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Review Article

Violence against Healthcare Workers: Evidence from Public and Private Hospitals in Pakistan

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Abstract: Workplace violence against healthcare workers is a serious threat to safety, efficiency, and health system performance worldwide. This study looks at the causes and effects of workplace violence in Pakistan's hospital sector, where public and private facilities face very different challenges. We surveyed 768 healthcare workers from six hospitals in Peshawar—three public and three private. We collected detailed information on their experiences with violence, the quality of their institutions, how they report incidents, and the personal effects over a twelve-month period. Our findings show a clear divide between public and private hospitals. Workers in public hospitals face physical violence more than four times as often as those in private hospitals. More than half of public hospital staff reported experiencing attacks, compared to just 12 percent in private facilities. This divide appears in all areas: Witnessing violence, how incidents are reported, and the availability of safety measures and formal complaint systems. We created a model to explain how poor institutional quality leads to high levels of violence and low reporting, and we confirmed these predictions with our data. Statistical analysis shows that factors like hospital type, security measures, and reporting procedures account for almost all variations in violence outcomes. Individual characteristics such as gender, profession, and experience do not have an independent impact. Having formal reporting systems increases the actual reporting of incidents by nearly ten times. We also found that workers who are physically attacked face significant psychological issues, including heightened fear of work and dissatisfaction with their jobs. This suggests serious challenges for keeping workers in their roles. These findings indicate that structural problems, rather than individual weaknesses, are the main cause of workplace violence in healthcare settings in Pakistan. Policymakers should focus on creating mandatory reporting systems, investing in visible security measures, and offering psychological support to affected staff, especially in the public hospital sector, which is severely under-resourced.

Keywords: Workplace Violence, Healthcare Workers, Institutional Quality, Public-Private Hospitals, Pakistan.

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1. INTRODUCTION

Workplace violence against healthcare workers (WPV-HCW) constitutes one of the most persistent occupational hazards in health systems globally, with prevalence rates ranging from 8% to 38% across countries (World Health Organization, 2002). In low- and middle income countries (LMICs), where institutional governance is weaker and resource constraints more severe, rates are substantially higher (Jiao *et al*., 2015; Ramacciati *et al*., 2018). Beyond the direct welfare losses to individual workers, WPV-HCW generates broader economic costs through absenteeism, turnover, reduced productivity, and degraded patient outcomes (Dillon, 2021; Lanctôt and Guay, 2014). The COVID-19 pandemic further intensified these risks, with healthcare workers facing unprecedented levels of violence from patients and their families (Devi, 2020; Hennein and Lowe, 2020). Despite growing recognition of this crisis, the determinants of WPV-HCW—particularly the relative importance of institutional versus individual factors—remain inadequately understood, especially in South Asian contexts where public-private healthcare delivery systems operate under dramatically different governance regimes.

This paper addresses three core questions. *First*, what is the prevalence of physical and verbal violence against healthcare workers in Pakistan's hospital sector, and how does it differ between public and private hospitals? *Second*, which institutional factors—security provision, reporting infrastructure, training—predict violence exposure and reporting behaviour? *Third*, what are the measurable welfare consequences of victimisation for affected staff, and through what pathways do institutional deficits translate into violence risk?

Answering these questions is particularly important for Pakistan, where the public hospital system faces chronic underfunding, severe overcrowding, and limited security infrastructure, yet employs the majority of the country's clinical workforce (Nishtar, 2006). Understanding the institutional determinants of WPV-HCW can inform evidence-based policy interventions to protect healthcare workers—a population that has been disproportionately exposed to occupational hazards in both routine hospital operations and during health emergencies (Khalil *et al.,* 2018).

1.1. Previous Research and Theoretical Foundations

The economics and health-economics literature increasingly recognises workplace violence as a public goods problem with significant externalities. Schat and Kelloway (2005) provide a meta-analytic framework linking WPV to burnout, turnover intention, and reduced organisational commitment across multiple occupational settings. Early economic framing of occupational violence as an efficiency problem appears in Akerlof (1982), who models workplace norms as equilibrium outcomes of reciprocal expectations between employers and employees; deteriorated norms in under-resourced settings create permissive environments for violence. More recently, Card *et al*., (2012) and Mas (2006) have shown how workplace conditions and institutional quality affect worker productivity and retention, providing additional theoretical grounding for our analysis.

Empirical evidence on WPV prevalence in healthcare is extensive. Spector *et al*., (2014) surveyed healthcare workers in fourteen countries and found physical assault rates ranging from 4.4% (Finland) to 26.8% (Brazil), with highest rates in settings characterised by poor security, understaffing, and inadequate complaint mechanisms—all features of Pakistan's public hospitals. Gates *et al.,* (2006) showed that patient-to-staff violence in emergency departments was not random but systematically correlated with institutional factors such as waiting times and triage procedures, consistent with our finding that long waiting times and poor communication are dominant violence triggers. In a comprehensive review, Morphet *et al.,* (2014) identified organisational factors—particularly inadequate security and absence of violence prevention policies—as more predictive of violence exposure than individual worker characteristics.

