



WELCOME TO THE TRA 6 LECTURE SERIES INNOVATION PATHWAYS TO SUSTAINABILITY

**PERFORMANCE-BASED FINANCING IN HEALTH CARE: RECENT
EVIDENCE AND NEW OPPORTUNITIES**

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Performance-based financing in health care: Recent evidence and new opportunities

Feb 17, 2021

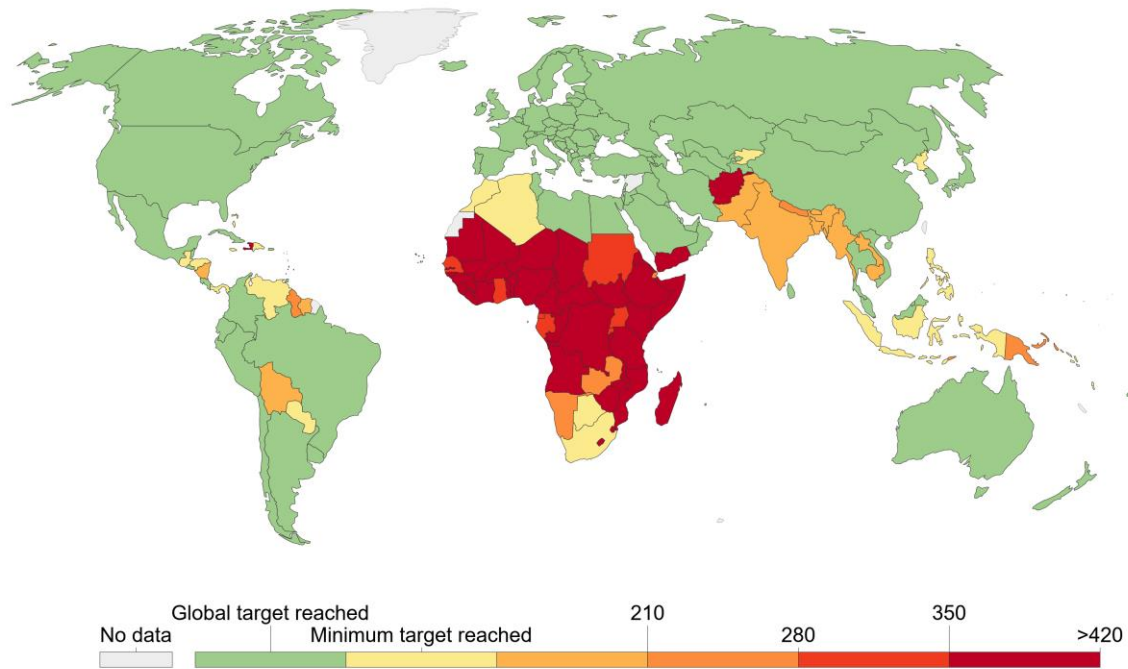
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Maternal mortality ratio, 2015

Our World
in Data

Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births. SDG Target 3.1 is to reduce global maternal deaths to less than 70 per 100,000 live births and all countries less than 140 per 100,000 live births.

