Overview of financial and non-financial incentives for improving immunisation coverage

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R4D
RESULTS FOR DEVELOPMENT

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Incentives and Health Worker (HW) motivation

- HWs' motivation: theory

- *Intrinsic motivation* occurs when an individual is driven by interest and satisfaction doing the work.
- *Extrinsic motivation* is when an individual is driven by the external consequences of performing a task. Extrinsic motivation may be tangible (regulation, supervision, financial) and verbal (positive - recognition or negative - shaming).
- Intrinsic and extrinsic motivation can be positively or negatively interactive.

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Motivators and demotivators

HW motivation affects service quality and outcomes

Individual, organizational/structural and societal determinants of healthcare workers' motivation function interdependently.

Overall, motivating determinants were either individual-based while most demotivating determinants were organizational (health-facility-based) or structural (health-system-based).

While the individual determinants are mainly intrinsic in nature, the organizational and societal determinants are primarily extrinsic of the healthcare workers (*Muthuri et al. 2021*).

Income and the *perception of a fair distribution* of incentives were both statistically significant in association with higher job motivation scores (*Keovathanak, 2016*).

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Pay for Performance (P4P)

Definition and concept:

P4P refers to the transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target (*Eichler 2006*)

Also referred to as results-based funding (RBF), performance-based funding (PBF) and output-based aid (OBA)

Pay for Performance (P4P)

- Objectives

High Income Countries (HIC)

- Tool for improving performance and accountability *(Cashin 2014)*

Low and Middle Income Countries (LMIC)

- increasing the allocative efficiency of health services (by encouraging the provision of high-priority and cost-effective services);
- increasing the technical efficiency (by making better use of existing resources such as health staff);
- improving equity of outcomes (e.g., by encouraging expansion of services to difficult-to-reach groups). *(Witter 2013)*

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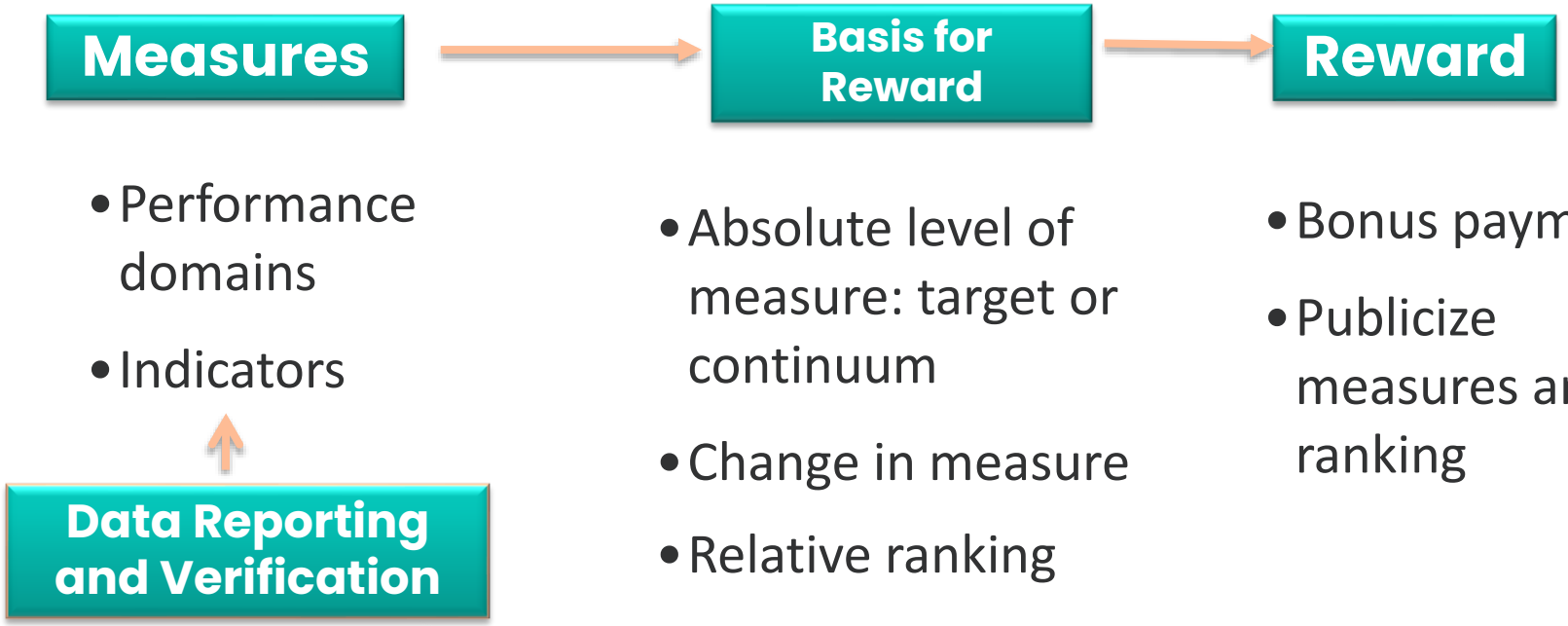
P4P intervention variations