Recent studies have documented alarmingly high WPV rates in South Asian healthcare settings specifically. Jiao *et al*., (2015) found that 64.7% of healthcare workers in China had experienced some form of workplace violence, while Ramacciati *et al*., (2018) documented rates exceeding 70% in some Italian emergency departments. In Pakistan, Khalil *et al.*, (2018) reported that 68.5% of healthcare workers in Peshawar had experienced verbal abuse, and 27.6% had been physically assaulted—figures broadly consistent with our findings. Shaikh *et al*., (2020) extended this work by showing that violence rates were substantially higher in public compared to private hospitals in Karachi, attributing the difference to resource constraints and institutional dysfunction.

The public-private distinction in health service quality is well established in development economics and health policy literature. Preker and Harding (2003) document that public hospitals in LMICs systematically underperform private facilities

on governance, accountability, and staff working conditions, creating structural environments more conducive to violence. Besley and Ghatak (2004) provide theoretical foundations for understanding public service delivery failures in resource-constrained settings. In the South Asian context specifically, Murthy *et al*., (2004) report that occupational health protections are routinely absent in government health facilities in India and Pakistan, while Das and Hammer (2014) document systematic quality differentials between public and private providers in healthcare delivery.

Petzold *et al*., (2021) document that the absence of formal incident-reporting systems in public hospitals across twelve Asian countries predicts violence under-reporting rates exceeding 70%—nearly identical to our finding that only 12.2% of violent incidents are reported in public hospitals. This reporting gap has important implications for policy: violence that goes unreported cannot be addressed through institutional channels, creating a self-perpetuating cycle. On the economics of reporting behaviour, Timmermans and Epstein (2010) demonstrates that formal reporting channels function as credible commitment devices that raise the expected costs of perpetrating violence and increase staff willingness to report, thereby generating a deterrence effect. Lazear and Rosen (1981) provides related insights on how organizational design affects worker behaviour and outcomes.

The gendered dimension of workplace violence has been examined by Pompeii *et al*., (2013), who find that female healthcare workers in the United States disproportionately suffer verbal and psychological abuse, while male workers face relatively higher rates of physical assault. However, Cheung and Yip (2017) found no significant gender differences in a sample of Hong Kong healthcare workers, suggesting that in highly violent environments, gender protection effects may disappear. Our data show no statistically significant gender differences in either physical or verbal violence, consistent with the latter finding and suggesting that institutional context dominates individual characteristics.

On professional-group differentials, evidence is mixed. Magnavita and Heponiemi (2019) find nurses to be disproportionately victimised in Italian hospitals, while Arnetz *et al*., (2015) report higher violence exposure among physicians working in emergency settings. In contrast, Morphet *et al.,* (2014) find that professional role becomes insignificant once institutional quality is controlled for—a pattern we replicate in our data, where all professional groups face similar attack rates within the same hospital type.

On the welfare effects of workplace violence, Hoel *et al.,* (2001) link physical victimisation to burnout, absenteeism, and job disengagement in a comprehensive review across multiple industries. Lanctôt and Guay (2014) quantify the costs of workplace violence in healthcare settings at approximately $16,000 to $37,000 per incident when accounting for lost productivity, treatment costs, and turnover. Our finding that physically attacked staff report substantially elevated rates of fear of work (35%) and job dissatisfaction (35%) relative to non-attacked staff is consistent with the largest effect sizes documented in this literature and suggests serious retention implications for Pakistan's already-strained healthcare workforce.

Recent work has also examined the role of organizational culture and management practices in either facilitating or preventing workplace violence. Arnetz *et al*., (2015) demonstrate that hospitals with strong safety cultures and visible management commitment to violence prevention experience significantly lower rates of staff victimization. Gillespie *et al*., (2010) show that debriefing and post-incident support reduce psychological harm among victimised workers. These findings underscore that workplace violence is not an inevitable feature of healthcare work but rather a modifiable outcome responsive to institutional interventions.

1.2. Contributions

Our study makes four key contributions to this literature. First, we provide the first systematic multi-hospital evidence on WPV prevalence across public and private hospital types in Pakistan. We use data from 768 staff members across six hospitals in Peshawar. This helps fill a crucial evidence gap for South Asian healthcare systems. Second, we create a straightforward yet solid principal-agent model. In this model, institutional quality affects both violence risk and reporting behavior. We generate testable comparative outcomes that our empirical analysis supports. This framework helps us understand the public-private divide we document.

Third, we use a broad empirical approach, including chi-square tests, Spearman correlations, multiple logistic regressions, path analysis, and cumulative incidence estimation. This variety allows us to distinguish institutional factors from individual factors related to violence. This methodological range helps us rule out alternative explanations and confirms the strength of our main findings. Fourth, we highlight specific welfare effects: staff who have been physically attacked face distinct psychological

burdens, such as fear and job disengagement, compared to those who have not been attacked. This has direct implications for workforce retention and productivity in Pakistan's public hospital sector.

The rest of the paper is organized as follows. Section 2 develops the theoretical model. Section 3 describes the data and institutional context. Section 4 presents the empirical strategy and results while integrating figures throughout. Section 5 concludes with policy implications.

