

24 February 2022

# Facilitators & Barriers for Differential Uptake of RTS,S Doses 0-4

Preliminary Evidence from Child Caregivers in Ghana,  
Kenya, and Malawi

Jessica Price  
Senior Program Officer  
[jprice@path.org](mailto:jprice@path.org)



# Research Partners

Malawi-Liverpool-Wellcome  
Clinical Research-Programme



**Nicola Desmond –  
MLW, Malawi Study**  
[nicola.desmond@lstmed.ac.uk](mailto:nicola.desmond@lstmed.ac.uk)

Liverpool School of Tropical  
Medicine



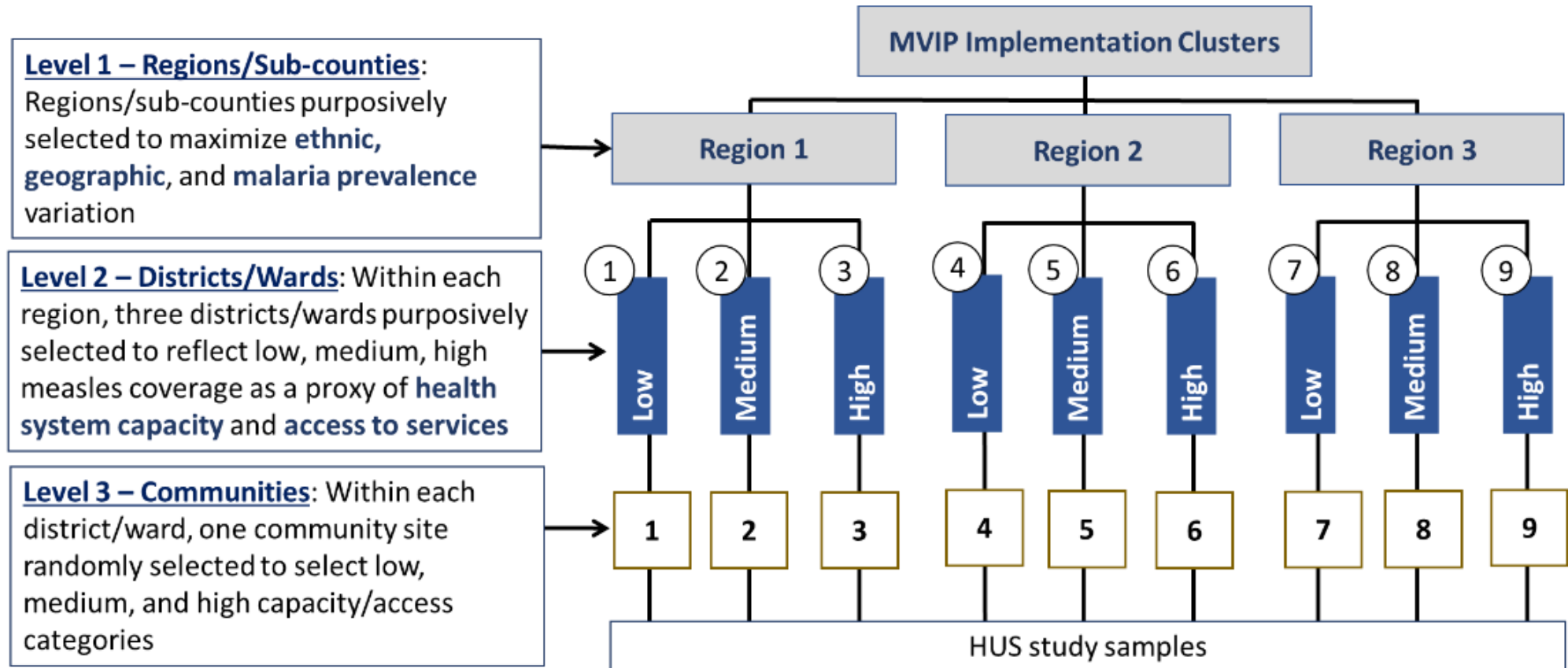
**Jenny Hill –  
LSTM, Kenya Study**  
[enny.hill@lstmed.ac.uk](mailto:enny.hill@lstmed.ac.uk)