Levels targeted by incentive	Type of Reward:	Measurable Actions	Ancillary components
• recipients of health care (demand side) • individual providers of health care • healthcare facilities • private sector organizations • public sector organizations • national or subnational levels	• payment based on fee-for-service • other monetary payments • non-monetary rewards	• health outcomes • delivery of effective interventions (e.g., immunization) • utilization of services • quality of care	• education • supplies • technical support or training • monitoring and feedback • increasing health worker pay • construction of new facilities • improvements in planning and management • information systems

A standardized framework for P4P



Source: Adopted from Scheffler RM: *Is There a Doctor in the House? Market Signals and Tomorrow's Supply of Doctors*, Stanford University Press, 2008.

Evidence from High Income Countries on P4P

P4P – key facts

Received attention since 90ies, during the last 30 years mixed results were reported

- However, according to the systematic reviews of *Rotundo et al.; Jia et al.* and *Tampi et al.,* most studies showed that immunization programs with robust P4P schemes have produced higher immunization coverage and reduced missed opportunities for vaccination.
  - No study has reported a negative impact of financial incentives on vaccination rates

- Currently, in many countries, the immunization coverage rates are included as a one indicator for achievement in incentives programs for health workers: e.g., UK NHS, US Medicare and Medicaid, Australia, New Zealand, Italy, Estonia (*Rotundo et al., 2018*).

Incentives for preventive services: mixed results, but mostly positive for childhood vaccination (OECD)

	Countries providing incentive	Effect
Cancer screening (breast, cervical)	Australia Brazil New Zealand U.K.	**Significant** increase in screening rates (BR) **Modest** increase in screening rates (NZ) **Targets met** (UK) **No** improvement (AU; FR)
Asthma	Australia U.K.	**Modest** increase in completion of treatment cycles (AU) **Targets met** (UK)
Diabetes	Australia France New Zealand U.K.	**Modest** increase in screening and preventive testing and management (AU; FR; NZ) **Targets met** (UK)
Hypertension	France New Zealand U.K.	**Modest** improvement (NZ) **Targets met** (UK) **No** improvement (FR)
Vaccination	Brazil France New Zealand U.K.	**Significant** increase (NZ—children) **No** improvement (FR; NZ--adults) **Targets met** (BR; UK)

Examples of successful P4P schemes for immunization - 1

High Income Countries

- The US Medicare community-based initiative - 10% top up pay for reaching 70% and 20% top up for 85% immunization rates. The average immunization rate in the incentive group was 73.1% versus 55.7% in the comparison practices (*Kouides et al., 2019*).
- Scotland – payment incentive (£1,800 for >90% and £600 for 70-89% immunization rates) introduced in 1990. The practices achieving 95% more than doubled for primary immunizations and tripled for preschool children in 1991 (*Ritchie at al 1992*).
- The US inner cities experiment produced higher up-to-date immunization rates with bonus payments and top-up fees (Fairbrother et al., 1999).