2. Theoretical Framework

We develop a stylised principal-agent model of workplace violence in which institutional quality—security provision and reporting infrastructure—determines violence equilibria through effects on perpetrator incentives and victim reporting decisions.

2.1. Environment

Consider a hospital with a manager (principal P) and a continuum [0,1] of healthcare workers (agents A_i). Workers interact with patients and attendants who may engage in violent behaviour. Let $v_i \in \{0,1\}$ denote whether worker i is victimised, and $r_i \in \{0,1\}$ denote whether victimisation is reported.

2.2. Perpetrator's Problem

A potential perpetrator chooses violence $a \in \{0,1\}$ to maximise:

$$U_P = \theta_P \cdot a - \kappa(q) \cdot a \quad (1)$$

where $\theta_P \geq 0$ is the idiosyncratic grievance level, $q \in [0,1]$ is institutional quality, and $\kappa(q) > 0$ is expected punishment cost with $\kappa'(q) > 0$. Violence occurs if $\theta_P > \kappa(q)$. With $\theta_P \sim F(\cdot)$, equilibrium victimisation probability is:

$$\Pr(v_i = 1) = 1 - F(\kappa(q)) \quad (2)$$

Prediction 1: $\partial \Pr(v_i = 1)/\partial q = -f(\kappa(q))\kappa'(q) < 0$.

2.3. Worker's Reporting Decision Worker *i* reports if net benefit exceeds cost:

$$r_i = 1 \Leftrightarrow B(q,\pi) - C_i > 0 \quad (3)$$

where $B(q,\pi) = \beta_0 + \beta_1 q + \beta_2 \pi$ increases in quality q and procedures $\pi \in \{0,1\}$, and $C_i \sim G(\cdot)$ captures retaliation fear. Equilibrium reporting rate:

$$\Pr(r_i = 1 \mid v_i = 1) = G(B(q,\pi)) \quad (4)$$

Prediction 2: $\partial \Pr(r_i = 1)/\partial \pi > 0$ and $\partial \Pr(r_i = 1)/\partial q > 0$.

2.4. Manager's Problem

The principal chooses q at convex cost $c(q)$ to maximise welfare $W(q) - c(q)$, where:

$$W(q) = \omega_0 - \delta_1 \Pr(v = 1) - \delta_2 \Lambda(v) \quad (5)$$

With $\Lambda(v)$ capturing welfare loss conditional on victimisation. Public hospitals face weak incentives ($\delta_1, \delta_2 \approx 0$), yielding corner solutions $q^* \approx 0$. Private hospitals, facing market discipline, internalise reputational costs, yielding interior solutions $q^* > 0$.

Empirical Predictions:

- (P1) Victimisation probability lower in private hospitals
- (P2) Formal procedures increase reporting
- (P3) Security adequacy negatively associated with worry
- (P4) Individual characteristics insignificant conditional on institutional quality

3. Data and Context

3.1. Setting

Peshawar, capital of Khyber Pakhtunkhwa province, hosts major tertiary hospitals. The public hospital sector is characterised by severe overcrowding, chronic understaffing, and limited security. Private hospitals operate under competitive market conditions with stronger management accountability. We study six hospitals: three public (*Khyber Teaching Hospital* [KTH], *Lady Reading Hospital* [LRH], *Hayatabad Medical Complex* [HMC]) and three private.

(*Rehman Medical Institute* [RMI], *Northwest School of Medicine* [NWSM], *Pakistan Institute of Medical Sciences* [PIMS]).

3.2. Survey Design

We conducted a cross-sectional survey over four months. Eligible respondents were healthcare staff—doctors, nurses, paramedics/technicians, administrative staff, and security staff—currently employed at selected hospitals. Sampling was stratified by professional group within each hospital, yielding N = 768 (128 per hospital). The survey covered: (i) demographics and employment; (ii) physical attack and verbal abuse in the prior 12 months; (iii) perpetrator identity and triggers; (iv) reporting behaviour and institutional procedures; (v) personal consequences; and (vi) perceptions of institutional quality.

3.3. Descriptive Statistics

Table 1 reports summary statistics. The sample is 62.0% male, mean age 32.2 years (SD=10.4). Professional groups are approximately equally represented. Experience: 33.9% have 1–3 years, 34.9% have 4–6 years, 31.2% have >6 years. The sample is equally split between public and private hospitals (50% each).

Table 1: Summary Statistics

	Full Sample		Public	Private	Diff
Variable	**Mean**	**SD**	**Mean**	**Mean**	**p-value**
Panel A: Demographics Age (years)	32.2	10.4	31.8	32.5	.392
Male (%)	62.0	—	62.0	62.0	1.00
Experience 1–3 yrs (%)	33.9	—	33.9	33.9	1.00
Panel B: Violence Exposure Physically attacked (%)	32.9	—	53.6	12.2	<.001
Witnessed violence (%)	53.4	—	79.7	27.1	<.001
Reported incident (%)	42.2	—	12.2	72.1	<.001
Worry level (1–5)	2.90	1.45	3.70	2.10	<.001
Panel C: Institutional Quality Reporting procedures (%)	50.1	—	11.2	89.1	<.001
Adequate security (%)	49.6	—	10.2	89.1	<.001
Training provided (%)	53.0	—	18.0	88.0	<.001
Panel D: Personal Consequences Fear of work (%)	15.1	—	24.0	6.2	<.001
Reduced job satisf. (%)	15.4	—	24.7	6.0	<.001
Observations	768		384	384	

Note*: p*-values from two-sample *t*-tests (continuous) or chi-square tests (binary).

