

Expanded local care for severe pneumonia is safe and effective among children in Bangladesh

Problem statement

- IMCI guidelines recommend referral for all children with severe illness
- Management in referral usually involves injectable antibiotics
- In 2003, referral completion for severe illness was very low (24%), and qualitative research highlighted main obstacles to prevent referral completion

Objective

To assess the safety and effectiveness of a change in guidelines for the management of severe illness among children aged 2 months to five years

Introduction of new guidelines in two stages

Stage 1 (May 2004)

Local oral antibiotic treatment and follow-up for cases of severe pneumonia without danger signs *if referral was clearly not feasible or judged unlikely*

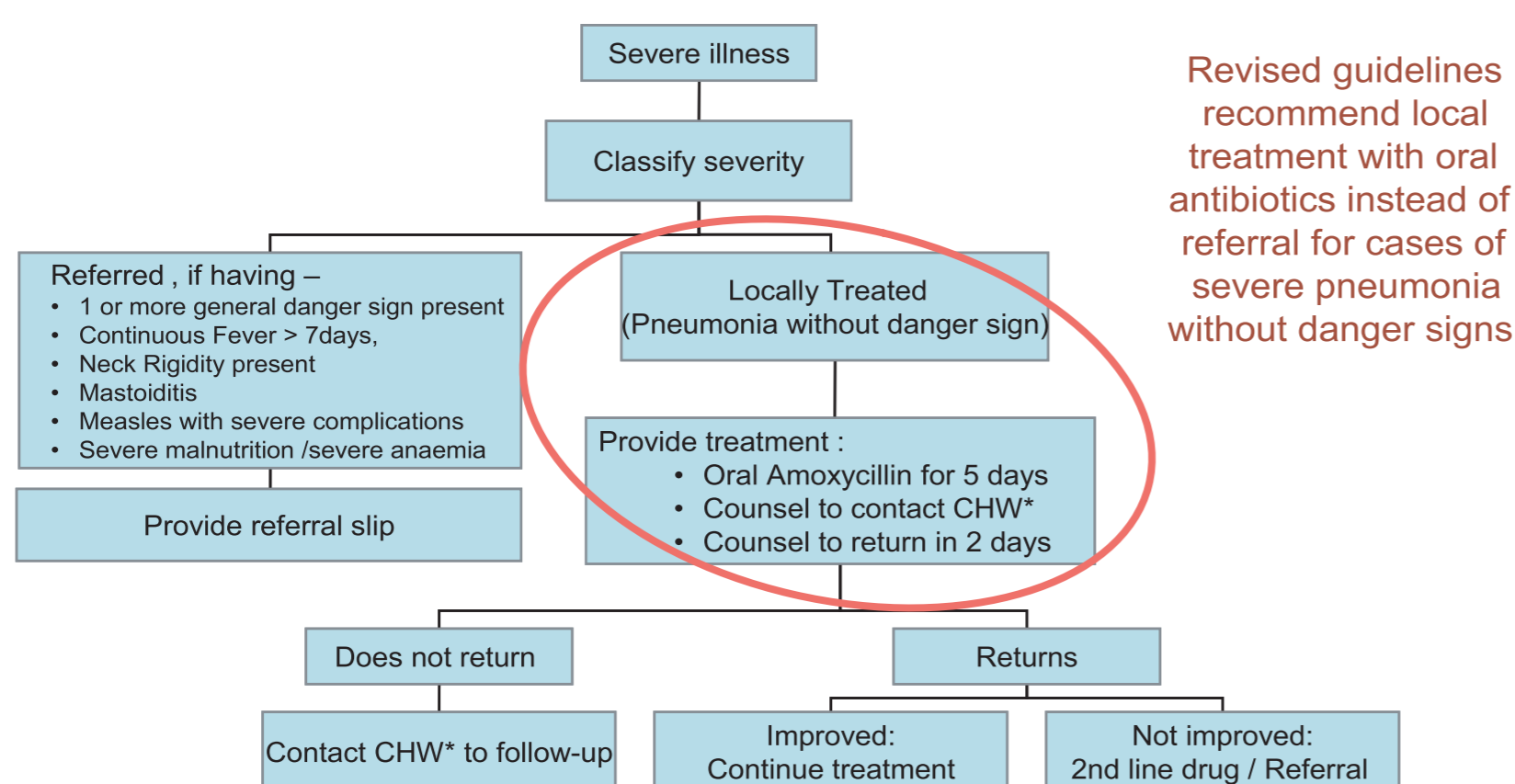
Stage 2 (August 2004)

Local oral antibiotic treatment and follow-up for *all* cases of severe pneumonia without danger signs