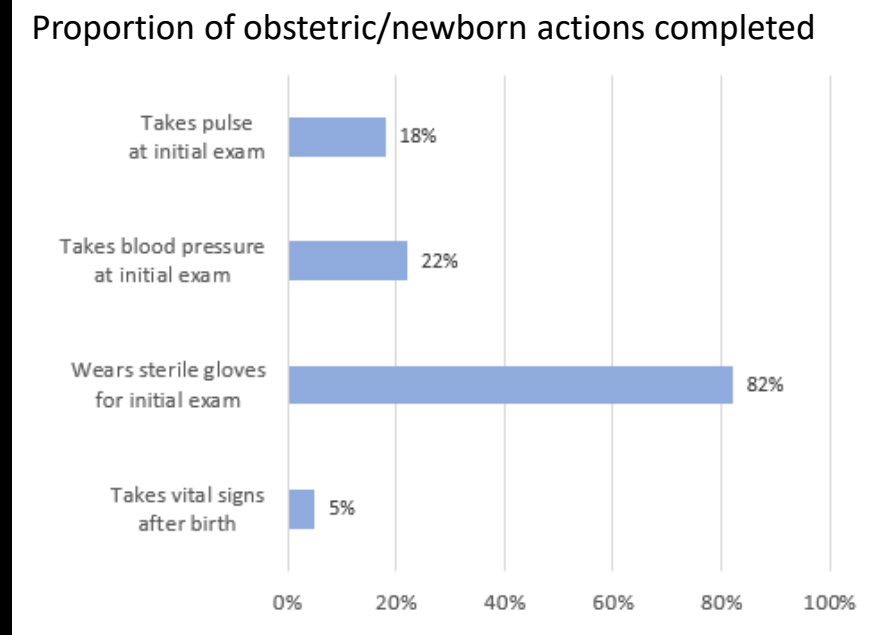
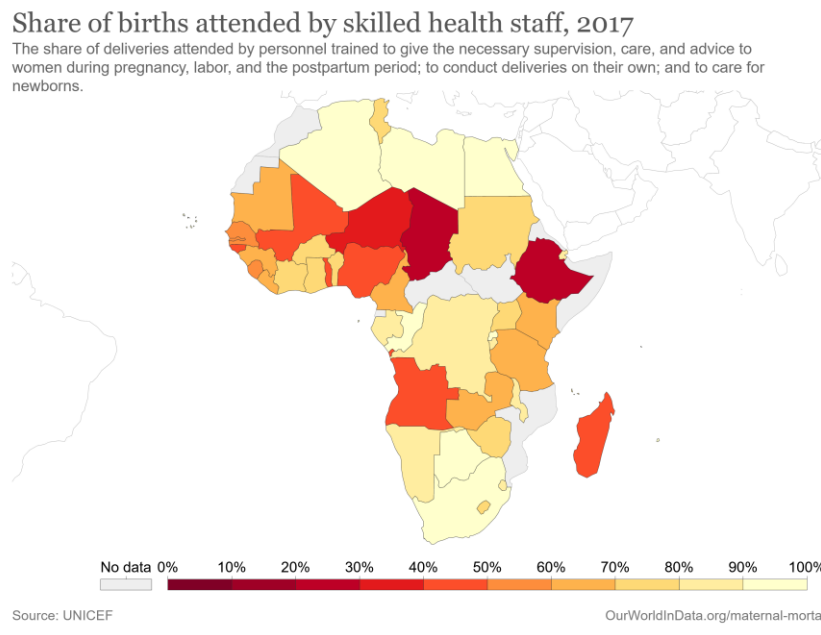


Source: World Bank

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Source: Our World in Data.

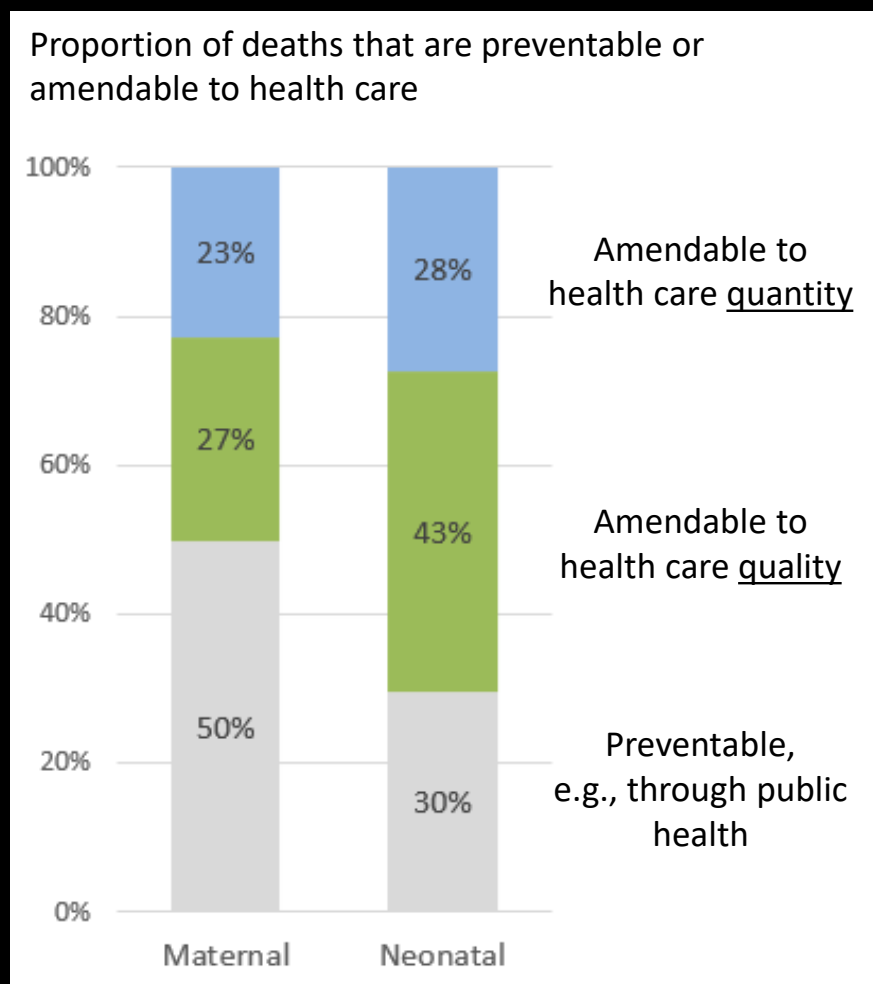
Quantity and quality of health care services are too low