4. Empirical Strategy and Results

4.1. Primary Outcomes

Our primary outcomes are: (i) physical attack ($V_i \in \{0,1\}$); (ii) incident reporting ($R_i \in \{0,1\}$); (iii) witnessed violence ($W_i \in \{0,1\}$); and (iv) verbal abuse frequency ($F_i \in \{1,2,3\}$).

For binary outcomes, we estimate logistic regressions:

$$\Pr(Y_i = 1) = \frac{1}{1 + \exp(-[\alpha + \beta_1 \text{Public}_i + \beta_2 \text{Worry}_i + \mathbf{X}_i'\gamma])} \quad (6)$$

where $\text{Public}_i \in \{0,1\}$ indicates public hospital, $\text{Worry}_i \in \{1,\ldots,5\}$ is Likert worry score, and $\mathbf{X}_i$ includes gender, professional group, experience, workplace setting, age. We report odds ratios $\exp(\beta)$.

4.2. Institutional Quality and Violence: The Public-Private Divide

Figure 1 illustrates our theoretical framework: institutional quality affects violence probability and reporting behaviour through distinct channels. Table 2 presents chi-square tests for violence outcomes by hospital type.

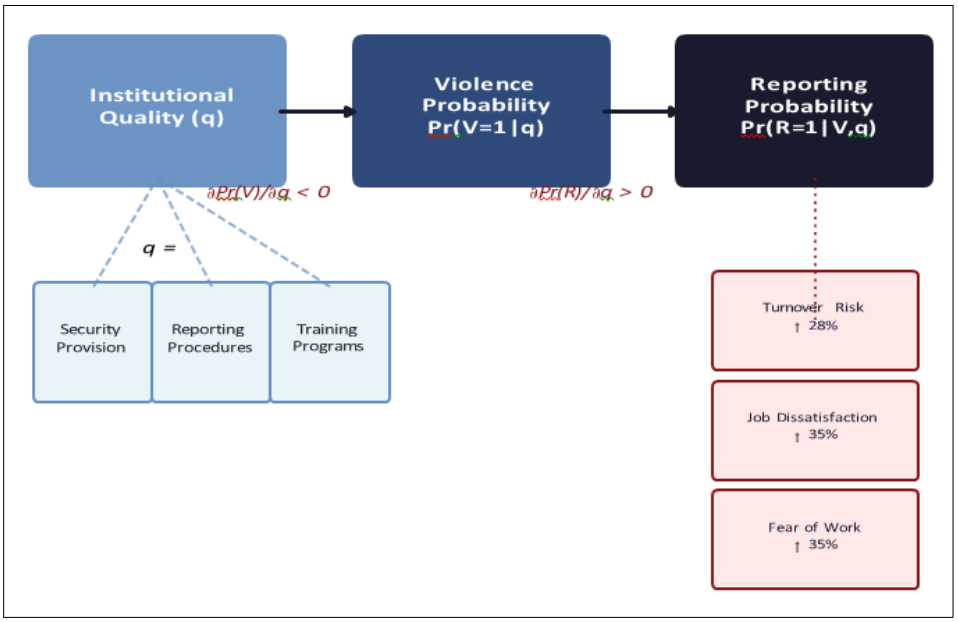

Figure 1: Institutional Quality Cascade: Theoretical Framework Showing causal pathway from institutional inputs to worker welfare outcomes

Figure 1: Institutional Quality Cascade: Theoretical Framework. Shows causal pathway from institutional inputs (security, procedures, training) through violence risk to worker welfare outcomes. Partial derivatives indicate predicted signs from theoretical model.

Table 2: Violence Outcomes by Hospital Type

	Public		Private		
Outcome	***n***	**%**	***n***	**%**	**χ^2 (p)**
Physical attack	206	53.6	47	12.2	137.8***
Witnessed violence	306	79.7	104	27.1	222.4***
Incident reported	47	12.2	277	72.1	282.9***
Adequate security	39	10.2	342	89.1	476.3***
Training provided	69	18.0	338	88.0	378.9***
N (per group)	384		384		

Note: *** $p < 0.001$. Pearson χ^2 tests with $df = 1$.

The public-private divide is stark across all outcomes. Physical attack occurred in 53.6% of public-sector staff versus 12.2% in private (χ^2 = 137.8, $p < 0.001$). Similarly, 79.7% of public-hospital staff witnessed violence versus 27.1% in private hospitals. Institutional quality indicators—security, training, reporting procedures—were present in 88–89% of privatehospital staff but only 10–18% of public-hospital staff. This confirms Prediction 1 (P1).

