Mitigating COVID-19 impact on neonatal mortality through community-based newborn care/PSBI

Dissemination of L10K's Learnings

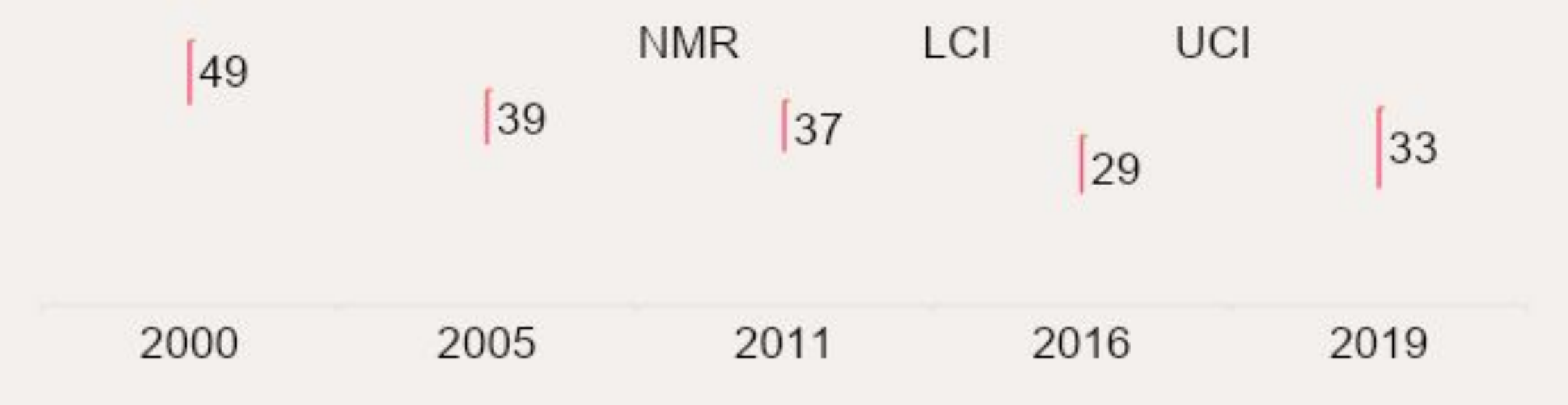
27 April 2022

Hyatt Regency, Addis Ababa, Ethiopia

Discussion Outline

- Problem statement
- Implementation Research (IR) questions
- Methodology
- Participatory design process and implementation
- Implementation intensity and results
- Conclusion and recommendations

Background: Neonatal mortality



Source: EDHS 2000, 2005, 2016, & 2019

- PSBI is a leading cause of mortality in SSA, contributing to 37% of the 2.1 million neonatal deaths (Ahmed et al., 2018)
- WHO recommends community-based management of sepsis when referral is not feasible (WHO, 2015)

