

# **Mission-driven intrinsic motivation and performance of public workers**

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# Motivation-I

- ▶ Modern bureaucracies are rules-based organizations with little space for human emotions [Weber (p 975, 1922)]
- ▶ Workers sort into public and non-profit organizations based on their motivations [Ashraf et al. (2019), Cowley & Smith, (2014)]

*“E.P.A. (Environmental Protection Agency) Officials, Disheartened by Agency’s Direction, Are Leaving in Droves (NYT, 22 Dec 2017)”*

# Motivation-II

- ▶ Public sector workers under-perform in many developing countries [Chaudhury et. al. (2004)]
  - ▶ Despite use of technology [Callen et. al. (2015), Banerjee (2008)] and financial incentives [de Ree et al. (2018), Dixit (2002)]
  - ▶ Emphasis on paperwork: “Governance by proforma”

What happens when managers of public organizations emphasize organizational mission to workers?

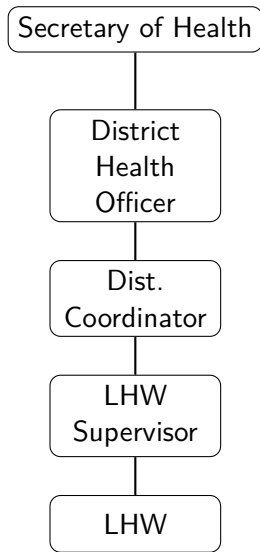
# Research Questions

- ▶ What is the effect of organizational mission on performance of public workers?
- ▶ How does the effect of mission compare to performance based financial incentives?
  - ▶ Are financial incentives and mission-driven motivation complements or substitutes?

# Preview of the Project

- ▶ 711 Full time public workers providing preventive health services in Haripur Pakistan
- ▶ Randomly introduce organizational mission, bonus or both
- ▶ Monthly reflection sessions for three months
- ▶ Track performance on the percentage of households visits for three months
- ▶ Placebo intervention and pure control for comparison

# Summary of Experiment



- ▶ Experiment with LHWs in Haripur district Pakistan
- ▶ Total target sample 710 workers
- ▶ Responsible for monthly visits to households
- ▶ On average 156 households per worker
- ▶ Individual level randomization, blocked at facility
- ▶ Survey of 10 Households in each community every month starting from April 2019 till June 2019

# Treatments - Mission

**Mission:** Three meetings over three months

- ▶ Show workers a video DHO describing the mission statement
- ▶ Discuss what the mission means to the workers
- ▶ Provide a refresher of skills related to their duties
- ▶ Reflect on their work in subsequent meetings

# Contents of the Video

Today, I want to give LHWs a message about the LHW Program's mission and purpose. You are Department of Health's vanguard for mother and child health.

It is our resolve that we will extend health services to every household through this program so that no mother or child becomes victim of any disease.

*The mission of this program is to ensure no mother or child is left without basic health services. And neither should a mother be left without the knowledge about her own health and that of her child.*

I pay my tribute to the your services. And believe you will continue with your good work.



## Treatments - Bonus

**Bonus:**  $w$  is bonus earned by worker  $i$  in month  $j$  when they visit  $x$  households over and above the number of households visited in baseline  $h$ .

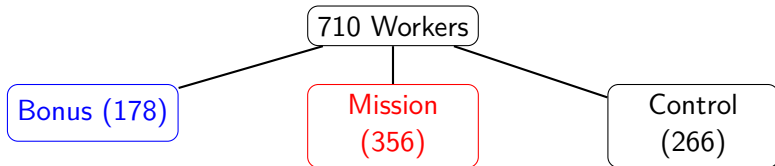
$$w_{ij} = \begin{cases} 25 * x & x < 20 \\ 500 & x \geq 20 \\ 500 & x + h = H \end{cases}$$

$H$  is the total households assigned to the worker.

