# What have we learned about the economics of reaching Zero-Dose children?

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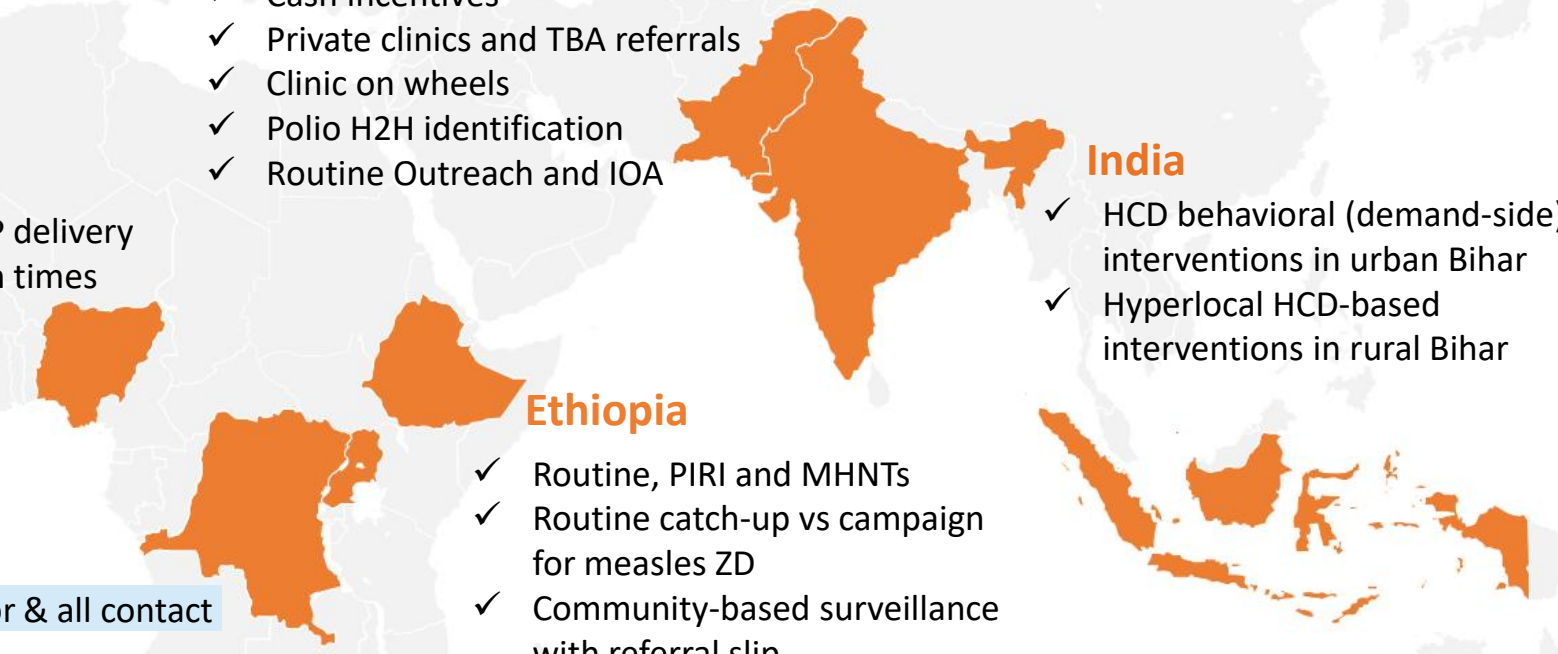
# For what countries do we have evidence?



## Pakistan

- ✓ Cash incentives
- ✓ Private clinics and TBA referrals
- ✓ Clinic on wheels
- ✓ Polio H2H identification
- ✓ Routine Outreach and IOA

## Nigeria

- ✓ Regular & ZDROP delivery
- ✓ Extended session times
- ✓ BCU
- ✓ Drone delivery
- ✓ Beneficiary costs

## India

- ✓ HCD behavioral (demand-side) interventions in urban Bihar
- ✓ Hyperlocal HCD-based interventions in rural Bihar

## Ethiopia

- ✓ Routine, PIRI and MHNTs
- ✓ Routine catch-up vs campaign for measles ZD
- ✓ Community-based surveillance with referral slip

## The DRC

- ✓ Door-to-door & all contact vaccination
- ✓ Mapping for health

## Uganda

- ✓ H2H identification
- ✓ BCU
- ✓ Last mile & drone delivery

## Indonesia

- ✓ Financial reform to reach ZD children

= Not presented today

= Results coming soon

**7 countries**
**14 organizations**

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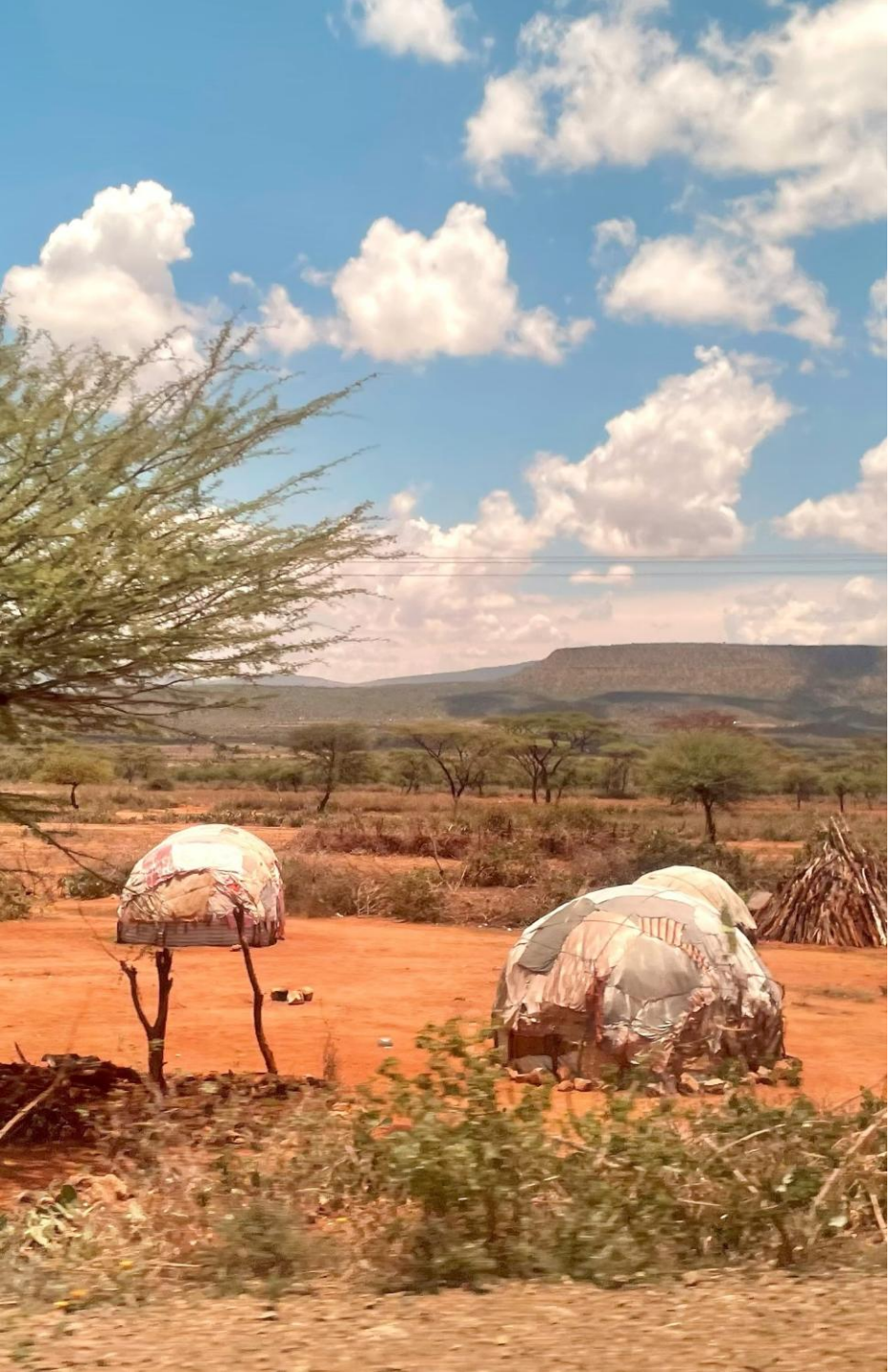


