

# Maternal and Neonatal Tetanus Elimination Initiative

Pampers UNICEF 2010 campaign launch

A woman receiving tetanus toxoid vaccination in Gambella region  
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unite for children



## FOREWORD

As Senior Health Specialist at UNICEF, I am personally committed to the global goal of Maternal and Neonatal Tetanus (MNT) elimination. Since the initiative re-launched in 1999, significant progress has been made to ensure that women and children are protected against MNT. Yet the simple truth remains: Thousands are still dying from MNT, which is a painful and fatal disease – but easily preventable by a simple vaccine.

The disease is caused by bacteria that live in soil, which leaves newborns vulnerable to infection as a result of unhygienic birth practices. Known as the 'silent killer', MNT occurs mostly in underserved areas with limited or no health infrastructure, among populations with low socio-economic status and limited education level. According to *Child Health Epidemiology Reference Group (The Lancet, 12 May 2010)*, an estimated 59,000 neonatal tetanus deaths occur annually and thousands of women die each year from tetanus infection after they have given birth.

Though mothers in industrialized countries are no longer threatened by this disease, there are currently 170 million women and their babies at risk from the disease in 40 countries in the developing world, many of whom live in Africa and Southern and East Asia, in areas that are so hard to reach that they are precluded from even the most basic healthcare.

MNT is easily preventable through immunization of women with a vaccine for protection against tetanus. A child born to a woman protected against tetanus is also protected from the disease in the first two months of its life. Coupled with hygienic birthing practices, immunization initiatives can make MNT a disease of the past.

Since 2006, UNICEF & Pampers have partnered in support of the Maternal and Neonatal Tetanus Elimination Initiative to provide vital TT vaccines against this deadly, but easily preventable disease. To date, Pampers has funded 300 million doses of vaccines which are helping to protect 100 million women and their babies, demonstrating its long-term engagement to help eliminate MNT globally.

Even though MNT is easily preventable by a simple vaccine, in 2009 one baby still died needlessly of Tetanus every nine minutes. Despite ongoing efforts, more needs to be done. Through the power of the Pampers-UNICEF partnership more mothers will have access to this life-saving vaccine to help them survive and thrive.

This 2010 report provides an outline of the issue of MNT, the action UNICEF has implemented, the impact of the achieved results and direction of how we can make MNT a disease of the past.

On behalf of UNICEF, I thank you for your continued support and my message to mothers all over the world is that MNT happens in many countries around the world and in this process we lose children every day. I recall our joint aim: Through global and national commitment, MNT Elimination is achievable. Let's make MNT Elimination a reality.

Sincerely,

Dr. Rownak Khan  
Senior Health Specialist  
Health Section – Program Division  
UNICEF

# MATERNAL AND NEONATAL TETANUS (MNT) ELIMINATION INITIATIVE

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## ISSUE

### Why eliminate MNT? *Make an invisible killer visible!*

For many people Maternal and Neonatal Tetanus (MNT) is abstract. Most people have never seen the disease and many have not even heard of it. Mothers in the industrialized world no longer think of tetanus as a potential threat to their newborns. Yet according to the Child Health Epidemiology Reference Group (CHERG) estimates from 2008, an estimated 59,000 newborns die of the disease each year<sup>1</sup>; this translates into around 164 deaths in children under one month of age EVERY DAY or one death every 9 minutes! Several thousand mothers are also estimated to die of maternal tetanus.

How does a disease that kills so many newborns remain invisible? Perhaps the most significant reason is that most cases occur in areas and among populations that are hard to reach, marginalized, with no political clout, with a compromised socio-economic situation, low literacy level, or limited to no access to health services and information related to safe birthing practices. In addition, as the disease and death occur in very young infants usually within the first 7 to 14 days of life, most infants suffer and die at home, most without ever coming in contact with a health provider. Sadly, both their birth and death go unnoticed and unrecorded by health workers.

So why are so many women and their newborns still at risk of contracting tetanus? The cases of Maternal and Neonatal Tetanus continue to occur in mothers (and their newborns) who have to deliver at home without a trained midwife, mostly alone or in presence of an untrained traditional birth attendant (TBA) or a family member. Delivery on an unclean surface, with unclean hands and instruments increases the chances of the spread of infection to both mother and baby during the birthing process. In addition, the TBA or family may recommend application of harmful traditional substances (ghee, ashes, earth, and animal dung) to stop the bleeding of the umbilical cord and to promote quick drying which further increases the risk of contracting tetanus. Immunization services and ante natal care are also not regularly available or not available at all in these areas. Unfortunately, most of these women have no access to health services where they could benefit from Tetanus Toxoid (TT) vaccination during antenatal care or be guided on how to deliver safely, how to protect the umbilical cord stump and where to get help in case of problems during and after delivery.

