



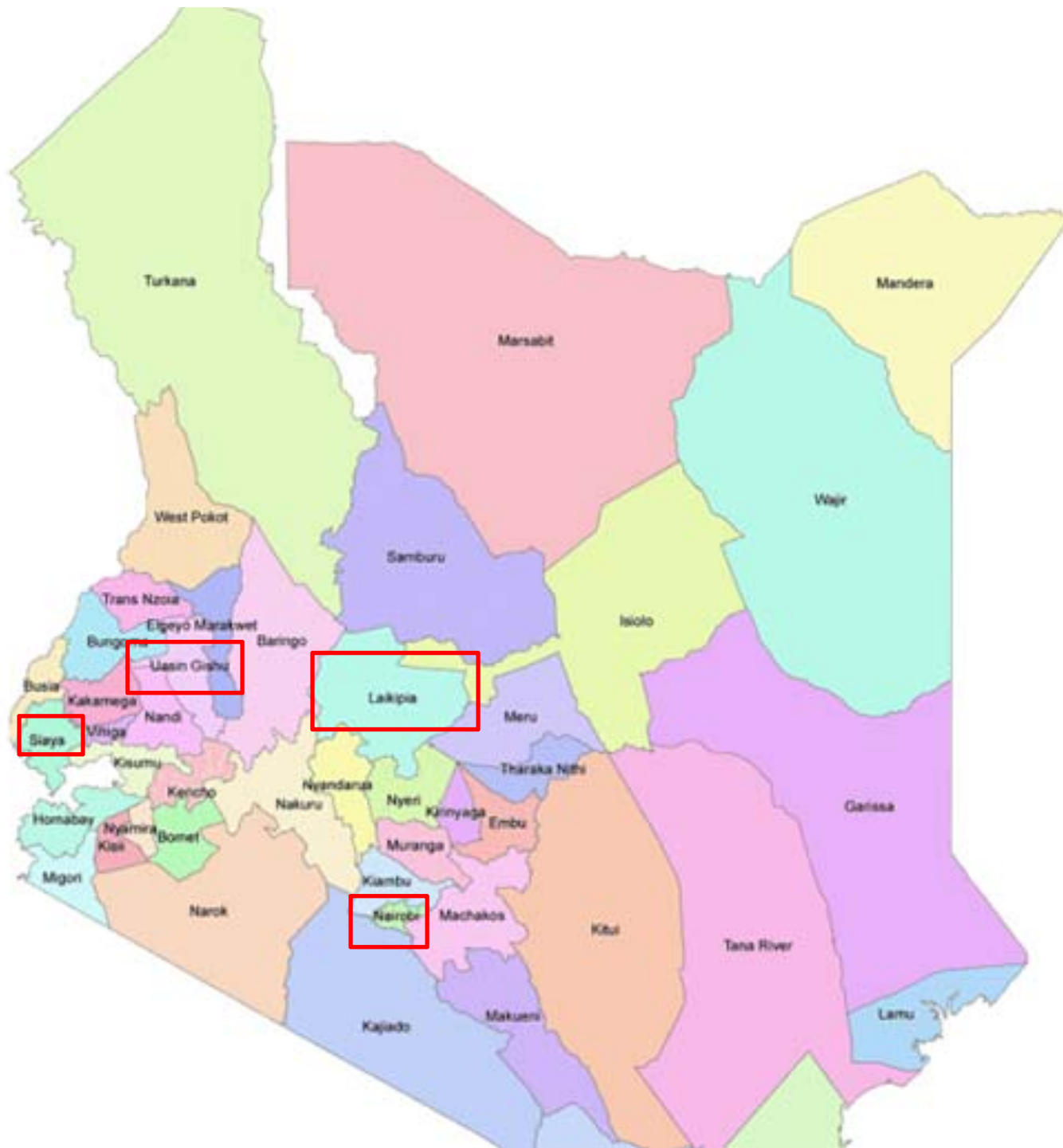
# Longitudinal impacts of the medium-scale Tayari pre-primary intervention in Kenya: Resisting fadeout effects?