# Vaccinating ZD children in rural and hard-to-reach areas

**$129.26**
MHNTs (full cost)

**$52.47**
Health post

**$0.89**
Routine catch-up vaccination

**$1.08**
Measles campaign

**$12.53**
BCU

**$90.40**
Health center

**$3.5**
MHNTs (incr. fin cost)

**$6.65**
PIRI

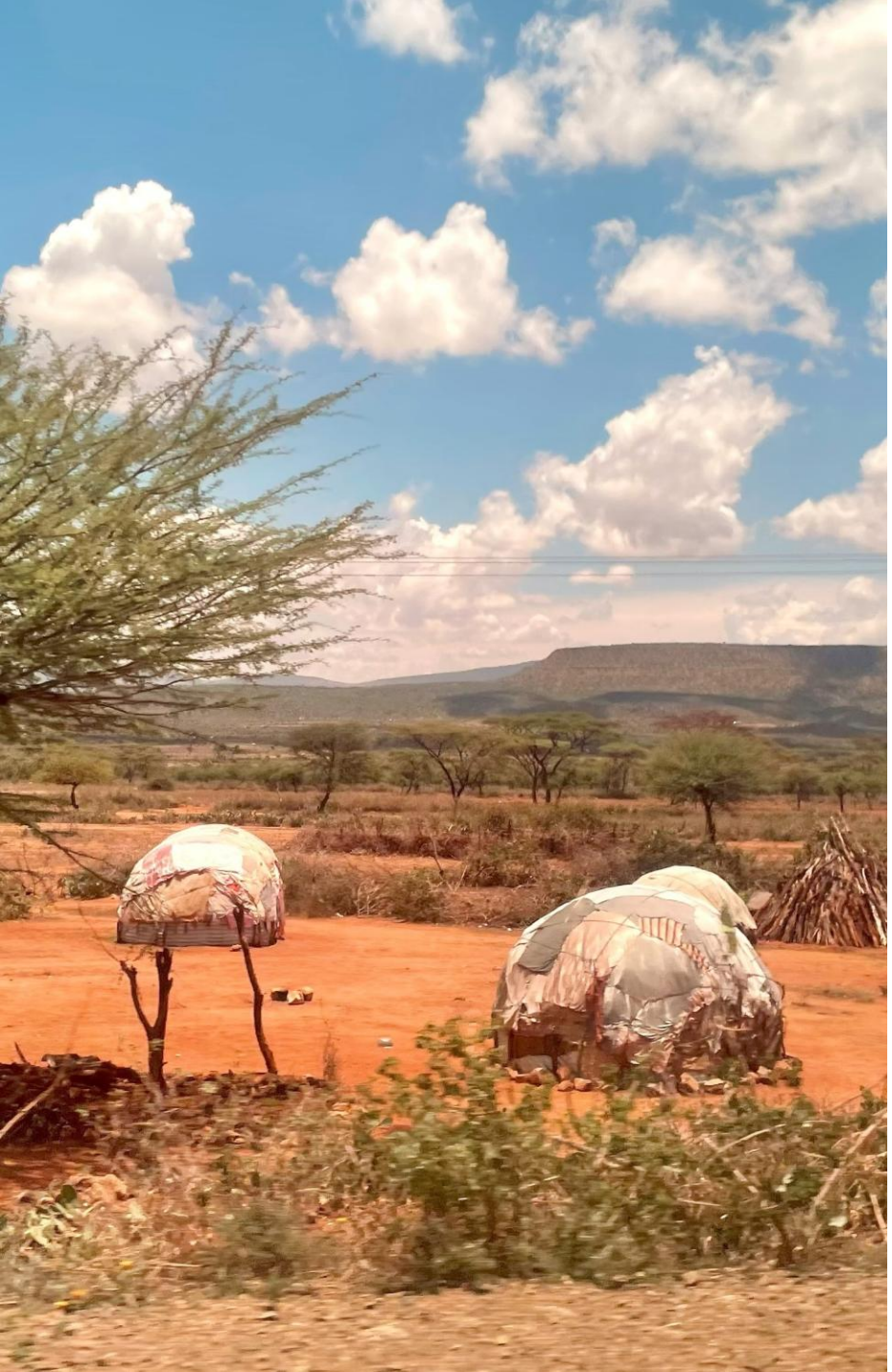
**$3.39**
Outreach

**$2.12**
Facility-based

Nigeria (Kaduna)

Ethiopia (Somali and Afar)