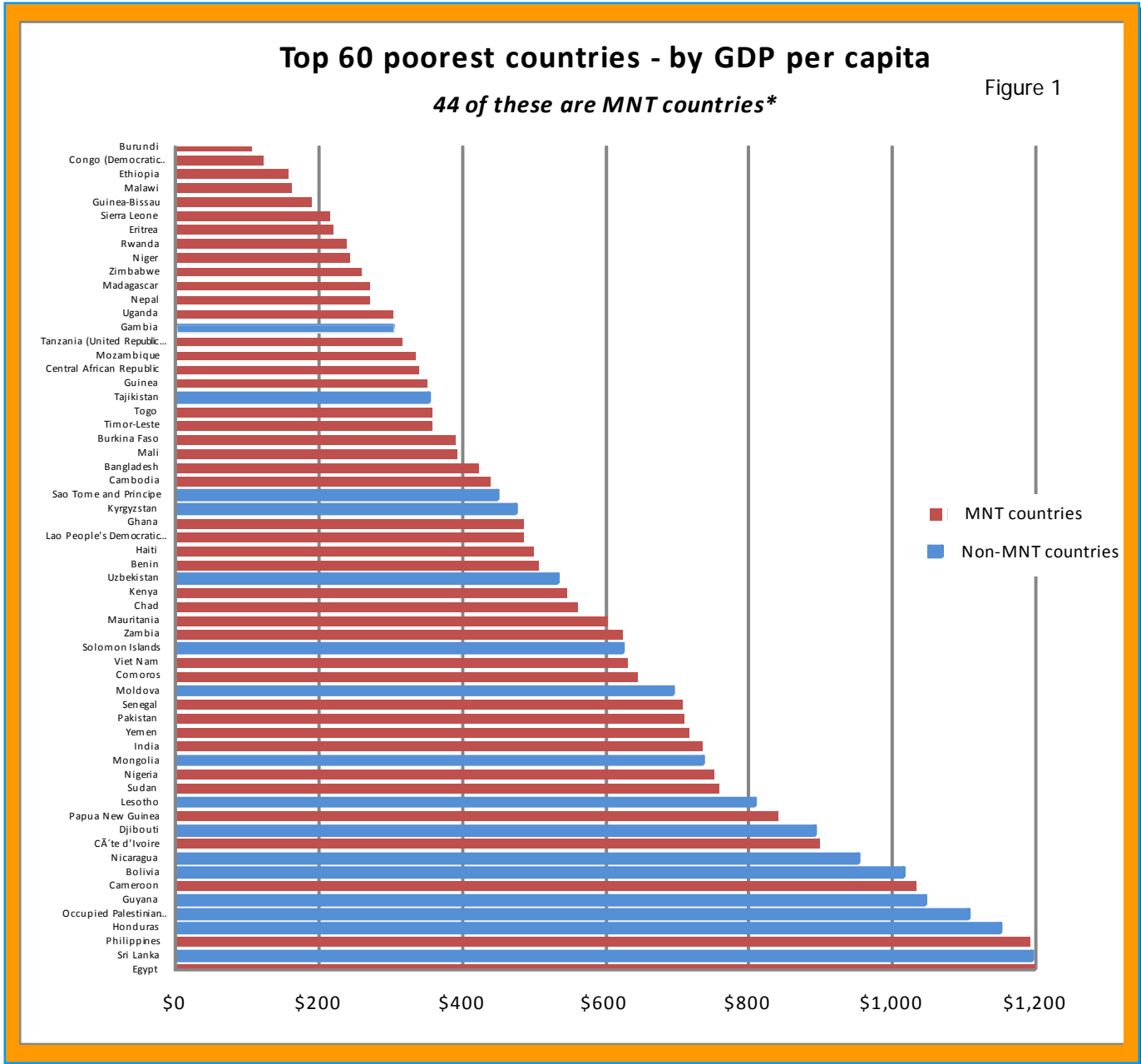
#### TEXT BOX 1

##### WHO / UNICEF recommended strategies to achieve the elimination of MNT

- Promote clean delivery and cord care practices to prevent infection during and after delivery
- Immunize women during pregnancy with Tetanus Toxoid (TT) or Tetanus Toxoid & Diphtheria (Td) vaccine
- Immunize women of reproductive age with TT or Td vaccine, through three properly spaced rounds of Supplemental Immunization Activities (TT-SIAs) in high- risk areas
- Reporting of NT to detect and investigate cases and conduct appropriate case response