Methods

- Three evaluation periods of four months:
Before Stage 1: before implementation of revised guidelines (Jan to April 2004)
Between Stage 1 and 2 (May to August 2004)
After Stage 2: revised guidelines implemented (September to December 2004)
- All cases classified as severe or referred by local health worker identified
- Individual assessment forms reviewed; children aged 2 months to five years with confirmed signs of severe pneumonia enrolled
- Enrolled cases visited at home to determine outcome of illness episode

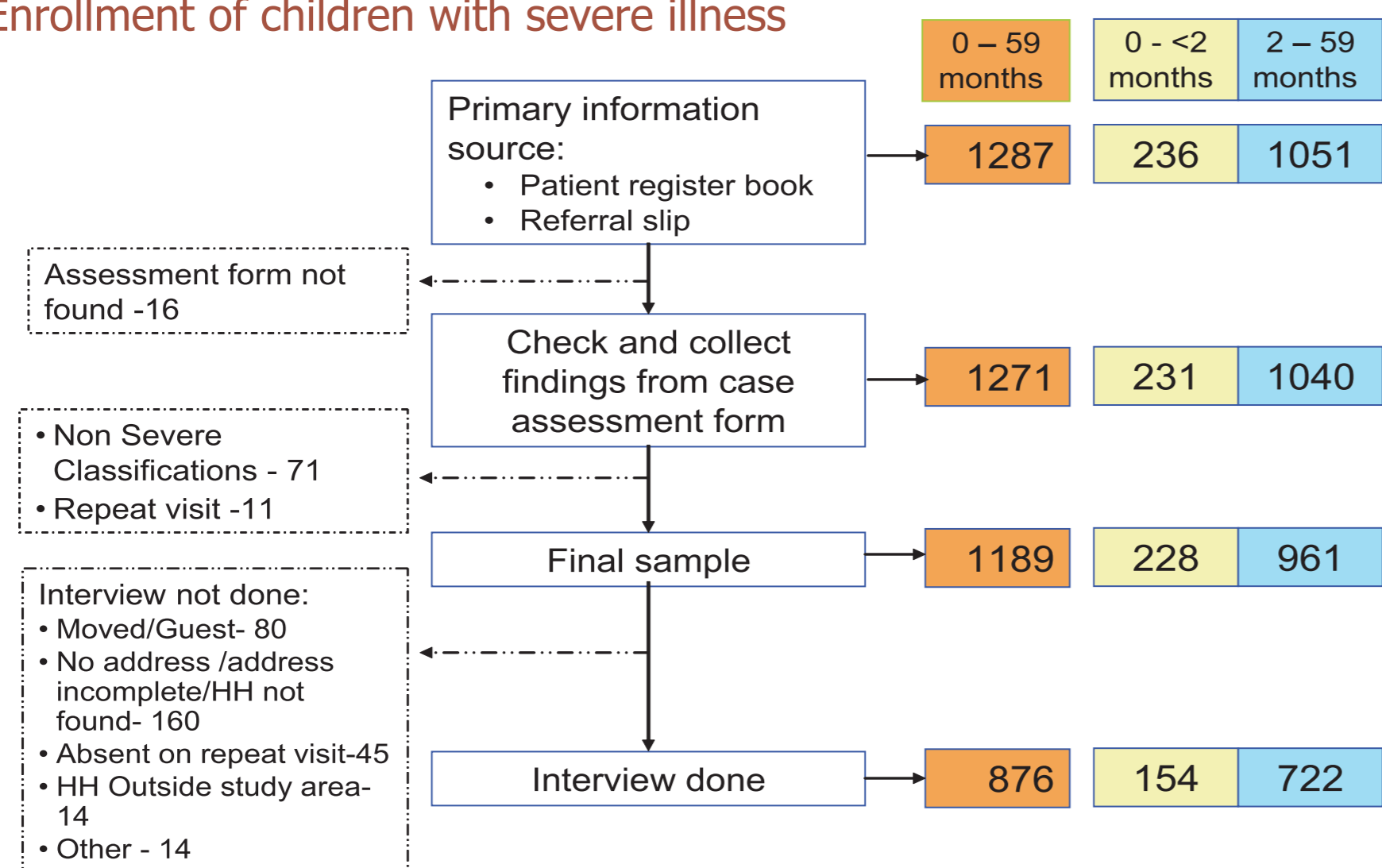
Stage 2 revision of guidelines for management of severe pneumonia