University of Health and Allied  
Sciences



**Margaret Gyapong –  
UHAS, Ghana Study**  
[imgyapong@uhas.edu.gh](mailto:imgyapong@uhas.edu.gh)

# Caregivers Were Selected from Nine Communities in Each Country Following a Purposive Sampling Frame



# Three Interviews Were Conducted with a Cohort of Primary Child Caregivers of RTS,S-eligible Children in Communities where RTS,S was Being Provided

**Interviews timed at key points in a 24-month, 4-dose RTS,S delivery schedule**

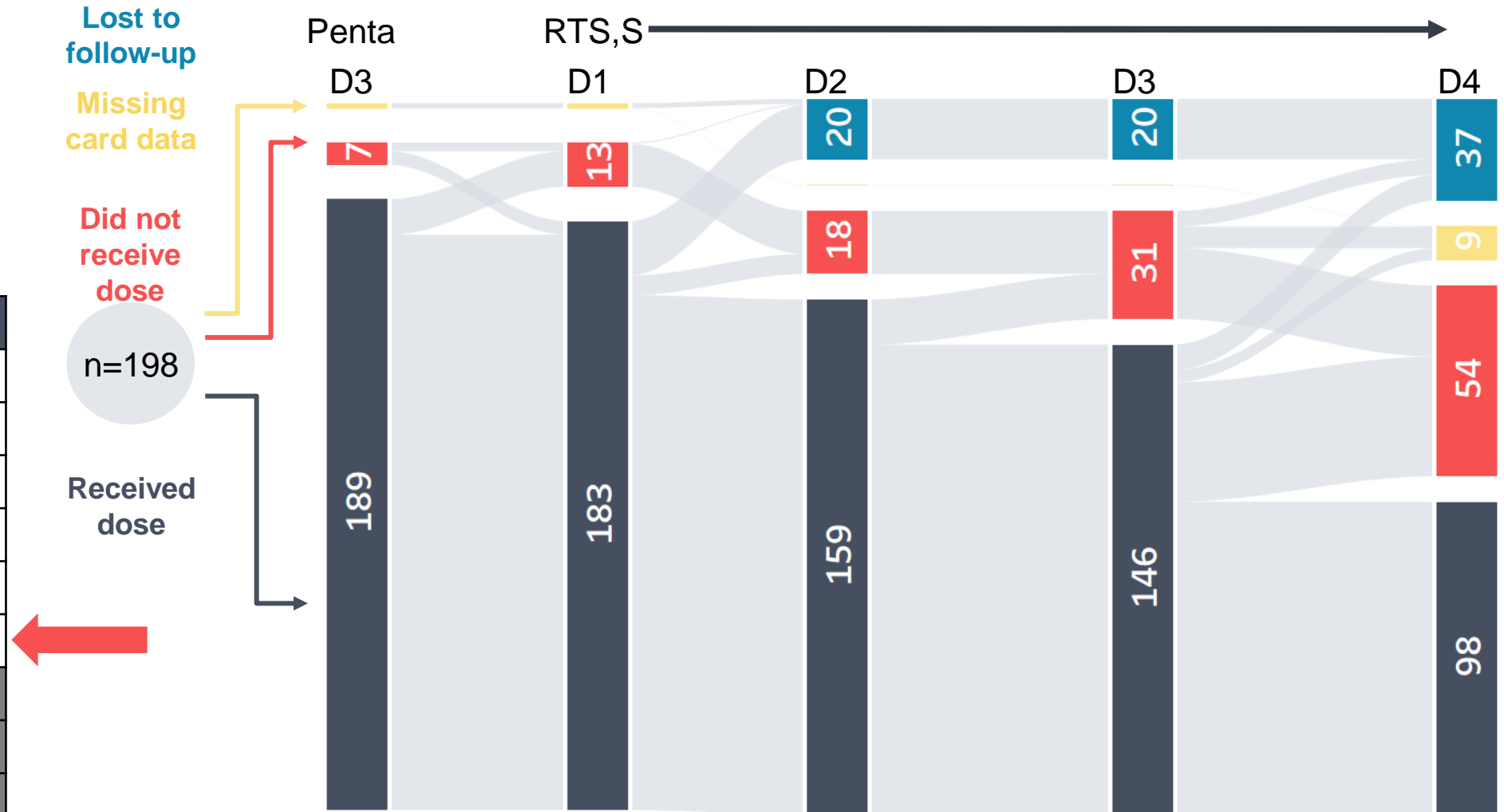
Round 1		Round 2	Round 3
Lead up to initial RTS,S delivery	Soon after dose 1	Mid-way between doses 3 and 4	Soon after dose 4
	Child 5-6 months old	Child ≈17 months old	Child 22-24 months old
Ethnographic immersion, individual interviews, and focus group discussions		Individual interviews and focus group discussion	Individual interviews and focus group discussions