<sup>1</sup> Robert E Black, Simon Cousens, et al, for the Child Health Epidemiology Reference Group of WHO and UNICEF. Global, regional, and national causes of child mortality in 2008: a systematic analysis. *Lancet* (online) May 12, 2010 DOI:10.1016/S0140-6736(10)60549-1

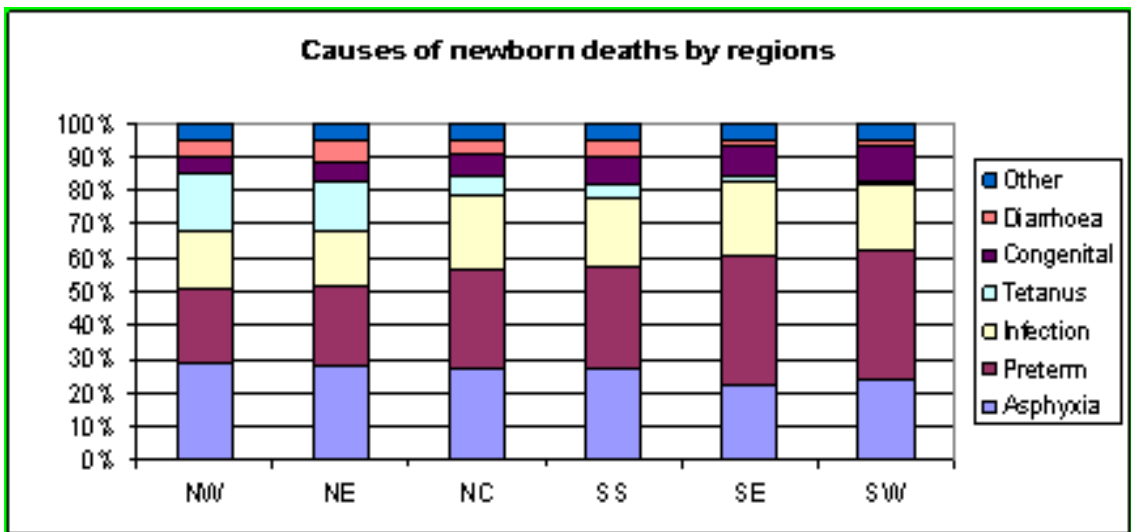
Yet all that is required to prevent the unnecessary and painful deaths of newborns and their mothers is commitment and funding. While a mix of strategies is recommended to prevent Maternal and Neonatal Tetanus (refer to text box 1), the easiest, quickest and most cost-effective preventive measure is vaccination of the expectant mother with the TT vaccine. Delivery of three doses of the TT vaccine to an expectant mother to protect her and any children she may have in the next 5 years, costs - on an average - US\$1.80.



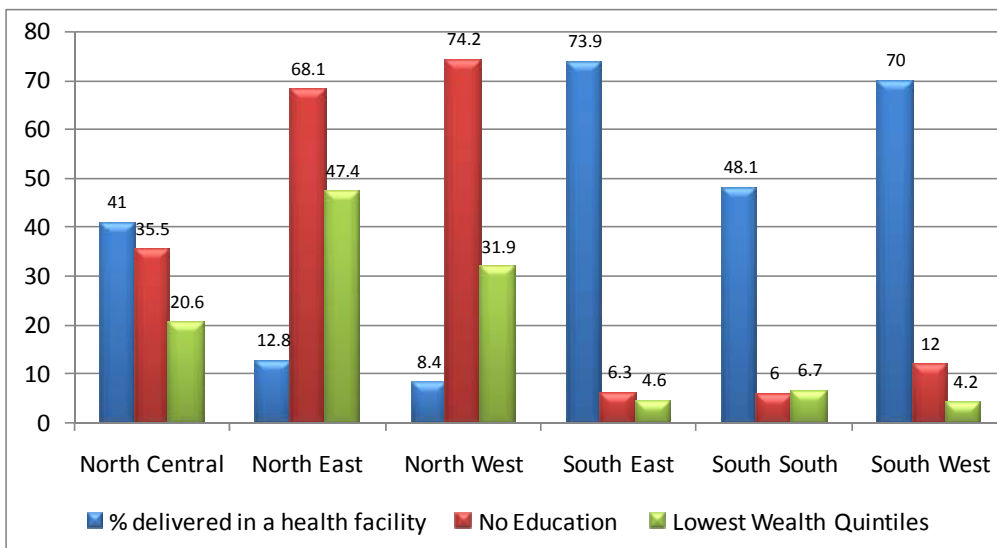
**MNT affects the poorest, most underprivileged and least educated population:**