**Dr. Benjamin Piper & Katherine Merseth King**  
**April 15, 2019**

# Do ECD Effects Persist?

- Ample evidence that preschool programs **improve children's developmental outcomes** (Barnett 1995; Currie 2001; Gormley 2005; Wong et al. 2008; Weiland and Yoshikawa 2013)
- Preschool programs **reduce grade repetition** and learning disability status (Abecedarian and High/Scope Perry) in later schooling
- Yet various studies document a **fadeout** of the benefits of preschool during primary school – control **catches up** over time
  - In Building Blocks Pre-K math (Smith, Cobb, Faran, Cordray & Munter, 2013), impacts in Pre-KG and KG **diminished over time**
  - Head Start follow-up (Puma et al 2012) showed no meaningful impacts on behavior, social emotional or cognitive skills **in Grade 3**
  - ECLS-K data found pre-K boosted reading and math in K, but effects were **gone by Grade 2**, negative effects on SEL measures (Magnuson et al. 2007)



## Tayari Counties

- Laikipia
- Uasin Gishu
- Siaya
- Nairobi
- Nairobi APBET

# Introduction to Tayari

Pilot program at medium scale (2000+ centers) from 2016-19

Implemented by four counties with technical support from RTI

RCT research design

Three treatment groups

4 wave longitudinal study on treatment 2

2016 cohort representative of 600+ centres



# Tayari Scope 2016-2019



	2016	2017 cohort	2017	2018 cohort	2018	2019
2016	644					
2017		588	1232			
2018				922	2154	
2019						<b>2154</b>