Examples of successful P4P schemes for immunization – 2

High Income Countries

- Two Medicaid programs with P4P scheme resulted in raising attendance levels (compared to the national mean) at the well-child visits in which the immunization series is delivered (*Felt-Lisk et al., 2007*).
- In 2006, Estonia started the P4P quality system for family doctors, which includes immunization coverage indicator. Doctors joined to the quality system met the 90 per cent vaccination criterion more frequently compared to doctors not joined to the quality system (*Meriland et al., 2014*).
- The UK remains in the vanguard of such schemes, with the Quality and Outcomes Framework (QOF), which includes immunization rates, paying out around £1 billion (20% of total GP budget) to general practices (*Oliver, 2014*).

Cochraine Database Systematic Review:

Paying for performance to improve the delivery of health interventions in low- and middle-income countries

Karin Diaconu, Jennifer Falconer, Adrian Verbel, Atle Fretheim, Sophie Witter.

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Overall effects – 1

For Targeted Services

- P4P may slightly improve health outcomes (low certainty evidence)
- P4P may also improve service quality overall (low certainty evidence);
- probably increases the availability of health workers, medicines and well-functioning infrastructure and equipment (moderate certainty evidence).
- P4P may have mixed effects on the delivery and use of services (low certainty evidence) and may have few or no distorting unintended effects on outcomes that were not targeted (low-certainty evidence)

Overall Effects –2

For Secondary Outcomes

- P4P may make little or no difference to provider absenteeism, motivation or satisfaction (low certainty evidence);
- may improve patient satisfaction and acceptability (low certainty evidence);
- may positively affect facility managerial autonomy (low certainty evidence).
- P4P probably makes little to no difference to management quality or facility governance (low certainty evidence).
- Impacts on equity were mixed (low certainty evidence).

Sensitivity analysis against control: direction of relative effect and GRADE rating (*Diaconu et al 2021*)

Outcome	Indicator (if indicator not named, no RCT evidence available)	Comment on effect (desirable, undesirable, neutral or uncertain)	Certainty of the evidence	Commentary on intervention effect
Primary: health outcomes	Neonatal mortality	–	⨁⨁⨁⨀ Moderate	P4P probably has no significant impact on neonatal mortality (0.03%)
Primary: utilization and delivery	Child immunization: receiving ≥ 1 vaccine	–	⨁⨁⨁⨀ Moderate	P4P probably has no important effect on outcome (1%)
	Child immunization: fully vaccinated	▲	⨁⨁⨀⨀ Low	P4P may lead to higher rate of full vaccination (16.1%)
	Child immunization: receiving BCG	▲	⨁⨁⨀⨀ Low	P4P may lead to higher rate of BCG vaccination (range 1–7%)
	Child immunization: receiving DTP	▲	⨁⨁⨀⨀ Low	P4P may lead to higher rate of DTP vaccination (6.1%)
	Child immunization: measles	–	⨁⨁⨀⨀ Low	P4P may have little to no important effect on measles vaccination rates (–3.6%)
	Child immunization: polio	▲	⨁⨁⨀⨀ Low	P4P may lead to higher rate of polio vaccination (21%)
	Child immunization: pentavalent	▼	⨁⨁⨁⨀ Moderate	P4P reduces the pentavalent immunization rate (–5.7%)
	Probability of any utilization (% utilizing)	–	⨁⨁⨀⨀ Low	P4P may have slight positive effects on overall utilization of services (4.2%)

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Sensitivity analysis against comparator: direction of relative effect and GRADE rating (*Diaconu et al 2021*)