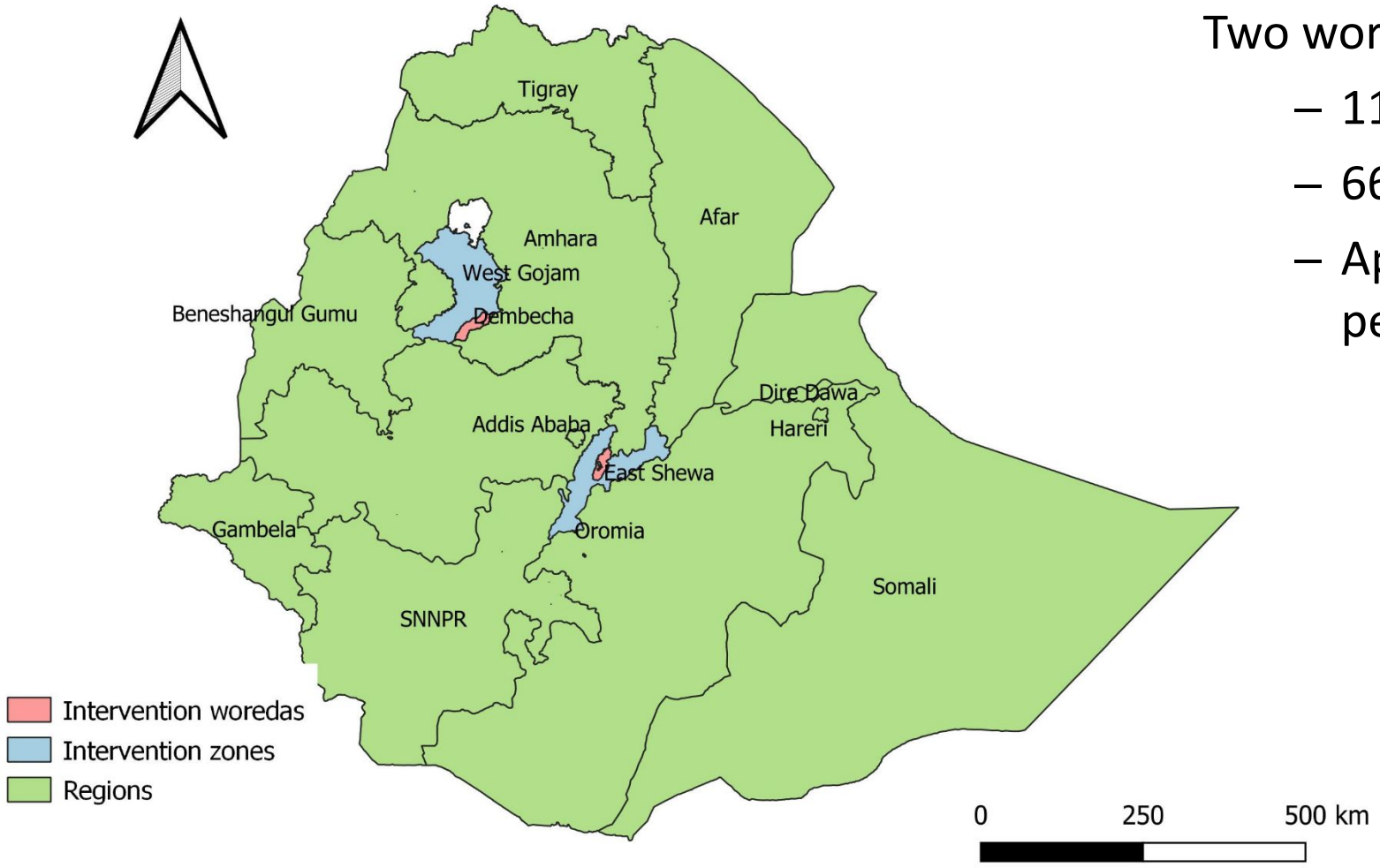
Implementation Research (IR) questions

1. What contextual factors (e.g., drivers and health system bottlenecks) both hinder and promote integration, high fidelity implementation, and scale-up of the Community-based Newborn Care (CBNC) initiative in the face of COVID-19?
2. How can CBNC/PSBI activities be strengthened or integrated along the continuum of MNH care to assure high fidelity implementation, successful scale-up, and resilience of community health systems? What adaptations should the health system take to maintain CBNC/PSBI activities during the COVID-19 pandemic?
3. What is the effect of the implementation of health system adaptions and innovations on CBNC/PSBI implementation outcomes and key contextual factors that influence success and variability?

Prevalence of neonatal illness and care-seeking behavior, May 2021

	Dembecha	Lume	Total
Neonatal illness			
History of illness	14%	8%	**12%**
Formal health care seeking for ill neonates	52%	71%	**57%**
Neonatal sepsis			
Newborns with severe neonatal infection	11%	5%	**9%**
Neonatal sepsis cases treated with antibiotics	52%	70%	**56%**
Place of care-seeking for the SYI			
Community health worker	1%	1%	1%
Shop/pharmacy	1%	2%	2%
HP / HEW	6%	2%	**4%**
Other	11%	8%	10%
Hospital	11%	18%	13%
Health center	70%	70%	**70%**

