The scorching dry heat was palpable as the sun sizzled at 44 degrees. The temperature inside the barely 10X10 feet room was, however, several notches lower. It was bustling with a bevy of new mothers with their babies and their elderly female family members. The room houses the anganwadi [child and mother care center] of Basantpur Sainthali village, located off National Highway 58.

On pre-designated immunization days, the anganwadi turns into a makeshift health facility to provide vaccination services to expectant mothers, newborns and children below 5 years of age. “The heat does not make a difference as long as the temperature inside this box is maintained,” remarks Prasanna Kumari, an experienced health worker, pointing to the grey colored plastic box, which keeps life-saving vaccines at the right temperature.

The scene is similar at Patla health sub-center, located a few kilometers from Basantpur, where Zainab (name changed), an expectant mother tells us, “Didi [Auxiliary Nurse Midwife] told me about the tetanus vaccine that it is important for both myself and my child. I have heard that mothers and newborns used to die of it years ago.”

Zainab is one of innumerable mothers in the country who have a similar experience to share, and who are key participants in India’s journey of achieving Maternal and Neonatal Tetanus Elimination (MNTE).

**Long journey to tetanus elimination**

After having successfully eradicated the wild poliovirus, India has reached this momentous landmark in child and maternal health. Unlike polio or small pox, tetanus can’t be fully eradicated as the tenacious spores of bacteria causing tetanus – clostridium tetani – are widespread in the environment. WHO considers neonatal tetanus as eliminated from a country when its incidence becomes below one case per 1000 live births per year in every district of the country.

The risk of a mother or newborn contracting tetanus infection is linked with unsafe deliveries, particularly those taking place in insanitary conditions or by untrained dais [traditional birth attendants].

“When I became a health worker three decades ago, most deliveries in the village were conducted by untrained dais who hardly observed cleanliness. That’s why there were high maternal and neonatal deaths,” observed Prasanna Kumari, Auxiliary Nurse Midwife (ANM) of Basantpur Sainthali.
India achieves the goal of maternal and neonatal tetanus elimination (MNTE)

Not too long ago, in the 1980s, more than one million deaths every year were attributable to tetanus, with an estimated 787,000 deaths in 1988 from neonatal tetanus alone. Recognizing this substantial burden in developing countries, the World Health Assembly in 1989 adopted a resolution to eliminate neonatal tetanus by 1995 through increased availability of tetanus toxoid vaccine.

In the early 1990s, it was estimated that maternal tetanus accounted for about 5% of maternal mortality, or 15,000-30,000 deaths every year. In 1999, the elimination of maternal tetanus was added to the goals of the elimination programme for neonatal tetanus, and the initiative was renamed as the MNTE Programme.

The thrust of the programme was on strengthening routine immunization activities, including tetanus toxoid (TT) vaccine coverage, improving clean delivery practices through institutional births and training of birth attendants, with TT immunization during pregnancy playing a major role in the decline of the numbers. The launch of the National Rural Health Mission (NRHM) in 2005 helped strengthen these initiatives. The programme got a boost with schemes specifically designed to promote safe motherhood, such as Jananni Surksha Yojna (JSY).

“The emphasis on tetanus has always been a priority in all programmes relating to mother and child. Tetanus toxoid antigen administered to a pregnant woman is the first recommended vaccine in all immunization schedules,” pointed out Dr Vikasendu Agarwal, medical superintendent of Community Health Centre (CHC) at Muradnagar, Uttar Pradesh.

Under JSY, vaccination services and cash incentives are offered to promote institutional deliveries. Toll-free ambulance service to ferry women in labor to the nearest government health facility for delivery is available all over the country. As a result, safe deliveries rose from 52% (as per district-level household and facility survey – DLHS3) in 2007 to 76% (as per coverage evaluation survey – CES) in 2009.

Subsequently, safe motherhood programmes started promoting ‘cord care practices’ and health workers were trained to promote the five-point clean delivery formula: cleanliness of the place of delivery; sanitizing of hands of dais; use of new blade for cutting the umbilical cord; using sanitized thread and discouraging use of any topical material after the cord is cut.

Busting traditional myths and practices associated with child birth was important to wean people away from unsafe practices. “Earlier old women of the village used to apply ghee [clarified butter] after cutting the umbilical cord. Some people would apply neeli dawai [topical gentian violet],” noted Ranjana Tyagi, anganwadi worker at Basantpur.

Such practices may be rare now even though home deliveries are still prevalent in some parts of the country. In Muradnagar division, for instance, 55% of 10,000 babies born every year are born in homes. Despite this, awareness about tetanus and other vaccination is very high. “My granddaugther was born at home only because there was no time to go to the hospital. But the baby was delivered by a trained dai and we are we are giving her all the injections,” Suman Kumari (name changed), grandmother of a newborn observed while getting her vaccinated at the routine immunization session at Basantpur.
“People might not know the complete name of the antigen but they know that it is something related to their pregnancy and it is good for them as well as their child,” says Dr Agarwal.

As a result of these efforts, the number dropped to about 31,500 neonatal tetanus deaths in 2005, subsequently declining to below 500 in 2013 and 2014. This has paved the way for validation of the entire country for MNTE by mid-April 2015 with the help of partners such as WHO, UNICEF and others.

As of May 2015, globally, 22 countries are yet to be validated for MNT elimination. In the South-East Asia Region of WHO, only some districts in the eastern part of Indonesia are yet to achieve the goal.

**Ramping up immunization, safe deliveries**

Strengthening routine immunization (RI) all over the country, particularly in low-performing as well as underserved and unreached regions has helped in MNTE. The national immunization coverage increased marginally from 61% to 65% between 2009 and 2013.

With Mission Indradhanush, the country has set an ambitious goal of enhancing the coverage by 5% every year, to reach the goal of full immunization coverage by 2020. Focusing on 201 low RI performing districts in the country, the initiative has reached out to all children who are either unvaccinated or are partially vaccinated against seven vaccine-preventable diseases - diphtheria, whooping cough, tetanus, polio, tuberculosis, measles and hepatitis B.

**Health systems strengthening**

Increasing awareness about availability, safety and efficacy of life-saving vaccines, need for safe deliveries and government entitlements for pregnant women has contributed a great deal to increasing immunization coverage in general, and in achieving MNTE in particular.

Health agencies are trying to bridge the awareness gap through the training of frontline health workers. “We try to dispel fears and doubts of people about vaccination,” said Chanchal Rani, ANM at Patla health sub-centre. Her colleague, Sudesh Kumari, feels that “awareness about tetanus in the village is very high”.

“While the demand for TT injections during pregnancy played a very substantial role in MNTE, the increasing coverage of childhood and adolescent immunization will play an important role in sustaining the gains,” says Dr Pankaj Bhatnagar, Technical Officer, Immunization at the WHO India office.

“The learnings from the success of polio eradication have served the health agencies well to expand routine immunization,” he adds.

While MNTE has been achieved, the task of health agencies becomes more challenging till the goal of universal immunization is reached. The life of every mother and child is precious. They must be saved.