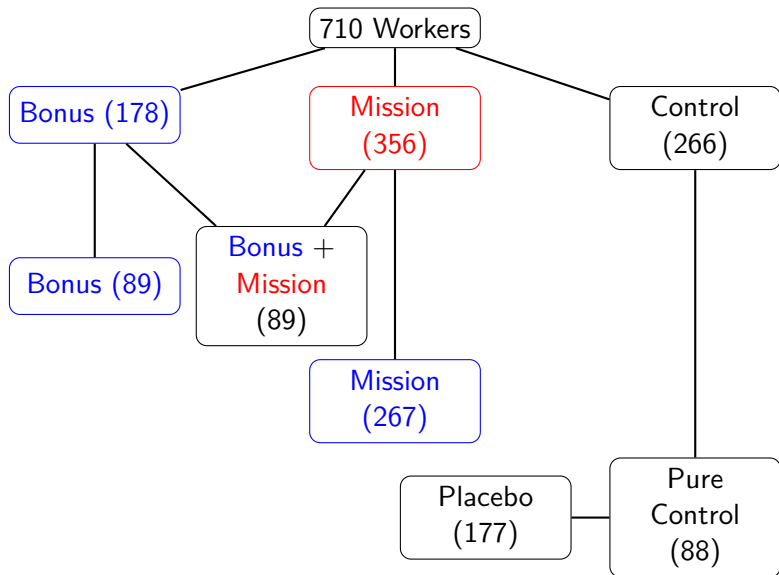
# Treatments

- ▶ **Mission + Bonus:** Workers attend group mission sessions and can always win bonus
- ▶ **Placebo:** To rule out alternative explanation such as monitoring, reminders, socialization
  - ▶ **Placebo:** Refresher of knowledge related to their duties
  - ▶ **Placebo + Observability:** Refresher of knowledge related to their duties and an announcement that we will discuss their performance in the third meeting
- ▶ **Pure Control:** Business as Usual

# Sample and Randomization



# Sample and Randomization



# Data

- ▶ Monthly survey of 10 households in each community
- ▶ Ask whether the worker visited during the last calendar month



# Estimation

$$V_{ijm} = \beta_0 + \beta_1 * Mission + \beta_2 * Bonus + \beta_3 * BonusAndMission + \beta_4 * Placebo + K + M + \epsilon$$

$V$ : Visit to household  $i$  by worker  $j$  in  $m$

$K$ : Strata/block

$M$ : Month dummies

# What is the effect of mission and bonus on performance?

Dep. Var: Household Visit	Feb	Mar	Apr	Pooled
	(1)	(2)	(3)	(4)
A: Mission Treatment	0.054*** (0.021)	0.054*** (0.020)	0.042** (0.019)	0.050*** (0.012)
B: Bonus Treatment	0.088*** (0.024)	0.093*** (0.026)	0.123*** (0.024)	0.101*** (0.015)
C: Placebo	0.013 (0.022)	0.008 (0.022)	0.018 (0.020)	0.013 (0.012)
Control Mean	0.383	0.372	0.327	0.353
# of Households	7099	7110	7110	21319
# of Workers	710	710	710	710
Block F.E.	✓	✓	✓	✓
Wave F.E.	-	-	-	✓
Weights	✓	✓	✓	✓

Notes: Standard errors clustered at worker level.

# What is the combined effect of mission and bonus?

Dep. Var: Household Visit	Feb	Mar	Apr	Pooled
	(1)	(2)	(3)	(4)
A: Mission Treatment	0.054*** (0.021)	0.054*** (0.020)	0.042** (0.019)	0.050*** (0.012)
B: Bonus Treatment	0.088*** (0.024)	0.093*** (0.026)	0.123*** (0.024)	0.101*** (0.015)
C: Mission+Bonus	0.068*** (0.026)	0.052** (0.023)	0.087*** (0.022)	0.069*** (0.014)
D: Placebo	0.013 (0.022)	0.008 (0.022)	0.018 (0.020)	0.013 (0.012)
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Notes: Standard Errors clustered at worker level. Regressions use inverse probability weights and block fixed effects.



