

Engaging Dental Workforce in Emergency services

Abhinav Singh

Assistant Professor - Department of Public Health
Dentistry,
ESIC Dental College & Hospital, Rohini – New Delhi
Under Central Ministry of Labour & Employment -
Government of India
drabhinav.singh@gmail.com
Tel: 919999892496

Bharathi M Purohit

Assistant Professor - Department of Public Health
Dentistry,
People's College of Dental Sciences, Bhopal – India
E- mail: bharathipurohit@yahoo.com

Abstract: It is evident from recent catastrophic events that the traditional medical system may be overwhelmed because most of the medical centre operates close to capacity on a daily basis. Add the generation of mass casualties (Tsunami: Japan 2011; India 2004; Terrorist attacks 26-11 or 9-11) into the equation, then basic life saving responses becomes more impossible. Therefore there is a need to marshal all available resources in response to a disaster. Dentists and dental specialists can bring a wide range of skill sets based on personal experience, training and enthusiasm. Members of public health, emergency planning and other stakeholders must be encouraged to involve dentists as team members of the national disaster plan development. Dental surgeons have basic skills and abilities that allow them to function as partners with other health care provider in responding to a disaster.

Keywords: Dental workforce; emergency responses; mass causality; disaster events

It is evident from recent catastrophic events that the traditional medical system may be overwhelmed because most of the medical centre operates close to capacity on a daily basis. Add the generation of mass casualties (Tsunami: Japan 2011; India 2004; Terrorist attacks 11-26 or 9-11) into the equation, then basic life saving responses becomes more impossible. Therefore there is a need to marshal all available resources in response to a disaster. Professional who plan and manage emergency responses must reach out to groups that have assets to the response effort but are not intrinsically tied to medical response. Dentists and dental staff are example of such groups.

The local availability of first responders and infrastructure available to political decision makers become paramount as the enormity of manmade and natural disaster increases in scale and damage. The expectations for response within the community change, if the local assets are overwhelmed. The role of traditional first responders shifts particularly during a disaster, when assets are exceeded, which possibly causes the role of oral health professional to shift as well. The nature and extent of this shift requires an examination of the expansion of the definition of first responders and an assessment of the validity of the inclusion of the dental profession as significant contributor within the domain of the first responder community.

Preparedness, in its nature, is multifaceted and requires a great deal of creativity to overcome the limitations imposed in the use of expected or traditional

assets. The prime purpose of recruiting the assistance of dentists in responding to mass causality events incidents is to enable crisis managers to use scarce physician resources in the most effective manner possible by having some service they would ordinarily provide be successfully provided by dentists where possible. During their pre doctoral education dentists acquire training in many general medical areas that can be useful in disaster response situations. Dentistry may contribute to response to a major disaster in terms of both personnel and facilities. Local circumstances (ie; the medical needs and resources of the community after a disaster and nature of the disaster) determine how dentists can be of assistance. Some simple duties could include dispersing medications whereas other may require additional training or some supervision. Ex; providing basic medical care in quarantine situations.

Mostly, the dental profession is a loosely organized network of individual practitioners. Therefore dentists can be part of an effective surveillance network because they are scattered throughout a community much as general population is. Observation of intra oral or cutaneous lesions or both and notification of public health authorities about these observations may facilitate early detection of pandemic infections. Early detection of an infectious agent in a population may allow for reduction in the number of casualties by prompt initiation of preventive and therapeutic intervention.¹

The role of forensic dentistry in mass disaster victim identification is well-established. Despite this, many

concerns exist over the preparedness of the dental response teams. Several Federal and private response groups have aimed to increase teams' readiness by identifying individuals willing to participate and training them for the varied roles of disaster team members. It must also be remembered that while aircraft disasters are frequently the focus of discussion on the topic, natural and other man-made disasters also require the services of odontologists.² The significance and need of maintaining dental records by general dental practitioners is of paramount importance and cannot be overemphasized.

Dentists have training in many areas that may be a part of causality in mass causality events like treating oral, facial and cranial injuries, obtaining medical histories, providing and assisting in anesthesia, suturing and performing appropriate surgeries, assisting in stabilization and shock management. Oral health professionals in Illinois have been included as an important component of state and local emergency preparedness efforts.³ Similarly in Washington several local oral health programs have been called to participate in emergency preparation programs.⁴ At federal level, in United States, the major resource for personnel that department of homeland security will draw upon in an emergency is the National Disaster Medical System (NDMS). The system, established in 1984, consists of 96 teams of health professionals spread throughout the country, a force that includes 8,000 volunteers from the private sector. Some NDMS units, notably Disaster Medical Assistance Teams (DMATs), provide general medical support from units numbering about 35 individuals that include physicians, dentists, pharmacists, nurses, emergency medical technicians, and support staff.⁵