# Why did the child receive 0, 3, or 4 RTS,S doses?

Focus of this presentation

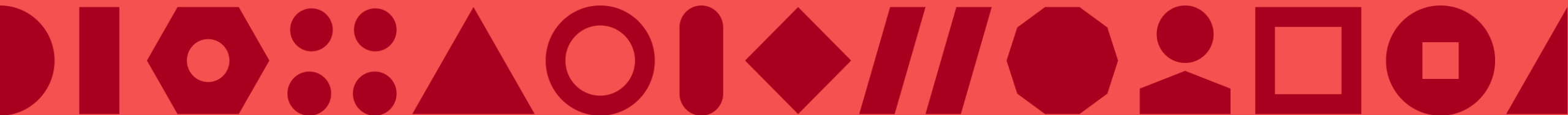
# Number of RTS,S Doses Received

Received	#	%
4 doses	98	64%
3 doses	34	22%
2 doses	8	5%
1 dose	1	1%
0 doses	11	7%
<b>Valid cases</b>	<b>152</b>	<b>100%</b>
LTFU	37	
Missing data	9	
<b>Total cases</b>	<b>198</b>	



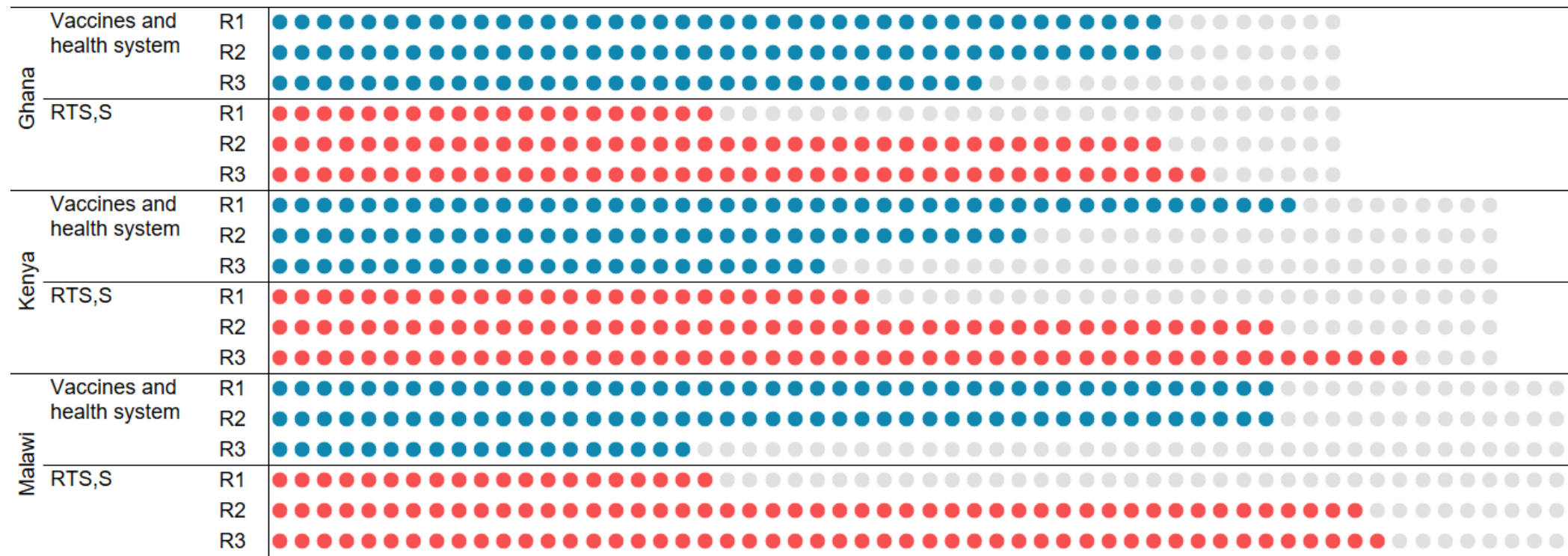
Child received 4 Doses

N = 98/152 (64%)