MNT is a disease - and an indicator - of lack of access and development. Figure 1 shows that 44 of the world's poorest 60 countries are from among the original list of 58 countries that had not eliminated MNT by 1999. Even within these countries; the disease burden is much higher in regions or areas with low socio economic indicators. Figure 2 shows that the proportion of Neonatal deaths due to tetanus is much higher in North East and North West regions of Nigeria compared to the national figure. Figure 3 shows that these two regions have a much higher proportion of population in poorer socio economic situation as indicated by higher proportion of population in lowest wealth quintile with most women having no education and very few of the deliveries being conducted in health facilities.

These figures reiterate that MNT is a disease of the underserved and disadvantaged population. These are usually the same people who also lack schools, infrastructure, such as roads and communication, and employment opportunities. MNT truly is a disease of the poor.



**FIGURE 2:** BURDEN OF NEONATAL TETANUS DEATHS AS A PROPORTION OF NEONATAL DEATHS IS THE HIGHEST IN THE NORTH WEST (NW) AND THE NORTH EAST (NE) REGIONS OF NIGERIA



**FIGURE 3:** NORTH EAST AND NORTH WEST REGIONS OF NIGERIA HAVE THE HIGHEST PROPORTION OF POULATION IN LOWEST WELTH QUINTILE, HAVE HIGHEST ILLITERARCY LEVELS IN WOMEN AND LOWEST PERCENTAGE OF DELIVERIES IN HEALTH FACILITIES

## ACTION

### Progress towards Maternal and Neonatal Tetanus (MNT) Elimination

Since the re-launch of the MNT elimination initiative (refer to text box 2) in 1999, 18 of the 58 countries where MNT was a public health problem in 1999 and 15 states in India, have achieved elimination (refer to the list in text box 4). This success was a result of the firm commitment from the national governments of these countries to the elimination goal. Technical partners like WHO, UNFPA, CDC and PATH provided clear and strategic guidance to national governments. Financial partners including Bill and Melinda Gates Foundation (BMGF), Ronald McDonald House Charities (RMHC) Global Alliance for Vaccines and Immunization (GAVI), Becton Dickinson and Company (BD), many other organizations and individuals and most recently Pampers have, together, helped raise close to US\$200 million for MNT elimination activities since 2000.

To date, 9 countries have completed all planned activities and are waiting to be validated by WHO within the next 12 months. Three of these countries namely Myanmar, Timor Leste and Uganda have benefitted from Pampers' support. Myanmar has recently been validated as having eliminated MNT.



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Between 2007 and April 2010, Pampers has raised funds for more than 300 million doses of TT vaccine. These funds are helping UNICEF and its partners target 100 million women for protection against tetanus.

Of the remaining countries where activities are underway or planned, at least 10 additional countries are expected to complete all needed activities by the end of 2010 thanks to Pampers' support. It is also expected that all but 16 countries will have reached the MNT Elimination goal by end 2011 and 19 will reach the elimination goal by 2015, provided the funding needs are met.

As MNT cannot be eradicated, activities will need to continue even after MNT elimination has been achieved. The supplemental immunization activities that are being implemented in the high risk areas to achieve MNT elimination will have an impact of several years, and will provide a window of opportunity to improve access to 'routine' services. Indeed, many countries have started to improve routine immunization services through improved planning, monitoring and training (the so-called 'Reaching Every District' approach). Countries are implementing 'Child Health Days' as a way to increase access to immunization.