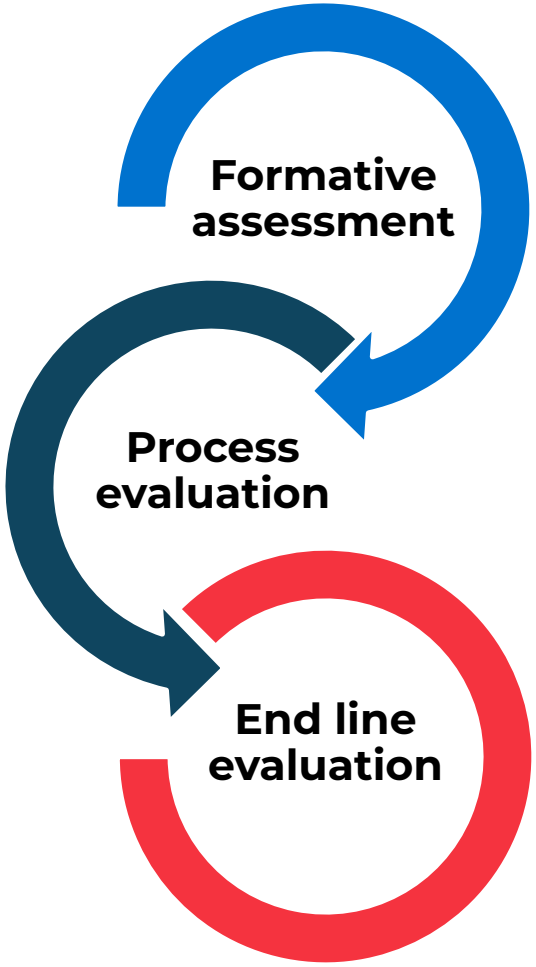
Implementation sites



Two woredas: Dembecha and Lume

- 11 health centers (HC)
- 66 health posts (HP)
- Approximately 250,000 people

Mixed-methods design: RE-AIM Framework



April 2021: Formative Assessment

- Household survey: 4,262 mothers
- HP assessment + HEW interviews
- Interviews with 34 program managers, service providers, and community members

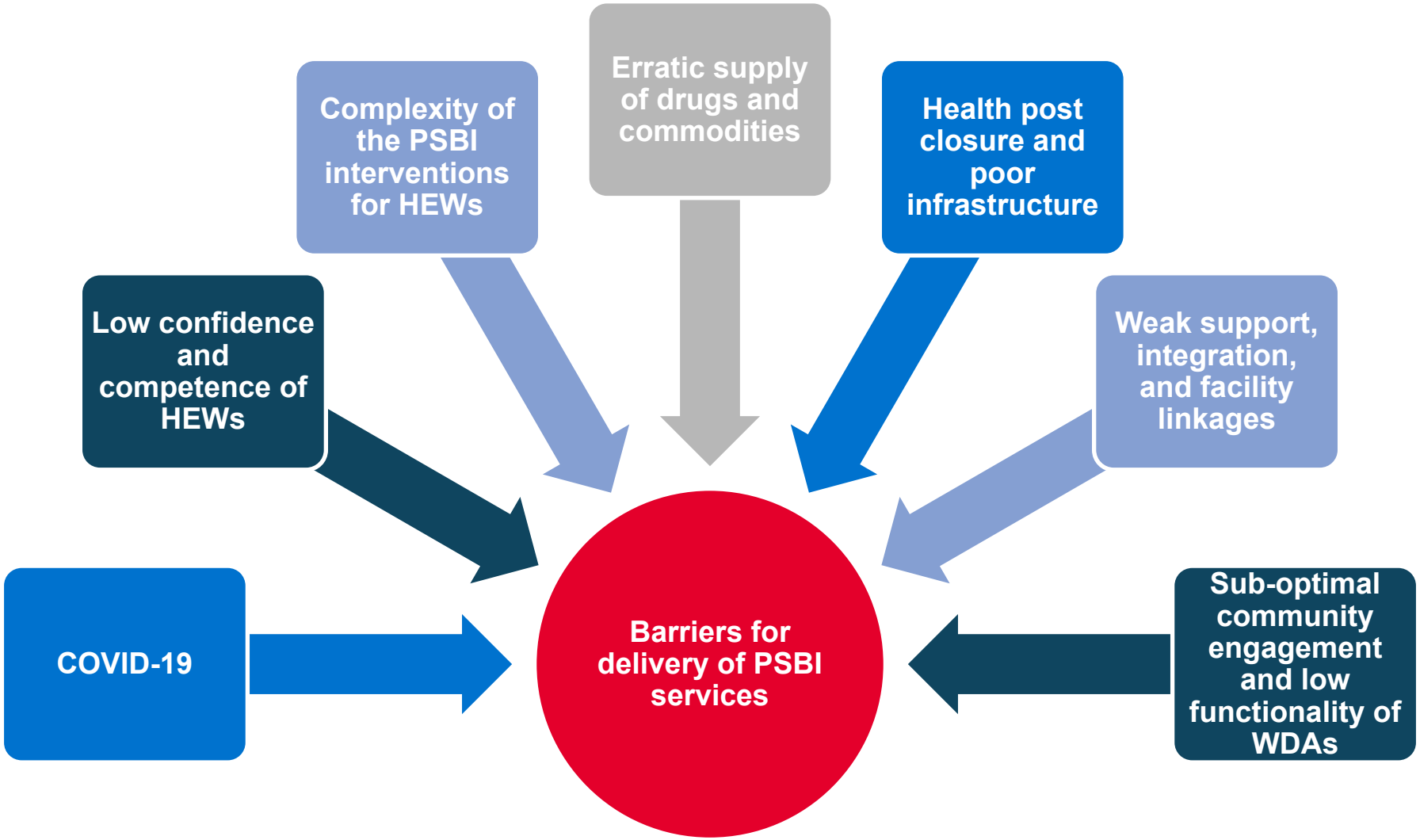
October 2021: Process Evaluation

- 65 HP assessment and 16 HEW interviews
- Ongoing contextual factors and adaptive implementation strategies