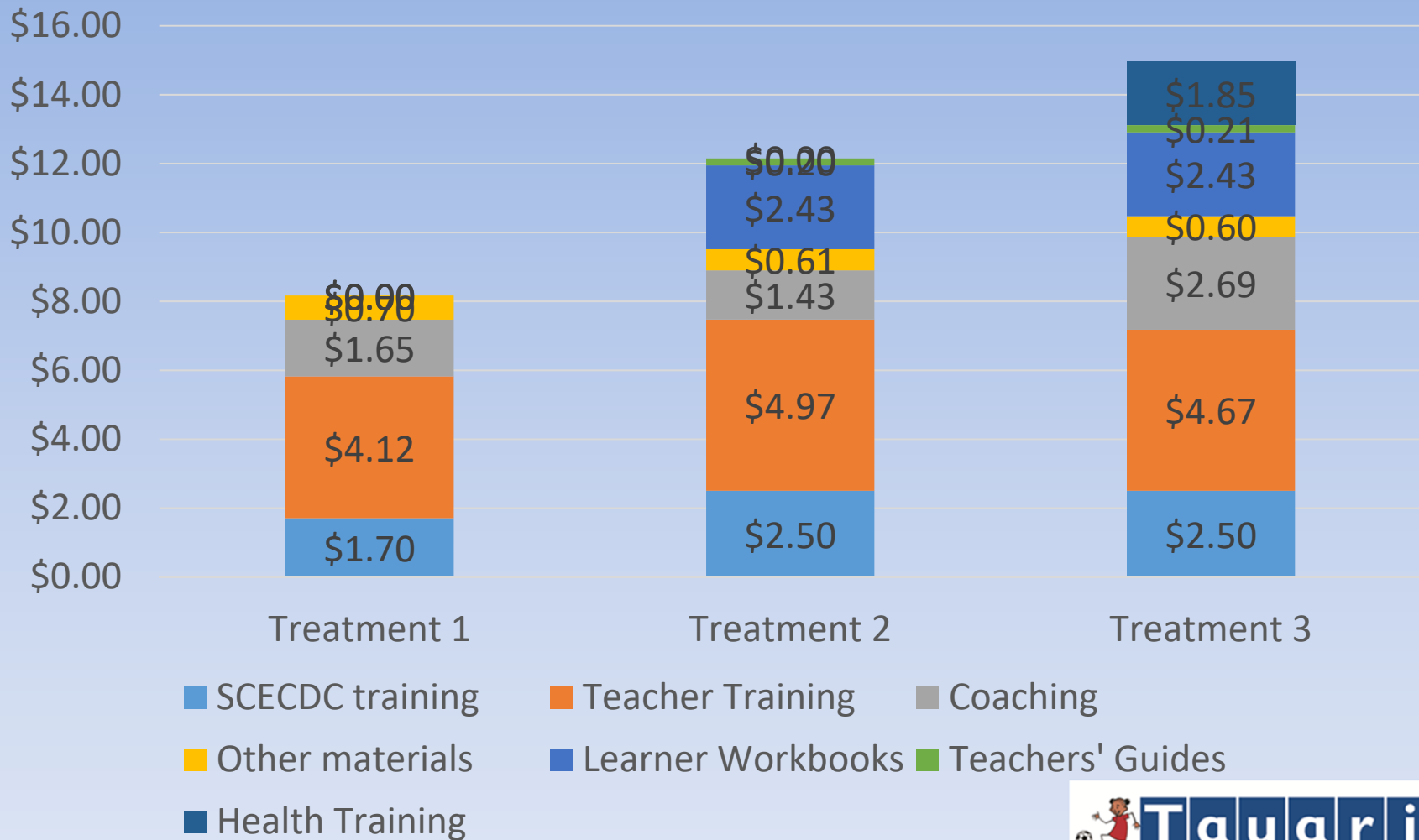


	2016	2017 cohort	2017	2018 cohort	2018	2019
2016	1353					
2017		1361	2714			
2018				1959	4673	
2019						<b>4673</b>