Globally, there is a widespread recognition that Health Systems need to be strengthened, which when implemented will also improve access to clean deliveries and immunization. Meanwhile, many girls who are now reaching childbearing age received three doses of Diphtheria, Tetanus and Pertussis (DTP) vaccine in their own infancy, hence reducing the need for multiple doses in adulthood. In addition some countries have introduced Td vaccines through school immunization programme. With all these initiatives, there is a real chance that MNT will

#### TEXT BOX 2

##### Global Commitment: Maternal and Neonatal Tetanus Elimination Initiative

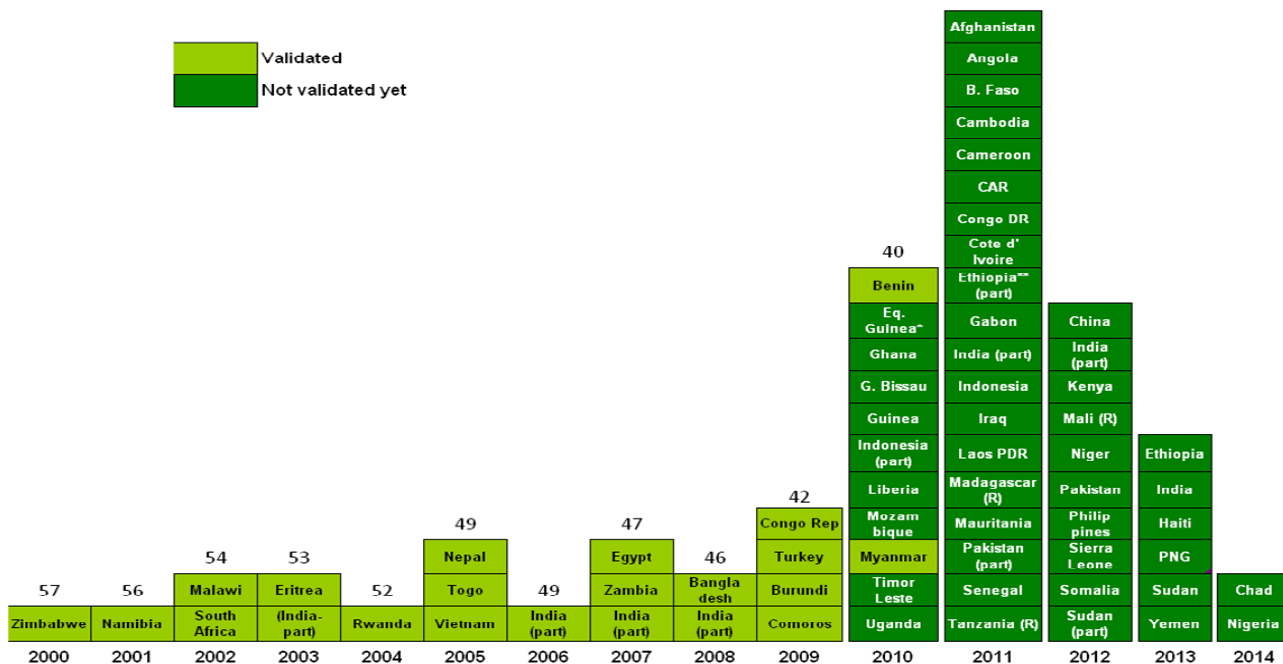
- Launched as 'Neonatal Tetanus Elimination Initiative' in 1989 through a World Health Assembly (WHA) resolution
- Re-launched as 'Maternal and Neonatal Tetanus Elimination Initiative' in 1999 by UNICEF, WHO and UNFPA
- Focus of re-launch was on 58 countries that had not eliminated MNT by 1999
- Country 'elimination' of neonatal Tetanus as a public health problem defined as <1 neonatal Tetanus death per 1000 live births in every district of a country. Elimination of Neonatal Tetanus is a proxy for maternal tetanus elimination

remain 'eliminated', but continued vigilance is required. And where elimination has been achieved through supplementary immunization activity (SIA), but improvements in access to health care remain absent, it is possible that some small-scale follow-up SIAs may be needed in selected high-risk areas, such need will need to be determined on a case-by-case basis.



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**Figure4: MNT Elimination – Year of Validation of elimination status**



2010 to 2014 country lists are a tentative

## IMPACT

### MNT Elimination is achievable

Elimination of Maternal and Neonatal Tetanus is achievable and feasible! Most of the 59,000 estimated deaths in newborns in 2008 were preventable. The rarity of tetanus cases in the industrialized world especially among newborns and mothers is a testament to this fact. Let us look at why MNT can be made a rarity in the developing world as well.

