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Time, incentives, and the integrity of frontline health data

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- Public health workers, such as community health workers, self-report the household visits they make, and these reports feed directly into health planning. But a large share of reported visits never actually happen: under the status quo, about 36% of all reported visits are false.
- Misreporting is not constant; it climbs steadily over the reporting period (a week). Only about one in ten reports are false on Monday, but the false-report rate rises to roughly two-thirds (about 66%) by Saturday, as the reporting deadline approaches.
- Linking pay to reported visits improves honesty, and its timing matters. A front-loaded incentive that rewards early-week effort raised visits by about 8% without increasing fabrication, while a uniform per-visit incentive of equal expected value cut the late-week false-report rate from 56% to 42% and lowered the estimated number of fabricated reports per worker by roughly one to two each week.

POLICY BRIEF PAK-24109

JUNE 2026

This project was funded by the IGC

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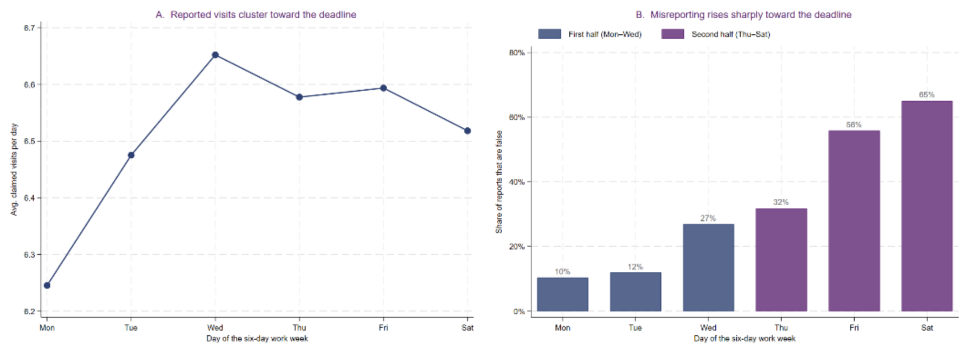
Overview

Lady Health Workers (LHWs) are the frontline of Pakistan's primary healthcare system. Each worker is responsible for visiting households in her catchment area, recording health information on pregnancies, vaccinations, and child health, and submitting reports to her supervisor. These reports feed directly into vaccine drives, medicine stocks, and health policy, so their accuracy matters. Yet the reports are rarely verified independently, which creates room to claim visits that never took place. To measure how much reporting is false and, crucially, when in the reporting cycle it happens, we ran a week-long activity with LHWs in Khyber Pakhtunkhwa, pairing each worker's own paper reports with independent household audits that physically confirmed a random sample of the visits she claimed. We also measured each worker's present bias—her tendency to value effort saved today over effort owed tomorrow—and focused the incentive experiment on the 175 present-biased workers for whom that tendency drives the late-week rush to fabricate.

A time trend in misreporting

Combining workers' paper reports with the independent audits reveals two facts about the status quo. First, misreporting is common: across the reporting week, roughly 35% of all reported visits could not be confirmed by the audit. Second, and more useful for policy, misreporting is highly concentrated in time. As Figure 1 shows, reporting is lowest on Monday and rises sharply before holding steady for the rest of the week, while the share of false reports climbs steadily as the reporting deadline approaches.

Figure 1: Reporting and misreporting towards the deadline



Under the status quo, reporting is lowest on Monday and rises sharply before holding steady through the week (Panel A), while the share of those reports that are false climbs steadily toward the deadline (Panel B). Source: worker paper reports matched to independent household audits in the control group.

Reporting jumps after Monday and stays high

Workers file relatively few visits on Monday but ramp up sharply, reporting around 6.5 visits per day from Tuesday onward and peaking midweek. The bulk of each week's reporting is concentrated in the Tuesday-to-Saturday window rather than spread evenly across the cycle.

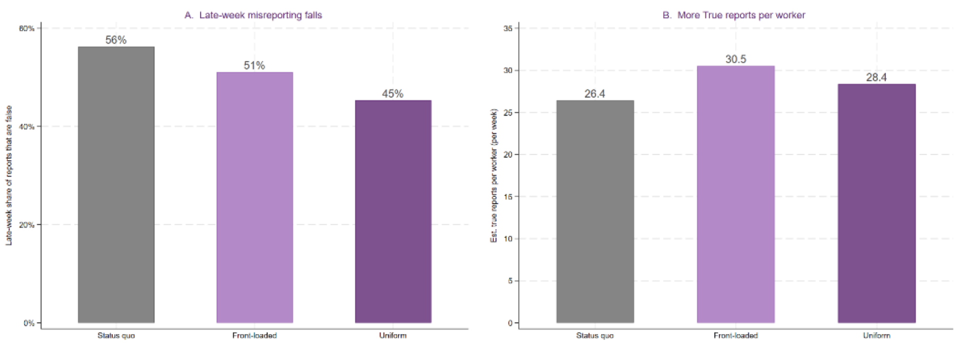
Misreporting climbs steadily toward the deadline

The false-report rate rises almost monotonically over the week: about 10% of Monday's reports are false, around 27% by Wednesday, and roughly 56% and 65% on Friday and Saturday, respectively. More than half of all reports filed in the final two days are fabricated. This back-loaded pattern is suggestive of a procrastination-driven channel: workers who defer genuine visits face an impossible backlog as the deadline nears and fabricate to fill it, and the rise is steepest for the most present-biased workers. The integrity problem is therefore not spread evenly across the week; it is overwhelmingly concentrated closer to the periodic deadline.

What works: Incentives—and their timing—improve reporting

Having located the problem in time, we tested whether changing how and when workers are paid could improve it. We randomly assigned present-biased workers to one of three groups, each with the same total expected payment of about PKR 500: the usual flat bonus for submitting a report (the status quo); a uniform incentive paying a constant rate per reported visit; or a front-loaded incentive paying a higher rate for visits made in the first three days of the week than in the last three. Because the three arms hold the expected money fixed and vary only its timing, the experiment isolates whether the timing of the incentive pay shapes effort and honesty, without any new monitoring or audits.

Figure 2: Improvements in reporting based on incentive type



Both incentives reduce late-week misreporting relative to the status quo; the uniform incentive produces the larger, statistically significant drop—from 56% to 42% (Panel A)—and both increase the estimated number of true reports per worker (Panel B).

Late-week misreporting falls

In the late-week window where more than half of status-quo reports are false, the uniform incentive cut the false-report rate from 56% to 45%—a drop of about 11 percentage points, or roughly a quarter relative to the status quo—and the sharpest honesty gain in the experiment. The front-loaded incentive moved late-week fabrication in the same direction, though less sharply, to about 41%.

Fewer fabricated reports per worker, and more real visits

Over the full week, both incentives increased the estimated number of true reports per worker: by about two visits under the front-loaded scheme and about four under the uniform scheme, from a status-quo baseline of roughly 26. The front-loaded incentive raised the number of visits by about 9.8% without inflating the false-report rate, meaning that the extra reported activity reflected real service delivery, not paper visits. The two schemes thus work through different channels: front-loaded pay pulls real effort into the early week, while uniform pay makes honest reporting more attractive near the deadline.