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Connecting General Dentistry, Dental Assisting, Nursing, and Health Administration: An Integrative Review of Referral Coordination and Continuity of Oral Healthcare

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Abstract

Referral coordination links recognition of an oral health need with access to dental assessment, treatment, and information that supports continuing care. This review was conducted because referrals may be initiated without confirmation of attendance or communication of the resulting plan, while responsibilities are distributed across clinical and administrative roles. The objective was to develop an informed conceptual account connecting general dentistry, dental assisting, nursing, and health administration. A purposive integrative review examined twenty substantive publications within an eligibility window from January 2010 to November 2026. Bibliographic identities were verified, accessible full texts were examined, and findings were compared according to design, setting, outcome, and limits of inference. The selected evidence covered navigation, nursing supported oral care, referral management, integrated services, professional education, and organizational barriers. The synthesis distinguished referral initiation, service use, clinical outcomes, and return of information rather than treating these endpoints as equivalent. Five coordination requirements were identified: recognition with appropriate clinical escalation, complete referral information, ownership of administrative follow up, confirmation of service contact, and incorporation of the dental plan into continuing care. A proposed framework preserves the dentist's clinical responsibility, identifies supportive dental assisting and nursing contributions, and assigns administrative tracking to authorized personnel. Published studies support individual elements but do not validate the complete framework. No local patients, staff responses, or service records were analyzed. Future evaluation should examine referral completion, information closure, patient experience, equity, workload, and clinical outcomes using explicit denominators before attributing benefit to the proposed interprofessional arrangement in routine healthcare settings.

Keywords: general dentistry; dental assisting; nursing; health administration; referral coordination; continuity of care; oral health; integrative review.

1 Introduction

Referral coordination connects recognition of an oral health need with dental assessment, treatment, and continuing care. A liaison pilot and a randomized navigation study illustrate the value of identifiable follow-up responsibilities (Pronych et al., 2010; Binkley et al., 2010). Electronic oral surgery referral evaluations further show that software, clinical triage, and receiving service capacity must be considered together (Goldthorpe, Walsh, et al., 2018; Hill et al., 2021; Goldthorpe, Sanders, et al., 2018). These related publications inform service design rather than establish the effectiveness of the four-profession arrangement proposed here.

Saudi surveys identify opportunities for interdisciplinary oral health practice and nursing involvement, but reported referral behavior does not verify patient attendance (Gaffar et al., 2022; Gaffar et al., 2023). Education can improve knowledge without proving completed care (Sabbahi, 2023). A maternal programme trial and its process evaluations demonstrate the importance of accessible dental services, professional preparation, and patient understanding (George et al., 2018; Dahlen et al., 2019; Ajwani et al., 2019). Nursing home reports likewise distinguish improved oral hygiene from an unconfirmed sustained pneumonia benefit (Weintraub et al., 2018; Zimmerman et al., 2020).

Organizational culture, financing, workforce, and information exchange influence integration (Norwood et al., 2017; Vermillion et al., 2026). Interprofessional dental settings and alternative medical–dental service models demonstrate possible configurations, although hygienist responsibilities cannot be assigned automatically to dental assistants (Sanders et al., 2021; Braun et al., 2024). Adult primary care implementation and Saudi child referral improvement also concern different pathway endpoints (Bales et al., 2024; Alkarimi et al., 2025). Qualitative primary care evidence identifies persistent gaps in training, resources, and referral routes (N et al., 2026). This review therefore asks how these findings can inform accountable coordination across general dentistry, dental assisting, nursing, and health administration. It compares twenty publications, distinguishes access from clinical and information outcomes, and proposes responsibilities for subsequent testing. No local institutional outcomes are inferred from author affiliations.

2 Literature review

Pronych et al. (2010) piloted coordinators in three nursing facilities and reported improved oral hygiene. The uncontrolled design supports liaison feasibility but cannot isolate coordination from staff training.

Binkley et al. (2010) randomized 136 children; utilization was 43% with coordination versus 26% with routine services. Bundled navigation supported access, with context-specific transferability and uncertain component effects.

Norwood et al. (2017) used executive SWOT analysis to identify cultural, operational, financial, and workforce conditions for integration. Organizational perspectives inform planning without establishing patient-level effectiveness.

Goldthorpe, Walsh, et al. (2018) evaluated electronic oral surgery referral with clinical triage and enhanced primary care. Context-dependent diversion and savings concern the service package, not software alone.

Goldthorpe, Sanders, et al. (2018) qualitatively examined experiences of that referral redesign. Communication and implementation relationships mattered; these linked findings explain service change without independently demonstrating effectiveness.

George et al. (2018) randomized 638 pregnant women. Uptake was greatest with midwifery support plus cost-free dental services. The bundled intervention did not establish improved birth outcomes.