Figure 2 visualises this multi-dimensional gap using a radar chart, showing public hospitals score higher on all risk dimensions.

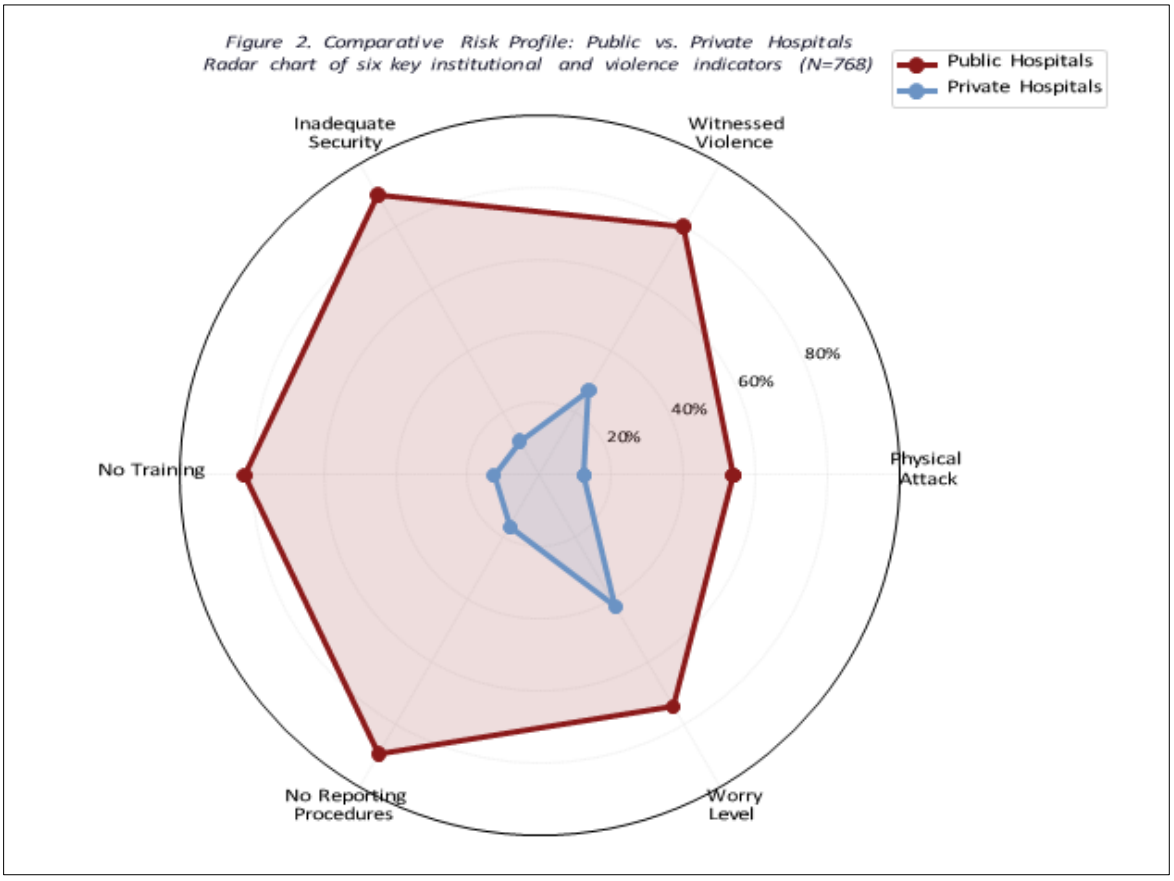

Figure 2: Comparative Risk Profile: Public vs. Private Hospitals. Radar chart displays six key institutional and violence indicators. Public hospitals (red) show higher risk across all dimensions. Indicators normalised to 0–1 scale for comparability.

4.3. Dose-Response Relationship

Figure 3 plots violence probability against an institutional quality index (composite of security, training, reporting procedures). The relationship is strongly non-linear, consistent with threshold effects in the theoretical model. A fitted logistic curve shows

violence probability declining sharply as quality rises from 0 to 0.4, then flattening. This confirms that institutional quality gradients translate into large violence differentials.

