Evidence Library

Thirty-one annotated research and professional sources, with the boundary of each source made explicit.

Every source behind the FDI session, with what each one does and does not support.

> **Reference check.** References were checked against PubMed, official professional standards or the publisher of record on 5 August 2026. Annotations identify what each source supports and where inference should stop.

These references support the session's rationale, mechanisms, professional standards and scientific boundaries. They do not substitute for study-level data from the accepted implementation evaluation.

Communication, teamwork and dental safety

Keshtkar L, Bennett-Weston A, Khan AS, et al. Impacts of communication type and quality on patient safety incidents: a systematic review. Ann Intern Med. 2025;178(5):687-700. PMID 40228297.

Supports: communication failure is **associated with** patient-safety incidents. Does not support: any causal claim. The evidence base is heterogeneous and often low certainty.

Preshaw PM, Minnery H, Dunn I, Bissett SM. Teamworking in dentistry: the importance for dentists, dental hygienists and dental therapists to work effectively together. A narrative review. Int J Dent Hyg. 2024. doi:10.1111/idh.12874. PMID 39497282.

Supports: communication, shared standards and effective use of dental-team roles are relevant to teamworking in dentistry. Also finds hygienists and therapists are not always working to full scope, which is a role-clarity finding. **Does not support:** an intervention effect, or a quantitative expectation for the present work.

Yansane A, Lee JH, Young N, et al. Assessing the patient safety culture in dentistry. JDR Clin Trans Res. 2020;5(4):399-408. PMID 31923373.

Supports: patient-safety culture is measurable in dental settings. Does not support: a target score.

Bailey E, Dungarwalla M. Developing a patient safety culture in primary dental care. Prim Dent J. 2021;10(1):89-95. doi:10.1177/2050168420980990.

Supports: safety culture is a practical concern in primary dental care, not only in hospitals.

Ramoni R, Walji MF, Tavares A, et al. Open wide: looking into the safety culture of dental school clinics. J Dent Educ. 2014;78(5):745-756.

Supports: dental clinic environments carry the same speaking-up problems documented elsewhere in healthcare.

Yamalik N, Perez BP. Patient safety and dentistry. Int Dent J. 2012;62(4):189-196. doi:10.1111/j.1875-595X.2012.00119.x.

Supports: the fundamentals of safety culture as applied to dental practice.

Coaching science and implementation

Cannon-Bowers JA, Bowers CA, Carlson CE, et al. Workplace coaching: a meta-analysis. Front Psychol. 2023;14:1204166. PMID 37881215.

Supports: workplace coaching **can** improve organizational outcomes. Does not support: an expected effect size in dentistry. The authors themselves note methodological limitations across the literature.

Stephany AM, Archuleta P, Sharma P, Hull SK. Professional coaching in medicine and health care. Clin Sports Med. 2023;42(2):195-208. doi:10.1016/j.csm.2022.11.001. PMID 36907618.

Supports: professional coaching is an established approach in healthcare professional development. **Does not support:** a specific effect in dental teams, or the effectiveness of the combined intervention presented here.

Jansen EJ, et al. Implementing coaching programmes for healthcare professionals: barriers and facilitators. Int J Health Plann Manage. 2024;39(3):860-878. PMID 38354069.

Supports: implementation of coaching programs is influenced by organizational conditions, including support, time, culture and integration. **Does not support:** a claim that coaching alone routinely fails, or that process redesign is always required.

Professional standards

International Coaching Federation. 2025 ICF Core Competencies. Released 8 September 2025.

Supports: the specific coaching behaviors named in the framework, including agreements, trust and safety, active listening, evoking awareness and facilitating growth. Does not support: equating a competency with a measured team climate.

International Coaching Federation. ICF Code of Ethics. Effective 1 April 2025.

Supports: the confidentiality and role-separation safeguards described in the method.

Psychological safety, voice and silence

O'Donovan R, McAuliffe E. A systematic review of factors that enable psychological safety in healthcare teams. Int J Qual Health Care. 2020;32(4):240-250. PMID 32232323.

Supports: leadership, relationships and organizational context are the enablers. Does not support: that any single intervention reliably creates psychological safety.

O'Donovan R, De Brun A, McAuliffe E. Healthcare professionals' experience of psychological safety, voice and silence. Front Psychol. 2021;12:626689. PMID 33679547.

Supports: silence persists even where people report feeling safe.

O'Donovan R, Van Dun D, McAuliffe E. Measuring psychological safety in healthcare teams: developing an observational measure to complement survey methods. BMC Med Res Methodol. 2020;20(1):203. doi:10.1186/s12874-020-01066-z. PMID 32727374.

Supports: combining observational and survey approaches can give a more complete assessment of psychological safety than a survey alone. The paper developed a composite measure covering observable voice, silence, support and learning behaviors. **Does not support:** treating this toolkit as a validated psychological-safety measure.

O'Donovan R, McAuliffe E. Exploring psychological safety in healthcare teams to inform the development of interventions: combining observational, survey and interview data. BMC Health Serv Res. 2020;20(1):810. doi:10.1186/s12913-020-05646-z. PMID 32867762.

Supports: the single most important caveat in this toolkit. Survey results indicating high psychological safety can coexist with observed and reported silence. This is the direct source for pairing behavioral and qualitative evidence with self-report. **Does not support:** a universal conclusion that favorable survey scores are inaccurate.

Purdy E, Borchert L, El-Bitar A, et al. Psychological safety and emergency department team performance. Emerg Med Australas. 2023;35(3):456-465. PMID 36519387.

Supports: the link between psychological safety and team performance in a high-pressure clinical setting.

