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Interdisciplinary Communication and Patient Outcomes in a Tertiary Hospital: Insights from Various Clinical Professionals

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Abstract

Background & Significance: Interdisciplinary communication sits at the heart of modern, high-acuity healthcare. When the laboratory scientist's critical value, the radiologist's provisional report, the nurse's early-warning observations, and the pharmacist's medication reconciliation all reach the bedside team in a timely, unambiguous fashion, preventable harm plummets. In complex tertiary settings, however, hierarchies, siloed digital systems, and competing priorities still fracture the information stream.

Objective: This study examines how front-line clinicians in a Riyadh tertiary centre perceive the *quality*, *frequency*, and *impact* of their interdisciplinary exchanges on a spectrum of patient-centred outcomes, ranging from satisfaction scores to readmission rates.

Methods: A descriptive cross-sectional survey of 120 clinicians—nurses, laboratory specialists, pharmacists, radiologists, operation technicians, and nutritionists—captured (i) preferred communication modes; (ii) perceived enablers/barriers; and (iii) self-reported outcome effects. Items were drawn from validated tools (e.g., Walker & Hirsch 2020) and piloted locally ($\alpha = 0.89$). χ^2, one-way ANOVA, and multiple regression explored associations between composite communication scores and four outcome indicators while adjusting for profession and tenure.

Results: Face-to-face handovers (80 %) and structured interdisciplinary rounds (75 %) topped the utilisation chart. High communication scores independently predicted higher patient-satisfaction ratings ($\beta = 0.42$, $p < 0.001$), faster diagnostic turnaround ($\beta = 0.39$, $p = 0.002$), fewer medication-related incidents ($\beta = –0.31$, $p = 0.006$), and lower 30-day readmission rates ($\beta = –0.28$, $p = 0.010$).

Conclusions: Real-time, dialogic channels—particularly bedside handovers and daily IDRs—remain the communication gold standard in a culture that still values face-to-face rapport. Embedding structured verbal protocols within a secure, interoperable digital ecosystem may yield the largest incremental gains.

Keywords: Interdisciplinary Communication; Patient Safety; Teamwork; Tertiary Care; Saudi Arabia

1 | Introduction

Tertiary hospitals tackle the region's most intricate cases—from multitrauma and oncology to transplant medicine—necessitating tightly orchestrated input from a kaleidoscope of professionals (Epstein 2014). In such environments, the *speed* and *clarity* with which information travels are just as important as its *accuracy*. Breakdowns—whether a missed radiology alert or an undocumented medication change—exert a measurable, negative impact on patient trajectories and resource utilisation (Weinberg, Miner & Rivlin 2012).

Saudi Arabia's rapid hospital modernisation has prioritised hardware and bed capacity, yet anecdotal feedback suggests enduring variability in "soft" team processes, particularly communication. Little empirical work has interrogated these processes in Kingdom-based tertiary centres. Filling this gap, the present study asks: *How do clinicians perceive the relationship between their interdisciplinary exchanges and key patient outcomes in a Riyadh tertiary hospital?* The answer could direct both managerial training initiatives and future research aimed at measurable quality improvement.

2 | Literature Review

2.1 Global Evidence Over two decades, literature has conclusively linked high-quality interdisciplinary communication with improved morbidity, mortality, and satisfaction metrics. Epstein's (2014) meta-review identified mortality reductions of up to 15 % following daily interprofessional huddles. Townsend-Gervis et al. (2014) further demonstrated a 23 % cut in 30-day readmissions after the introduction of structured IDRs. Meanwhile, Pannick et al. (2015) reported fewer near-misses and medication discrepancies on medical wards employing team-based communication checklists.

2.2 Staff Engagement & Culture Joseph et al. (2016) found that inclusive communication practices raise staff morale, which, in turn, sustains adherence to safety protocols. A longitudinal study by Walker & Hirsch (2020) similarly showed enduring improvements in employee engagement after units adopted flattened hierarchies during rounds.

2.3 Barriers & Contextual Nuances Despite these gains, Weinberg et al. (2012) caution that rigid hierarchies, ambiguous role boundaries, and fragmented electronic systems can dilute even well-designed communication strategies. Crucially, they argue that success hinges on context-sensitive adaptation—underscoring why regional studies, such as the present one, are indispensable.

3 | Mehodology

3.1 Study Design & Setting

A descriptive cross-sectional survey was conducted between January and March 2024 in a Joint Commission–accredited tertiary referral hospital in Riyadh, Saudi Arabia. The facility houses comprehensive adult, paediatric, oncology, cardiac, transplant, and critical-care services.

3.2 Sample & Recruitment

Purposive sampling targeted six disciplines integral to the in-house care pathway: nurses, laboratory specialists, pharmacists, radiologists, operation theatre technicians, and clinical nutritionists. *Inclusion criteria*: ≥ 1 year tenure, direct patient or diagnostic contact, and English literacy (institutional working language).