# Caregivers Relied on Their Trust in the Health System and Vaccines to Overcome Initial Concerns about RTS,S

Dots represent utterances conveying trust in R1, R2, and R3 interviews



*“Initially I had issues with the malaria vaccine but during health talks at weighing, the nurses told us that the malaria vaccine would be helpful to our children, so I was motivated.”* (G\_C1\_003)



# Trust in RTS,S Develops Through Personal Experience of the Benefits and is the Main Driver of Dose Completion

*“I have seen its importance. **The child has not had malaria ever since I completed [RTS,S]. It never used to be so because she used to get sick almost every month.** When I started the first one it started reducing slowly to the second then the third and to the fourth dose. From January she has never been sick.”* (K\_C13\_006)

*“For me, **[RTS,S] was like a savior to me.** My first child had a severe malaria one time and it was only the grace of God that saved her. My second child also had severe malaria when he was about 10 months old. Now that **this vaccine has helped my son to avoid suffering from malaria.** I can only be grateful.”* (G\_C6\_007)

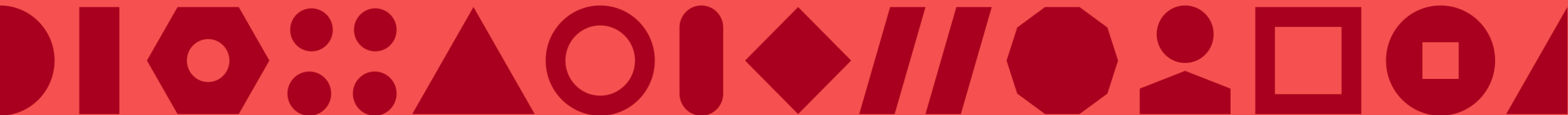
*“**The child who received malaria vaccine is different from those who haven’t received it.** The ones who didn’t receive it were frequently visiting the hospital. A month wouldn’t pass without visiting the hospital while this one who has been vaccinated it’s been a year without visiting the hospital.”* (M\_C22\_022)

