

Research Capacity Development in Dentistry: From Individual Projects to Sustainable Research Systems

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Investing in research capacity strengthening is becoming more and more essential. It encompasses more than just teaching researchers how to write studies' protocol or a manuscript; rather, it is all about fostering individuals', institutions' and research systems' ability to recognize priorities, perform high-quality studies, apply the information gained in decision-making processes and keep on researching. The WHO's TDR programme puts research capacity strengthening also at the very heart of its 2024-2029 strategy, emphasizing the importance of enhancing individual, institutional and community capacities for local led implementation research.¹

For dentistry this is extremely important. Dental institutions often have large clinical populations, postgraduate programmes and motivated faculty but research may be fragmented and reliant on individuals. There is a need for a stronger model which encompasses an institutional research ecosystem that includes mentorship, ethical oversight, methodological and statistical support, data-management systems, access to scientific literature, protected research time and opportunities for interdisciplinary collaboration. The WHO Alliance for Health Policy and Systems Research stresses that capacity strengthening should be happening at individual, institutional and system levels simultaneously through mechanisms such as mentorship, finance, teaching resources and incentives for using research evidence.²

Short courses and workshops may teach core research skills, but sustainable capacity is unlikely to come from these activities in isolation. Longitudinal mentorship and participation in complete research cycles and increasing levels of responsibility are more likely to result in independent investigators. Earlier evaluations of WHO/TDR programmes showed that research-capacity initiatives can increase research skills and outputs, but also highlighted the importance of institutional environments and sustained support.³ PLOS A systematic review of research-capacity development in low- and middle-income countries also found that these efforts have often been fragmented and argued that more coherent approaches that go beyond individual capacity-building are needed.⁴

Dental colleges, therefore, should shift their conceptualization of research capacity building from a primarily publication-oriented paradigm to one focused on organized research. This shift will

such as protocol design, data collection, analysis, manuscript preparation, and responding to peer reviews. More senior requires engaging junior academics in research groups in which they will contribute to various aspects of the research process, researchers, in turn, should build their skills in supervising and mentoring others, collaborating across multiple centers, seeking grants, and leading research enterprises.

In addition, dental schools should prioritize areas in which their research could make the most significant impact on their populations. Such areas could include oral health disparities, prevention, dental materials, digital dentistry, artificial intelligence in dentistry, antimicrobial use, dental education, and access to care.

Importantly, research capacity should not be measured purely by the quantity of papers produced. Capacity is manifested in research questions, rigorous methodological approaches, ethical conduct, mentoring of younger investigators, data management systems, successful collaborations and the application of findings to clinical practice or institutional policy. Contemporary WHO approaches now recognize the importance of research ecosystems and implementation, rather than merely an extension of technical skills to individuals.⁵

For dental institutions in Pakistan and similar contexts, the opportunity is considerable, as building systematic research capability can transform isolated projects into programmes of scientific inquiry and enable local evidence to contribute more effectively to clinical care, education and policy. Thus, the ultimate measure of capacity is the ability of an institution to produce independent researchers, sustainable research systems and evidence to improve oral health, rather than the number of manuscripts published.

References

1. Special Programme for Research and Training in Tropical Diseases (TDR). TDR Strategy 2024–2029: Building Local Research Solutions to Improve Global Health. Geneva: World Health Organization; 2023.
2. Alliance for Health Policy and Systems Research. Capacity strengthening. World Health Organization.
3. Minja H, Nsanjabana C, Maure C, Hoffmann A, Rumisha S, Ogundahunsi O, et al. Impact of health research capacity strengthening in low- and middle-income countries: the case of WHO/TDR programmes. PLoS Negl Trop Dis. 2011;5(10):e1351. doi:10.1371/journal.pntd.0001351.
4. Franzen SRP, Chandler C, Lang T. Health research capacity development in low and middle income countries: reality or rhetoric? A systematic meta-narrative review of the qualitative literature. BMJ Open. 2017;7:e012332.
5. Alliance for Health Policy and Systems Research. Aligning national and regional knowledge ecosystems for evidence-informed policy-making. World Health Organization.

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