Source: Our World in Data.

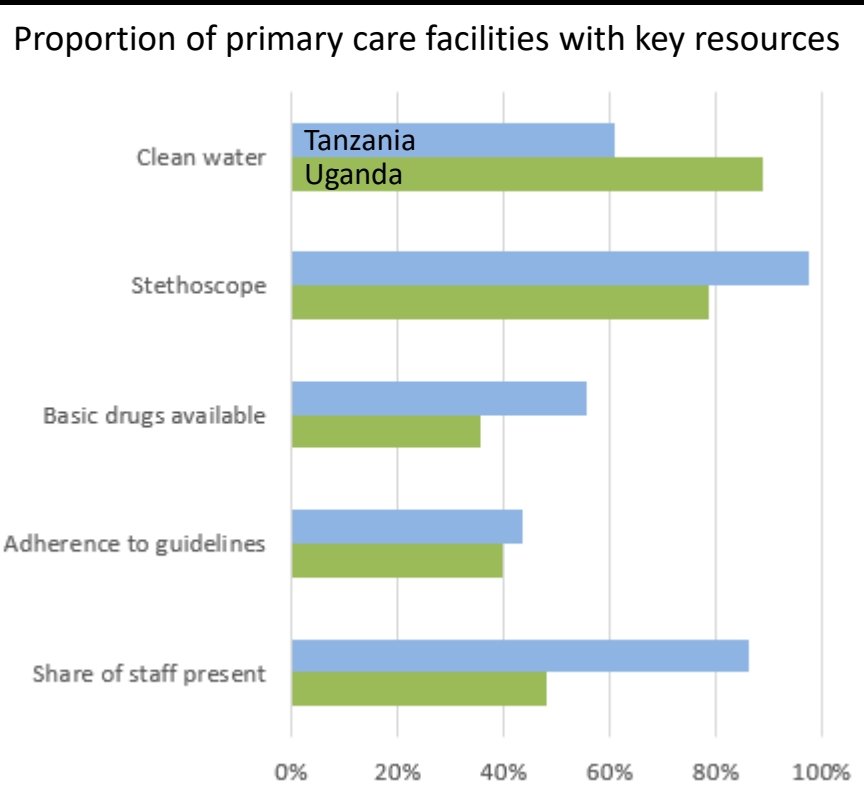
Note: Ugandan maternity clinics 2018-2019. Knowledge measured with vignettes; practice measured in direct observations.
Source: selected actions from [Rockiki et al. 2021](#).

Health care matters for health outcomes



Source: calculated based on [Kruk et al. 2018](#).

