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THE ASSOCIATION BETWEEN INTERPROFESSIONAL COMMUNICATION GAPS AND DELAYED PATIENT DISPOSITION: A CROSS-SECTIONAL SURVEY OF HEALTHCARE PROFESSIONALS IN A TERTIARY CARE HOSPITAL

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Abstract

Interprofessional communication gaps are increasingly recognized as contributors to emergency department (ED) inefficiency, yet few studies have quantified their association with disposition delays in resource-constrained tertiary care settings. This study examined the relationship between specific communication domains and perceived disposition delays among healthcare professionals in a tertiary care hospital ED. A quantitative, correlational cross-sectional design was employed. A sample of 200 healthcare professionals, including physicians, nurses, and paramedical staff with more than six months of ED experience, was recruited using convenience and purposive sampling. Data were collected through a structured, self-administered questionnaire measuring five communication domains: clarity and completeness, timeliness, handover, roles and responsibilities, and escalation and resolution, along with frequency of perceived disposition delay. Pearson correlation and multiple linear regression analyses were conducted using SPSS version 26. All five communication domains demonstrated significant positive correlations with perceived delay. Regression analysis identified interface quality (β = 0.497, $p < 0.001$) and escalation/resolution (β = 0.251, $p < 0.001$) as the strongest independent predictors, while clarity and handover were non-significant after adjustment. The findings suggest that interventions targeting boundary-spanning relationships and structured escalation pathways may be more effective in reducing disposition delays than standardizing information transfer alone.

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INTRODUCTION

Emergency departments (EDs) occupy a unique position within the hospital ecosystem, functioning simultaneously as the primary entry point for acute care and as a critical juncture where multiple professional disciplines converge under conditions of temporal urgency and clinical uncertainty. The disposition decision, whether a patient is admitted, discharged, or referred, represents one of the most consequential determinations made during an ED encounter, influencing not only the immediate trajectory of patient care but also the efficiency of hospital-wide resource allocation, patient flow, and the broader experience of care delivery. When this decision is delayed, the consequences cascade beyond the individual patient, contributing to ED crowding, extended boarding times, diminished patient satisfaction, and increased risk of adverse clinical outcomes. While the causes of disposition delay are multifactorial, a growing body of evidence implicates Interprofessional communication gaps as a modifiable and often underestimated contributor to this phenomenon. Understanding the precise nature and magnitude of the association between communication failures and disposition delays is therefore essential for designing targeted interventions that can improve both operational efficiency and patient-centered outcomes.

The concept of Interprofessional communication in healthcare extends beyond simple information exchange to encompass the clarity, timeliness, completeness, and coordination of messages across professional boundaries. In the ED context, this involves interactions among emergency physicians, nurses, consultants, admitting teams, laboratory and radiology staff, and paramedical personnel, each of whom holds distinct pieces of the clinical puzzle that must be assembled for a disposition decision to be made. The complexity of these interactions is magnified by the intrinsic characteristics of the ED environment: high patient volumes, shifting acuity levels, shift-based staffing patterns, and the physical and cognitive demands of caring for undifferentiated patients. Research examining work systems in EDs has demonstrated that communication, coordination, and collaboration among clinicians vary substantially with demand conditions, with high-demand periods eroding the quality of handoffs and limiting the ability of clinicians to engage in the direct, nuanced communication that optimal disposition decision-making requires (Saleem et al., 2026). The introduction of dedicated interdisciplinary teams stationed in triage areas has been associated with reduced left-without-being-seen rates and decreased door-to-provider times, underscoring that the structural organization of professional communication directly affects operational throughput (Leggio et al., 2022). This demand-sensitivity suggests that communication gaps are not merely incidental inefficiencies but structural vulnerabilities that become most consequential precisely when the system is least able to absorb their effects.