# Multiple – Often Overlapping – Issues Explain Missing Doses

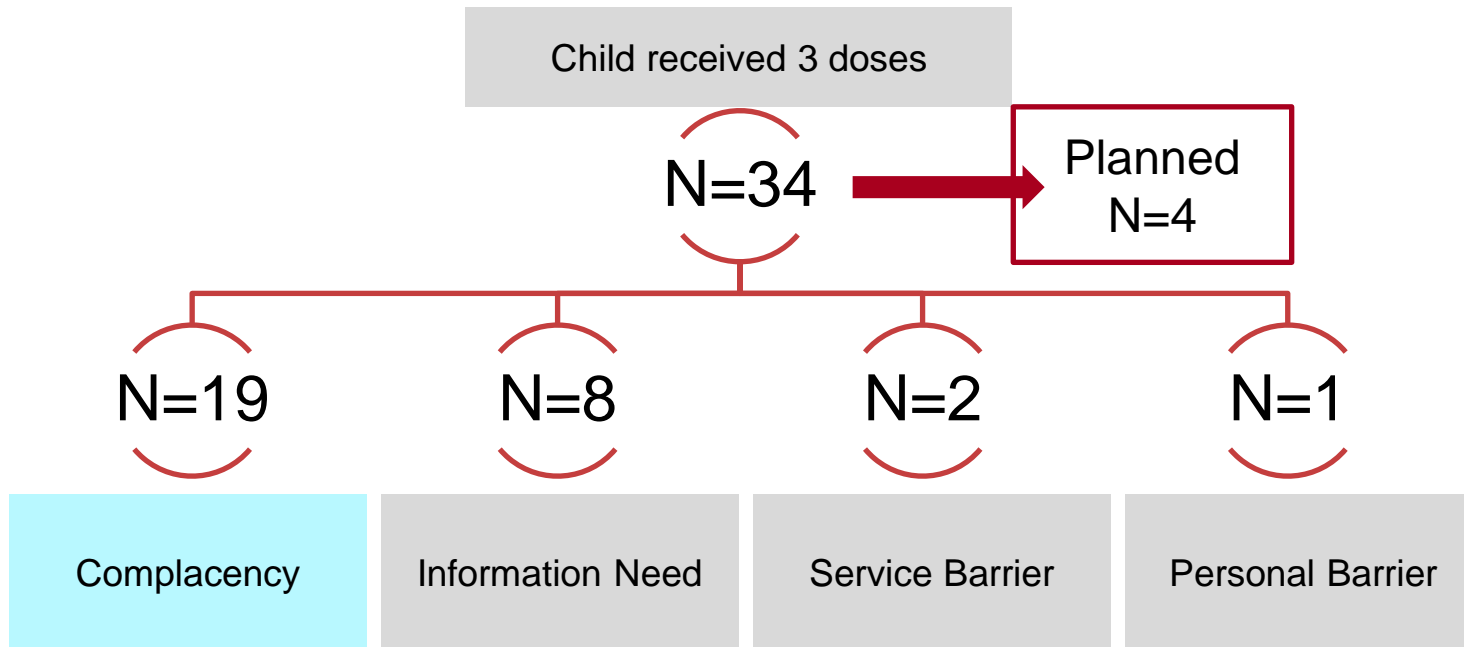
- **Complacency** – cases reflecting an absence of motivation, engagement, or personal responsibility for ensuring the child is fully vaccinated
- **Information Need** – critical knowledge gaps that seemed to have interfered with taking the child for timely vaccination
- **Personal Barrier** / Circumstance – extra-ordinary life events or situations preventing the caregiver from taking the child for timely vaccination
- **Service Barrier** / Circumstance – lack of access to services despite clear attempts to get the child vaccinated
- **Refusal** / Hesitancy – clear instances of refusing to get the child vaccinated due to doubts or fears about the vaccine

Child received 3 doses

N = 34/152 (22%)



## 3 Doses Received – Complacency was the Most Frequent Reason for Missing Dose 4



### Complacency

Caregiver expresses trust in vaccines and RTS,S (initially or over time) and, most often, was aware of important details about the RTS,S schedule, number of doses, and timing of Dose 4. Despite this trust and knowledge, the child had missed doses due to caregiver being **"busy," "lazy," "no reason," "just decided not to go," "I forgot,"** etc.

Cases where the caregiver is **passive** about the child's vaccination schedule were also judged as complacent.

Information Needs, Service Barriers, and Personal Barriers were aggravating circumstances in several instances.

# Quintessential 4<sup>th</sup> Dose Complacency

*I became lazy*

Unmotivated (K\_C18\_002)

**R1** – The caregiver displays **strong trust in vaccines** and has no concerns about her child receiving them. She **dismisses rumors about RTS,S** causing infertility and risk of too many vaccines as “poor information.”

**R2** – She **reiterates her confidence in child vaccinations and believes that RTS,S has reduced malaria** in her community and benefitted in her own child. At the same time, the caregiver continues to dismiss fears about children becoming “crippled” due to vaccine injections.

**R3** – The caregiver’s **confidence in RTS,S grows**. She explains that the child “didn’t even have a fever” [referring to AEFIs] after receiving Doses 2 and 3 and further indicates that he has not suffered from malaria, which she attributes to the vaccine. Despite this experience, she did not take the child for Dose 4.

**I: Then to what do we attribute the delay to bring him back?**

*“Laziness. I was told he would receive four doses and it was supposed to be at two years exactly. I remembered the date, but truly speaking, I do not know what became of me.”*

# Other Kinds of 4<sup>th</sup> Dose Complacency

## Quintessential Complacency

Unmotivated                      “Laziness. . . I don’t know what came over me.”