First, immunization is one of the most successful public health programmes of the last three decades. Despite all the challenges - of transporting vaccines that require strict cold chain maintenance reaching infants all over the world including the hard-to-reach areas, need for skilled human resources and many other challenges - strong national government and partner commitment has ensured that high coverage is maintained in most countries with 82% of the world's children and more than 80% of the developing world's children in 2008<sup>2</sup> reached with routine childhood vaccines. With the basic health infrastructure, regular supply chains and competent vaccinators available in almost all countries, it has been possible to

reach children even in the most remote parts of the world with effective oral and injectable vaccines mostly through routine services; and where these did not work, through well organized campaigns. Similarly Maternal TT immunization (for merits of TT vaccine, see text box 3) has also benefited from the success of infant immunization.

Secondly, Maternal TT immunization coupled with hygienic birthing practices has made maternal and neonatal tetanus unheard of, not only in the industrialized countries, but also in many less developed Asian and African countries. National governments, global partners and donors are increasingly focusing on safe motherhood which will further contribute to high coverage of hygienic birthing practices.

Thirdly, the combination of strategies for elimination of MNT has been shown to work in all kinds of settings. Not only have the strategies been successful in reaching more than 80% of the targeted women at risk in post-conflict countries like Liberia and Sierra Leone, but even in countries with security issues and active combat zones like Afghanistan, Pakistan, Yemen, DRC, it has been possible to reach the women at risk.

Global and national commitment to reach elimination remains strong with technically sound national plans for MNT Elimination prepared and approved by Inter Agency Coordination committees. UNICEF and WHO and partners like Pampers remain committed to the goal of global elimination; the only missing ingredient is funding.



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#### TEXT BOX 3

##### Tetanus Toxoid vaccine

- Available for over 80 years
- At 7 cents a dose, one of most inexpensive vaccines.
- One of the most safe vaccines
- An effective vaccine: after 3 doses almost 100% of the vaccinated individuals are protected
- A heat stable vaccine that can withstand exposure to around 20C for months and storage at 37C for a few weeks without loss of potency

<sup>2</sup> WHO vaccine-preventable diseases- monitoring system – 2008 global summary (This publication is available on the Internet at: <http://www.who.int/immunization/documents/en/>)



## Pampers supports UNICEF programs

Text Box 4

The tetanus toxoid vaccines funded by Pampers through this campaign have or will be used to protect women and their babies against maternal and newborn tetanus within the following 35 countries worldwide, including:

Afghanistan  
Angola  
Burkina Faso

Cambodia  
Cameroon  
Central African Republic  
Chad  
Cote d'Ivoire  
DR Congo  
Equatorial Guinea

Ethiopia  
Gabon  
Guinea Conakry  
Haiti  
Iraq  
Indonesia  
Kenya  
Lao PDR  
Mali  
Madagascar  
Mauritania  
Myanmar  
Niger  
Nigeria

Pakistan  
Papua New Guinea  
Philippines  
**Senegal**  
Sierra Leone  
Somalia  
**Sudan**  
Tanzania  
Timor Leste  
Uganda  
Yemen

*(Country names in bold reflect that the country had received some Pampers funds by April 2010)*



## STORIES FROM THE FIELD

### Cameroon

#### ***Maternal and Neonatal Tetanus cases in Cameroon are diminishing thanks to UNICEF supported mass campaigns***

Tiben village, 50 kilometers from Bamenda, the capital city of the Cameroon northwestern region, Apum Bridget, a 45-year-old grandmother, is sadly sitting by her late grandson's small grave behind her kitchen. Eyah passed away just 15 days after delivery. She explained:

“Eyah was born at home. My daughter started labor at night, there was no vehicle to take her to the hospital. I called a matron who used to assist delivery women in the village. She came and everything went well. The newborn and the mother were doing fine for the first 6 days, and then the child started developing continuous spasm and neck stick. He was rushed to Tiben district hospital” In the hospital, the newborn was diagnosed with tetanus and he died 9 days later.