The relationship between communication and disposition delay has been examined through various methodological approaches, yet significant gaps remain in the literature. Studies focusing on handoff interventions have reported reductions in emergency-to-inpatient disposition times following the implementation of standardized communication tools, underscoring the plausibility of a causal pathway (McCarthy et al., 2025). The Eastern Association for the Surgery of Trauma has explicitly identified communication failures during care transitions as a key root cause of preventable adverse events, noting that passive listening, lack of standardized transfer tools, and interruptions during handoffs are persistent barriers to effective information exchange in acute care settings (Eastern Association for the Surgery of Trauma, 2024). However, much of this evidence derives from quality improvement initiatives with limited generalizability or from narrowly focused interventions that address a single

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communication dimension while neglecting the broader ecology of Interprofessional interaction. Qualitative investigations have illuminated the experiential dimensions of delayed disposition, with healthcare professionals describing the process as one characterized by unclear decision-making authority, fragmented communication, and a reliance on informal negotiation rather than structured pathways (Haliq & AlShammari, 2025). These accounts suggest that the problem is not simply one of information transmission but of role clarity, shared accountability, and the absence of reliable mechanisms for escalation and resolution when disagreements arise. What remains underexplored is the extent to which specific domains of communication, clarity, timeliness, handover quality, role definition, and escalation pathways, are differentially associated with disposition delays as perceived and reported by frontline healthcare professionals.

The broader literature on Interprofessional collaboration in emergency settings provides additional context for understanding why communication gaps might translate into disposition delays. A systematic review of multidisciplinary teamwork in EDs concluded that effective collaboration is associated with reduced waiting times, shorter length of stay, and improved patient satisfaction, while barriers such as professional hierarchies and role ambiguity consistently undermine these benefits (Journal of Posthumanism, 2024). Research from resource-constrained settings has highlighted how weaknesses in inter-organizational communication and coordination, including the absence of standard feedback mechanisms and difficulty in contacting admitting hospitals, contribute to delays in patient flow (Troyer & Brady, 2020). These findings converge on a common insight: communication is not a peripheral activity in emergency care but a core operational function whose failure has measurable consequences for system performance. The ED, by virtue of its boundary-spanning position within the hospital, is particularly vulnerable to communication breakdowns at the interfaces between professional groups, where differences in priorities, workflows, and accountability structures can create friction that manifests as delay (Kelen et al., 2021).

The Pakistani healthcare context, within which the present study is situated, offers a particularly salient setting for examining these dynamics. Tertiary care hospitals in Pakistan serve as referral centers for large catchment areas, frequently operating at or beyond capacity, with high patient volumes and substantial demands on limited resources. Studies conducted in similar settings have documented the challenges of implementing Interprofessional education and teamwork initiatives, noting that while such interventions are well-received, their translation into sustained practice improvements requires structural support and organizational commitment. A mixed-methods study conducted at a tertiary care center in Karachi demonstrated that a six-week Interprofessional education program significantly improved teamwork perceptions among emergency physicians, nurses, midwives, and anesthetists, with qualitative data identifying effective communication and good leadership as the most important core components of collaborative practice (Yasmin et al., 2025). Similarly, simulation-based Interprofessional stroke code training in Pakistan revealed significant gains in interdepartmental communication and workflow efficiency, while participants highlighted the absence of standardized pathways and delays in patient arrival as persistent challenges (Saleem et al., 2026). These findings suggest that while Pakistani healthcare professionals recognize the value of interprofessional communication, systemic barriers, hierarchical professional relationships, resource constraints, and the absence of standardized protocols, mirror those described in the international literature, suggesting that the underlying mechanisms linking communication gaps to disposition delays may be generalizable

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across settings, even as their specific manifestations are shaped by local conditions. Yet empirical research directly examining the association between Interprofessional communication gaps and disposition delays in Pakistani tertiary care EDs remains scarce, representing a critical knowledge gap for both clinical practice and health system policy (Professional Medical Journal, 2024).

Patient satisfaction, while not the primary focus of the present inquiry, provides an important complementary outcome that enriches understanding of why communication gaps matter beyond operational metrics. The patient's experience of waiting and delay is mediated by communication: when patients are kept informed about the reasons for delay and receive updates as situations evolve, their satisfaction with the encounter can be preserved even when objective waiting times are prolonged. A cross-sectional study conducted in the ED of a tertiary hospital in Saudi Arabia found that communication with physicians and nurses, explanation of treatment, and waiting time during stay were the strongest independent predictors of overall patient satisfaction, with the multivariable model accounting for 50% of the variance in satisfaction scores (Babkair et al., 2026). Similarly, a quality improvement initiative implementing a structured communication bundle in an ED waiting room, including standardized verbal communication of estimated wait times and bilingual visual updates, was associated with an increase in net promoter score from 33.5 to 38.9, demonstrating that even low-technology communication interventions can meaningfully improve patient perceptions during prolonged waits (Karaki, 2026). Conversely, delays that occur without explanation or updates compound the frustration perspectives, is embedded within a larger investigation that also captures patient-reported outcomes, recognizing that disposition delay is simultaneously an operational problem and a patient associated with prolonged ED stays. The present study, while centered on healthcare professionals' experience problem.

