Conflict of Interest

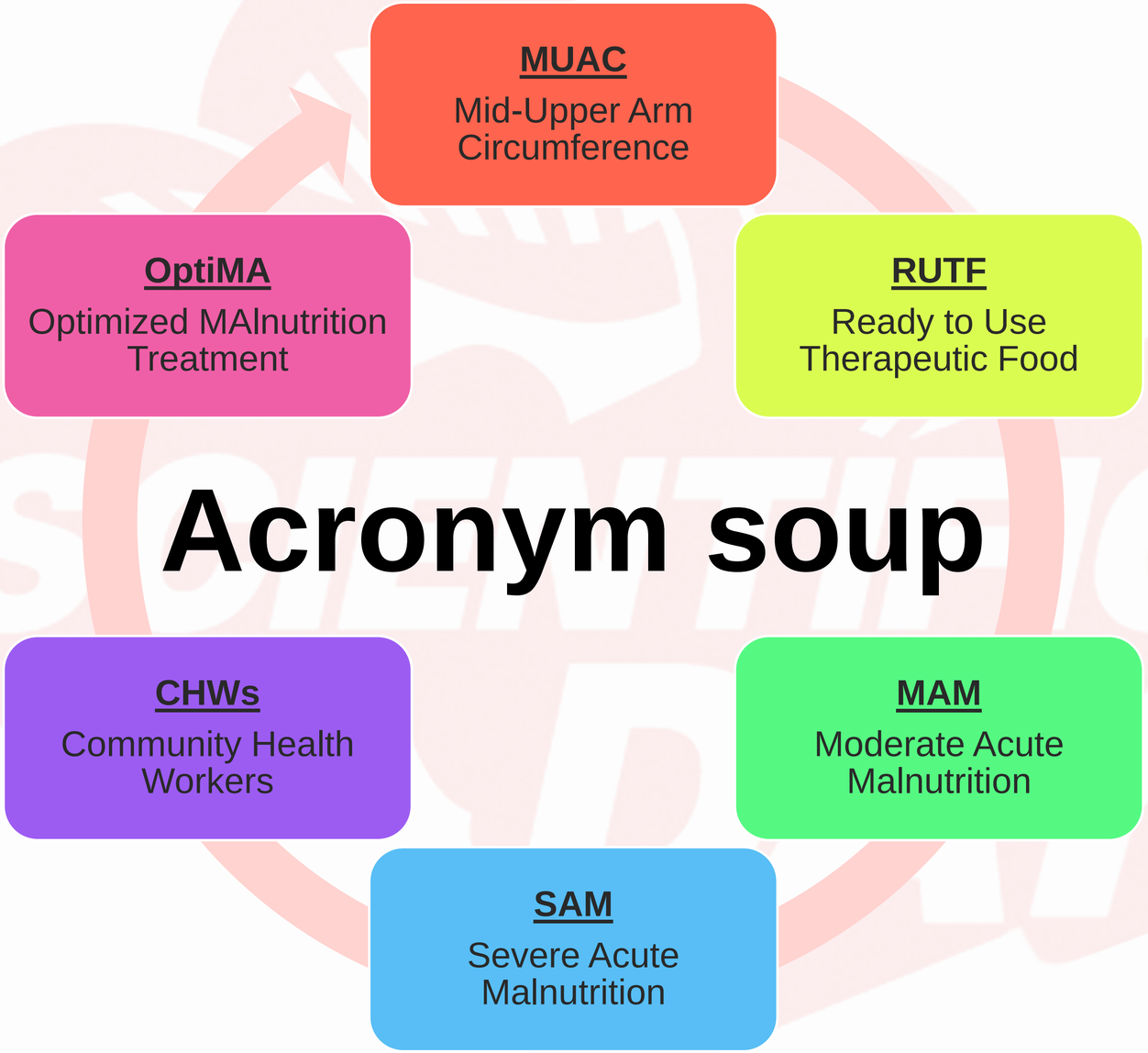
The author has declared no conflict of interest.

Relapse incidence from a new approach to simplifying and optimizing acute malnutrition treatment in children aged 6 to 59 months: a 3 month prospective cohort in Burkina Faso.

Plateforme CORAL – ALIMA / Inserm
Clinical & Operational Research Alliance

Maguy Daures[1], ***Kevin Phelan**[2], Mariama Issoufou[3], Seni Kouanda[4], Ousmane Sawadogo[5], Kader Issaley[6], Cecile Cazes[1], Benjamin Seri[7], Bertine Ouaro[8], Bruno Akpakpo[3], Vincent Mendiboure[6], Susan Shepherd[9], Renaud Becquet[1]

Acronym soup



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Study objective

Estimate relapse rate, and associated factors, of malnourished children who recovered from treatment in the single-arm proof-of-concept trial “**Opti**mizing **MA**lnutrition treatment (OptiMA)” in 2017 in Yako, Burkina Faso.