June 2022: End-line survey

- Community household survey
- Analysis of intervention effectiveness

Barriers to delivery of PSBI services, May 2021



Predictors of care-seeking for PSBI, May 2021

Predictors	Model 2: Intercept model	Model 3: Cross-level interaction
	AOR (95% CI)	AOR (95% CI)
Maternal education		
Primary	1.47 (0.74-2.94)	1.45 (0.73-2.91)
Secondary and higher	1.48 (0.75-2.92)	1.50 (0.76-2.98)
Wealth quintile		
More poor	1.40 (0.64-3.08)	1.38 (0.63-3.04)
Poor	1.62 (0.72-3.63)	1.56 (0.69-3.53)
Less poor	1.85 (0.73-4.72)	1.77 (0.69 -4.56)
Least poor	1.34 (0.57-3.59)	1.36 (0.50-3.69)
Received ANC	1.76 (0.85-3.66)	1.77 (0.85-3.71)
Complete ANC	**2.08 (1.14-3.79)**	**2.04 (1.12-3.75)**
Facility delivery:	1.18 (0.63-2.19)	1.21 (0.65-2.27)
Any PNC within 6 weeks	**2.15 (1.16-3.98)**	**2.08 (1.12-3.87)**
Fear of COVID-19	**0.30 (0.16-0.55)**	**0.27 (0.15-0.47)**
Distance to HC: >2 hrs.	0.51 (0.23-1.12)	**0.39 (0.16-0.93)**
Woreda of residence: Lume vs Dembecha	**2.79 (1.17-6.66)**	0.62 (0.09-4.23)
Distance to HC* Woreda: >2 hrs.*Lume	-	5.69 (0.74-43.50)

IRLM for PSBI when referral is not possible during COVID-19 pandemic

Implementation challenges

Intervention Characteristics
(-) Complexity
(+) Acceptable

Inner Setting
(-2) Supply and logistics management system
(-) Strength of HEP

Outer Setting
(-) Mother's fear of COVID-19 infection
(-) COVID-19 response measures
(+) Geographic distance to higher-level facilities
(-) Phase-out of partner support
(+) NGO-delivered support

Characteristics of Individuals
(-) Competence and confidence of HEWs
(-) Motivation of HEWs
(-) HEWs workload and engagement in non-health activities

Process
(-) Integration of PSBI services
(+) Coordination, ownership, and stakeholder engagement

Implementation Strategies

- Introduce on-site coaching and training
- Assign PSBI trained focal person
- Strengthen home visits, home-based identification & treatment of SYIs
- Integrate PSBI in the district health system
- Strengthen supply chain
- Conduct SBCC activities
- Integrate COVID-19 and routine services
- Strengthen PHCU support & linkage

Mechanisms

- Increased **Effectiveness, Adoption, and Acceptability** through adaptation
- Increased **Reach, Fidelity, and Effectiveness** through adaptation of Implementation Strategies to address identified gaps for implementation and sustainability
- Increase **Fidelity and Effectiveness and Adoption** through training and supportive supervision to increase skills and interest to deliver PSBI effectively with Fidelity

Intervention

PSBI

Outcomes

Implementation

Reach (Sick infants managed, home visits)
Adoption (HPs/HEWs providing PSBI treatment)
Implementation (**fidelity** to PSBI and strategies, **acceptability, feasibility** for scale)
Maintenance (integration, service uptake rebound)

Organization/ service

- Increased readiness and quality of PSBI delivery
- Improved HEW skills and knowledge
- Increased care-seeking for SYIs