The theoretical rationale for the present study draws upon a systems perspective on ED functioning, wherein disposition decision-making is conceptualized not as an individual cognitive act but as a distributed process requiring the integration of information, expertise, and authority across multiple professional roles (Liu et al., 2022). From this perspective, communication gaps represent points of failure in the integration process, where information that is necessary for the disposition decision is delayed, distorted, or lost in transition between professionals. The consequences of such failures are not merely inefficiencies but potential threats to patient safety and quality of care, particularly when the delay affects time-sensitive conditions or prolongs exposure to the risks associated with ED boarding (Wagenaar et al., 2026). By examining the association between specific communication domains, clarity and completeness of information, timeliness of communication, handover quality, clarity of roles and responsibilities, and escalation and problem resolution, and the frequency of perceived disposition delays, the present study aims to identify which aspects of Interprofessional communication are most strongly implicated in delay, thereby informing the design of targeted interventions (Yeom et al., 2026).

The methodological approach adopted in this study reflects a deliberate choice to privilege the perspectives of healthcare professionals who are directly engaged in the disposition process. While objective timestamp data provides a valuable measure of delay, the perceptions of clinicians offer unique insight into the communication-related antecedents of delay that may not be captured in administrative records (Bernstein et al., 2022). A professional who has experienced the frustration of an unclear handover or an unreturned consultation request can identify the communication failure as a contributing factor in a way that a timestamp cannot. Moreover, the

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frequency-based measurement of perceived delay allows for the examination of patterns across time and contexts, rather than being limited to the specific instances captured by objective data (Derieg & Kessler, 2023). This approach is consistent with the study's broader aim of generating actionable evidence for improving Interprofessional communication in the ED. By situating the investigation within the specific context of a tertiary care hospital in Pakistan, the study also addresses the need for research that reflects the realities of resource-constrained healthcare systems, where the consequences of communication gaps may be particularly pronounced and the opportunities for intervention particularly constrained (Almutairi et al., 2024).

In summary, the present study addresses a significant gap in the literature by quantitatively examining the association between multiple domains of Interprofessional communication and disposition delays as perceived by healthcare professionals in a tertiary care hospital ED. The study's findings are intended to contribute to the development of evidence-based interventions that target the communication failures most strongly implicated in delay, thereby improving patient flow, enhancing patient satisfaction, and optimizing the use of hospital resources (Hsieh et al., 2023).

Methodology

A quantitative, correlational cross-sectional design was employed to examine the association between Interprofessional communication gaps and delayed patient disposition among healthcare professionals in the emergency department of a tertiary care hospital. A sample of 200 healthcare professionals, including physicians, nurses, and paramedical staff with more than six months of ED experience, was recruited using a combination of convenience and purposive sampling techniques. Convenience sampling facilitated access to professionals available during data collection periods, while purposive sampling ensured representation across professional categories and experience levels relevant to the study's objectives. Data were collected using a structured, self-administered questionnaire comprising validated items measuring five communication domains (clarity and completeness, timeliness, handover, roles and responsibilities, and escalation and resolution) and frequency of perceived disposition delays. Ethical approval was obtained from the institutional review board, and written informed consent was secured from all participants. Data were analyzed using SPSS version 26. Pearson correlation coefficients assessed the relationships between communication domain scores and perceived disposition delay frequency. Multiple linear regression analysis was conducted to determine the extent to which the communication domains collectively predicted disposition delay, with statistical significance set at $p < 0.05$. Assumptions of normality, linearity, and multicollinearity were checked prior to regression analysis.