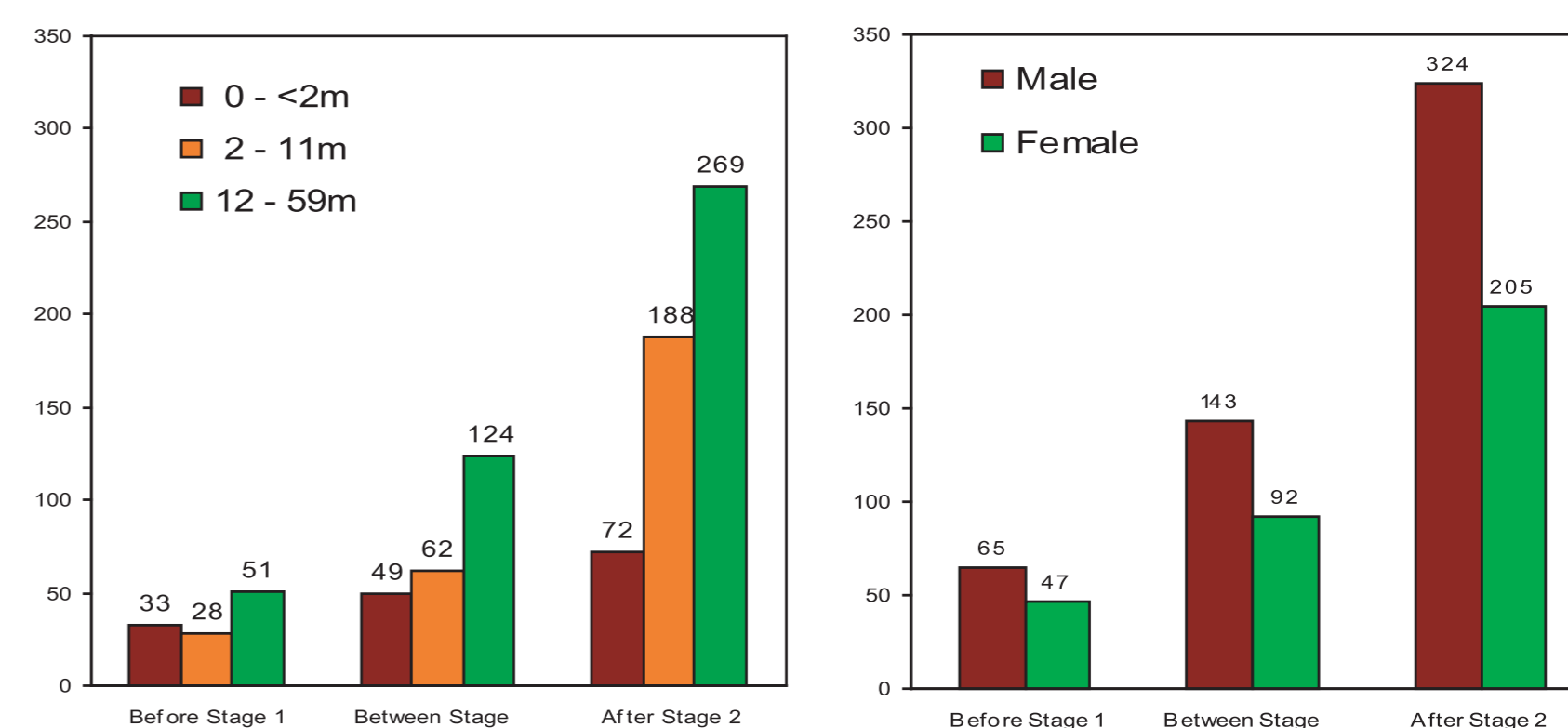
Revised guidelines recommend local treatment with oral antibiotics instead of referral for cases of severe pneumonia without danger signs

*CHW: Community Health Worker

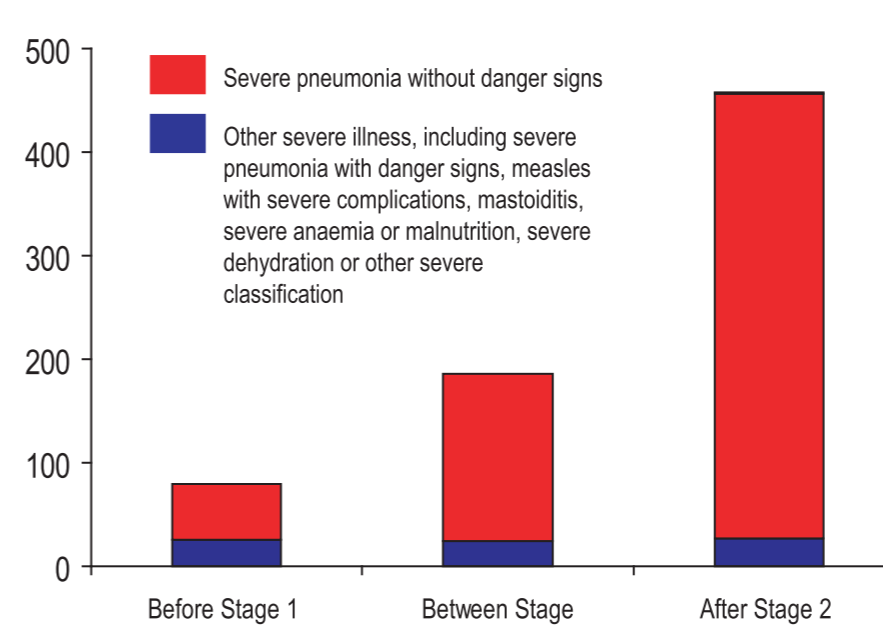
Enrollment of children with severe illness