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Here is Bridget in the room where her granddaughter, Eyah was born and died. When her 17-year-old daughter, Irene, went into labor, they had no transport to get to the nearest hospital 5K away, so they had to call the local midwife. ‘She used a razor blade to cut the cord and tied it with hair braiding string. She then bandaged the cord.’



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Bridget Apum sits at the grave of her granddaughter Eyah who died from tetanus on 15 September 2009. She is buried behind the family home. She was 15 days old.

Apum Bridget and her family have always lived in Tiben village, a hilly area where the most common means of transportation is motorized bicycle. She and her daughter had never heard of tetanus toxoid vaccine and has never thought to take it prior to the death of her son. However, she has now learned the importance of tetanus toxoid vaccinations and since then has been vaccinated to protect her future children. Apum's daughter is currently healthy and hopes to have more children in the future.

The case of Apum's family is not isolated in Cameroon. Despite routine immunization and several campaigns against maternal and neonatal tetanus organized in the country since 2002, a number of women of childbearing age are systematically missed.

Yet thanks for strong social mobilization, many women have been kept aware of the campaigns which encourages women to get to health centers and/or vaccination points for their vaccination



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Nafti Unity Nkuyok, a 27-year-old women visiting Mbengwi Integrated Health Center salutes the organization of these campaigns: “They are very helpful, she said, because sudden death of mother or child after delivery will stop”. The Fon of Bafut (a traditional chief), hosts a vaccination post in his palace. He is supportive of such campaigns that are important for people in his constituency.

With the support of partners and UNICEF, since 2002, the Cameroon Government has put into practice a long-term plan for the elimination of MNT through the implementation of vaccination campaigns targeting women aged 15-49 years in 102 high-risk health districts of the 174 in the country. Three sets of campaigns have been organized so far (in 2002-2003; 2006-2007 and 2008-2009). UNICEF is the main supporting agency for these campaigns. Its support includes the purchase of vaccines, the provision of vaccination logistics and operational costs.

To be completely protected against this scourge and avoid transmission from mother to her newborn, a woman needs to take 5 doses of tetanus toxoid vaccine during her lifetime and this can be done over a 3-year period.

Dr. Belyse Halmata Ngum, Immunization Officer, UNICEF Cameroon says: ‘UNICEF has been very instrumental in the elimination of MNT in Cameroon. Results

obtained so far are very encouraging. The campaigns organized so far, have been partially funded by diaper sales. Cameroon is benefiting from P&G-Pampers® funding. If the current momentum is sustained, MNT claiming many mothers and newborns’ lives will very soon become a forgotten story in the country’.



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Nafti Unity Nkuyok and her child at the health center.

In 2008, 48 cases of tetanus were diagnosed in the country resulting in 25 deaths. The number of cases dropped to 39 in 2009, with no deaths registered.

The percentage of neonatal mortality (children 0 - 28 days) in infant’s mortality is important (more than 30 %) to assess the country’s elimination objective. This high percentage rate of 30% is due to difficulties of accessibility, availability, continuity and quality of health services. Though cases of MNT are under-reported, the occurrence of a case of maternal or neonatal tetanus represents a triple failure from a public health perspective at the level of routine immunization activities, antenatal care and hygiene conditions during childbirth, including care for the umbilical cord.

Cameroon is one of the 42 countries that did not reached the MNT elimination objectives by the year 2000 and where the vaccination coverage of pregnant women against tetanus remains below 80%, the threshold required for controlling the disease.

## MORE STORIES FROM THE FIELD

### Ethiopia

Gambella region in Ethiopia is one of the high-risk regions in the country for MNT. Proper and timely advocacy and social mobilization is a key component for the success of TT campaigns, in which the awareness and involvement of community leaders, religious leaders, political leaders, and women's associations are vital for smooth implementation. Providing information about the benefit of TT immunization, the date of the campaigns and related activities through local radio broadcasts in local languages is also essential for reaching and mobilizing direct beneficiaries such as school girls and women's groups. However, improper communication and advocacy could result in resistance in the uptake of TT vaccination.



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During a December 2009 TT and EOS SIAs in Gambella region, procedures were properly followed. Campaign messages were disseminated in the two main languages in the region (Nuer and Anuak) throughout the entire campaign. Thanks to proper and timely advocacy and social mobilization and full participation of the community in the campaign process, the results achieved surpassed those of the previous two campaigns conducted in that region. No resistance to TT immunization observed in the region. Mothers were



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continuously coming to vaccination posts to get vaccinated. During the round, school girls were the main initiators for mothers to come to the vaccination posts.