Even basic resources are scarce

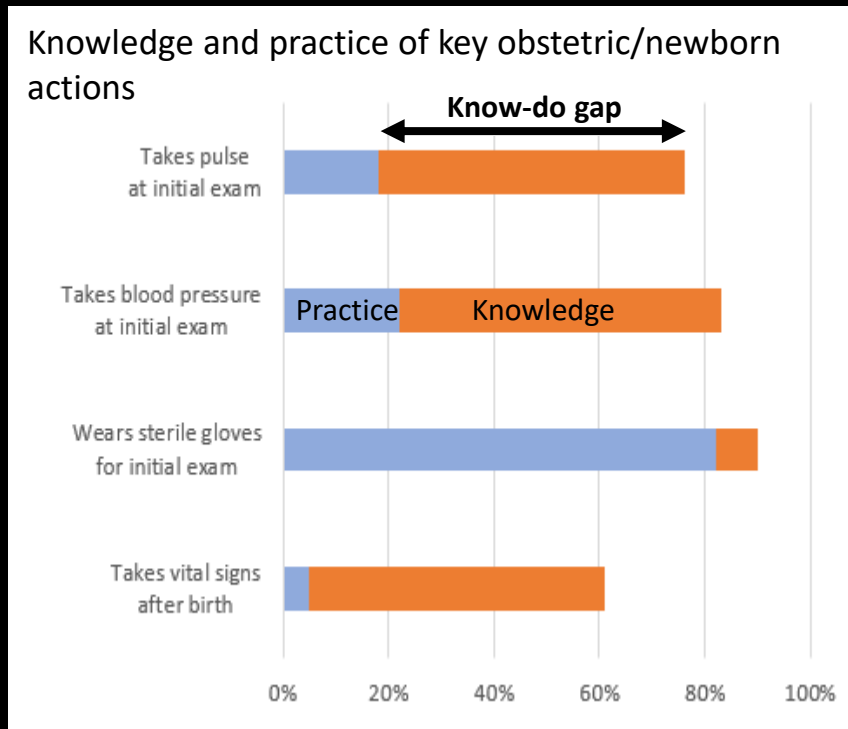


Source: [World Bank SDI](#) (UG 2013; TZ 2014).



Source: [UNICEF Cambodia/2015/Ariel Hofher](#).

There is a know-do gap



Behavior of same doctor in different settings (India)

	Public practice	Private practice
N patients per day	17	6
Time spent	1.56 mins	2.98 mins
Checklist items	18 %	28 %
Gave a diagnosis	38 %	50 %
Correct treatment	37 %	57 %

Note: Ugandan maternity clinics 2018-2019. Knowledge measured with vignettes; practice measured in direct observations.
 Source: selected actions from [Rockiki et al. 2021](#).

Note: number of patients observed by enumerators. Diagnosis and treatment for unstable angina and asthma standardized patients.
 Source: [Das et al. 2016](#); MBBS doctor in primary care clinics in Madhya Pradesh.