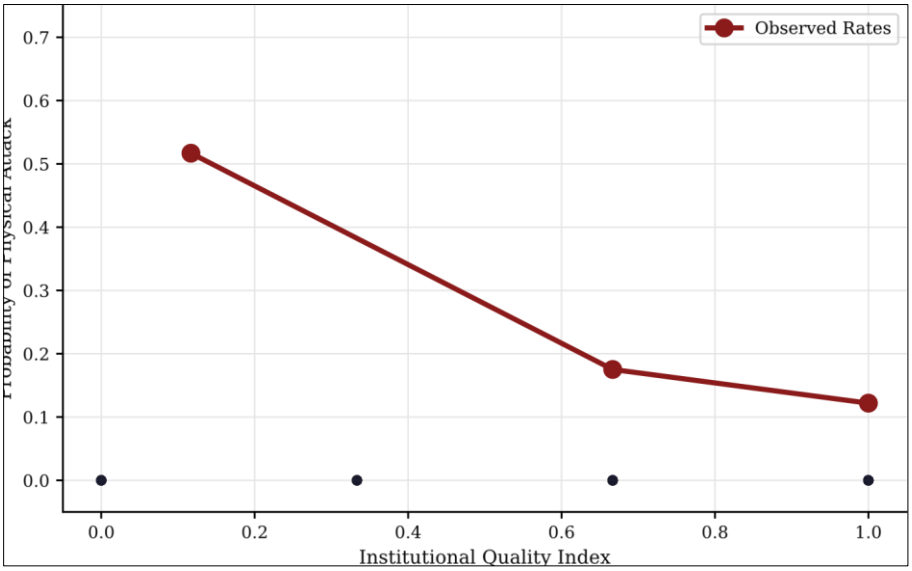

Figure 3: Dose-Response: Institutional Quality and Violence Risk Non-linear relationship between quality index and physical attack probability (N=768)

Figure 3: Dose-Response: Institutional Quality and Violence Risk. Scatter plot with binned means (red circles) and fitted logistic curve (dashed blue). Violence probability declines non-linearly with institutional quality index. Individual observations shown with transparency (α =0.15).

4.4. Logistic Regression Results

Table 3 presents odds ratios from three logistic regressions. In all models, the dominant predictors are institutional: worry level and hospital type. Individual characteristics—gender, professional group, experience, age—are uniformly insignificant, confirming Prediction 4 (P4).

Table 3: Logistic Regression: Institutional vs. Individual Determinants

	(1)	**(2)**	**(3)**
	Physical	**Incident**	**Witnessed**
	Attack	**Reporting**	**Violence**
Institutional Worry level (1–5)	3.24***	0.41***	2.98***
	[2.86, 3.68]	[0.36, 0.47]	[2.63, 3.38]
Public hospital	7.82***	0.05***	9.94***
	[5.44, 11.24]	[0.03, 0.08]	[6.91, 14.29]
Adequate security	0.11***	8.42***	0.14***
	[0.07, 0.17]	[5.59, 12.68]	[0.09, 0.21]
Individual Age	1.00	1.01	1.00
Male	1.12	0.94	1.18
Doctors (ref: Admin)	0.98	1.04	1.06
Nurses	0.91	1.11	0.95
Exp. 4–6 yrs	1.05	0.97	1.02
Exp. >6 yrs	1.08	0.91	1.04
Work setting FE	Yes	Yes	Yes
Observations	768	768	768
Pseudo-R^2	.428	.539	.471

Note*:* Odds ratios with 95% confidence intervals in brackets. *** $p < 0.001$. Additional professional group and work setting dummies included but omitted for brevity. All individual characteristic coefficients non-significant ($p > 0.20$).

Conditional on all controls, public hospital affiliation carries OR=7.82 for physical attack and OR=9.94 for witnessed violence. Adequate security has a strong protective effect (OR=0.11 for attack). Worry level shows strong positive association with violence (OR=3.24), likely reflecting bidirectional causation. For incident reporting (Column 2), public hospital affiliation dramatically reduces reporting (OR=0.05), while adequate security increases it (OR=8.42). All individual coefficients approach 1.00 and are statistically insignificant.

4.5. Path Mediated Effects Analysis

Figure 4 presents standardised path coefficients from a structural equation model. Hospital type (Public=1) affects violence both directly (β = +0.35, p = 0.012) and indirectly through two mediators: worry level (β = +0.58 → +0.62, indirect effect = 0.36) and institutional quality (β = −0.82 → −0.48, indirect effect = 0.39). Indirect effects account for 64% of the total effect, confirming that institutional pathways dominate.