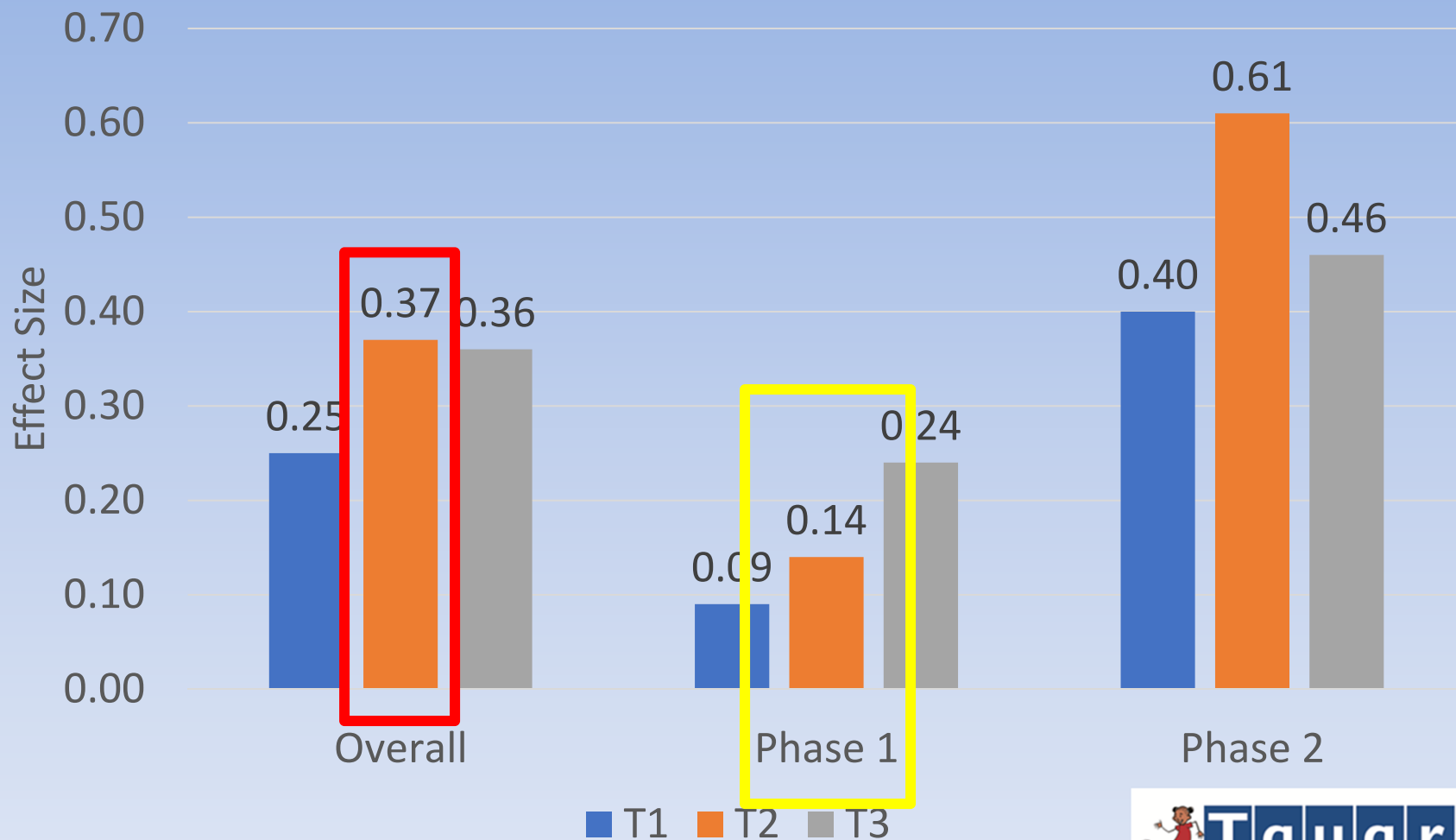


	2016	2017 cohort	2017	2018 cohort	2018	2019 cohort	2019 total
2016	36,729						
2017		33,027	69,756				
2018				58,346	128,102		
2019						<b>21,029</b>	<b>146,921</b>