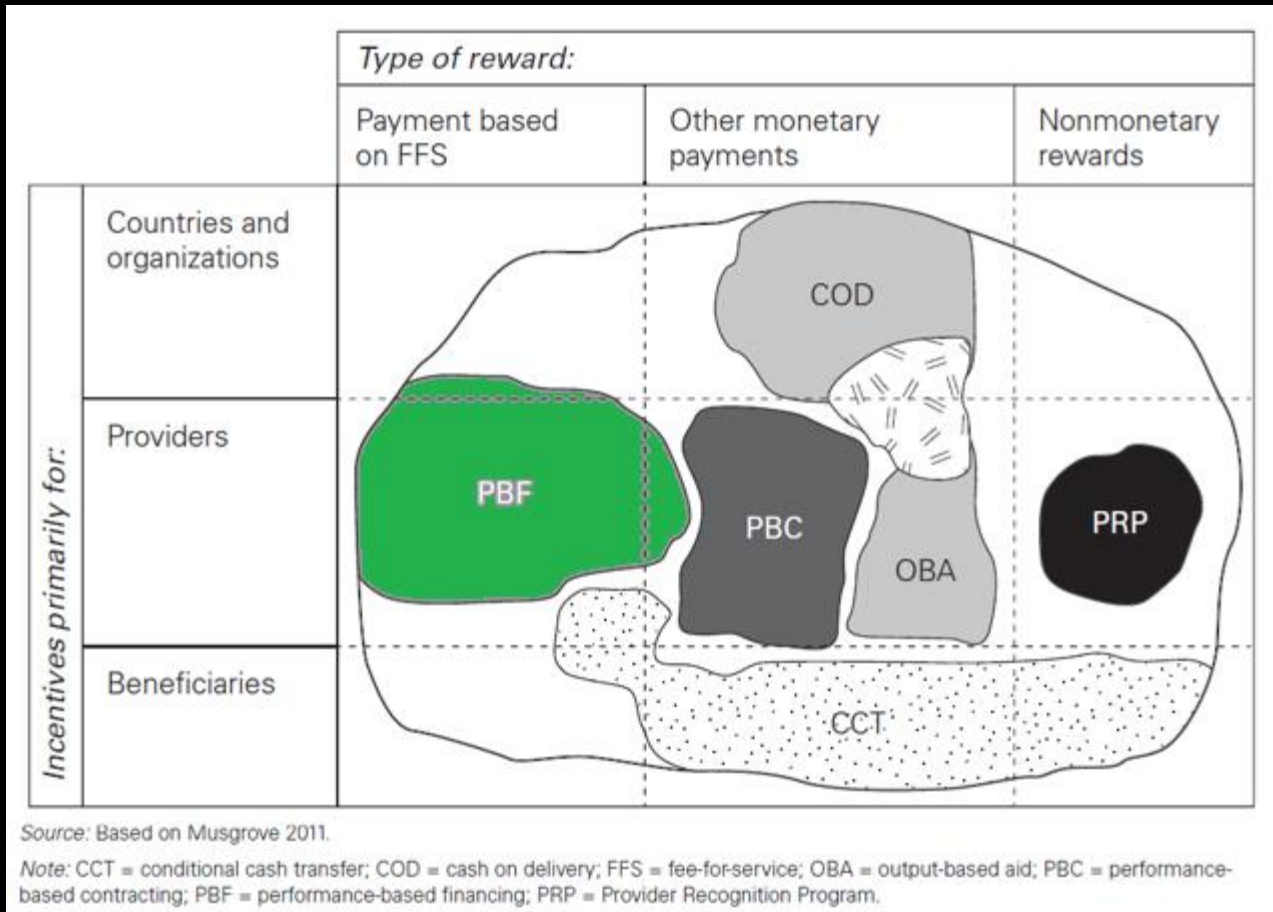
Summary so far

1. Quantity and quality of health care are low but matter for outcomes
 2. Many underlying reasons, from scarce resources to low effort
 3. The know-do gap suggests that providers could do better
 4. Providers also actually can do better if they have the right incentives
- Incentives are modifiable and therefore an appealing policy lever
 - Paying for performance is also politically attractive

Performance based financing in health

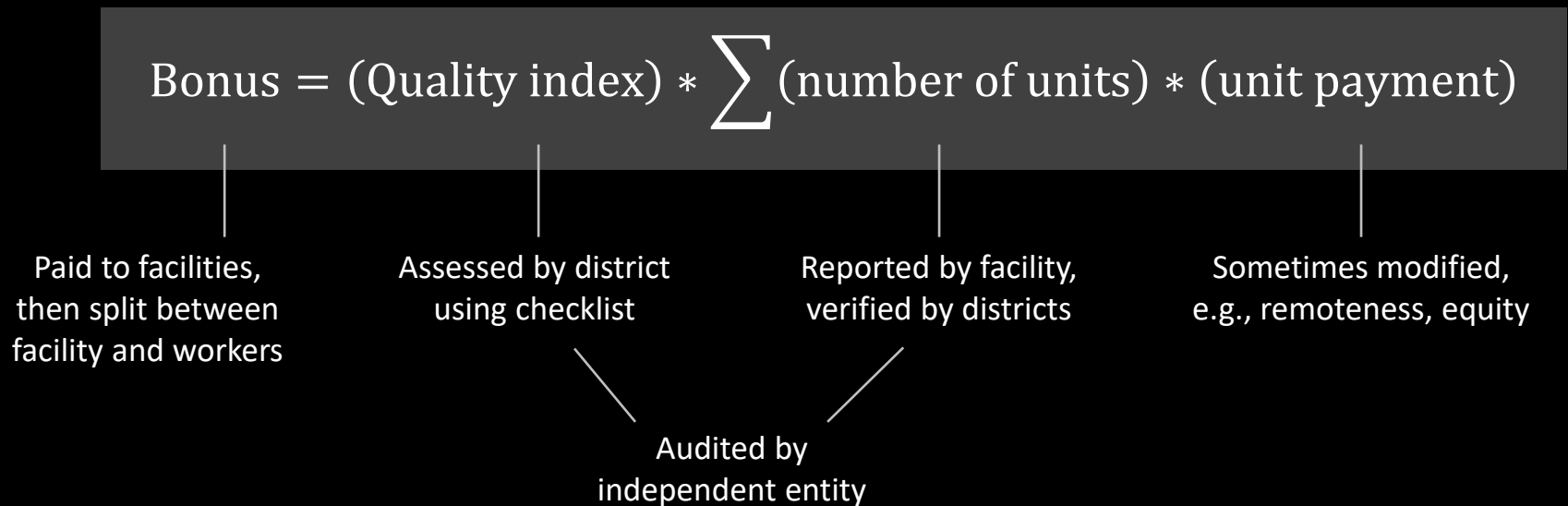
- Financial incentives to increase quantity and quality of targeted services
 - Fee-for-service payments for verified delivery
- Added to existing systems
 - Supplemental financing; “contract-in” services from public providers
- Narrow view: solution to a fundamental principal-agent problem
 - Hard to observe what providers do in their clinics (asymmetric information)
 - PBF aligns provider incentives to policy objectives
- Broader view: part of a package of supply-side reforms
 - And maybe a catalyst for larger reforms