The main reasons for the success of the third round TT and EOS SIAs in Gambella region were:

- Early regional advocacy and social mobilization meetings involving all stakeholders
- Radio messages and meetings conducted in different focusing on the success of the campaign
- Efforts of UNICEF consultants and regional campaign supervisors
- Full participation of community leaders in the campaign at lower levels.

## MORE STORIES FROM THE FIELD

### Côte d'Ivoire

Sabra Seydou arrived at the Abobo Kennedy clinic in Abidjan with only a few minutes to spare before giving birth. This is her second visit to the Abobo Kennedy clinic in Abidjan since the beginning of her pregnancy. Extreme poverty has meant Sabra could not afford pre-natal tests or consultations. She was however able to have her first vaccination against tetanus, provided free by the Ivorian government. Her second vaccination, that which would provide immunity against the deadly bacteria for herself and her unborn child, was scheduled for next week.



©UNICEF/ Côte d'Ivoire/2009/Bivigou

A vaccination post in Côte d'Ivoire

'At birth, the child will not be protected,' says Bernadette Kah, a midwife at the Abobo Kennedy Clinic in Abidjan. "So we will prescribe her a tetanus toxoid serum, which will protect her and the child. Then, the mother will also have another vaccination."

The lack of general hygiene at birth, with unsterilized instruments and unsanitary conditions make childbirth a risky affair. By becoming immune to tetanus, Sabra and her child will not become part of the national statistics.

In Ivory Coast, nearly 30 percent of maternal and neonatal mortality is due to infection with tetanus. Add this to other



©UNICEF Cote d'Ivoire/2010/Vigneault-Dubois

Kari Doumbia came with her two children to the Houphouët-Boigny General Hospital in Abobo district of Abidjan for routine vaccination against tetanus for all pregnant women.

infectious diseases and lack of adequate health services, the national infant mortality rate reaches 89 out of 1000 live births, with maternal mortality at 810 in 100,000 live births.

Tetanus, a bacteria that thrives on dirt and rust, generally enters the body through cuts on the skin from infected sharp objects. However, particularly in childbirth, the disease can also be contracted through the use of traditional medicines used to clean the child's umbilical cord and the mother's torn perineum.

'When the mother and child return home, the grandmother and aunties will begin making traditional remedies,' explains Dr. Mamadou Keita, district director of Eastern Abobo's Department of Health for the Government of Côte d'Ivoire. 'They will crush leaves and often mix them with charcoal or other ingredients, then apply them to the umbilical cord, as a way of cleaning the wound. This is definitely unsterile.'

To address this serious killer of women and children, the Ivorian Government, with the support of UNICEF and other international partners have held a three-phase vaccination campaign throughout the country. The campaign, offering free tetanus toxoid vaccinations to women of childbearing age, ages 15 to 49, aims to immunize over 5 million women.

Early rumors during the first two rounds of the campaign, that the vaccine causes sterility or, contrarily, prolonged pregnancy have been put to rest.

‘At first people were scared, until many women started to get pregnant after the first round of vaccinations,’ says studying midwife and vaccinator Awa Kone. ‘Then the word spread that it was fine, and now everyone is coming back for their follow-up shots’.



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The 3-phase vaccination approach reaches into every neighborhood in the country. For a post-conflict country with a tropical climate, the logistics are impressive. Ange Niama, a logistician with the National Institute of Public Hygiene explains:

‘Because this is a liquid vaccine, we first defrost the cold blocks, so that they don’t freeze the vaccine. Then we put the vaccines onto coolers, and keep the coolers in refrigerated trucks, where the temperature is kept between 2 and 8 degrees centigrade, and we take the vaccines to districts, then they distribute to the health centers and the sites.’

Routine immunizations for tetanus and other deadly and paralyzing diseases such as measles and polio continue throughout the year, as part of the Côte d’Ivoire’s commitment to health and development.

‘Côte d’Ivoire is still one of the 39 countries in the world who has an elevated incidence of tetanus,’ says UNICEF Country Representative Maarit Hirvonen. ‘With all the work being done on this 3-phase tetanus campaign, we are hoping that the country will get its eradication certification by 2010.’

For Sabra and her newborn baby boy, immunization is just against tetanus is the first step in a healthy life together.