Uganda



# Vaccinating ZD children in rural and hard-to-reach areas

**$129.26**
MHNTs (full cost)
**96 children /year**

**$52.47**
Health post
**384 children /year**

**$0.89**
Routine catch-up vaccination
**790 children**

**$1.08**
Measles campaign
**809 children**

**$12.53**
BCU
**23,716 children**

**$90.40**
Health center
**144 children /year**

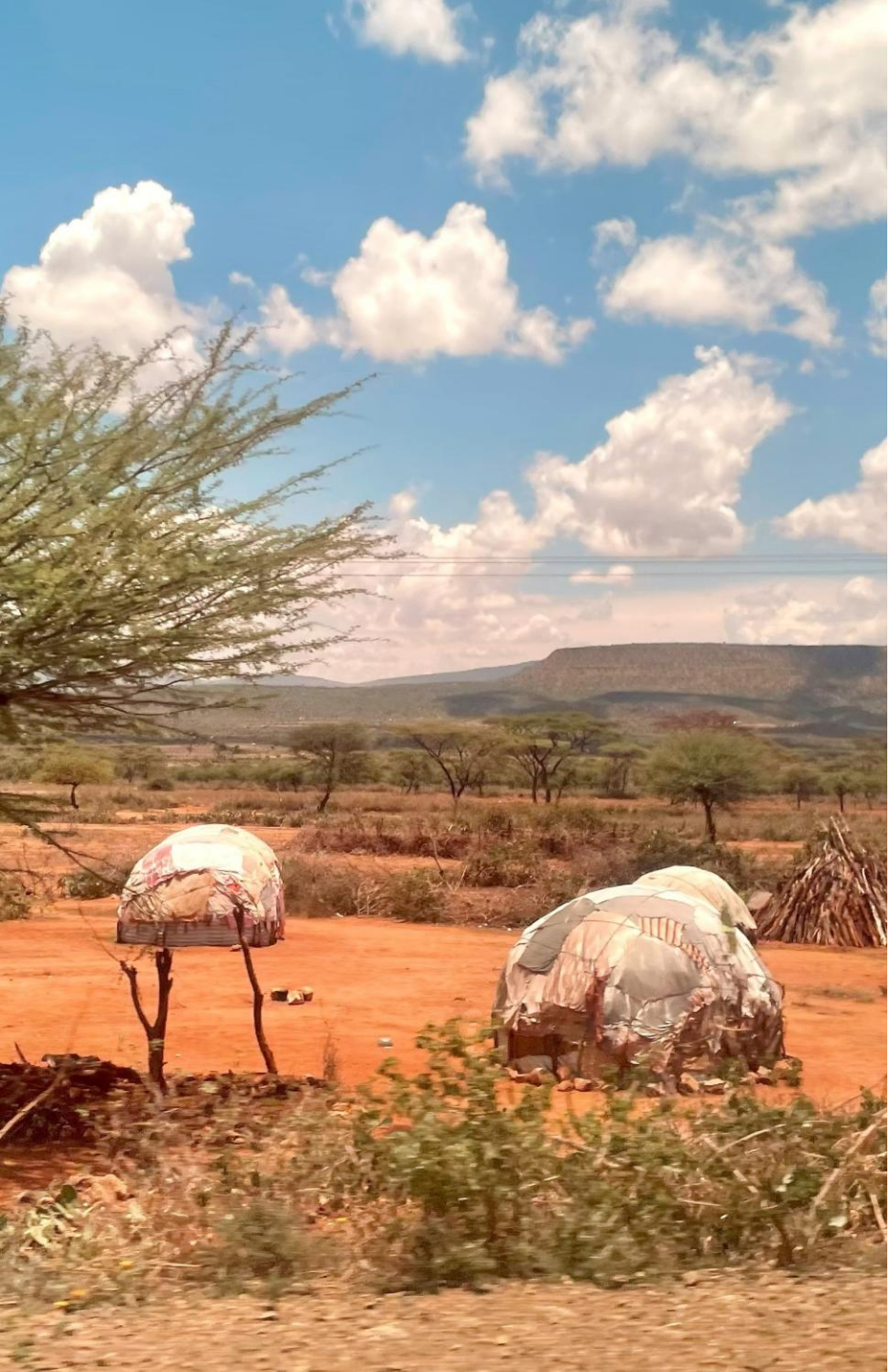
**$6.65**
PIRI
**646 children /year**

**$3.5**
MHNTs (incr. fin cost)
**96 children /year**

**$3.39**
Outreach

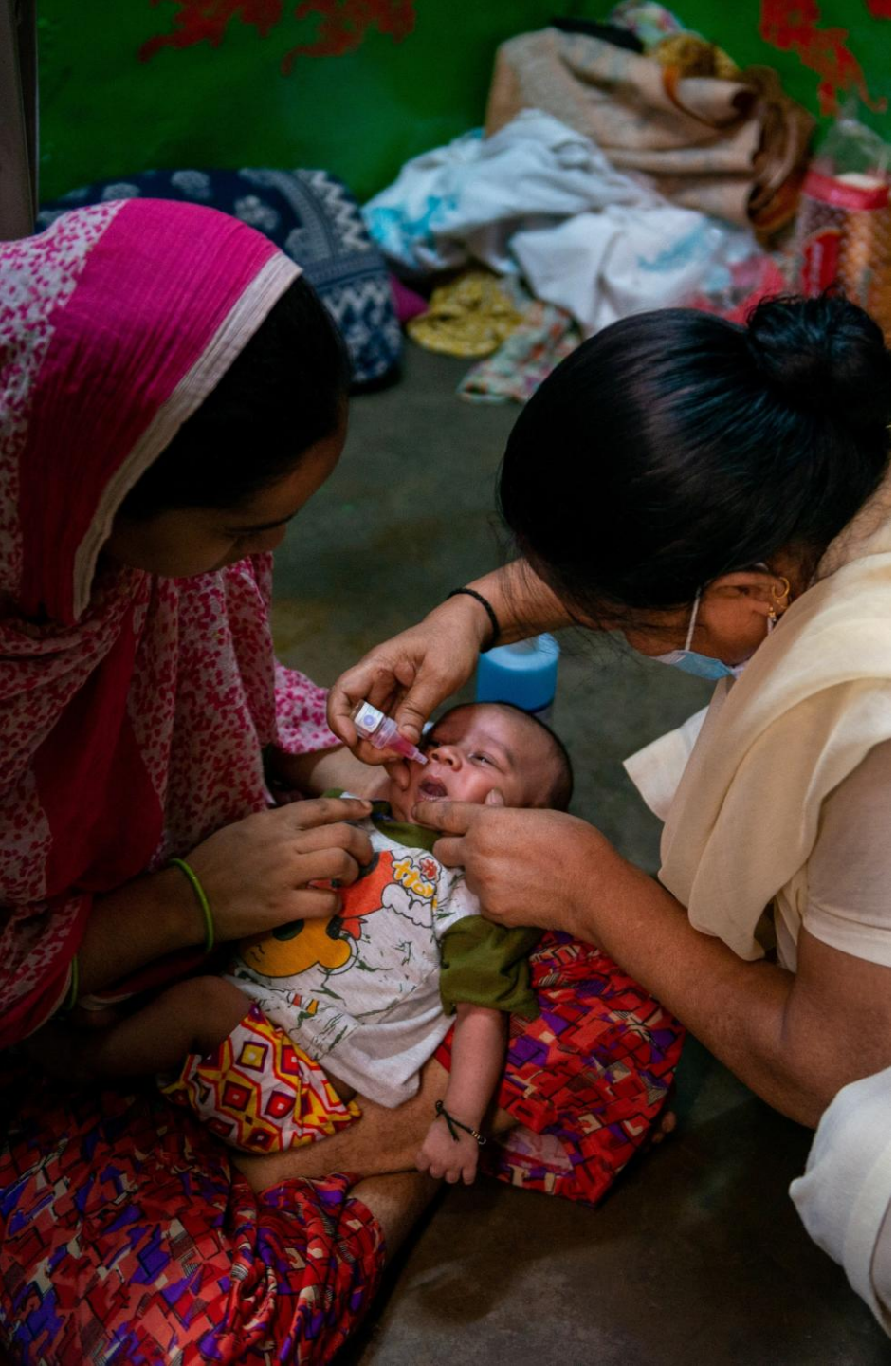
**$2.12**
Facility-based

Nigeria (Kaduna)
Ethiopia
Uganda



# Vaccinating ZD children in rural and hard-to-reach areas

- **Access key issue** in hard-to-reach areas
- Reaching **more children drives affordability**
- **Trade-off between cost** and minimizing time children remain **off schedule**
- **Integrated delivery strategies** (e.g. MHNTs) can provide more services with continuity at low financial incremental cost
- Initial evidence shows **drone delivery** to be cost-effective at the last mile