Outcome	Indicator (if indicator not named, no RCT evidence available)	Comment on effect (desirable, undesirable, neutral or uncertain)	Certainty of the evidence (GRADE Rating)	Commentary on intervention effect
Primary: utilization and delivery	Child immunization	▼	⨁⨁⨀⨀ Low	P4P may decrease the likelihood of children being immunized by up to 7.4%
	Child immunization: fully vaccinated	▲	⨁⨁⨀⨀ Low	P4P may have positive effects on the likelihood of children being fully vaccinated (39.8%)
	Child immunization: receiving BCG	–	⨁⨁⨀⨀ Low	P4P may have little to no effect on utilization of BCG vaccination (3.1%)
		–	⨁⨁⨀⨀ Low	P4P may have little to no effect on utilization of DTP vaccination (–1%)

High certainty: This research provides a very good indication of the likely effect. The likelihood that the effect will be substantially different* is low.
Moderate certainty: This research provides a good indication of the likely effect. The likelihood that the effect will be substantially different* is moderate.
Low certainty: This research provides some indication of the likely effect. However, the likelihood that it will be substantially different* is high.
Very low certainty: This research does not provide a reliable indication of the likely effect. The likelihood that the effect will be substantially different** is very high.

Determining factors for the P4P impact

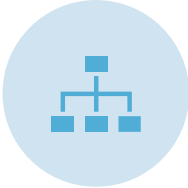
The effects and impacts of P4P likely depend on a range of factors:

How and why schemes are designed,

the degree of participation in setting targets

what targets are used, how they are measured

the level of rewards they attract



the context in which the schemes take place, including the efficiency of implementation systems

underlying factors such as starting levels of pay and funding.

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The World Bank Policy Research Paper:

Improving Effective Coverage in Health: Do Financial Incentives Work?
2022

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Key Messages

Financial incentives or performance pay to frontline health facilities and workers emerged as an innovative means to improve the quantity and quality of health services delivered.

This approach to health financing arose from the frustrating status quo of poor health outcomes in low- and middle-income countries despite increased service utilization.

A range of rigorous studies show that PBF (P4P) projects, which include performance pay among other critical features, including transparency and accountability reforms, resulted in gains in coverage but far fewer, if any, improvements in the quality of health services delivered.

Compared with business-as-usual, PBF projects offer gains of a similar magnitude as those from direct facility financing (DFF) approaches, which transfer equivalent funds and have transparency and accountability reforms as do PBF projects but do not have specific incentives for health workers and the associated monitoring.

A Realist Review:

to assess for whom, under what conditions and how pay for performance programmes work in low- and middle-income countries

Neha S. Singh, Roxanne J. Kovacs, Rachel Cassidy, Søren R. Kristensen,Josephine Borghi, Garrett W. Brown, 2021

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Common pathways for improved performance outcomes of P4P schemes

- Facility Level:
  - community outreach; adherence to clinical guidelines, patient-provider interactions, patient trust, facility improvements, access to drugs and equipment, facility autonomy, and lower user fees.
- Contextual factors shaping the system response to P4P include:
  - degree of facility autonomy, efficiency of banking, role of user charges in financing public services; staffing levels; staff training and motivation, quality of facility infrastructure and community social norms.
- Programme design features supporting or impeding health system effects of P4P included:
  - scope of incentivized indicators, fairness and reach of incentives, timely payments and a supportive, robust verification system that does not overburden staff.
- Facility bonuses are a key element of P4P but rely on provider autonomy for maximum effect. If health system inputs are vastly underperforming pre-P4P, they are unlikely to improve only due to P4P (*Neha at al. 2021*)

Common pathways to improved outcomes

- community outreach
- adherence to clinical guidelines
- patient-provider interactions
- patient trust
- facility improvements
- access to drugs and equipment
- facility autonomy
- lower user fees

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Contextual factors shaping the system response to P4P

- degree of facility autonomy
- efficiency of banking
- role of user charges in financing public services
- staffing levels
- staff training and motivation
- quality of facility infrastructure
- community social norms.