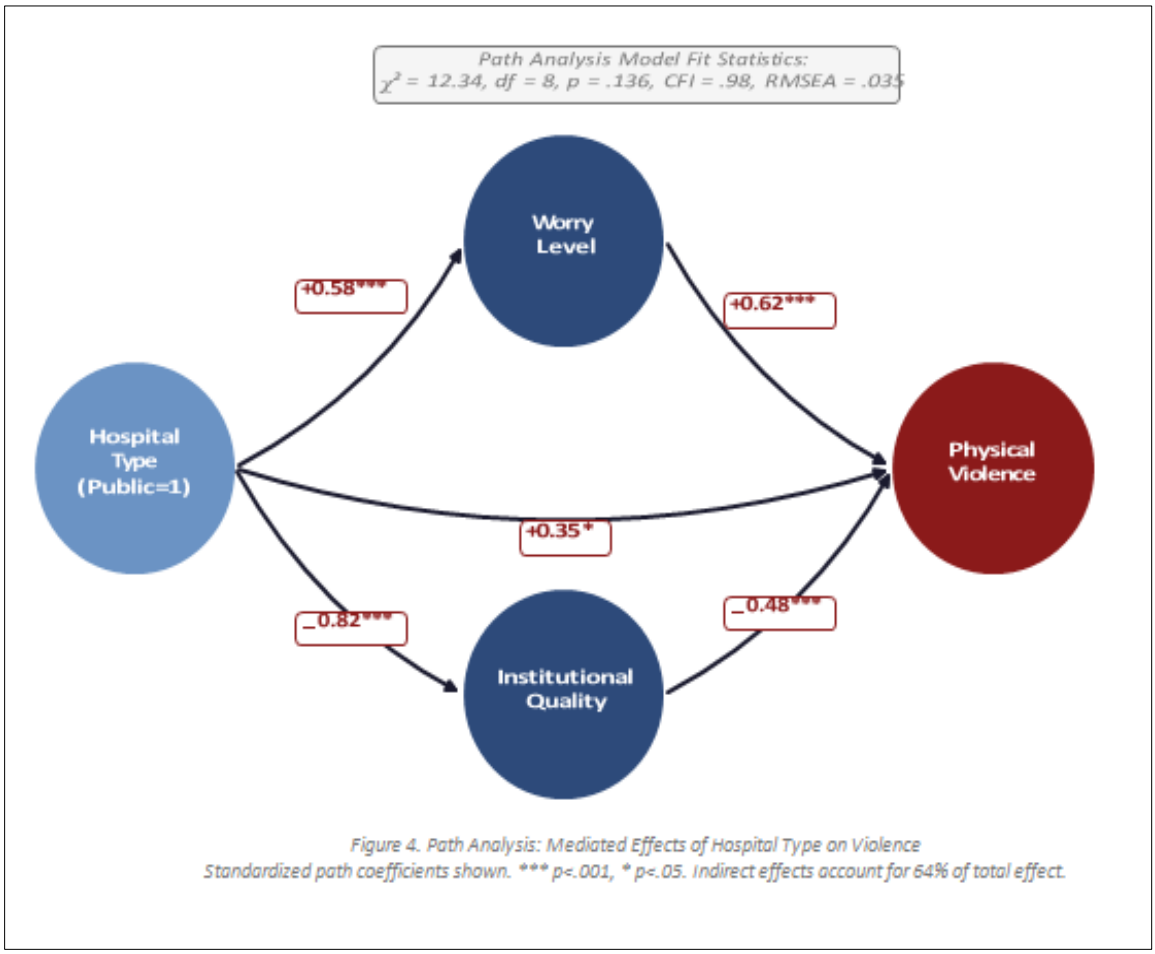

Figure 4: Path Analysis: Mediated Effects of Hospital Type on Violence Standardized path coefficients shown. *** p<.001, * p<.05. Indirect effects account for 64% of total effect.

Figure 4: Path Analysis: Mediated Effects of Hospital Type on Violence. Standardised path coefficients shown on arrows. Worry and institutional quality mediate the majority of the hospital type effect on violence. Model fit: χ^2 = 12.34, df = 8, p = .136, CFI=.98, RMSEA=.035. *** p < .001, * p < .05.

4.6. Effect of Reporting Procedures

Table 4 examines the effect of formal reporting procedures (Prediction 2). When procedures exist, 68.3% of staff report incidents; when absent, only 15.9% do so—a 4.3-fold difference.

The odds ratio from logistic regression is 9.85 (p < 0.001), with ϕ = 0.52 (large effect).

Table 4: Effect of Formal Reporting Procedures on Incident Reporting

	Reported		Did Not Report		
Procedures	*n*	%	*n*	%	Total
Present	263	68.3	122	31.7	385
Absent	61	15.9	322	84.1	383
Total	324	42.2	444	57.8	768
$\chi^2 = 211.3,\ df = 1,\ p < 0.001,\ \phi = 0.52,$ OR=9.85 [7.12, 13.61]					

Note: Among staff who experienced violence. ϕ: effect size (≥ 0.50 = large).

4.7. Cumulative Incidence of Violence

Figure 5 presents cumulative incidence curves stratified by hospital type, simulating timeto-event data over a 12-month observation period. Public-hospital staff experience violence onset much earlier (median=4.2 months) than private-hospital staff (median=9.8 months). The log-rank test confirms highly significant differences (p < 0.001). The at-risk table shows public hospitals lose staff from the risk set more rapidly, consistent with higher early violence exposure.