# Reaching ZD children in urban settings

**$151.37** Fixed-site delivery

**$29.79** Integrated outreach

**$11-16** Existing approaches

**$12.27** Routine

**$54.36** Clinic on Wheels

**$48.8** Outreach optimization *with TA*

**$19.4** Outreach optimization

**$1.32*** Regular fixed-site

**$25.93** Routine outreach

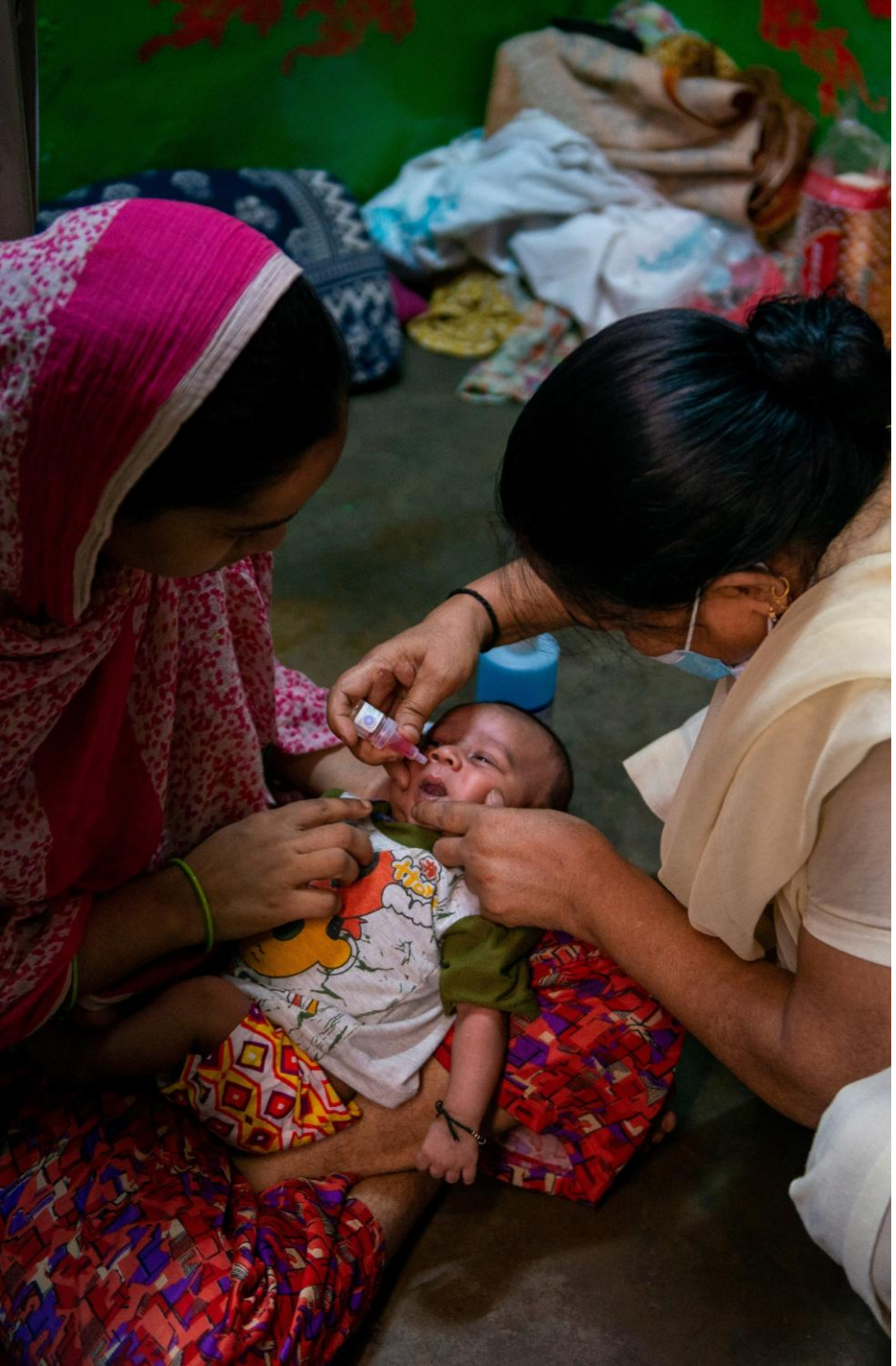
**$4.23*** Extended hours

**$1.07*** ZDROP Outreach

**$0.55*** Regular Outreach

*** Per Penta1**

- India (*Urban* Bihar)
- Pakistan (Sindh and Punjab)
- Super high-risk UCs in Pakistan (Karachi)
- Nigeria (Lagos)
- Ethiopia (Addis Abeba)