Weintraub et al. (2018) reported improved oral and denture hygiene after nursing home staff training in a cluster trial. Follow-up limitations and contextual differences constrain broader inference.

Dahlen et al. (2019) explored twenty-one midwives' perceptions in focus groups. Acceptability coexisted with scope and access concerns; this linked process evaluation does not independently establish effectiveness.

Ajwani et al. (2019) interviewed twelve dental professionals through focus groups. They emphasized midwife involvement and affordable care; perceived benefits explain implementation rather than measure independent treatment effects.

Zimmerman et al. (2020) evaluated 2,152 nursing home residents. No significant two-year pneumonia reduction occurred, showing why related oral hygiene improvement cannot establish sustained systemic benefit.

Hill et al. (2021) evaluated sequential referral phases across twenty-seven practices. Savings depended on coding and tariffs; nonrandomized timing and payment context limit causal and financial generalization.

Sanders et al. (2021) described nursing and other partnerships in a dental learning environment. Implementation lessons support reciprocal integration without proving referral completion or profession-specific effects.

Gaffar et al. (2022) surveyed 1,398 Saudi professionals. Knowledge and reported interdisciplinary practices were associated; cross-sectional self-report cannot establish causality, patient attendance, or returned clinical information.
Gaffar et al. (2023) surveyed 525 Saudi nurses; 266 reported referrals. Training correlated with positive attitudes, but snowball sampling limits representativeness and staff reports do not verify attendance.
Sabbahi (2023) evaluated education in Jeddah and reported knowledge improvement after two weeks. Convenience recruitment and a quasi-experimental design limit causal, clinical, and long-term conclusions.
Bales et al. (2024) described adult primary care integration with oral health information and electronic referral. Formative findings inform workflows, but referral interest does not establish completed dental attendance.
Braun et al. (2024) evaluated three integration models across twenty-two centres. Aggregate preventive measures improved; observational comparisons limit attribution, and hygienist responsibilities cannot be assigned automatically to assistants.
Alkarimi et al. (2025) reported Saudi quality improvement: 351 children referred, 317 screened, and 263 linked to dental homes. Different denominators and the uncontrolled design constrain interpretation.
Vermillion et al. (2026) described scaling services and referrals in Ohio alongside information exchange challenges. Implementation evidence highlights infrastructure needs without randomized effects or proof of information closure.
N et al. (2026) interviewed fourteen Indian primary care professionals. Training and referral barriers informed a preliminary framework. The small qualitative sample explains context rather than prevalence or effectiveness.

Synthesis and research gap

The twenty publications include linked maternal, nursing home, and oral surgery programme reports; they are not twenty independent intervention cohorts. Evidence supports individual pathway elements, while direct evidence for dental assistant-specific effects remains limited. The research gap concerns the complete journey from recognized need to verified care and returned information across all four professional interfaces.

3 Methodology

3.1 Design and search

A purposive integrative review addressed referral coordination rather than pooled effectiveness, informed by Snyder (2019) and Torraco (2016). Targeted PubMed and Europe PMC searches and primary-source checks were conducted through 19 November 2026, covering publications from January 2010. Concepts combined dentistry or oral health with referral, coordination, nursing, navigation, administration, and integration. Twenty substantive publications were selected for conceptual relevance; additional sources were not counted. The search was purposive and not preregistered.

3.2 Selection and appraisal

Bibliographic identities and DOIs were verified. Interpretation used accessible full texts or indexed abstracts. Extraction compared design, setting, professional involvement, mechanism, outcome, denominator, and limitations. Design-specific limitations guided interpretation. Linked programme reports were not treated as independent replications. No duplicate independent appraisal, numerical quality score, or pooled effect estimate is claimed. Table 1 specifies analytical boundaries.

Table 1. Review boundaries

Dimension	Approach	Limit
Coverage	2010–19 November 2026; 20 substantive publications	Purposive selection, not exhaustive retrieval
Access	Full texts where accessible; indexed abstracts otherwise	No inference beyond available material

Dimension	Approach	Limit
Appraisal	Design-sensitive comparison; linked reports identified	No independent duplicate appraisal or formal certainty rating
Synthesis	Conceptual integration, supported by contextual literature	No pooled or local effectiveness estimate

3.3 Synthesis and visual construction

Comparison organized five requirements: recognition with escalation, sufficient information, follow-up ownership, verified service contact, and incorporation of the dental plan. Tables 2 and 3 define future evaluation endpoints and proposed responsibilities. Figures distinguish proposed relationships from published trial percentages; no local results were generated. The proposed framework remains unvalidated; scope, staffing, access barriers, and service capacity require local review.

