



EDITORIAL

# Building DNA Analysis Facilities: An Opportunity for Forensic Infrastructure Development in Current Times

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## Introduction

Since the introduction of forensic odontology in the dental graduate and postgraduate curriculum of the Indian educational institutes, efforts have been made to upgrade the existing infrastructure, training practices and standard operating procedures across the country. It's need has been recognized in several sectors including armed forces<sup>[1]</sup> which has resulted in exhaustive narratives on setting up of a functional forensic odontology department<sup>[2]</sup>. However, funding issues have racked such developments in low middle income countries such as India.



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While forensic dentistry covers a vast landscape in terms of service provision: DNA profiling is unique in its acceptance in the court of law. Teeth, bones and saliva have long been recognized as sources of DNA typing in the forensic sciences. In the recent years, several international agencies including Federal Bureau of Investigation (FBI), the Scientific Working Group on DNA Analysis Methods and the United States Department of Justice have increased focus on the rapid DNA analysis methods. Such methods provide results within 90 minutes. Investigators from Australia, Canada, China, Italy, Japan and the United States have been churning such prolific kits in the marketplace with India yet to join the array.<sup>[3]</sup>

The Indian judicial system is plagued by massive pendency. One of the reasons is the quality of the evidence produced in the court of law.<sup>[4]</sup> Considering the importance of DNA analysis, the Government of India has set up a state-of-the-art DNA Analysis and Research at the Central Forensic Sciences Laboratory, Chandigarh; released 185.28 crore (INR) for strengthening DNA Analysis and Cyber Forensic Capacities and; has set-up training campuses across the country under the gambit of National Forensic Infrastructure Enhancement Scheme (as of June 2024).

Dental institutes across the country are uniquely positioned to contribute to the national forensic infrastructure through the development of specialized DNA analysis laboratories. As centers of advanced biomedical research and training, these institutes can play a crucial role in forensic identification, disaster victim identification (DVI), and criminal investigations—especially when conventional means fall short. In addition, the surplus dental institutions across the country with DNA analysis labs may benefit the regions currently underserved by the central and the state forensic laboratories. Such facilities would also serve as hubs for training forensic odontologists and conducting research in forensic genetics.

A rigorous peer discussion along with petitioning of the funding agencies is required to divert and/ or allocate the funds envisaged under the National Forensic Infrastructure Enhancement Scheme to the existing accredited dental institutions for the establishment of the rapid DNA analysis facilities and promotion of forensic sciences amongst the youth the country.

## References

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