Improvement science and lean

Tlapa D, Zepeda-Lugo CA, Tortorella GL, et al. Effects of lean healthcare on patient flow: a systematic review. Value Health. 2020;23(2):260-273. PMID 32113632.

Supports: potential gains in flow. Does not support: guaranteed gains. Effects depend on context and implementation quality.

Mazzocato P, Savage C, Brommels M, Aronsson H, Thor J. Lean thinking in healthcare: a realist review. Qual Saf Health Care. 2010;19(5):376-382. PMID 20724397.

Supports: lean healthcare operates through mechanisms that are influenced by context and implementation. **Does not support:** a universal explanation for why a particular lean initiative failed.

Robinson FG, Cunningham LL, Turner SP, et al. Improving a dental school's clinic operations using lean process improvement. J Dent Educ. 2016;80(10):1170-1179. PMID 27694290.

Supports: process improvement applied specifically to a dental clinic. The closest dental analogue in this library.

Ninerola A, Sanchez-Rebull MV, Hernandez-Lara AB. Quality improvement in healthcare: Six Sigma systematic review. Health Policy. 2020;124(4):438-445. PMID 32156468.

Supports: Six Sigma as an established healthcare improvement approach.

American Society for Quality. DMAIC: Define, Measure, Analyze, Improve, Control.

Supports: the structured improvement backbone. Does not support: any claim that every DMAIC phase was completed in this work.

Institute for Healthcare Improvement. Model for Improvement.

Supports: the three questions and the PDSA test-and-learn cycle.

Institute for Healthcare Improvement. Testing Changes.

Supports: small-scale testing before adoption, which is the logic of the small-test canvas.

Human factors and work-system design

Holden RJ, Carayon P. SEIPS 101 and seven simple SEIPS tools. BMJ Qual Saf. 2021;30(11):901-910. PMID 34039748.

Supports: people, tasks, tools and technologies, physical environment and organizational conditions interact within a work system. This is the systems explanation used throughout. **Does not support:** reducing all behavioral concerns to system design, or all system concerns to individual behavior.

Carayon P, Schoofs Hundt A, Karsh BT, et al. Work system design for patient safety: the SEIPS model. Qual Saf Health Care. 2006;15 Suppl 1:i50-i58. PMID 17142610.

Supports: the five work-system domains used in the diagnosis worksheet.

Carayon P, Wooldridge A, Hoonakker P, et al. SEIPS 3.0: human-centered design of the patient journey. Appl Ergon. 2020;84:103033. PMID 31987516.

Supports: extending work-system thinking across a whole patient journey rather than one step.

Organizational intervention, measurement and reporting

DeChant PF, Acs A, Rhee KB, et al. Effect of organization-directed workplace interventions on physician burnout. Mayo Clin Proc Innov Qual Outcomes. 2019;3(4):384-408. PMID 31993558.

Supports: organization-directed workflow and team interventions are an important component of efforts to reduce work-related burnout and stress. The review reported potential benefit from process improvement, team-based care and reduced clerical burden. **Does not support:** superiority over individual interventions, direct effects in dentistry, or guaranteed benefit. The authors noted limitations in study quality.

Panagioti M, Panagopoulou E, Bower P, et al. Controlled interventions to reduce burnout in physicians: a systematic review and meta-analysis. JAMA Intern Med. 2017;177(2):195-205. doi:10.1001/jamainternmed.2016.7674. PMID 27918798.

Supports: in prespecified subgroup analysis, organization-directed interventions were associated with larger reductions in emotional exhaustion (SMD −0.45, 95% CI −0.62 to −0.28) than physician-directed interventions (SMD −0.18, 95% CI −0.32 to −0.03). The authors conclude that burnout is a problem of the whole organization rather than of individuals. **Does not support:** a head-to-head trial, a guaranteed effect, or direct generalization to dental teams. Overall intervention effects were small.

De Simone S, Vargas M, Servillo G. Organizational strategies to reduce physician burnout. Aging Clin Exp Res. 2021;33(4):883-894. doi:10.1007/s40520-019-01368-3.

Supports: organizational strategies may contribute to reducing physician burnout. **Does not support:** a universal intervention package, superiority over individual approaches, or direct generalization to dental teams.

Agency for Healthcare Research and Quality. Surveys on Patient Safety Culture, Hospital Survey 2.0.

Supports: validated safety-culture instruments are available when formal measurement is required. **Does not support:** treating the Dental Team Friction Worksheet as a validated instrument, or substituting a hospital measure without a local appropriateness review.

Ogrinc G, Davies L, Goodman D, et al. SQUIRE 2.0: revised publication guidelines. BMJ Qual Saf. 2016;25(12):986-992. PMID 26369893.

Supports: how improvement work should be reported. This is the standard the next phase of this work would be written to.

About the presenter

Amardeep Bains is a dentist, healthcare executive, ICF Professional Certified Coach and Lean Six Sigma Black Belt, and the Founder and CEO of Energized Vision.

His work is operational design and leadership development in **public and institutional healthcare**, meaning settings where an organization does not choose its patients, its staffing or its schedule.

He serves on the Board of Managers of the California Dental Association and holds active dental licenses in the United Kingdom, Oregon, California and Australia. He speaks on coaching and process design for clinical teams, workforce design and burnout, and psychological safety in constrained healthcare settings.

He has presented on workforce design and team performance to the Society of Teachers of Family Medicine and the FDI World Dental Congress.

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Scientific boundary. This is an evidence-informed implementation resource. It is not a validated diagnostic instrument, a psychological-safety scale, a clinical guideline or a substitute for local governance. The accepted abstract reports directional implementation findings. It does not establish causation, component effects or a universal effect size.

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