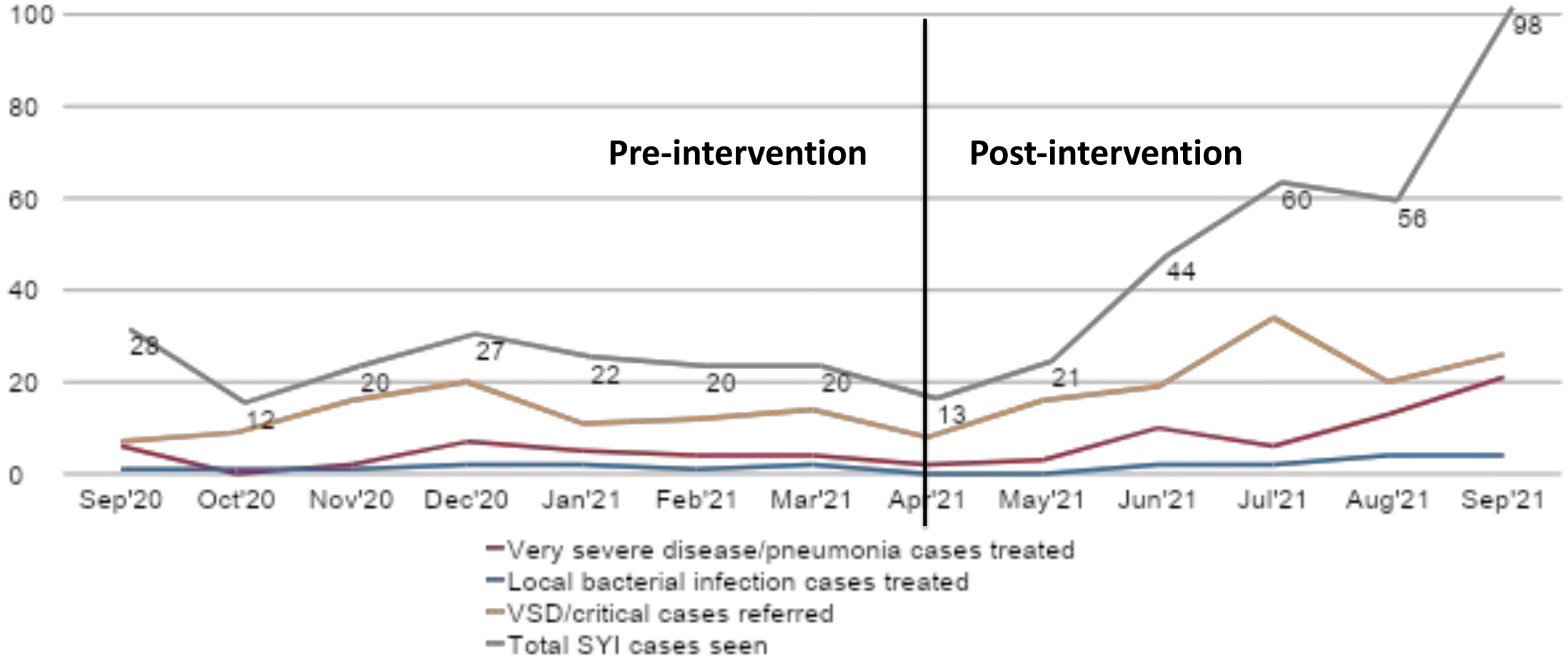
Clinical

- Decreased PSBI-related morbidity and mortality
- Client satisfaction

PSBI implementation strength, October 2021

PSBI implementation measures	PSBI measure by strength of implementation area			
	Low (n=25)	Medium (n=29)	High (n=11)	Overall
HEWs trained/ mentored on iCCM/CBNC	60%	97%	95%	**83%**
Materials and equipment available	60%	68%	79%	**67%**
Supplies available	49%	70%	89%	**66%**
HEWs supervised on iCCM/CBNC	38%	95%	88%	**72%**
HPs participated in the PHCU level PRCCM meetings in the last 6 months	32%	83%	100%	**66%**
HPs facilitated kebele-level multi-sectoral meetings at least once in the last 6 months	16%	55%	91%	**46%**
HPs facilitated awareness creation meetings at the community level	36%	86%	100%	**69%**

Trends in Sick Young Infant (SYI) cases managed at HPs



Conclusion and recommendations

- We found gaps in the care-seeking behavior of mothers for their sick young infants.
- In addition to the influence of the COVID-19 pandemic that exacerbated the fragile community-based newborn health services delivery in Ethiopia, pre-existing conditions influence PSBI service delivery.
- This indicates a need to create a more resilient system providing quality PSBI care not just during but also after the pandemic.
- Support systems, specifically technical support units, are critical for HEWs to integrate iCCM/CBNC into their HEP activities
- Continuous support and engaging WDAs, HEWs, and PHC are needed
- Integration at MOH, woreda health system, and PHCU work streams is vital for sustainability

Thank you!

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