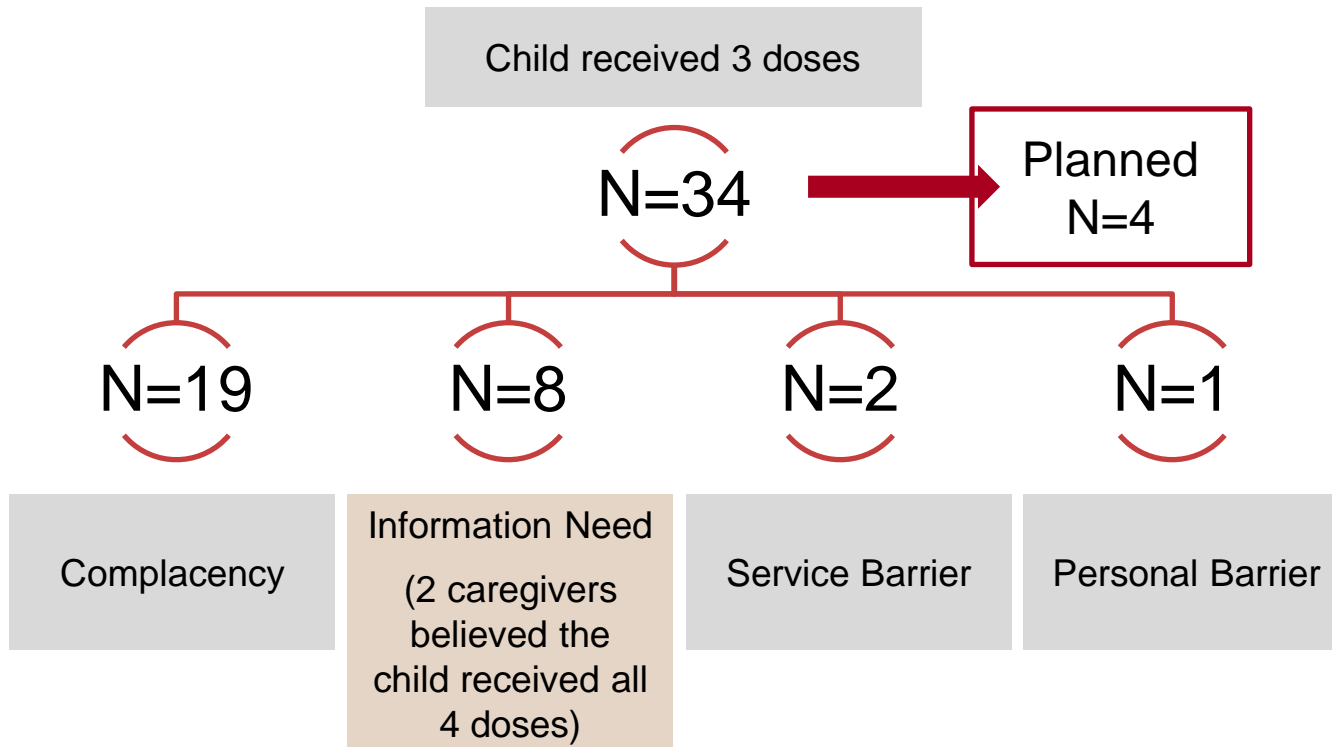
## Other Kinds of Complacency

Preoccupied                      “The truth is, I don’t plan on taking her. . . I don’t have time.”

Uncommitted                      “The dates got rescheduled. . . This confused many people.”

Passive, Dependent                      “Once we give birth to a child, we leave them in the hands of the health providers.”

## 3 Doses Received – Information Need was Another Important Reason for the Child Missing Dose 4



*"It is not that I don't want to go for the vaccine, but I am not always around. The last time I went I was asked to come the following week, but I wasn't around. **I thought once I have missed the date my child can no longer receive it.**"* G\_C5\_004

### 4<sup>th</sup> Dose Information Needs

The caregiver is confused about or does not have complete or accurate information about RTS,S, including its availability, purpose, schedule, number of doses, or where to take the child to receive the vaccine.