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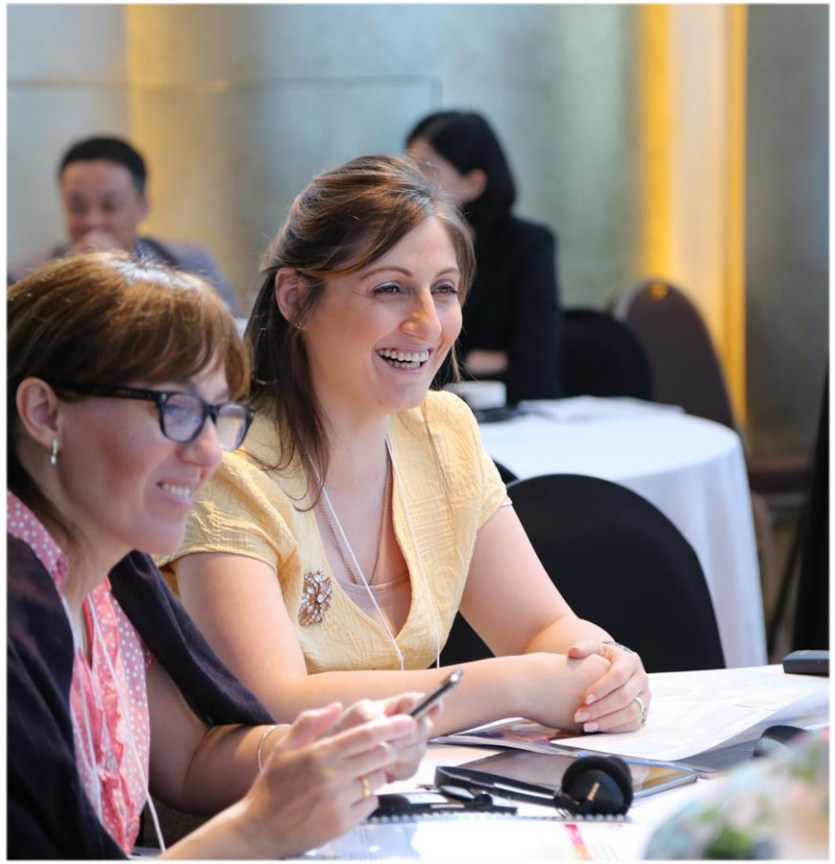
Non-financial motivators for HWs

Provide	Provide opportunities for the career development
Ensure	Ensure fair staff appraisals and transparent promotion procedures
Promote	Promote positive work environments, including supportive supervision
Employ	employ properly-trained managers who set clear expectations; spent more time with HWs and establish transparent incentive schemes
Delegate	Delegate sufficient autonomy in decision making
Recognize	Recognize Publicly competency and achievements
Improve	Improve and ensure safe working and living conditions



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Overall considerations for improving HW motivation

Incentives within the payment system could have an important role to play in effectively driving change in specific and well-defined areas. However, these could be complemented by non-financial incentives which can also be effective in motivating service delivery improvement.

The design of the incentive is therefore a key consideration. Moreover, it may be the case that P4P is potentially most effective when targeted specifically at individuals in relation to tightly specified discrete actions, rather than at the level of general organizational-level change (*Oliver, 2014*).

Balance of different incentives: A mix of well-designed financial and non-financial incentives are likely to be most effective. Financial incentives that offer a small financial reward (as opposed to threatening financial penalties) may best encourage innovation and organizational change within the sector.

Benchmarking: Public rankings and benchmarking against other teams or organizations can be effective but need to be managed in a way that ensures they are used constructively to promote continued learning and improvement, and do not damage morale.

Impact on different actors: Incentives that are designed to operate at an organization level must flow through to have an impact on the behavior of the individuals who make the day–to-day decisions that ultimately determine the care that patients receive.

Innovation: Incentives that create an environment of risk aversion may have an adverse impact on people innovating to improve service delivery.