# Reaching ZD children in urban settings

**$151.37**
Fixed-site
**34 children**

**$29.79**
Integrated outreach
**239 children**

**$11-16**
Existing approaches

**$12.27**
Routine

**$54.36**
Clinic on
**35 children**

**$48.8**
Outreach optimization *with TA*

**2.5% ZD prevalence**

**$19.4**
Outreach optimization

**$1.32***
Regular fixed-site

**$0.55***
Regular Outreach

**$25.93**
Routine outreach
**214 children**

**$4.23***
Extended hours

**$1.07***
ZDROP Outreach

* Per Penta1

- India (*Urban* Bihar)
- Pakistan (Sindh and Punjab)
- Super high-risk UCs in Pakistan (Karachi)
- Nigeria (Lagos)
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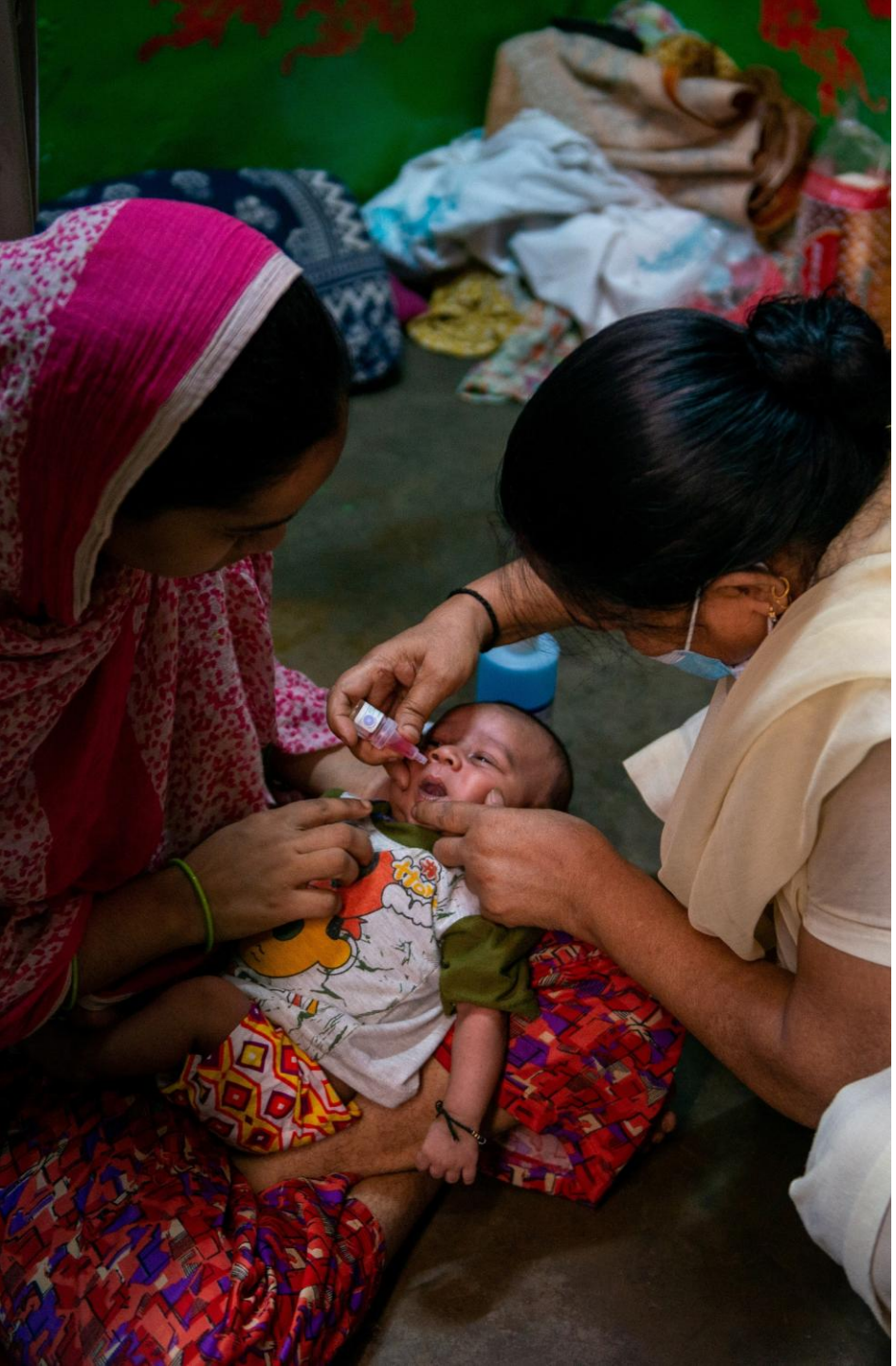
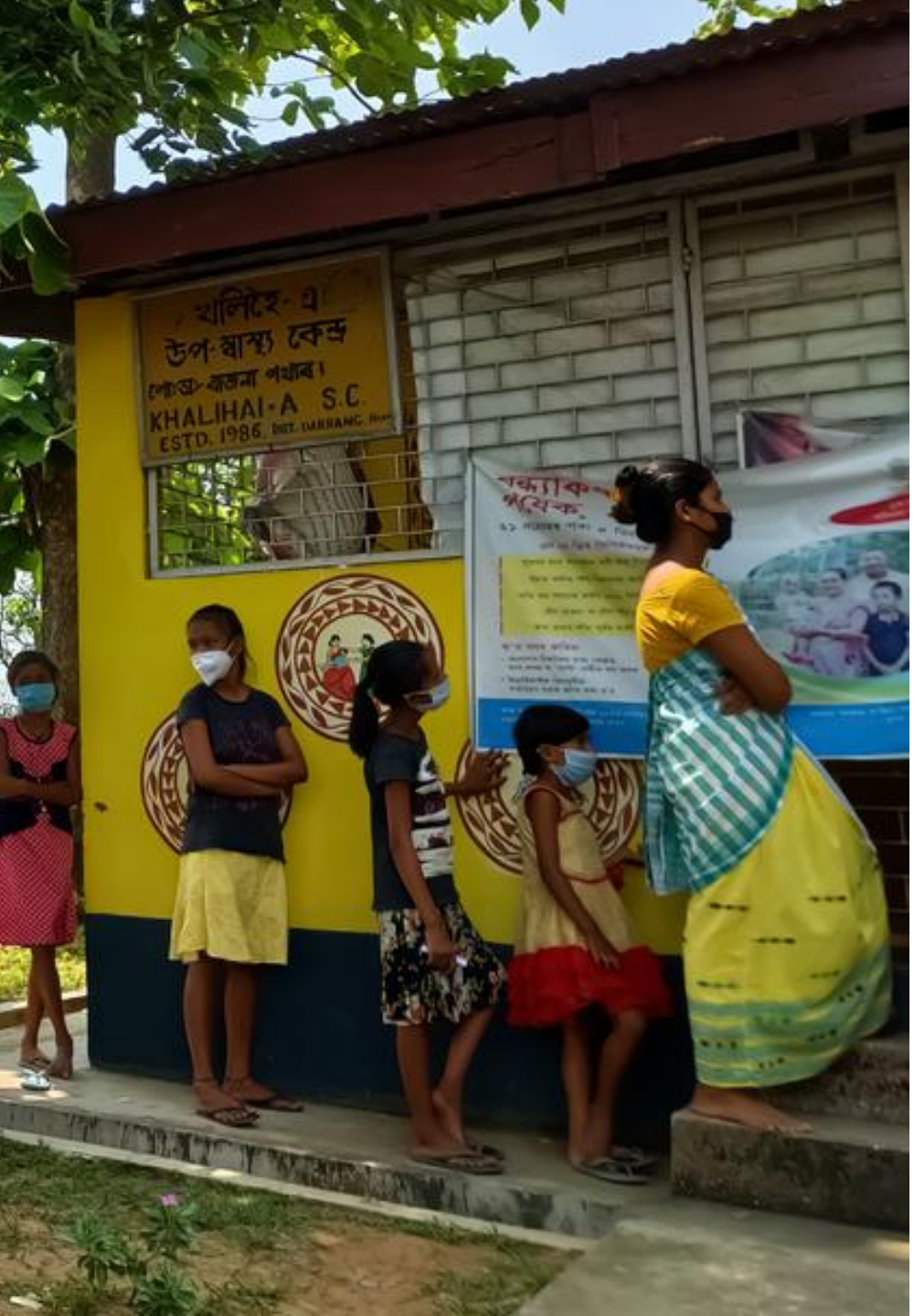


# Reaching ZD children in urban settings

- **Wider range of barriers** in urban areas require context-specific interventions
- When **access** is a key barrier, supply side interventions like **extended hours** can be cost-efficient
- Increased (supply-side) resources may not translate to better reach when barriers are mostly demand-side
- This requires tailored **community engagement** and context-specific **behavioral interventions**