- Expected the child to receive 3 RTS,S doses
- Confused about **what to do if child "missed" or had a delayed** dose
- Not given **clear instructions when providers decided to forego Dose 4** (e.g., in the case of active malaria)
- Doesn't know where to track RTS,S doses on the child health card

Child received 0 doses

N = 11/152 (7%)





Case	Interview Round (# of doses child should have received)		
	R1 (1-2 doses)—————→	R2 (3 doses) —————→	R3 (4 doses)
Initial Dose Refusal			
1 (G_C2_006)	Initially <b>confused</b> about RTS,S, <b>husband discourages</b> taking it. Changes mind as she perceives benefits, no AEFIs.		
2 (G_C2_007)	Trusts “old” vaccines but “not this new one” due to <b>WhatsApp rumors</b> . Caregiver emphasis that her <b>husband’s hesitancy accentuated her own</b> , causing initial refusal. Observing less malaria, changes her mind at 9 months, but is turned away.		
3 (G_C5_006)	<b>Husband refuses</b> due to AEFIs (child “crying all night”), though she’s sought other vaccinations behind his back.		
4 (K_C11_004)	Child had <b>serious AEFI from a prior vaccine</b> and she feared RTS,S would make it worse. She also notes other commitments.		
Service Barrier			
5 (K_C11_005)	In all three interviews service issues predominated: health work <b>strike, stockout, negative interactions</b> .		
6 (K_C14_004)	Enthusiastic about RTS,S and “never missed taking a child” for vaccination; unclear whether she missed Dose 1 due to stock-out or an <b>information gap about dose timing</b> . She tried multiple times and faced <b>strikes</b> or <b>stockouts</b> each time.		
Information Need (and possible data issues) – Malawi-specific perhaps related to “silent introduction”			
7 (M_C20_013)	Missed initial dose due to schedule <b>confusion</b> . Health book subsequently lost, but caregiver believes child received RTS,S.		
8 (M_C23_032)	Trusts vaccines but <b>limited info on RTS,S</b> . Reports negative clinical encounters. She believes her child received 2 RTS,S doses.		
9 (M_C25_046)	Highly <b>limited info on RTS,S</b> throughout, though trusting of vaccines. She believes the child received 1 dose.		
10 (M_C25_047)	Very enthusiastic, supportive husband, but has <b>no details of RTS,S at round 2</b> interview. Believes child was vaccinated.		
Idiosyncratic			
11 (K_C18_004)	Takes child to a facility in a non-vaccinating (RTS,S) subcounty, because the one in the intervention subcounty is too far.		

# Possible Implications for Programming



# Possible Programmatic Implications

## Get the Kids in for the Initial Doses!

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

1. **Build on and maintain existing trust**, emphasizing vaccines' demonstrable benefits (e.g., testimonials from elders who remember)
2. **Address specific reasons for initial hesitation** – concerns and unanswered questions (e.g., a highly public Q&A where parents are heard and trusted official react)
3. Monitor for, preempt, and **interrupt mis/disinformation**
4. Strengthen **4-dose schedule IEC**