# What is the combined effect of mission and bonus?

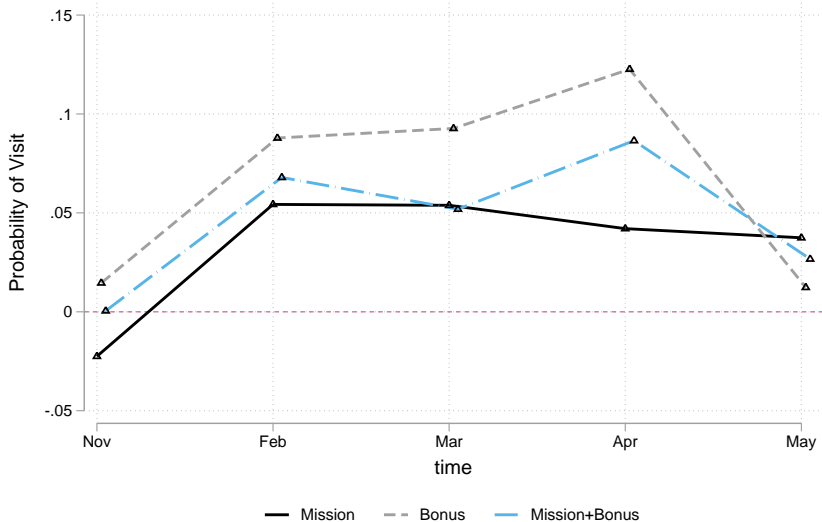
1. Crowding-In [Bowles & Polanía-Reyes (2012)]:  
Combination of financial and intrinsic incentives may be **bigger than** giving each alone
  - ▶ Mission and Bonus should be additive
2. Crowding out due to justification effect [Deci (1971), Titmuss(1971)] : Performance for financial incentives **less than** performance in the absence of financial incentives.
  - ▶ Bonus should reduce performance compared to just the mission

# What is the combined effect of mission and bonus?

Dep. Var: Household Visit	Feb	Mar	Apr	Pooled
	(1)	(2)	(3)	(4)
A: Mission Treatment	0.054*** (0.021)	0.054*** (0.020)	0.042** (0.019)	0.050*** (0.012)
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C: Mission + Bonus Treatment	0.068*** (0.026)	0.052** (0.023)	0.087*** (0.022)	0.069*** (0.014)
p-values of hypotheses:				
A+B-C=0	0.416	0.088	0.125	0.032
A-C=0	0.522	0.910	0.017	0.098
B-C=0	0.021	0.003	0.010	0.000

Notes: Standard Errors clustered at worker level. Regressions use inverse probability weights and block fixed effects.

# Do effects disappear?



## Additional Results

- ▶ Workers' stated beliefs about mission change [ [link](#) ]
- ▶ Mission influences behavior through preferences and changes in norms [ [link](#) ]
- ▶ Workers become better organizational citizens [ [link](#) ]
- ▶ Suggestive evidence that mission motivated workers perform better on multitasking [ [link](#) ]
- ▶ Improvement does not come at the cost of quality as measured in time spent on a visit [ [link](#) ]

# Summary

- ▶ Bureaucratic organizations can motivate workers through adoption of explicit mission and communicating it to the workers
  - ▶ Improvement is large though less than performance linked incentives
  - ▶ The change is sustainable in the short run
  - ▶ Workers' performance does not come at a cost of quality
- ▶ Design needs to be carefully considered because of crowding-out effect

Thank you

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# What are the mechanisms of mission?

Dep. Var: Household Visit	(1)	(2)
A: Mission-Public	0.052*** (0.012)	
B: Mission-Public, No Observability		0.057*** (0.014)
C: Mission-Public, Observability		0.047*** (0.014)
D: Mission-Private	0.047*** (0.015)	0.047*** (0.015)
Control Mean	0.355	0.355
# of Households	21319	21319
# of Clusters	710	710
p-Values of Hypotheses Tests		
Workplace Norms Vs Preferences $A-D=0$	0.697	
Intrinsic Norms Adherence Vs Image $B-C=0$		0.457

Notes: Standard Errors clustered at worker level. Regressions use inverse probability weights.