Table 2. Proposed outcome definitions for future evaluation

Endpoint	Denominator	Verified event
Referral coverage	Eligible referral episodes	Referral submitted
Attendance	Accepted or scheduled episodes, explicitly specified	Dental encounter verified
Information closure	Episodes requiring dental feedback	Clinically meaningful summary returned
Continuity	Episodes requiring ongoing action	Dental instructions incorporated into continuing care

Table 3. Proposed responsibilities subject to authorization

Profession	Proposed contribution	Boundary
General dentistry	Clinical assessment, triage, treatment, and feedback	Retains dental diagnostic responsibility
Dental assisting	Prepare approved information; support communication	Delegated tasks under supervision
Nursing	Recognize concerns; communicate history; support ongoing care	Acts within credentials and approved scope
Health administration	Track status, arrange contact, flag missing feedback	Does not determine clinical urgency

3.4 Ethical considerations and limitations

Only published material was analyzed; no participants, identifiable patient records, or local staff responses were studied. No ethics approval or consent waiver is claimed. Future empirical work requires applicable institutional governance, secure communication, data minimization, and authorized access. Professional roles require credentials and supervision; authors must verify submission declarations. Purposive selection, uneven source access, heterogeneous outcomes, and indirect dental assisting evidence limit conclusions and transferability.

4 Results

4.1 A closed referral loop

The synthesis identifies five connected requirements rather than a validated intervention. Electronic receipt, clinical triage, attendance, returned information, and updated care are distinct states. Figure 1 displays the proposed loop. Oral surgery evidence concerns software combined with clinical review and

service capacity (Goldthorpe, Walsh, et al., 2018; Hill et al., 2021); navigation evidence additionally supports practical access assistance (Binkley et al., 2010). Neither electronic transmission nor appointment booking demonstrates completed dental care.



Figure 1. Proposed referral loop. Conceptual states; no local data, probabilities, or durations.

4.2 Service access and outcome specificity

Figure 2 reconstructs dental uptake of 20.2%, 28.3%, and 87.2% in the maternal trial (George et al., 2018). The highest uptake occurred with midwifery support plus cost-free dental services; the bundled design prevents attribution to one profession. Improved oral hygiene in nursing homes similarly did not establish sustained pneumonia prevention (Weintraub et al., 2018; Zimmerman et al., 2020). Access, oral health, and broader medical outcomes require separate interpretation.

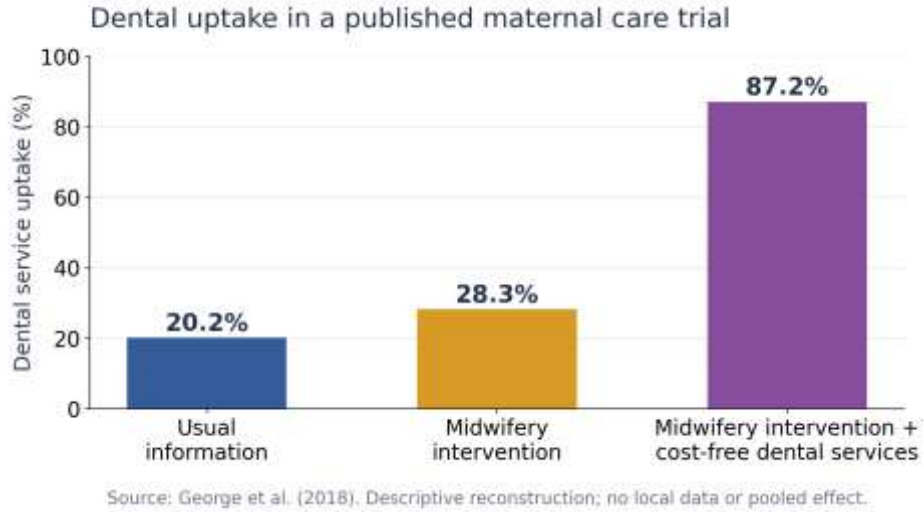


Figure 2. Dental uptake reported by George et al. (2018). Source-derived percentages; no pooled or local effect.

4.3 Responsibilities and recovery routes

Clinical questions require dental judgment; administrative delays require tracking and navigation; missing feedback requires secure return of a clinical summary. Figure 3 maps these proposed responses. Organizational and information exchange evidence supports attention to ownership and infrastructure (Norwood et al., 2017; Vermillion et al., 2026). Dental assistant contributions are plausible supervised tasks, with limited direct effectiveness evidence. The Saudi child initiative demonstrates why sequential denominators must remain explicit (Alkarimi et al., 2025).