PBF within results-based financing



Source: [Fritsche et al. 2014](#)

Stereotypical PBF design in primary care



Bonus can be substantial, e.g., on average 25% of facility budget in Rwanda and 16% of nurse salaries in Burkina Faso.¹

Quantity indicators

Average number: 18

Clinical areas with most quantity indicators (top-5)	% per list (avg)	% of all bonus payments
Maternal care	27%	26%
Infectious Disease (mostly HIV/AIDS and TB)	26%	26%
Newborn & Child Care	11%	11%
Family Planning	9%	9%
Outpatient Consultation	9%	9%

Common quantity indicators (top-3)	% of all indicators (avg)
Family planning methods used (any)	9%
Antenatal care consultation completed	8%
Normal deliveries by qualified staff at facility	6%

Note: across 37 indicator lists for 25 PBF schemes in 20 countries.

Source: Gergen et al. unpublished.

Quality indicators

Average number: 125

Quality indicators for maternal, neonatal and child health (top-2)	% of schemes
Antenatal Care	
ANC register or form is correctly completed	44%
Weighing scale available and calibrated at zero	38%
Maternity Care	
Analysis of 5–20 (randomly selected) partographs	72%
All deliveries are carried out by qualified personnel	59%
Newborn and child health	
Vaccination record available and completed	56%
Baby height and weight scale available and in working condition	44%

Type of quality indicator	% of indicators
Structure	80%
Process	19%
Outcome	<1%

Note: across 68 quality checklists for primary and secondary care in 28 countries.

Source: [Josephson et al. 2017](#).

More than just incentives

Problem	PBF lever
Under-funded sector	Increased efficiency and budget allocation
Deficient infrastructure	Support upfront facility improvements
Lack of equipment & supplies	Bonus can be used flexibly
Low autonomy	Facilities decide how to improve, spend bonus
Little supervision	District must visit to verify/assess performance
Little guidance on priorities	Clear list of target services and measures
Low accountability	Tie payments to actual work & improve data
Low wages	Bonus to individual health workers
Low motivation	Bonus tied to performance

Rapid expansion of PBF

- Early PBF programs in Haiti, Cambodia, Rwanda
- Influential trial of Rwanda’s national program in mid-2000s
- Health Results Innovation Trust Fund (HRITF) at World Bank from 2007
 - \$500m + \$2.2bn in concessional loans
 - Supports programs in 28 countries
- HRITF has a mandate to evaluate and generate knowledge
 - Many pilots are implemented as randomized trials
 - About two dozen own impact evaluations, including qualitative studies

HRITF supported programs



Source: [RBF Health website](#) as of Feb 2021, excl. Argentina, Haiti.

Diverse set of pilots

Examples of PBF pilots supported by HRITF

Country	Study arms
Cameroon 2012	<ol style="list-style-type: none">1. PBF2. Unconditional financing + enhanced supervision and monitoring3. No extra financing + enhanced supervision and monitoring4. Business as usual
Rwanda 2006	<ol style="list-style-type: none">1. PBF2. Unconditional financing
Zambia 2012	<ol style="list-style-type: none">1. PBF + equipment2. Unconditional financing + equipment3. Business as usual
Zimbabwe 2011	<ol style="list-style-type: none">1. PBF + no user fees for targeted services2. No user fees for targeted services

Source: [Bauhoff and Glassman 2017](#).

What to expect

Effect on what?

- PBF may impact many things, not just the targeted indicators

What kind of effects?

