TAJIKISTAN PBF IMPACT EVALUATION RESULTS

March 2019

HSIP

- US$30 million project over 2013-2019
- Aim to contribute to the improvement of the coverage and quality of basic primary health care services in selected districts through:
  - Piloting an innovative financing mechanism, i.e. Performance-Based Financing (PBF) in selected districts covering a package of priority health services orientated around maternal and child health;
  - Improving the capacity of PHC providers to deliver quality services through physical infrastructure improvements and training of PHC doctors and nurses in family medicine, clinical treatment protocols and quality improvement

Impact Evaluation of the PBF Pilot

Research question:

- What are the effects of Performance-Based Financing on the quality and coverage of targeted health services?
  - Focus on maternal and child health and noncommunicable diseases

Rigorous Impact evaluation

- Estimating the counterfactual: "what would have been the outcomes have the interventions not been implemented?"
- Results are measured objectively

Performance-based financing

- Financial incentives for indicators of quantity and quality of health services
- Examples of quantity indicators:
  - # of children under 13 months fully vaccinated
  - # of women with timely ANC
  - # of women with postnatal care visit within a week after delivery
- Quality scores are determined by a quality checklist and a quality bonus is determined by threshold levels and the overall quantity payment.

Performance-based financing

- RHCs receive the financial incentives every quarter
  - A maximum of 70% of PBF payments to the facilities can be distributed as bonuses to clinical staff
  - A minimum of 30% allocated towards reinvestment in the facility.

- Verification of quantity and quality of services is performed by district, national, and independent monitoring teams.

PBF Pilot Districts

- Districts implementing the PBF pilot were purposively selected

- PBF pilot districts
  - Sughd: Ganchi, J. Rasulov and Matcha
    - The pre-pilot district, Spitamen, was excluded from the sample
  - Khatlon: J. Rumi, Kabadiyan, Farkhor, Yavan

- Control districts were selected to estimate the counterfactual
  - "what would have been the outcomes have the interventions not been implemented?"