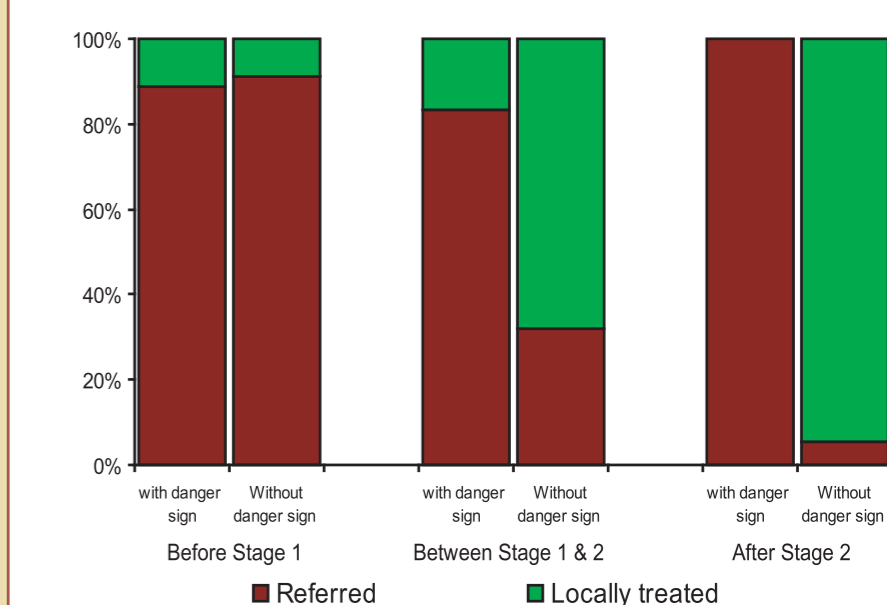
Age and sex distribution of enrolled children (n=876)



Illness classifications of enrolled children 2 - 59 months (n=722)



Referral patterns for children with severe pneumonia aged 2 - 59 months by evaluation period (n=667)



Health outcomes 14 days after seeking care for episodes of severe pneumonia among children aged 2-59 months during three evaluation periods (n=667)

	Before Stage 1		Between Stage 1 and 2		After Stage 2	
Severe Pneumonia	Well	Died*	Well	Died*	Well	Died*
With Danger sign						
Referred	75%	25%(2)	80%	0%	86%	0%
Locally treated	100%	0%	100%	0%	-	-
Without Danger sign						
Referred	87%	0%	87%	2% (1)	62%	12% (3)
Locally treated	100%	0%	93%	0%	92%	0%

* Died – means the child was continuously ill and died within 3 months of first careseeking from facility

Health outcomes 14 days after seeking care for episodes of severe illness among children aged 2-59 months during three evaluation periods (n=722)

	Before Stage 1		Between Stage 1 and 2		After Stage 2	
Status	Well*	Died**	Well*	Died**	Well*	Died**
Referred						
Comply	81%	4% (1)	87%	0%	50%	8% (2)
Died on way	-	2% (1)	-	-	-	-
Not comply	88%	0%	85%	2% (1)	78%	9% (2)
Locally treated	83%	0%	93%	0%	92%	0%

* Well – means the child became well with in 14 days of first careseeking

** Died – means the child was continuously ill and died within 3 months of first careseeking from facility

In 'After Stage 2' one additional death was in case of 'very low weight for age'

% of severe cases correctly managed

All severe cases aged 2-59m (n=722)

	Before Stage 1	Between Stage 1 and 2	After Stage 2
Correctly Managed*	37%	77%	94%

Severe pneumonia cases aged 2-59m (n=667)

	Before Stage 1	Between Stage 1 and 2	After Stage 2
Correctly Managed*	37%	80%	96%

* Correctly managed: Children who were locally treated who received appropriate drug, or children who were referred who complied with referral

Conclusions

- IMCI referral guidelines are highly sensitive and can result in low rates of correct management of children with severe illness, especially in situations where referral is difficult due to geographic, financial or cultural barriers.
- Availability of local treatment with an oral antibiotic increases utilization of the first level facility for severe pneumonia.
- Local adaptation of the guidelines, with appropriate training and supervision, can be safe and can result in higher proportions of very sick children being managed correctly.

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