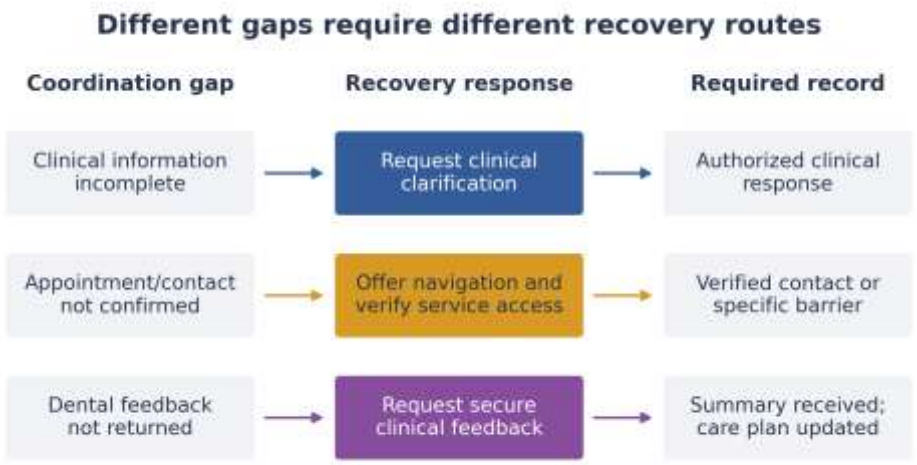


Figure 3. Proposed recovery routes. Conceptual and unvalidated; tasks require local authorization.

4.4 Interpretation and future testing

The framework connects four professions without demonstrating their combined causal effect. Contextual integration literature and recent referral recommendations support its rationale rather than validate it (Harnagea et al., 2017; Sandhu et al., 2026). Future evaluation should measure attendance, feedback closure, patient experience, equity, workload, costs, and clinical outcomes separately. Capacity changes, service financing, and concurrent initiatives may influence results. No conclusion about the authors' institutions follows from this theoretical synthesis.

5 Conclusion and recommendations

5.1 Conclusion

This integrative review connects general dentistry, dental assisting, nursing, and health administration through a proposed account of referral coordination and continuity of oral healthcare. Twenty substantive publications supplied complementary evidence on navigation, staff preparation, clinical triage, service availability, daily care, and organizational conditions. Their designs and linked programme reports prevent interpretation as twenty independent demonstrations of one intervention. The synthesis indicates that recognition of need and electronic submission are insufficient descriptions of completed care. A meaningful pathway also requires adequate information, identifiable follow-up responsibility, confirmation of service contact, and return of a clinically useful dental plan. Published trials support particular access or oral hygiene outcomes, while other findings demonstrate the limits of assuming broader medical benefits. Survey reports and educational gains similarly cannot establish patient attendance or treatment completion. The proposed professional arrangement preserves the dentist's clinical responsibility, includes supervised dental assisting support, recognizes nursing contributions to recognition and ongoing care, and assigns administrative tracking to authorized personnel. Evidence for the specific contribution of dental assistant technicians remains indirect. No local patients, staff responses, or institutional service records were analyzed, and the framework has not been empirically validated. Its contribution is conceptual clarity about who acts, what information moves, and which outcome is actually observed. Application requires adaptation to professional scope, capacity, governance, and patient circumstances. Future research should test the complete pathway using explicit denominators and outcome-specific interpretation before attributing improvements in access, safety, efficiency, equity, or clinical health to this proposed model across organizational and population settings internationally.

5.2 Recommendations

Healthcare organizations considering this framework should first map their existing referral pathway with patients and representatives of dentistry, dental assisting, nursing, and administration. The exercise should identify where responsibility changes, which information is essential, and how unresolved

episodes are currently managed. A named clinical owner should define assessment and escalation requirements, while an authorized administrative function maintains status tracking. Dental assistants and nurses should receive preparation matched to their duties, supervision, and credentials. Approved patient explanations should clarify the purpose of referral, the receiving service, expected next steps, and available support for access barriers. Organizations should agree secure communication routes and a minimum dental feedback summary that supports continuing care without disclosing unnecessary information. Evaluation should begin with explicit definitions of eligibility, referral, acceptance, attendance, and information closure. Denominators and reasons for noncompletion should accompany every reported proportion. Initial implementation should be sufficiently limited to examine feasibility, workload, documentation quality, and unintended effects before wider expansion. Comparative or appropriately designed longitudinal research should then assess patient experience, equity, costs, oral health, and relevant clinical outcomes separately. Investigators should account for appointment capacity, financing changes, and linked service initiatives when interpreting improvement. Particular attention should be given to testing the proposed dental assisting contribution, because direct evidence remains limited. Before publication or empirical data collection, contributors should verify affiliations, document actual contributions and competing interests, and obtain the governance determinations required for the proposed activities. These steps would turn a plausible conceptual arrangement into a transparent programme of evaluation and refinement.

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