# Community-based interventions to increase demand

**$501**
Bundle of hyper-local HCD interventions – *with TA*

**$379**
Bundle of hyper-local HCD interventions – *without TA*

**$17.5-$26.5**
Referral from Private Clinics

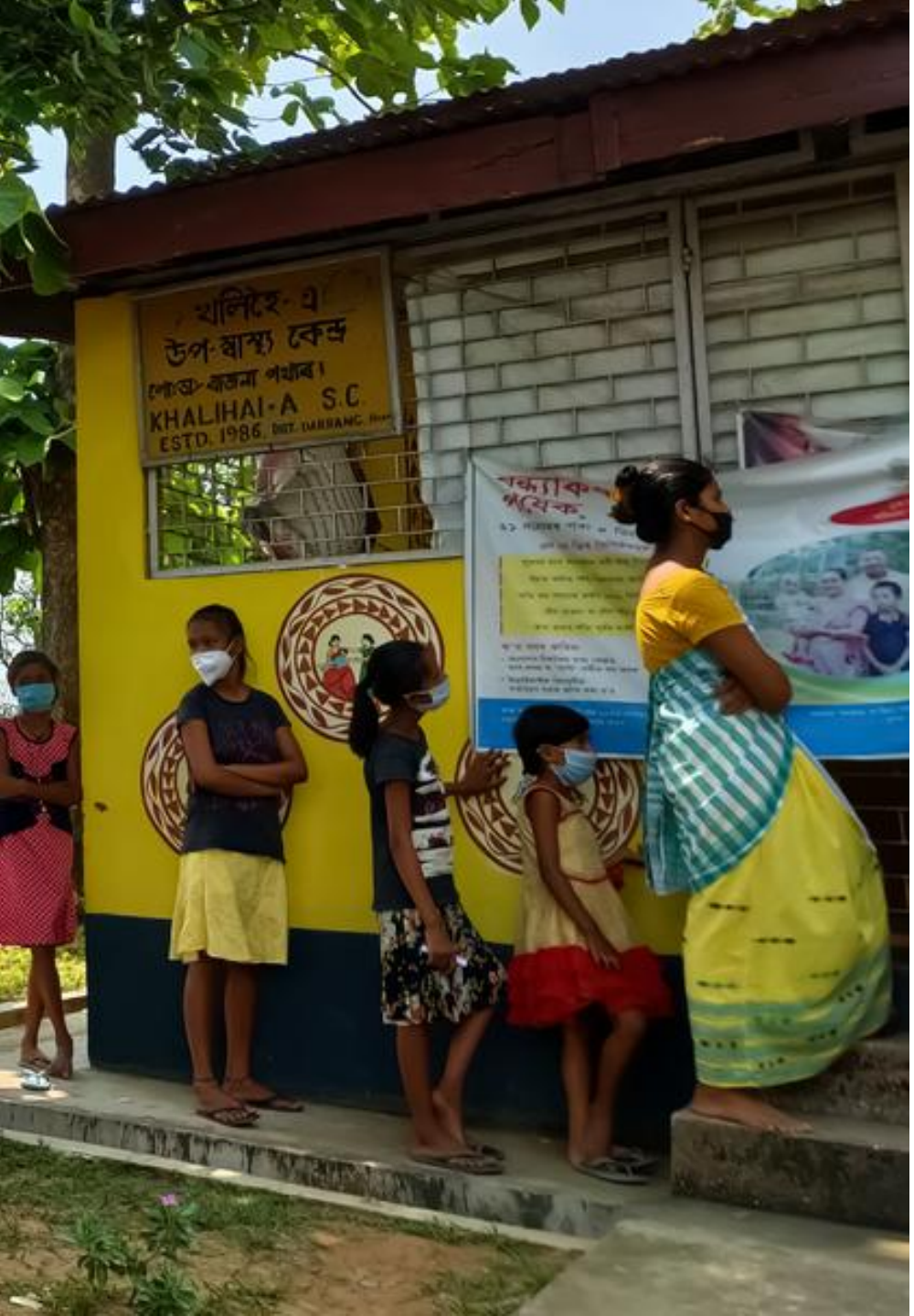
**$70.63-$173.7**
Community volunteer with referral slip

**$68.70**
Flyer and chequebook – *with design*

**$11.80**
Flyer and chequebook – *without design*

**$10.7**
Referral from TBAs

- Ethiopia (pastoralist areas)
- Super high-risk UCs in Pakistan (Karachi)
- India (*Urban* Bihar)
- India (*Rural* Bihar)




# Community-based interventions to increase demand

**$501** Bundle of hyper-local HCD interventions – *with TA*

**50 children vaccinated**

**$379** Bundle of hyper-local HCD interventions – *without TA*

**$17.5-$26.5** Referral from Private Clinics

**$70.63-$173.7** Community volunteer with referral slip

**12-31% reduction in ZD prevalence**

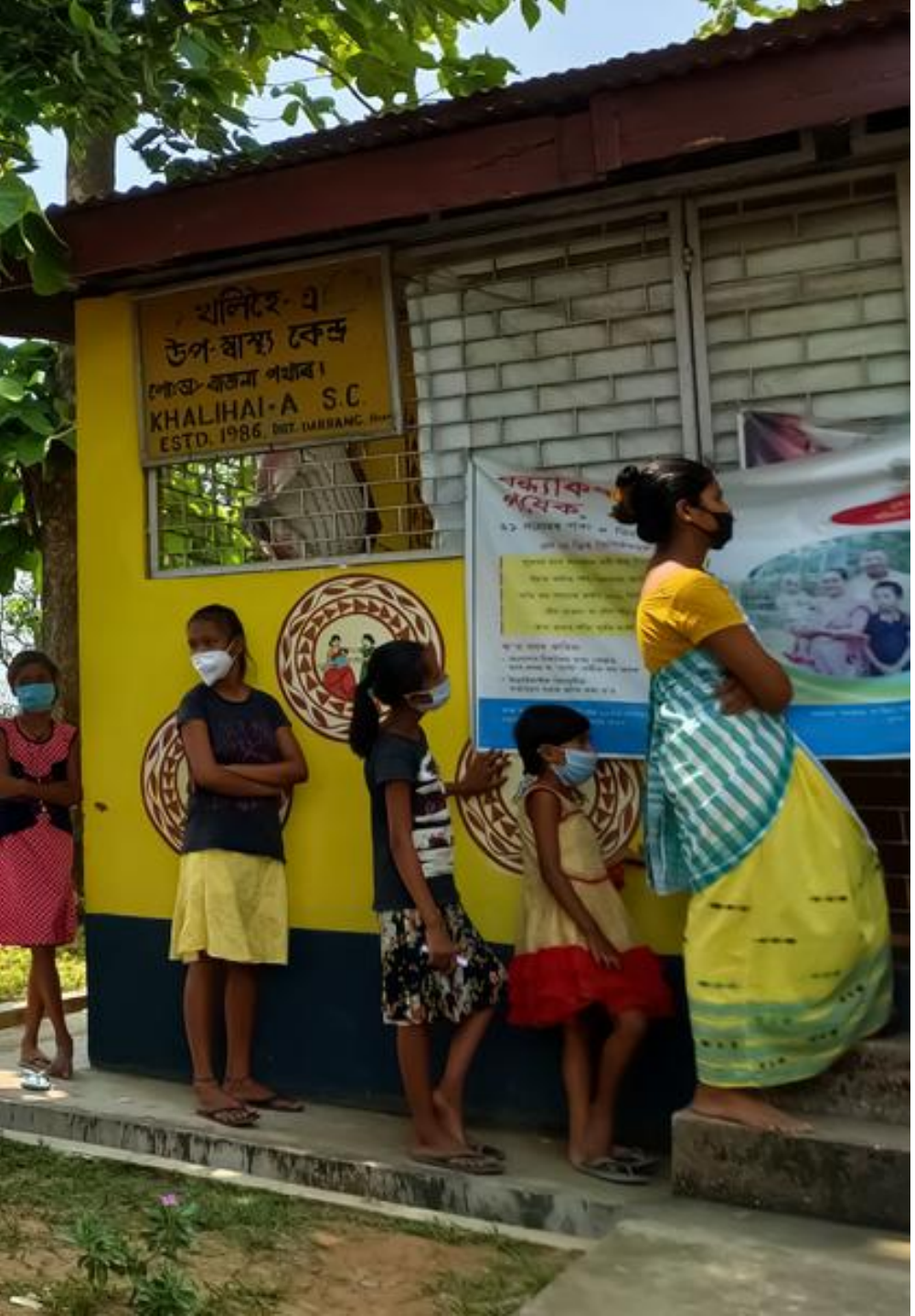
**$68.70** Flyer and chequebook – *with design*