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OptiMA Strategy

	National protocol		OptiMA		
	SAM	MAM	Acute Malnutrition		
Admission	MUAC <115 mm Or WHZ<-3 Or Œdema	115 ≤ MUAC <125mm Or -3 <WHZ< -2	MUAC <115mm Or Œdema	MUAC 115-119 mm	MUAC120-124mm
Treatment product	RUTF 150-200 Kcal/kg/d	Super cereal plus, 200 g/d or RUSF, one 92g sachet /d	RUTF 175 Kcal/Kg/d	RUTF 125 Kcal/Kg/d	RUTF 75 Kcal/Kg/d
Calculation of dosage	According to weight	Fixed amount	According to MUAC status and weight		

Daures M, Phelan K, Issoufou M, et al. New approach to simplifying and optimising acute malnutrition treatment in children aged 6-59 months: the OptiMA single-arm proof-of-concept trial in Burkina Faso. *Br J Nutr*. 2020;123(7):756–767

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Relapse study Description

Study Design	• Prospective cohort study on randomized sample of health centers in Yako, Burkina Faso Apr-Nov 2017
Population/ Sample Size	• All children who met criteria for recovery under OptiMA • 700+ children in 12/54 randomly selected health centers
Data Collection	• Home visit every 2 weeks for 3 months by a community health worker

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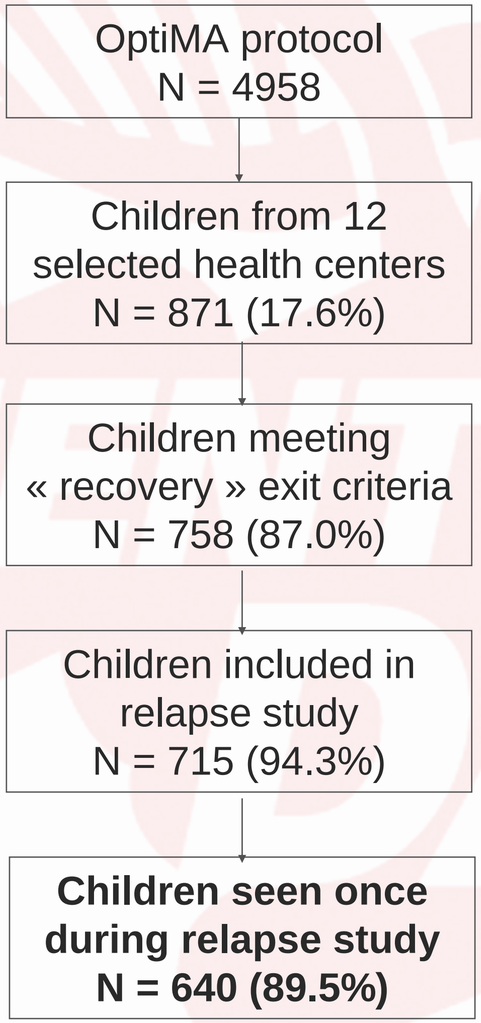
Flow chart

Children admitted in the relapse study, Yako district, Burkina Faso, 2017.



- 43 (5.7%) children not followed in relapse study

- 22 children never seen during home visits
- 53 children with first home visit > 3 months post discharge

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Relapse incidence

	MUAC at relapse	<115 mm		115-124 mm		<125 mm	
		n=3	% [95% CI]	n=41	% [95% CI]	n=44	% [95% CI]
Incidence at 1 month (n=640)		1	0.2 [0.0-0.4]	11	1.7 [0.9-2.7]	12	1.9 [1.1-2.9]
Incidence at 3 month % (n=640)		3	0.5 [0.1-1.0]	41	6.4 [4.7-8.2]	44	6.9 [5.1-8.8]
Incidences by MUAC category at admission	<115 mm (n=82)	1	1.2 [0.0-3.3]	7	8.5 [3.7-14.3]	8	9.8 [4.9-16.3]
	115-119 mm (n=140)	1	0.7 [0.0-1.9]	15	10.7 [6.4-15.9]	16	11.4 [7.1-16.9]
	120-124 mm (n=418)	1	0.2 [0.0-0.6]	19	4.5 [2.9-6.5]	20	4.8 [3.1-6.8]
Incidences by MUAC category at exit	=125 mm (n=75)	1	1.3 [0.0-3.6]	11	14.7 [8.0-22.7]	12	16.0 [9.3-24.6]
	[126-129] mm (n=286)	2	0.7 [0.0-1.4]	24	8.4 [5.6-11.6]	26	8.1 [5.6-11.1]
	>129 mm (n=275)	-	-	6	2.2 [0.8-3.7]	6	2.5 [0.8-4.1]

88.6% (n=39) of relapses detected with a MUAC between 120–124 mm

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Associated Factors for Relapse

Low MUAC at Discharge	compared to children with MUAC>=129mm at discharge : aHR^ =3.49 (95%CI=1.40-8.67) for 126-128mm and aHR=6.39 (95%CI=2.27-17.96) for MUAC=125mm
Hospitalization	• At least one hospitalization: aHR=1.92 (95%CI=0.90-4.11)

^aHR = Adjusted Hazard Ratio

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Conclusions

Relapse Definition	• Comparison not possible because of the lack of a standard definition for relapse (Staubagh, et al)
Relapse Detection	• Current recommendation is home visits by CHWs. Re-training mothers to use MUAC at discharge could be less costly and more feasible at scale
Associated factors	• Is current discharge of MUAC >125 mm too restrictive? Perhaps closer follow-up of children <115 mm MUAC at admission or hospitalized.

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Thank you / Merci !!!

First and foremost to the mothers and children who participated, and to the team in Burkina Faso who carried out the study