Data Analysis and Discussion

Table 1. Pearson correlation between communication-related variables and disposition delays

Predictor	Pearson's r with PD	p-value	Interpretation
CL	0.289	< 0.001	Weak positive association
TM	0.405	< 0.001	Moderate positive association
HO	0.335	< 0.001	Weak positive association
RR	0.394	< 0.001	Weak-to-moderate positive association
ES	0.679	< 0.001	Strong positive association
IF	0.751	< 0.001	Strong positive association

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All six variables demonstrated statistically significant positive associations with PD. IF showed the strongest correlation (r = 0.751), followed by ES (r = 0.679). CL had the weakest association (r = 0.289). Higher recorded scores were associated with higher PD scores, but these cross-sectional correlations cannot establish causal relationships.

Table 2. Multiple linear regression coefficients predicting PD

Predictor	B	SE	Standardized β	t	p-value
Constant	0.079	0.226	—	0.347	0.729
CL	−0.055	0.052	−0.056	−1.053	0.294
TM	0.136	0.053	0.135	2.552	0.011
HO	0.007	0.062	0.007	0.117	0.907
RR	0.171	0.057	0.157	3.003	0.003
ES	0.247	0.063	0.251	3.937	< 0.001
IF	0.480	0.063	0.497	7.632	< 0.001

The regression analysis identified TM, RR, ES, and IF as statistically significant positive predictors of PD. IF showed the largest standardized coefficient (β = 0.497), followed by ES (β = 0.251). CL and HO were non-significant after adjustment for the other variables, suggesting limited independent predictive contributions within this model.

The present study identified Interprofessional communication gaps as significant correlates of perceived disposition delays among ED healthcare professionals, with interface quality (IF) and escalation/resolution (ES) emerging as the strongest predictors in both correlation and regression analyses. These findings align with prior evidence indicating that communication failures at professional boundaries are a principal contributor to ED throughput inefficiency. A systematic review of multidisciplinary teamwork in emergency departments reported that professional hierarchies and role ambiguity consistently undermine collaborative decision-making and perpetuate siloed practices, directly affecting patient flow (Journal of Posthumanism, 2024). Similarly, qualitative work on prolonged ED disposition has documented that unclear decision-making authority and fragmented communication with consulting services leave patients in "limbo regarding the disposition and plan," a pattern consistent with the strong association observed here between IF and delay (Haliq & AlShammari, 2025).

The finding that ES was the second strongest predictor represents a relatively novel contribution. While existing literature has extensively examined handover quality and information clarity, escalation pathways and problem-resolution mechanisms have received comparatively less empirical attention. The systematic review by the Journal of Posthumanism noted that formalizing roles and structured protocols enhances both safety and holistic care, yet few studies have quantified escalation-specific effects on disposition timeliness (Journal of Posthumanism, 2024). The present study suggests that the capacity to promptly escalate unresolved disagreements or deteriorating conditions may be more consequential for disposition timeliness than the quality of routine information exchange. This finding resonates with evidence that conflict in emergency medicine frequently arises from task-related disagreements over admission decisions, where the absence of a clear escalation route prolongs negotiation and delays definitive disposition (Kelen et al., 2021).

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However, clarity (CL) and handover (HO) had insignificant contributions in our study. While univariate correlations confirmed their relevance, their independent effects diminished when IF and ES were included in the model. This may indicate that the quality of specific interfaces and the availability of escalation mechanisms subsume the effects of general clarity and handover quality, or that these domains operate through IF and ES as mediating pathways (McCarthy et al., 2025). These findings extend existing knowledge by suggesting that interventions targeting communication must prioritize boundary-spanning relationships and escalation structures rather than solely standardizing information transfer (Wagenaar et al., 2026).

Conclusion

This study provides empirical evidence that Interprofessional communication gaps are significantly associated with delayed patient disposition in the emergency department of a tertiary care hospital. Among the five communication domains examined, interface quality between professional groups and escalation/problem-resolution mechanisms emerged as the strongest independent predictors of disposition delay, while clarity and handover quality lost significance after adjustment. These findings suggest that the most consequential communication failures occur not in the routine transmission of information but at the boundaries between professional groups and in the absence of reliable pathways for escalating unresolved issues. Interventions aimed at reducing disposition delays should therefore prioritize strengthening Interprofessional relationships and establishing structured escalation protocols, rather than focusing exclusively on standardizing documentation or handover content. The study contributes to the limited body of quantitative research examining specific communication domains as predictors of disposition timeliness in resource-constrained tertiary care settings. Future longitudinal and interventional research is warranted to establish causality and evaluate the effectiveness of targeted communication improvements.

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