-3.12]
Post MDA				

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Post MDA	0.57 [0-1.36]	2.0 [1.03-2.98]	0.91 [0.4-1.41]	2.83 [1.77-3.89]

Retrospective morbidity (all and under 5s) in villages and IDPs sites (2 months after last MDA round)

	Reported morbidity in past 15 days		Proportional morbidity - malaria	
	All	Under 5	All	Under 5
Villages				
Non-MDA	54.5% (49-60)	69.9% (65-75)	30.4% (27-33)	43.7% (39-48)
MDA				
IDP sites				
Non-MDA	65.8% (64-68)	75.1% (72-79)	34.8% (33-37)	49.3% (45-54)
MDA				

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	All	Under 5	All	Under 5
Villages				
Non-MDA	54.5% (49-60)	69.9% (65-75)	30.4% (27-33)	43.7% (39-48)
MDA	29.4% (24-35)	47% (41-54)	14.7% (11-18)	21.6% (17-26)
IDP sites				
Non-MDA	65.8% (64-68)	75.1% (72-79)	34.8% (33-37)	49.3% (45-54)
MDA	41.2% (38-45)	55.7% (49-63)	17.8% (15-21)	25% (19-31)

Challenges

- Under-estimation of target population
- Drug supply
- Using a new medication (acceptance by team, authorities, population)
- 75.000 people door to door: massive intervention, difficult supervision.
- > 28 days interval between two rounds.



Conclusion

- Successfully conducted large-scale MDA in COVID times in a high malaria transmission area
- Using 2 different ACTs was feasible and acceptable.
- Population accepted the intervention – high coverage reached
- Safe: only mild adverse events
- **MDA** additional **tool** for malaria control in complex settings, with immediate impact on morbidity, mortality and potential reduction of transmission
- This experience can **facilitate negotiations** with local authorities and accelerate implementation of MDA in similar contexts.

Thanks to everyone who made this possible