**$11.80** Flyer and chequebook – *without design*

**382 ZD children vaccinated**

**$10.7** Referral from TBAs

- Ethiopia (pastoralist areas)
- Super high-risk UCs in Pakistan (Karachi)
- India (*Urban* Bihar)
- India (*Rural* Bihar)



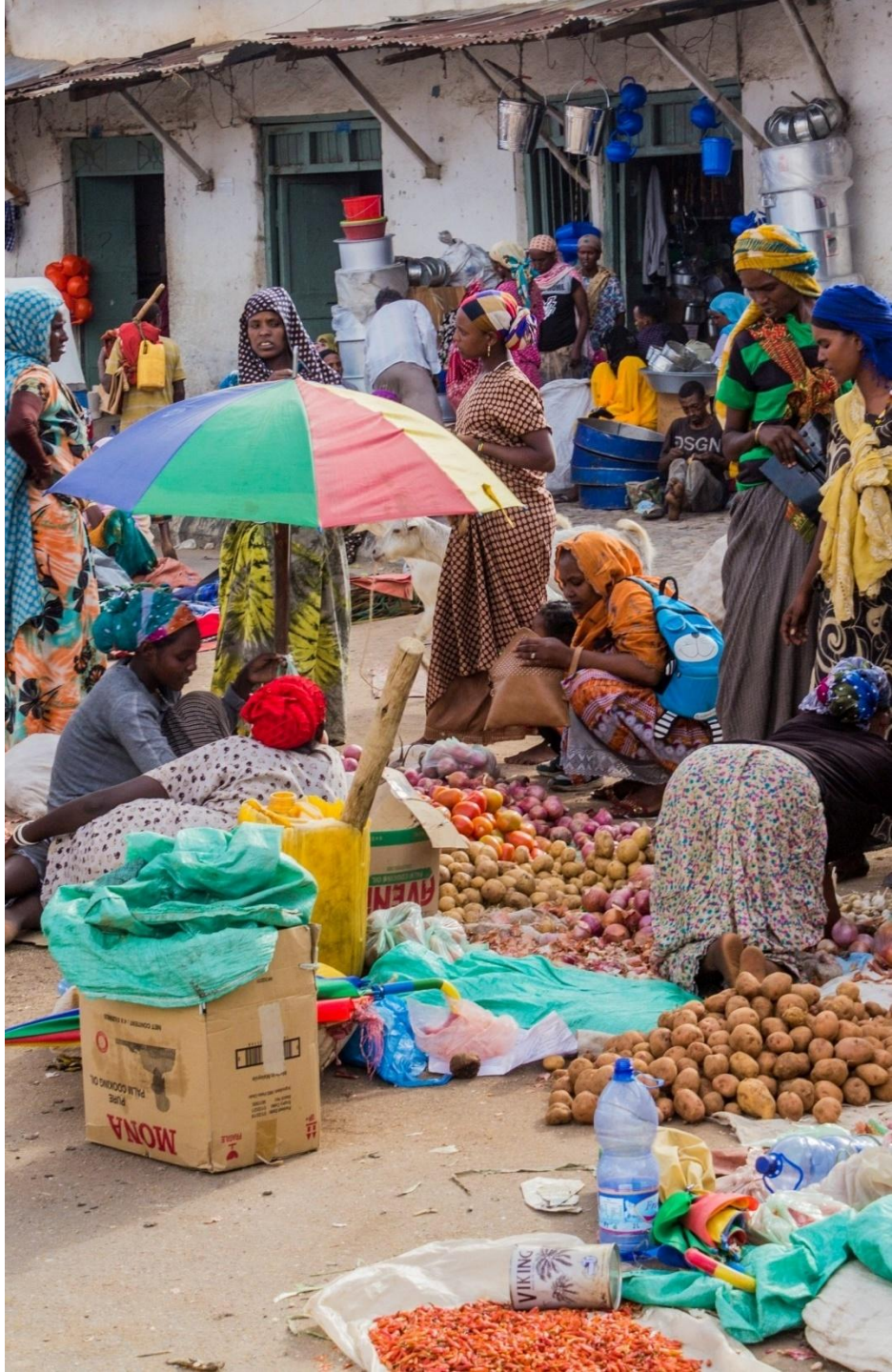

# Community-based interventions to increase demand

- Can be effective at **tackling deep-rooted demand-side barriers**
- Very high design costs
- Cost per ZD child ***could*** **go down as more children are reached** and design costs are amortized
- **Re-design likely needed to scale** behavioral interventions as addressing deep-rooted hesitancy requires context-specific solutions

# Tackling financial barriers

**$0.78/visit**
**(~21% of monthly income)**
Nigeria (Kano)

- **Financial burden** on caregivers can be significant
- **Effectiveness** of cash incentives **varies**
- Most promising: **targeted**, immunization-specific incentives in **high ZD burden areas**
- Design, delivery method and amount given impact effectiveness: **context-specific design is needed**

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# House-to-house identification of ZD children

**$17.21**
H2H identification during polio campaigns

Pakistan (Sindh & Punjab)

**$3.07**
H2H identification and registration ahead of BCU

Uganda

- Labor intensive, but low/no financial cost
- House-to-house identification **only effective if coupled with good data** system
- Ultimately, children will only be reached if the underlying service delivery offering is effective