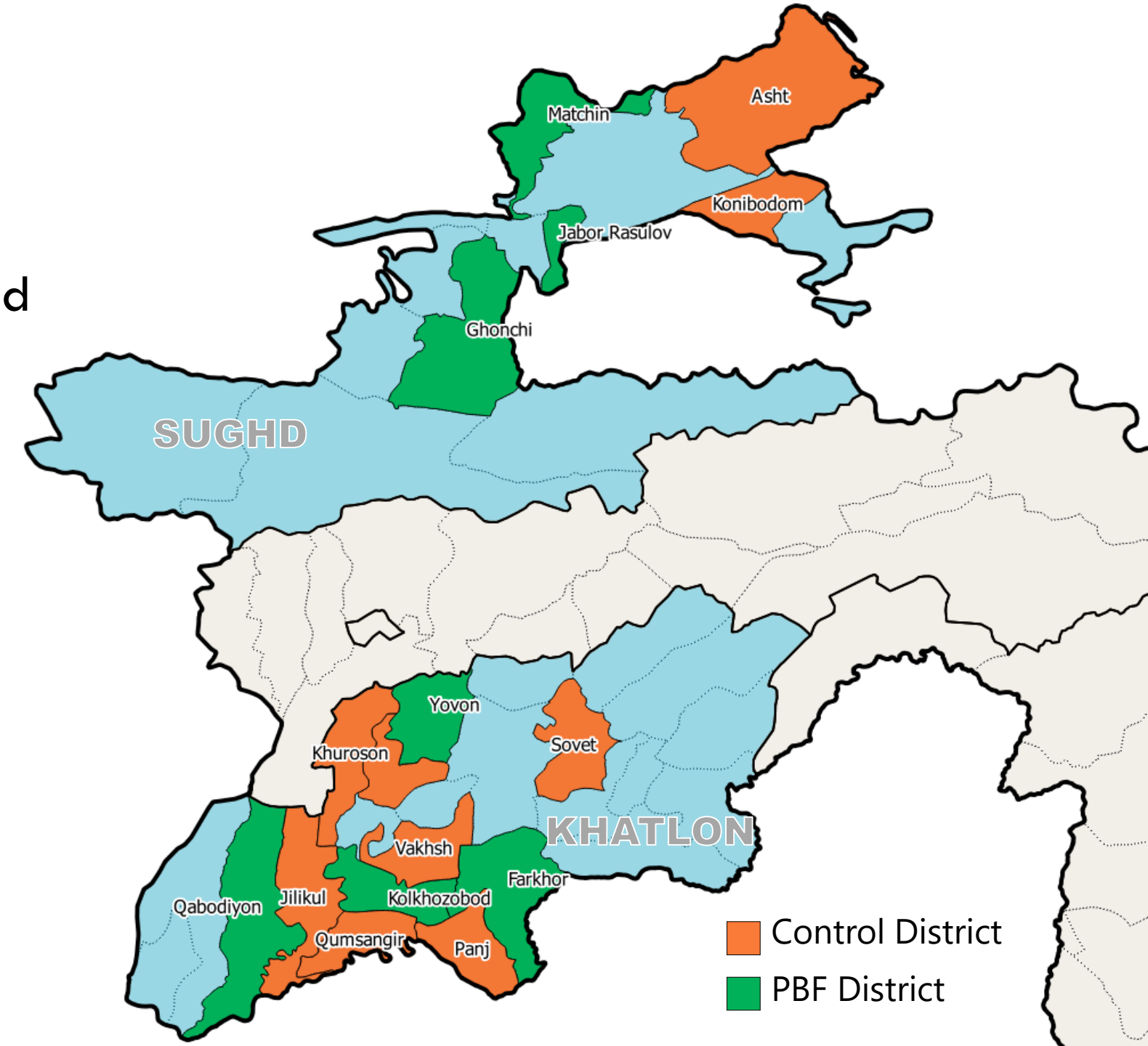
Selection of control district

- Criteria:
  - In the same regions
  - Similar in terms of number of health facilities and doctors per capita
  - Same number of rural health centers (RHCs)

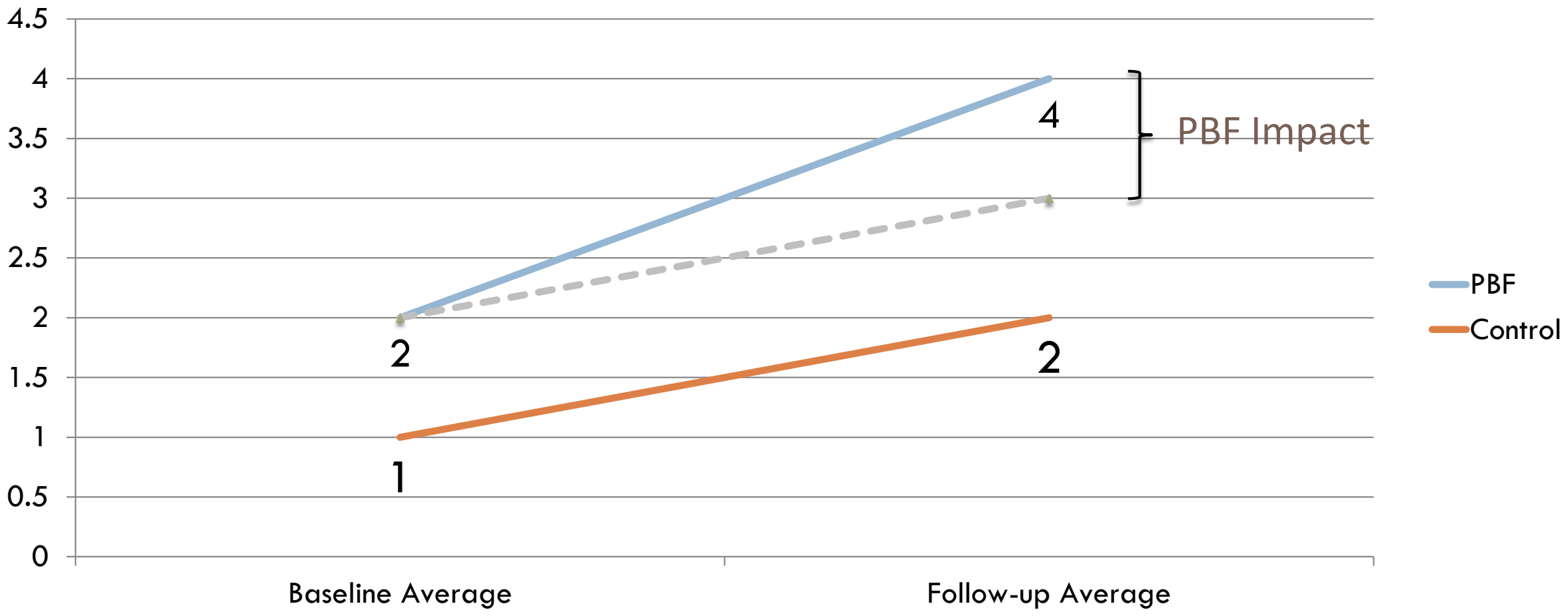
- Selected districts:
  - Sughd: Asht and Kanibadam
  - Khatlon: Kumsangir, A. Jomi, Vakhsh, Jilikul, Temur Malik, Pyanj and Khuroson