- Conceptually ambiguous effects on targeted and non-targeted services

Context matters

- Barriers to implementation & improvements

Compared to what counterfactual?

Mixed evidence

“Overall, [PBF] is likely to have some positive effects:

- it may lead to increased uptake of some health services,
- better structural quality of care, and
- strengthen the availability of resources and of management autonomy in healthcare organizations.

Effects on health, equity, provider satisfaction, facility governance, procedural aspects of quality of care and financial access for users are uncertain.”

Probably limited to no negative distorting unintended effects.

Other findings

- Impact most likely on services that can be influenced, e.g., via outreach¹
 - Suggestive evidence of improved access for households
 - Patients less likely to skip the local primary care clinics for hospitals²
 - Quicker to seek care in emergencies³
 - In some cases, improved access for poorer groups⁴
 - Workers are generally satisfied – but not always^{5, 6}
 - PBF offers direction, nudges, feeling of recognition, extra income⁷
 - Risk of frustration due to unmet expectations & how bonus is distributed⁸
- Limited evidence on comprehensive set of outputs, incl. non-targeted services
 - Need more evidence on effect heterogeneity

Costs and cost-effectiveness

- Per-capita expenditure for PBF between \$6-10^{1, 2}
- Incremental cost per additional facility-based birth \$94-261 in TZ³
- Cost per DALY averted varies wildly; could be borderline cost-effective^{1, 6}

- PBF may not be *relatively* cost-effective and can be “not the best use of funds”⁵

Economic cost during implementation

	TZ 2012 ³	MW 2014 ²	AF 2010 ⁷
Incentives	15%	51%	63%
Management/admin	28%		10%
Data generation	37%		
Verification	13%		21%

- Methods and use of cost-effectiveness analyses in complex settings⁴
- What services/indicators should be included in PBF?
- How to reduce costs?

Sources: ¹Diaconu et al. 2020; ²De Allegri et al. 2019; ³Borghini et al. 2015; ⁴Chi et al. 2018; ⁵Zeng et al. 2018; ⁶Chinkhumba et al. 2020; ⁷Salehi et al. 2020.

Some success factors for PBF

- Adequate time and resources to design and implement the scheme
- Availability of key resources (infrastructure, equipment, HR)
- Organizational and staff capacity
- Adequate supervision and training
- Conducive facility leadership/management
- Timely payments
- Clear communication about scheme

- What determines whether PBF improves some services but not others?
- Which PBF designs work best and in what setting?

Revisions, long-term effects and sustainability

- PBF programs need to adapt over time
 - Programs seem to expand, e.g., use more quality indicators of same type¹
- In Rwanda, successful scale-up & additional impacts in medium-term²
- Some evidence that ending PBF could be detrimental
 - Removing PBF bonus can reduce motivation and lead to staff exits
 - Effect may be larger than an equivalent reduction in fixed salary³
 - But temporary incentives might lead to persistent productivity effects⁴

- How should PBF be revised, e.g., incentives, indicators, operations?
- How to anticipate and plan for transition issues?

Sources: ¹[Josephson et al. 2017](#); ²[Ngo and Bauhoff 2021](#); ³[Lohmann et al. 2019](#); ⁴[Celhay et al. 2019](#).

Broader impacts on health systems

- Concern that PBF is distracting and absorbs scarce attention/resources¹
 - Also, lack of domestic ownership
- Or maybe PBF is a catalyst for change?³

- What is the effect of PBF dialogue/implementation on the overall system?
- Does discussion/use of PBF change the dialogue?
- Does PBF augment or divert resources?

Sources: ¹[Paul et al. 2018](#); ²[Meessen et al. 2018](#).

Some remaining questions

- What PBF designs and implementations work well?
 - And in what settings?
- What is it about PBF that generates improvements?
 - Do we need financial incentives and at what level?
 - Same effects with simpler approaches, like enhanced financing?

Opportunities for applied research

- There lots of PBF pilots with rigorous evaluation designs
 - Replicate and extend pilot studies using secondary data
 - Large scope for implementation science
- PBF generates lots of useful routine data
 - Track performance and quality of care; design/target additional interventions
- Room to improve operations
 - Develop ways to reduce costs, e.g., for routine reporting and verification
 - Enable new indicators, e.g., ‘outcome’ quality via automated patient surveys
 - Introduce priority setting for scheme design and revisions

Thank you

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