# Do workers believe the importance of mission?

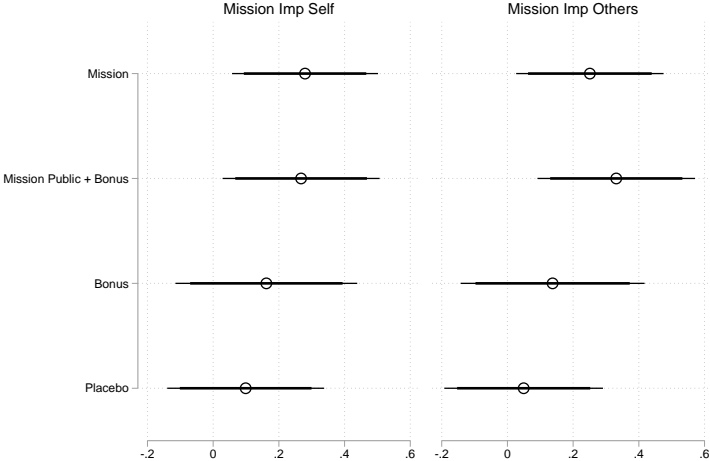


Figure: First and second order beliefs about importance of mission



# Do workers internalize the mission?

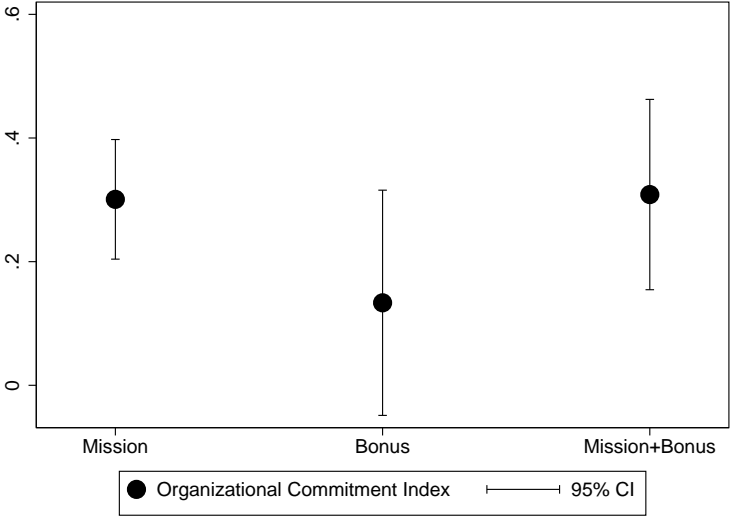


Figure: Organizational Commitment Index based on Chatman & O’Rielly 1986

# Do the effects survive after the treatment is shut down?

Dep. Var: Household Visit	(1)	(2)
A: Mission Treatment	0.037* (0.021)	
B: Bonus Treatment	0.012 (0.026)	0.012 (0.026)
C: Mission + Bonus	0.027 (0.026)	0.027 (0.026)
D: Mission Treatment- Public		0.036* (0.022)
E: Treat Mission- Private		0.039* (0.024)
Control Mean	0.299	0.299
# of Households	7110	7110
# of Workers	710	710
Block F.E.	✓	✓
Weights	✓	✓

Notes: Regressions use inverse probability weights.

# Multitasking: Are children getting vaccinated on time?

Dep. Var: Vaccination as per Schedule	Feb	May	Pooled
	(1)	(2)	(3)
A: Mission Treatment	0.017* (0.010)	0.033 (0.022)	0.024** (0.012)
B: Bonus Treatment	0.007 (0.013)	0.027 (0.024)	0.015 (0.013)
C: Mission+Bonus	0.005 (0.012)	0.049** (0.024)	0.024* (0.013)
Control Mean	0.973	0.897	0.941
# of Households	2844	2296	5140
# of Workers	703	685	710
Block F.E.	✓	✓	✓
Wave F.E.	✓	✓	✓
Weights	✓	✓	✓

Notes: Standard Errors clustered at worker level.

# Quality: Are workers spending less time per household?

Dep. Var: Time Spent (mins)	(1)	(2)
A: Mission Treatment	0.846** (0.329)	0.186 (0.550)
B: Bonus Treatment	2.157*** (0.467)	0.797 (0.665)
C: Mission + Bonus	1.344*** (0.423)	0.427 (0.694)
Control Mean	6.483	18.534
# of Households	14219	5631
# of Workers	710	704
Block F.E.	✓	✓
Wave F.E.	✓	✓
Weights	✓	✓
Conditionl on Visit	-	✓

*Notes:* Data is available only for two post treatment waves