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## Desperate Times, Innovative Methods: The Need For Growth Of The Indian Haemostat Market

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On August 11, 2016, the country woke up to a shocking footage replaying across news channels and social media. It was a hit and run in Delhi, where a man lay bleeding on the side of the road with no one stopping to take notice, let alone help. The footage gets disturbing when another man stops to pick up the pieces of a damaged mobile phone rather than caring for a dying man. The man bled to death. While the real footage captured on a CCTV camera in the national capital shed light on a larger social issue, the fact is that road accidents do claim lives of too many too soon and most of these are due to blood loss – even if help arrives, on time.

According to statistics by the Ministry of Road Transport & Highways, India accounts for an average of more than 4,00,000 road accidents every year, most of which occur in the congested metropolitan cities, which have the maximum access to medical infrastructure. Nearly 1,40,000 people lose their lives annually to these accidents. Estimates suggest that 30 percent of these deaths are completely avoidable with access to emergency medical care, which include equipped medical vehicles, access routes for these vehicles and trained paramedics on board.

The numbers are not very different in the *Road Safety of India Status Report* released by the Indian Institute of Technology, Delhi in 2015. The report, part of the *Transportation Research and Injury Prevention Programme* additionally concludes something very alarming: the chance of a fatal accident for a person embarking on a road journey is on a steady rise. Absolute fatalities in 2014 showed a 6 percent average annual growth rate when comparing the 2015 to 1970 figures. For a person on the road this means, every time they step out to go somewhere, chances are they will die from a road accident,

probably bleeding to death. Almost 40% of these deaths are preventable as they are due to uncontrolled bleeding. An essential aid could have helped save majority of these lives.

Now is the time that the Haemostat Market in India needs a greater push than ever before! While haemostats are predominantly popular in defence with the Indian Army being the largest consumer, the market needs to play a stronger role in creating awareness and enabling the access to life-saving cure during life threatening incidents.

India suffers from a doctor-patient ratio of 1:1700. The numbers don't look better when considering technicians, nurses, paramedics, ambulances or even pharmacists. It gets worse in rural areas. On an average it takes more than 1 hour in rural and 35 mins in urban areas for an accident victim to get to hospital (Source: EMRI). Stopping severe bleeding instantly helps in a major to stabilise the victim during transportation. It isn't difficult to imagine how valuable haemostat solutions would be in situations where access to medical infrastructure is congested and limited. The wound-care segment of the Indian medical market is largely owned by antiseptic creams and lotions, gauze, and sterile cotton, none of which are equipped enough to address the biggest killer – bleeding out. Hemostatic market in India caters only to surgical market. These are only capable of controlling minor oozing and can do nothing to stop severe life threatening external bleeding.

India has the capabilities to seamlessly integrate technology with healthcare and provide the best of solutions. For instance, an indigenously developed product, Axiostat was brought to market few years back which is currently the only product in Indian market to control external bleeding. Axiostat, are made utilising a novel biomaterial platform which is based on 100% chitosan (a natural biomaterial modified for medical application) technology that works on charge interactions between negatively charged blood components and positively charged Axiostat. The dressing Made in India has revolutionised the wound care segment especially in pre-hospital trauma care and redefined the way we can save precious lives on the road and battlefields. It is currently being used by most armed forces in India and also by major hospitals.

However, the need is to create awareness, educate and provide a viable ecosystem at various levels of stakeholder group. India lacks the basic awareness and law enforcement for providing a safe and open passage for ambulances to reach a location. In an emergency situation, the first hour is considered the "golden hour", within which victims should have had access to basic medical care.

Ambulances in India lack the basic first aid equipment and skillset required to start treatment before a patient reaches a hospital. The lack of paramedics and nurses who can treat wounds also makes things worse. With awareness and access to haemostats such as Axiostat, even a lay man can help a victim in need while help arrives. While the National Highway Trauma Care Project (NHTCP) talks extensively about the need for quicker access to medical care, what will be life-changing is to have haemostats readily available everywhere including police vehicles that are patrolling the roads of our cities.

In India, where infrastructure is limited, haemostats are solutions to solve this global crisis. More acceptance of haemostat in regular ailments will allow the products to be affordable

as well, making them available further and wider.

The silver lining is however a report by Research and Markets (*Hemostat Market: India Industry Analysis and Opportunity Assessment 2016-2025*), which concludes that the Haemostat market is expected to register a CAGR of 5.8% from 2016 to 2025. While the products (mechanical and flowable) are popular in surgeries and trauma cases, it hasn't achieved an acceptable success rate as a whole because of lack of awareness, high cost, and low adoption rate. With new companies joining the market, leading innovation, and earning accolades globally, the scene seems to be metamorphosing at a rapid pace.

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### **About Leo Sebastian Mavelly**

*Leo Sebastian Mavelly launched his company, Axio Biosolutions Private Limited. Now nearly a decade later, Mavelly and his company are a global name with Axio Haemostatic Dressing, a 100% chitosan dressing which stops bleeding within minutes of application. Axio is India's First Trauma Haemostat and used extensively by Indian army. With his name firmly on the Fortune 40 under 40 India list of emerging business leaders, Originating from Irinjalakuda in Kerala, Mavelly is a bio-engineer. Even with a rapidly growing company, he believes in prioritizing his business goals to research and development. With a strong research and development team working tirelessly to innovate and revolutionize medical science, the design and R&D team, is leading the company into the global market. An ISO 13485 certified company, its product Axio has been used extensively by the Indian Army, the Central Reserve Police Force, the Border Security Force and the National Security Guard. More recently, it has been used in the Russia-Ukraine warfront by both countries.*