# Possible Programmatic Implications

## Get the Kids in for the Initial Doses!

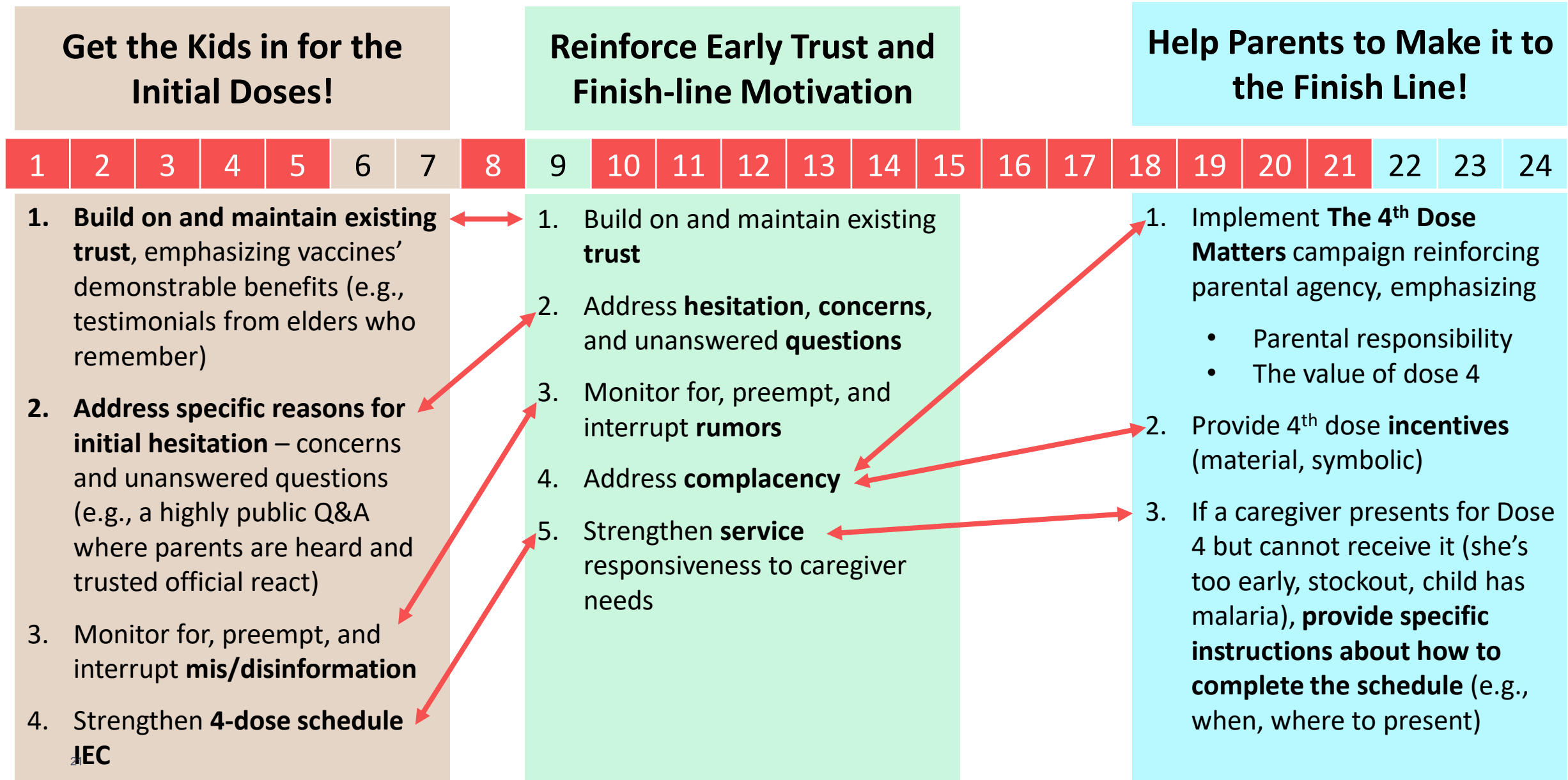
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

1. **Build on and maintain existing trust**, emphasizing vaccines' demonstrable benefits (e.g., testimonials from elders who remember)
2. **Address specific reasons for initial hesitation** – concerns and unanswered questions (e.g., a highly public Q&A where parents are heard and trusted official react)
3. Monitor for, preempt, and **interrupt mis/disinformation**
4. Strengthen **4-dose schedule IEC**

## Help Parents to Make it to the Finish Line!

1. Implement **The 4<sup>th</sup> Dose Matters** campaign reinforcing parental agency, emphasizing
  - Parental responsibility
  - The value of dose 4
2. Provide 4<sup>th</sup> dose **incentives** (material, symbolic)
3. If a caregiver presents for Dose 4 but cannot receive it (she's too early, stockout, child has malaria), **provide specific instructions about how to complete the schedule** (e.g., when, where to present)

# Possible Programmatic Implications



# Thank you!

## For more information contact:

**Jessica Price – PATH**

[jprice@path.org](mailto:jprice@path.org)

**Margaret Gyapong – UHAS, Ghana Study**

[imgyapong@uhas.edu.gh](mailto:imgyapong@uhas.edu.gh)

**Jenny Hill – LSTM, Kenya Study**

[enny.hill@lstmed.ac.uk](mailto:enny.hill@lstmed.ac.uk)

**Nicola Desmond – MLW, Malawi Study**

[nicola.desmond@lstmed.ac.uk](mailto:nicola.desmond@lstmed.ac.uk)