Project Districts

- Districts implementing the PBF pilot were purposively selected
- Control districts were selected to estimate trends in the absence of the intervention
- Measuring outcomes before and after exposure to the intervention



Difference-in-Differences



Data Sources

1. Facility-based Surveys to measure multiple dimensions of quality
   - Facility assessment
   - Provider interviews
   - Direct clinical observations
     - Children under 5
   - Exit interviews
2. Household survey to measure health service coverage and few health indicators
   - Recently pregnant women

Data Collection by Z-Analytics Group

- Baseline survey: November 2014 to July 2015
  - Measure outcomes prior to implementation of the project
  - 216 Rural Health Centers (RHCs) and 151 affiliated health houses
    - 151 affiliated Health Houses
  - 5,032 households

- Follow-up survey: March to July 2018
  - Measure outcomes after three years of project implementation
  - Same facilities and villages were covered

Facility Infrastructure, infection prevention and control

	RHCs	HHs
Improved water source		
Reception area	✓	✓✓
Heating in patient rooms	✓	✓✓
Patient Toilets		
Private consultation rooms		
Water in patient rooms	✓✓	
Functional incinerator		
Sterilization procedure		
Decontamination procedure		
Biowaste disposal method		
Rooms with sharps disposal	✓	

Positive and statistically significant impact on facility infrastructure

Some improvement in infection prevention and control at the RHC level (but not at the HH level)

Negative impact: ✓ = *, ✓✓ = ** ✓✓✓ = ***;
Positive impact: ✓ = *, ✓✓ = **, ✓✓✓ = ***

Impacts on drug availability in RHCs

	Impact	Trend
Amoxicillin	**0.52*** **	0.11
Paracetamol	0.21	**0.48***
Iron tablets	0.21	**0.64***
Oral Rehydration Salts	0.18	0.46
HIV test kits	**0.57** **	-0.22
Pregnancy test kits	0.39	0.01
Rapid plasma reagin	0.01	0.01

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

- Overall positive trends in drug availability in both treatment and control districts
- Positive impact coefficients for all items

Availability of Equipment

- Strong positive impact on equipment availability at both RHCs and HHs
  - For 11 out of 23 items there is a statistically significant impact in the RHC level
- Increased availability of laboratory equipment in RHCs
  - Significant impacts on Glucometers and refrigerators but not on centrifuges, hemoglobinometers or microscopes.
- Significant impact on vaccine cold storage equipment at HHs
  - Already universal in PBF RHCs