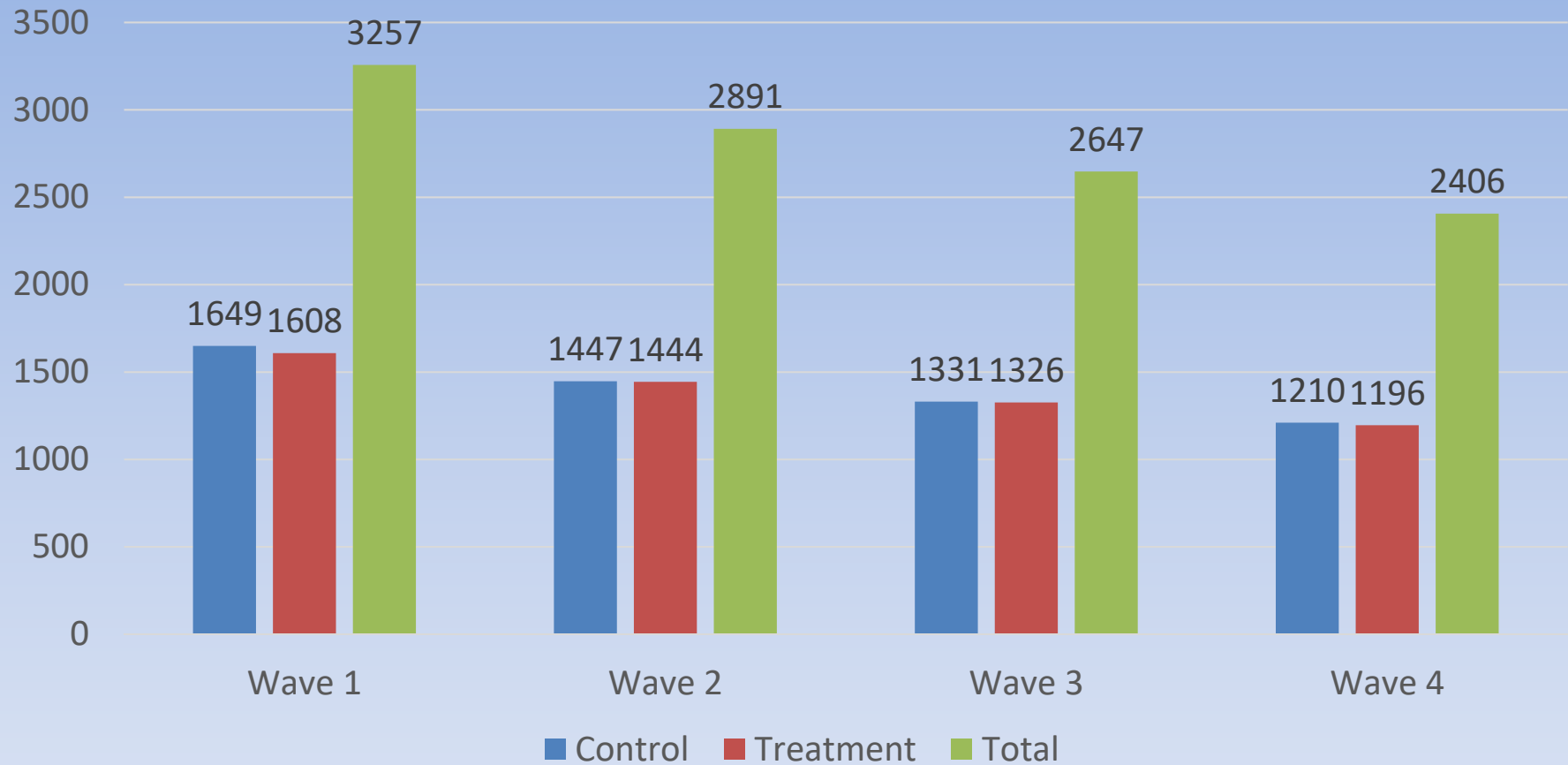
# Tayari Treatment Arm Costs



# Tayari Impact on School readiness (APHRC, 2019)



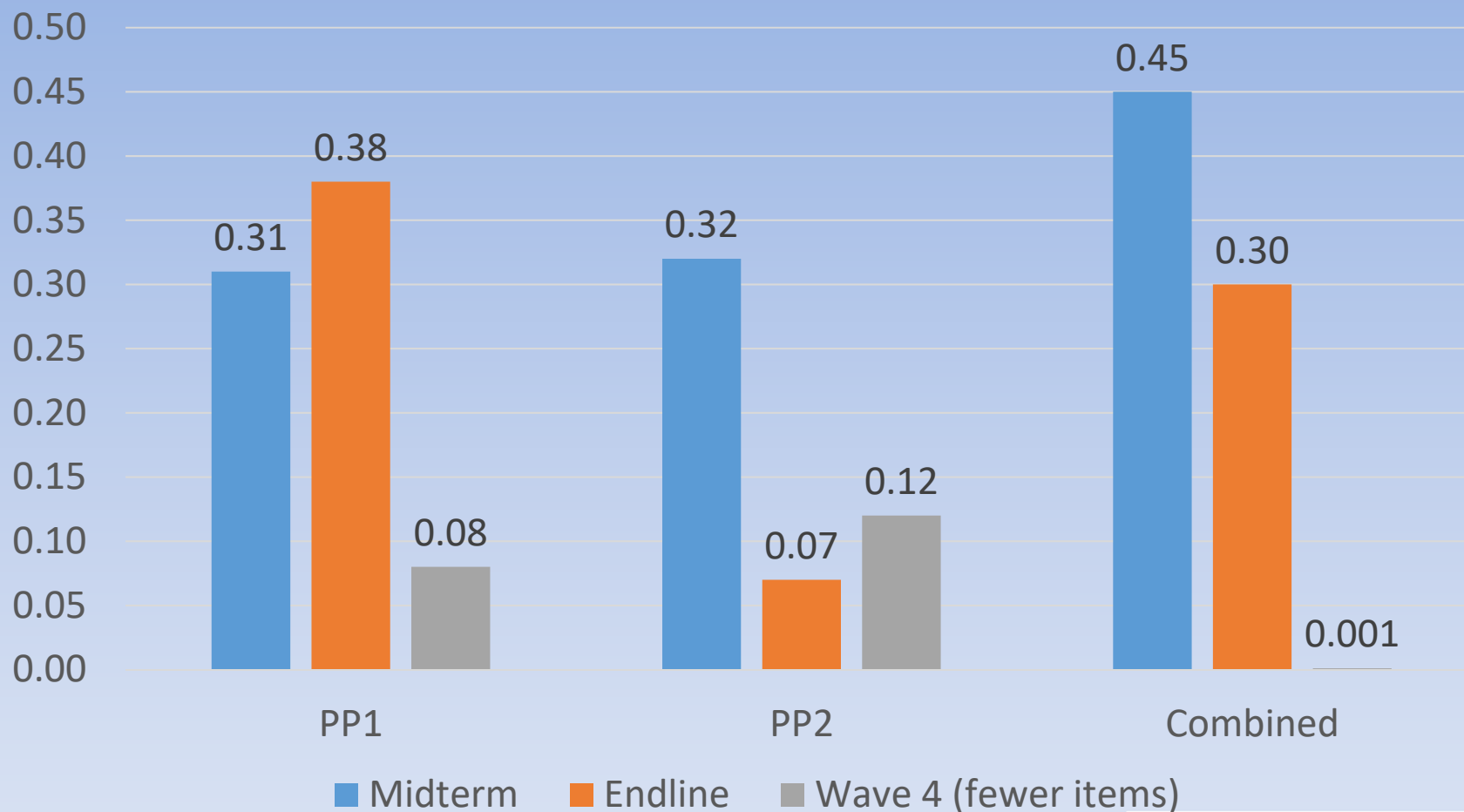
# Tayari Longitudinal Attrition Analysis