India is one of the most disaster prone countries of the world. It has had some of the world's most severe droughts, famines, cyclones, earthquakes, chemical disasters, mid-air head-on air collisions, rail accidents, and road accidents. India is also one of the most terrorist prone countries. Some of the catastrophic disasters in recent times have led to changes in disaster policy and creation of new organizations. Policy changes include the enactment of Disaster Management Act, 2005 and development of the national disaster management response framework. The National Disaster Management Authority was established to spearhead in creation of culture of disaster resilience. The National Institute of Disaster Management itself and along with Disaster Management Cells in the states is providing training opportunities in disaster management.⁶

India is having around 289 dental colleges, which makes approximately about one third of the dental school present worldwide. The number of dental professionals in India is approximately 175,000 and is projected to be more than 300,000 in the next five years. Annually around 25,000 dentists are graduating every year in India.⁷ Though having faced many mass casualties and disasters including terrorist attacks yet the role and duties of oral health care professionals in India during disasters are neither specified nor clear. What we would recommend is to incorporate a catastrophe preparedness mindset into the dental school

curriculum and training dental students across the 4 years to prepare dentists to respond and contribute to public health disaster. In addition to the teaching of dental students the existing profession needs similar education and training. Also felt is the need for proper dental record-keeping by general dental practitioners in India and other emerging and industrialized countries, keeping in perspective, the role of forensic odontology in some of the world's major mass disasters. Similar to that in United States and other developed countries we need the inclusion of oral health professionals in task forces responding to disaster. As licensed health care professionals, dentists should feel a responsibility to act if disaster should occur in their communities.

Dentists and allied professional staff who volunteer as first responders can bring well-honed skills to an emergency. They can perform triage (as dentists have done on the battlefield in conventional wars), they can administer anesthetics, treat head and neck injuries, provide first aid, including CPR. They can assist medical personnel; they can vaccinate individuals. And they can learn to do more. Further, dental offices, equipped with air and suction lines, x-ray equipment and sterilizing capability, can be used as self-contained alternate medical sites if hospitals are under attack or are unsafe because of widespread infection associated with biological weapons. In that regard, dentists can also serve as sentinels in an early warning system for bioterrorism, if, for example, they note unexpected increases in appointment cancellations or no-shows that might signal the spread of disease in a community.⁸

Hurdles remain, because the majority of the disaster medicine and response community naturally does not perceive a contributing role by the dental profession. Therefore, it remains imperative for the oral health community as a whole to continue to be active participants in all in all aspects of preparedness involving disaster medicine and response. We must make the case to the disaster medicine and response community that the dental profession can participate and should be perceived to belong to within the disaster medicine and response domain. Becoming involved in disaster medicine can be readily seen as an extension of dental practice. In order to have this opportunity, however, the entire dental community must remain involved in discussion around policy, planning and implementation to shape the image of the role of the dentist within medicine and response.

Each segment of our society should contribute to disaster preparedness, because an effective response will come only from community-wide acceptance of the actions required to respond. On a personal level, involvement in the health and welfare of the community reconfirms the role of dentist in overall health care. Dentists and dental specialists can bring a wide range of skill sets based on personal experience, training and enthusiasm. Members of public health, emergency planning and other stakeholders must be encouraged to involve dentists as team members of the national disaster plan development. Dental surgeons have

basic skills and abilities that allow them to function as partners with other health care provider in responding to a disaster. Oral health resources in the form of dental offices and clinics have the potential to provide additional facilities for use during an emergency. Appropriate use of the dental manpower in the National Disaster Plan may prove to be critical in responding to public health disasters; specifically in India..

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Vitae



Dr. Abhinav Singh – Corresponding Author

Dr. Abhinav Singh completed his dental graduation in 2004 and post graduation in 2008 from Manipal College of Dental Sciences, India; premiere dental school in India. He also completed a post graduate course in smile designing and aesthetic dentistry in 2006 -2007. Since then he has been involved in teaching dentistry to undergraduate and post graduate students. He has also been actively involved in scientific research and has numerous publications in both national and International Journal. He is the author of the speciality textbook “Trace Elements and Dental Caries”. Presently working as an Assistant Professor in Department of Public Health Dentistry in ESIC Dental College & Hospital, Rohini, Under Ministry of Labour & Employment. He is a member and recipient of Duke of Edinburgh's Award Scheme (DEAS), member of Indian Association of Public Health Dentistry and has the fellowship from Academy of General Education, Manipal. He competed and cleared the National Board Dental Examination (NBDE), USA in 2009. The author believes that quality education and academic integrity are essential for any institution.



Dr. Bharathi M. Purohit – Co Author

Dr. Bharathi M Purohit is presently working as an Assistant Professor in the Department of Public Health Dentistry at Peoples Dental College and Research Centre, Bhopal, India. She attained her post graduation degree in Dental Public Health from Manipal college of Dental Sciences, India in 2009. Since then, she has been involved in teaching the speciality of Dental Public Health to both undergraduate and post graduate dental students. She has been participating in dental outreach camps, especially in rural areas. She is actively involved in scientific research and too has to her credit numerous publications in both national and International journals. Her prime interest of research is about oral health of children, specifically, special children. She has fellowship from Academy of General Education, Manipal and is a lifetime member of Indian Association of Public Health Dentistry.