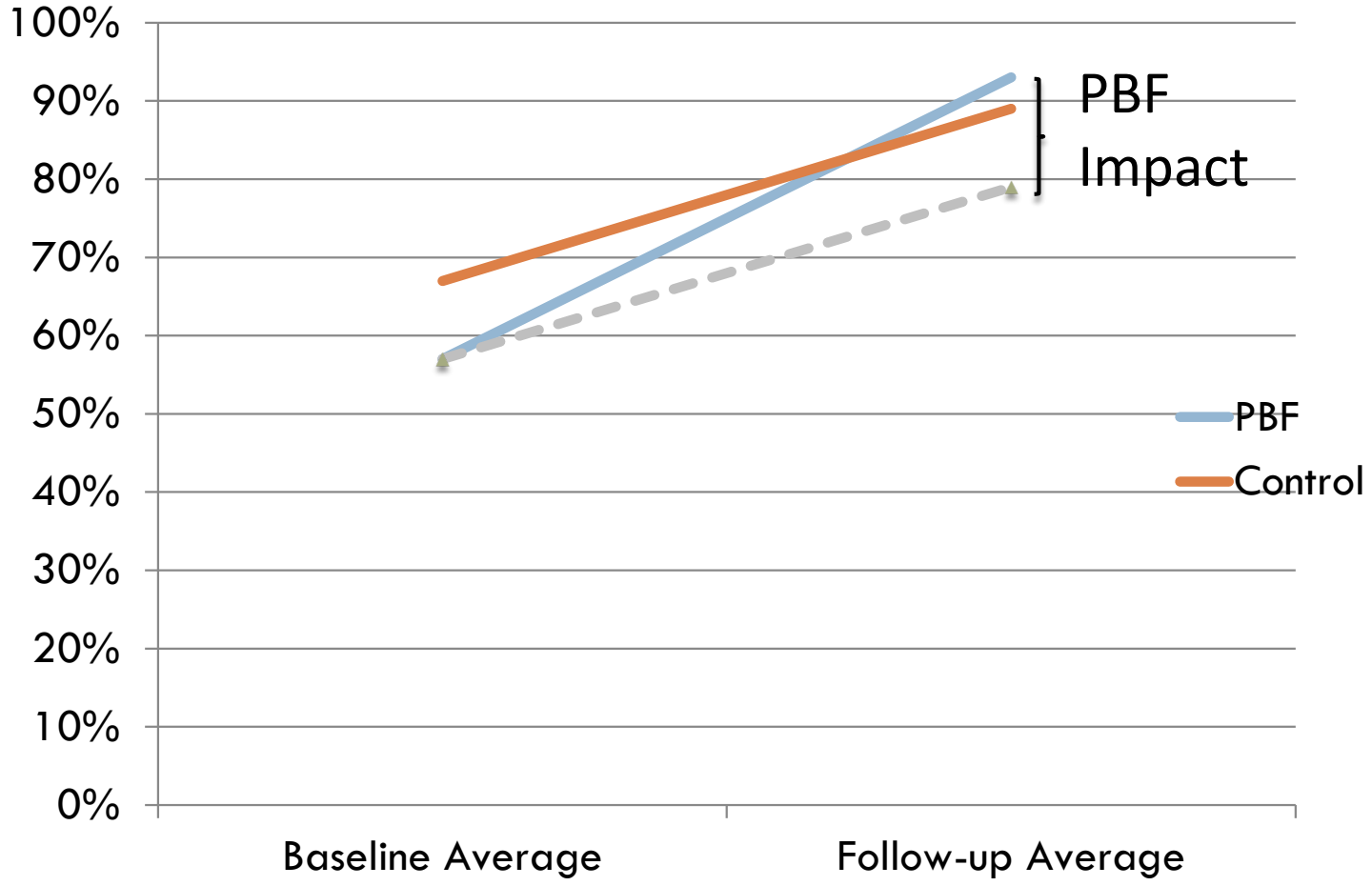
Administration

- At the RHCs, service availability was already high at baseline
  - Significant overall improvement in provision of iron folate during ANC
- Significant increase in services offered at HHs:
  - Growth-monitoring and under-5 nutrition services
  - Provision of iron folate
- Strong positive impact on availability of protocols and guidelines at the facilities
- No impacts were found on indicators related to internal administration of the health facilities: team meetings, retention of staff and solicitation of patient feedback.

Other results at the facility level

- Higher satisfaction among providers
- Impacts on content of care measured through direct clinical observations
  - Providers were more likely to measure height and weight of children under-5

Postnatal consultations within 3 days after delivery



Trend	0.19
Impact	**0.14****

* p < 0.1, ** p < 0.05, *** p < 0.01

Maternal and Child Health Services

- While we find positive impact on utilization of postnatal care services, we **do not** find impact on the following services:
  - Family planning
  - ANC
    - Number of consultations
    - Timely care
  - Growth monitoring
  - Vaccination

- We also don't find significant changes on where the services are received

Satisfaction with health services

- Overall high satisfaction reported by the households
- Higher satisfaction in PBF districts:
  - The facility works closely with the community on health matters
  - The staff listens to the opinions of the community
  - The staff in the facility is competent
- Households were asked about changes in the past three years
  - Almost all households reported improvements in attitude of health workers, infrastructure and quality of health services
  - In PBF districts, a significant higher likelihood of reporting better collaboration between the facilities and the communities

Conclusions

Conclusions: PBF

- Many improvements in both treatment and control districts over the study period

- PBF significantly improved many aspects of quality of care:
  - Availability of equipment and supplies
  - Infrastructure
  - Service availability
  - Content of care
  - Satisfaction of the community

Conclusions: PBF

- Why do we not see higher impacts on households utilization of RHCs and HHs if the quality of services increased and providers are rewarded for utilization?

Qualitative Study

Objectives

- Dig deeper into survey findings to explore factors affecting community behaviors and quality improvement
- Primary research question: *Why do we not see increased utilization of services at rural health centers and health houses although we observed observed increases in quality of services?*
- Qualitative approaches allow for exploration of context, processes, attitudes, and behaviors
  - Interviews with health providers and mothers of young children
- Data were collected in December 2018 by Zerkalo

Preliminary Findings

- Health workers observe very positive changes due to the PBF project in terms of overall conditions and infrastructure, as well as quality of services performed.
- However, health workers do feel limited by not having enough room, the lack of key equipment, inability to perform lab tests or prescribe medications, as well as the need to refer out for specialist care.
- Community members express trust and confidence in rural facilities for consultations, advice, preventive care such as vaccinations, and other first-line care. They describe rural facilities and providers positively, overall.
- However, mothers and families also feel constrained by limitations of local facilities and seek care at higher level facilities when treatment or examinations are required and when referred by their local providers at the rural level.