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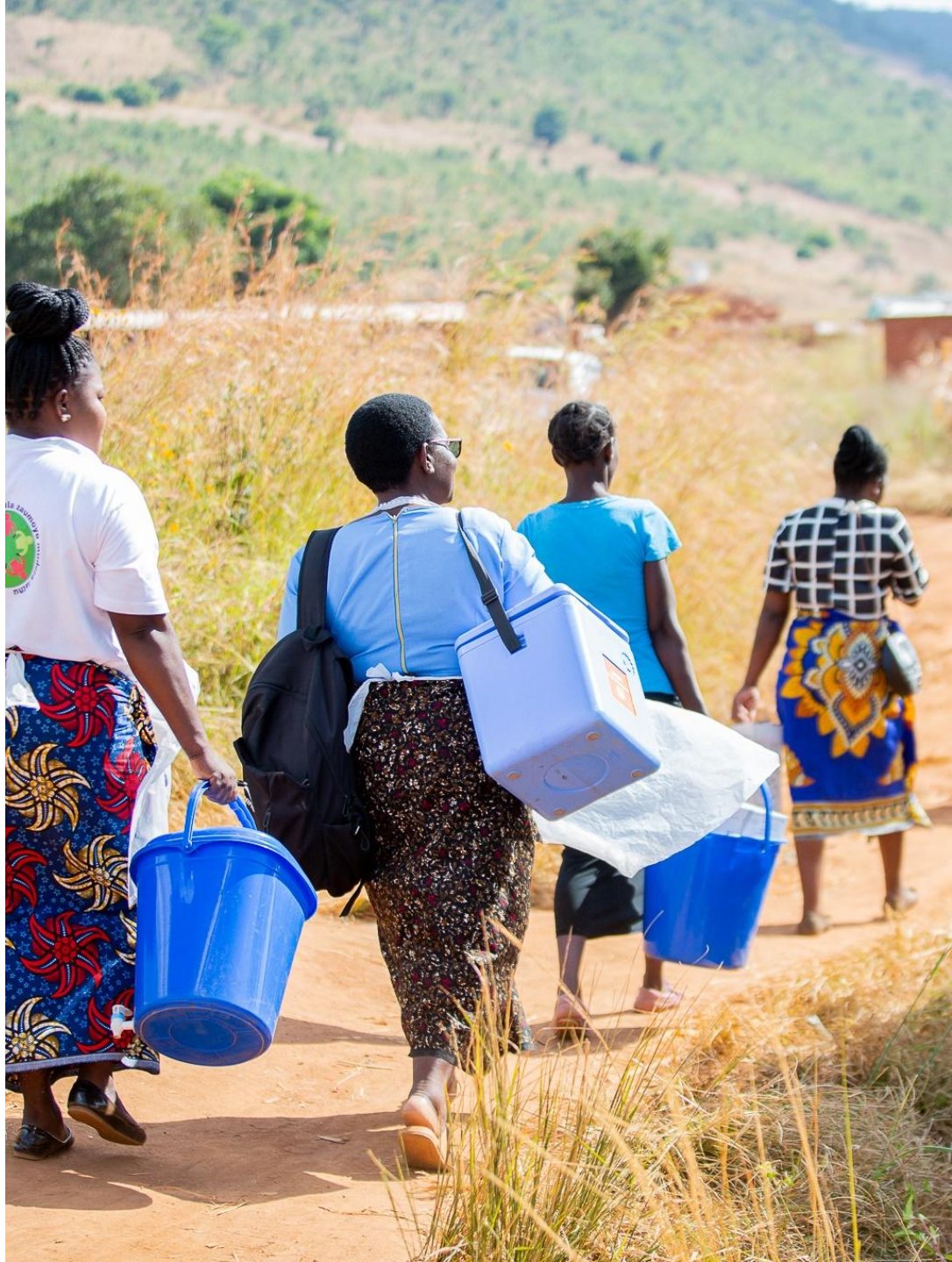

# Preliminary takeaways

- **Reaching more children drives affordability**
- In hard-to-reach areas, **trade off between cost** vs. minimizing time children are **off schedule**
- In urban areas, **suitability** of the intervention given the diverse underlying causes of ZD drives number of kids reached and cost
- **Co-delivery strategies** are effective at reaching ZD children and can run at low cost *per service delivered*
- **High design costs** may go down over time, but likely won't decrease with scale as different contexts require re-design
- Targeted **CCT schemes in high ZD burden areas** could be effective at reducing financial barriers
- **High variation of costs** across districts/facilities, underscoring that what is cost-efficient in one location may not be in another one

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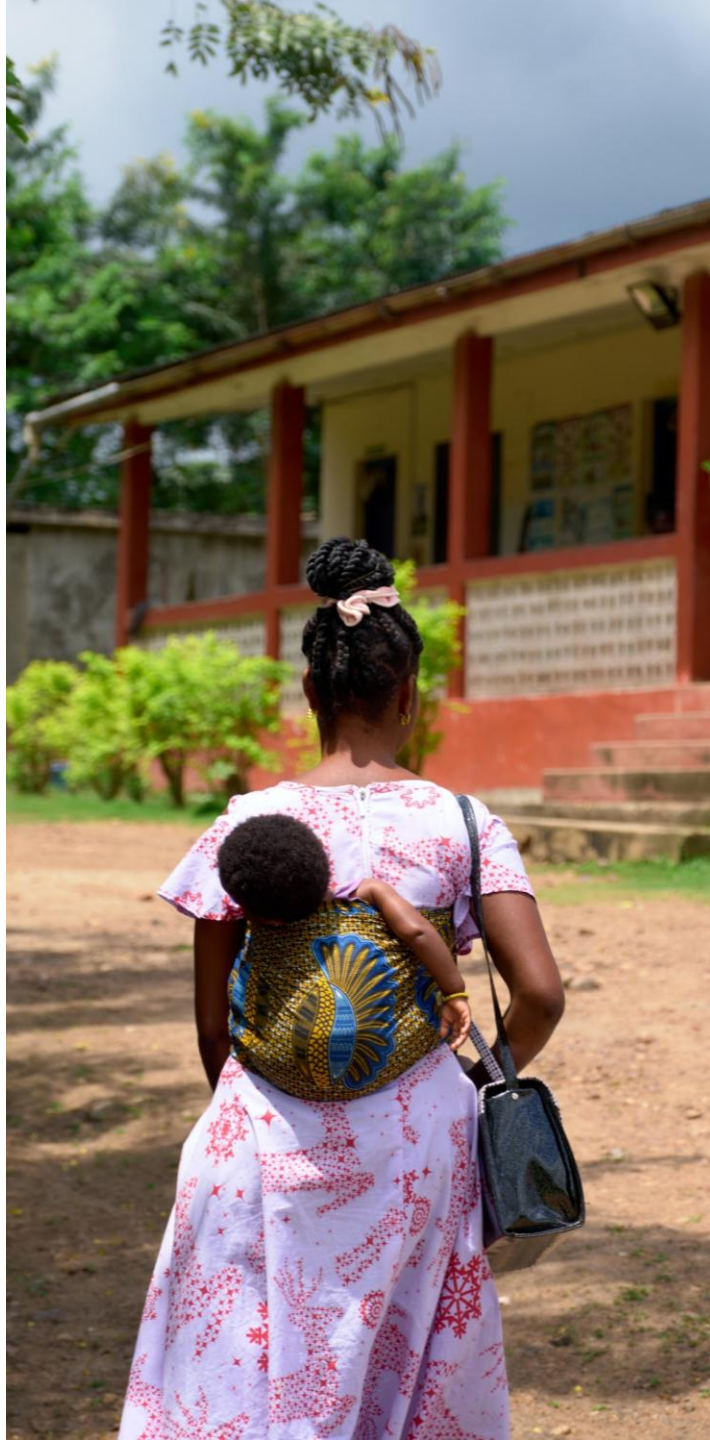

# Thank you

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