3.3 Instrument Development

The 36-item questionnaire synthesised elements from validated scales—Communication Climate Scale, TeamSTEPPS Teamwork Perceptions Questionnaire—and tailored prompts for local relevance. Sections covered:

- Demographics (profession, tenure, highest qualification)
- Frequency & perceived effectiveness of five communication channels
- Barriers/enablers (5-point Likert)
- Perceived impact on four patient-centred outcomes

Pilot testing with ten clinicians prompted minor linguistic tweaks; reliability testing yielded Cronbach's $\alpha = 0.89$ for the composite communication scale.

3.4 Data Collection Procedure

After IRB approval, department heads circulated study invitations via email and WhatsApp. Hard-copy surveys were distributed in staff lounges; completed forms were returned in sealed envelopes to a locked drop-box.

3.5 Statistical Analysis

Data were entered into SPSS v26. Descriptive statistics (means, SDs, frequencies) profiled respondents. χ^2 and one-way ANOVA explored group differences across professions. Four separate multiple regressions examined whether composite communication scores predicted (i) patient-satisfaction ratings, (ii) diagnostic turnaround times, (iii) medication incidents, and (iv) 30-day readmissions, controlling for profession and tenure.

3.6 Ethics & Confidentiality

Participation was voluntary. No patient data were accessed. Unique, anonymous codes replaced staff identifiers; only aggregate results are reported.

4 │ Results

4.1 Participant Demographics

Profession	*n*	%	Mean Years of Experience ± SD
Nurses	30	25.0	8.4 ± 3.1
Laboratory specialists	20	16.7	6.2 ± 2.7
Pharmacists	20	16.7	7.0 ± 2.9
Nutritionists	20	16.7	5.8 ± 2.4
Radiologists	15	12.5	9.1 ± 4.0
Operation technicians	15	12.5	6.5 ± 3.0
Total	**120**	**100**	**7.2 ± 3.2**

4.2 Communication Modalities & Barriers

Channel	Utilisation %	Rated Effectiveness (1–5)	Top-Three Barriers
Face-to-face handover	80	4.6	Time pressure, ward layout, shift overlap
Interdisciplinary rounds	75	4.5	Hierarchy, paging interruptions, documentation load
Telephone calls	70	4.1	Language accents, busy lines, lack of audit trail
EHR notes	65	3.8	Alert fatigue, access delays, limited narrative space
Instant messaging	55	3.6	Privacy concerns, message overload, no read receipts

4.3 Perceived Outcome Improvements

Outcome	Proportion Reporting Positive Impact %	Regression β	*p*-value
Patient satisfaction	81	+0.42	< 0.001
Diagnostic turnaround	77	–0.39	0.002
Medication incidents	72	–0.31	0.006
30-day readmissions	68	–0.28	0.010

5 │ Discussion

Echoing global findings, clinicians in this Riyadh hospital overwhelmingly associated structured, synchronous dialogue—especially *in-person* exchanges—with enhanced patient outcomes. Despite the proliferation of digital platforms, staff voiced a clear preference for face-to-face modalities when critical

decisions must be made. This aligns with Crew Resource Management principles, which prioritise verbal call-backs to ensure message fidelity (Epstein 2014).

The regression models add quantitative heft: communication quality not only correlates with—but *predicts*—variance in patient-centred outcomes after adjusting for role and experience. Notably, medication-incident reductions parallel earlier IDR studies in North America (Townsend-Gervis et al. 2014), suggesting that lessons on structured dialogue travel well across cultural contexts.

Yet barriers persist: traditional hierarchies can silence junior voices, and tight turnaround expectations leave limited space for reflective discussion. The nuanced critique that "EHR alerts are numerous but rarely actioned" underscores a subtle disconnect between *information availability* and *actionability*—a theme worth deeper exploration.

6 │ Limitations

1. Self-report bias —perceptions may misalign with objective performance metrics.
2. Single-site scope —findings cannot be generalised across Saudi tertiary hospitals without caution.
3. Cross-sectional design —temporal causality cannot be inferred.
4. Outcome verification —study relied on clinician perception rather than audited hospital KPIs.

7 │ Recommendations

Standardise, Educate, Digitise, Empower, Evaluate

1. **Standardise** SBAR-based handovers across all units, accompanied by rolling audit.
2. **Educate** through interprofessional simulation labs to break down hierarchies.
3. **Digitise** with secure, EHR-linked messaging that preserves an auditable trail.
4. **Empower** staff via speak-up campaigns and visible leadership endorsement.
5. **Evaluate** impact using blended perceptual and audited KPI data across multiple sites.

8 │ Conclusion

For Riyadh's tertiary-care clinicians, robust interdisciplinary dialogue is not a "soft" enhancer but a *core determinant* of clinical excellence. Embedding structured, technologically supported, and culturally sensitive communication protocols promises tangible gains in safety, efficiency, and patient experience.

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