Control	Treatment	Overall
26.6%	25.6%	26.1%



# Gains in Tayari Longitudinal Index (Effect Sizes in SD)



# Impact of Tayari on Grade 1 and 2 Outcomes

Domain	Subtask	Overall	PP1	PP2	Combined
English	Vocabulary				
	Letter-sound fluency				
	Phoneme segmentation				
	Oral passage reading		—		
	Reading comprehension		—		
	Word writing				+
Kiswahili	Letter-sound fluency				
	Syllable fluency		—		+
	Oral passage reading		—		
	Reading comprehension		—		
	Vocabulary		—		
	Picture score				
Numeracy	Quantity discrimination				
	Missing number knowledge				
	Addition				
	Subtraction		—		+

# Qualitative Findings

- Tayari materials are simple and **parents complain** that it is shallow in terms of content (Teacher)
- 2017 learners were better than 2016 when teachers had negative attitude but **by 2017 the teachers had embraced the program totally** and there was no parallel teaching (Coach)
- Yes. **1 year children 2017 were better** than those 2 years in 2016. They had better skills in writing, concentration and communication. (Teacher)
- 2016 pp1 there was no proper use of teacher's guide but **in 2017 use of the teachers guide was better** (Coach)

# Reflections on the Kenyan Context

- 2 years of Tayari insufficient to resist fadeout
- Mixed effects of Tayari on EGRA/EGMA
- Competition with “academic” pre-primary
- Kenya’s Competency Based Curriculum
  - Reduced Tayari materials pacing
- 2019 Revisions to Tayari based on findings

# Discussion

- Pre-primary **fadeout effect** is typical
- Bailey et al (2018) trifecta
  - Targeted skills must be **malleable**
  - Skills must be **fundamental to future learning**
  - Skills must have not developed otherwise
    - **Tusome** national literacy program
- Are we examining the skills that persist?
- **Need more longitudinal** research



Thank you  
[bpiper@rti.org](mailto:bpiper@rti.org)  
[kmking@rti.org](mailto:kmking@rti.org)

# Modest Ceiling Effects of School Readiness Index (still)