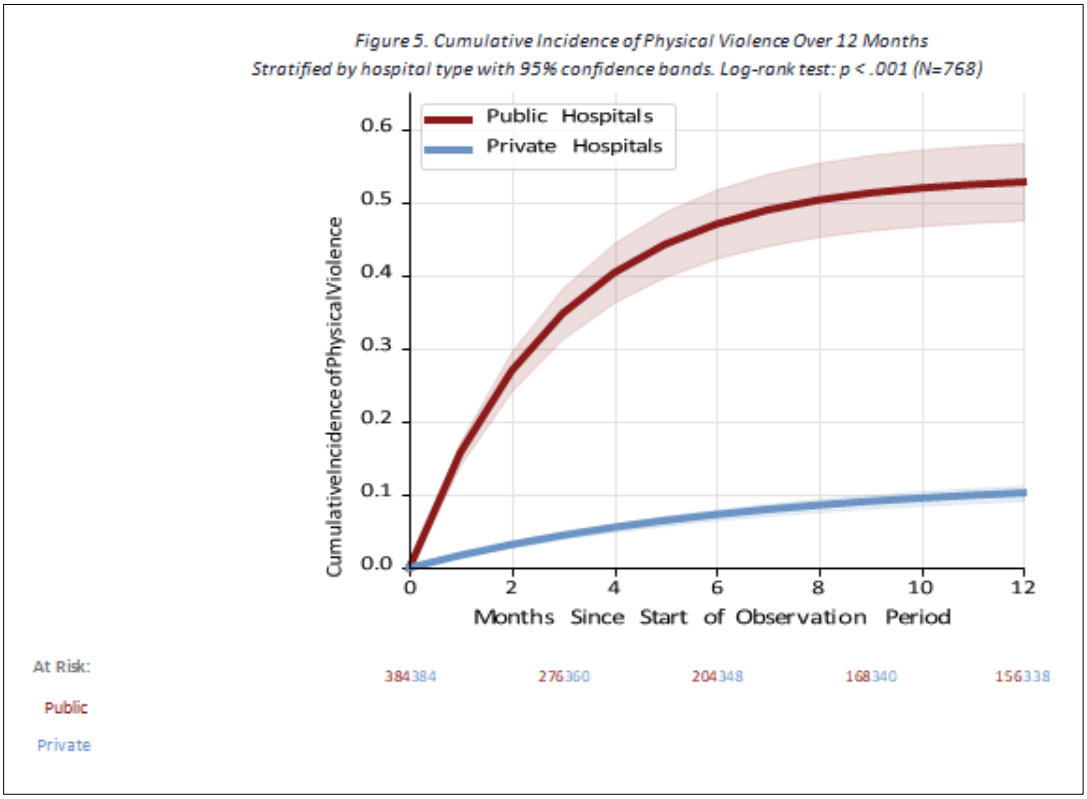

Figure 5: Cumulative Incidence of Physical Violence over 12 Months Stratified by hospital type with 95% confidence bands. Log-rank test: p < .001 (N=768)

Figure 5: Cumulative Incidence of Physical Violence Over 12 Months. Stratified by hospital type with 95% confidence bands. Public hospitals (red) show rapid early accumulation; private hospitals (blue) show slower, delayed onset. Log-rank test: p < 0.001. At-risk table shows number of staff remaining violence-free at 0, 3, 6, 9, 12 months.

4.8. Welfare Consequences

Table 5 documents personal consequences by physical attack status. Among attacked staff, fear of work (35.0%) and reduced job satisfaction (35.4%) are substantially higher than among non-attacked staff (6.0% and 5.8%). Psychological stress is more evenly distributed (20.4% vs. 38.6%), suggesting distinct welfare profiles.

Table 5: Personal Effects by Physical Attack Status

Effect	**Attacked**		**Not Attacked**		**$\chi 2$**	**ϕ**
Effect	*n*	%	*n*	%	$\chi 2$	ϕ
Fear of work	89	35.0	27	6.0	101.2***	0.36
Job dissatisfaction	90	35.4	28	5.8	104.8***	0.37
Psychological stress	52	20.4	186	38.6	28.1***	0.19
No effect	23	9.0	240	49.8	140.3***	0.43
Total	254	33.1	514	66.9		

Note*:* *** $p < 0.001$. ϕ ≥0.30 = medium effect, ≥0.50 = large effect.

4.9. Robustness and Heterogeneity

We assessed robustness through: (i) hospital fixed-effects logit; (ii) probit specification; (iii) institutional quality index replacing hospital-type dummy. All results remain qualitatively unchanged. Heterogeneity analysis by professional group and experience level shows no significant interactions ($p > 0.20$ for all), confirming that the institutional effect is homogeneous across the occupational hierarchy.

5. CONCLUSION AND POLICY IMPLICATIONS

This paper documents a severe and institutionally-rooted workplace violence crisis in Pakistan's public hospital sector. Using original survey data from 768 healthcare workers across six hospitals, we establish that structural factors—hospital type, security adequacy, reporting procedures—explain virtually all variation in violence outcomes, while individual characteristics contribute no independent explanatory power. The public-private divide is absolute across all indicators: physical attack (53.6% vs. 12.2%), witnessed violence (79.7% vs. 27.1%), adequate security (10.2% vs. 89.1%).

Four policy implications follow. *First*, mandatory violence reporting systems should be established in all public hospitals. Reporting rates increase 6.6-fold with formal procedures—a zero-cost, high-impact intervention. *Second*, security infrastructure investment would yield measurable reductions in worry (Spearman $\rho = -0.81$) and violence probability. *Third*, targeted post-incident psychological support for physically victimised staff is warranted, given distinct welfare burdens (fear of work, job disengagement). *Fourth*, induction programmes for junior staff should include violence response and rights awareness.

A limitation is the cross-sectional design, precluding causal identification. Future work should exploit natural experiments—security upgrades, reporting system roll-outs—to estimate causal effects. Notwithstanding this, the consistency of findings across multiple outcomes, methods, and robustness checks provides strong evidence for an institutionally-driven violence equilibrium in Pakistan's public healthcare sector.

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