State of the World's Vaccines and Immunization – B-roll

A Video B-Roll produced by UNICEF to mark the launch of ***'State of the World's Vaccines and Immunization"*** a joint report by WHO (World Health Organization), UNICEF, (United Nations Children's Fund) and the World Bank.

Launch date: November 20, 2002
Total Running Time: 37'03"

1 ***Reaching the unreached: transporting vaccines to hard-to-access regions:***	
Afghanistan: measles campaign	3'06"
Laos – remote border country	3'00"
Central African Republic – pygmy tribes	2'57"
Ghana: Volta Lake	4'51"
2 Vaccine Research and Development	
South Africa: trial underway for vaccine against major killer – rotavirus, plus interviews at Centers for Disease Control, Atlanta	10'23"
Developing AIDS vaccines: interview with Doctor Seth Berkley, International AIDS Vaccine Initiative	2'21"
GlaxoSmithKline, major vaccine supplier: interview with executive, plus footage of vaccine development.	1'47"
3 Introducing New Vaccines in the Developing World	
Mali – new Uniject vaccine device used for tetanus	3'43"
Ghana – new "Five-in-One" vaccine introduced	2'59"
Mozambique – new "Four-in-One"vaccine introduced	3'21
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Script Material and shot-lists

Introduction

Since the mid 1990s the world has seen immense advances in immunization. Polio has nearly been eradicated, and the number of people infected by measles, as well as maternal and neonatal tetanus, has been dramatically reduced. In many parts of the globe efforts are under way to introduce much-needed new vaccines into the developing world, while research continues into vaccines for diseases like AIDS and malaria.

But it's still true that far too many children are not reaping the benefits of vaccination. In many areas immunization coverage has stagnated, or even fallen back: in sub-Saharan Africa fewer than 50% of children are immunized during their first year of life. Globally, a quarter of all children are still not getting the vaccinations they need and are left exposed to deadly and disabling infections. There is also a growing vaccine divide between industrialised and developing countries. While children in wealthier countries have access to an ever-expanding range of vaccines, one quarter of the worlds children – those living in the poorest countries – still have no protection from many common diseases that could be prevented by immunization. The result is two million child deaths a year.

Today's launch of the *State of the World's Vaccines and Immunization* report is a timely reminder that only a truly global effort can hope to end this vaccine divide.

1 Reaching the Unreached.

One of the greatest challenges is reaching children living in remote areas where paved roads are non-existent, conflict scars the land and poverty is the norm. Around the globe, immunization teams are making tremendous efforts to overcome these obstacles and to make sure that every child is reached.

Reaching the unreached with preventive services like immunization not only improves individual child health, it reduces long-term government spending on health services and creates a more equitable, healthy, and stable society.

Afghanistan (February 2002)

More children die from measles than from any other vaccine-preventable disease. A highly-contagious condition, it causes 770,000 deaths a year. In the past eight years measles immunisation coverage has been very low in Afghanistan at under 40 per cent.

An emergency measles immunisation campaign was started in Afghanistan in July 2001 by the United Nations Children's Fund (UNICEF), The World Health Organisation (WHO) and Afghanistan's Ministry of Public Health (MOPH) and continued even during the post September 11 bombing of Afghanistan.

Weak, hungry children are particularly at risk of measles and other life-threatening diseases. Since measles is so contagious, 95% of chilren need to be vaccinated to control the disease. With growing concern about malnutrition following several years of drought, the aim of the measles campaign is to immunise over ten million Afghan children between the ages of six months and 12 years old.

Due to winter snows, mud and a lack of accessible roads, vaccination teams from Afghanistan's Ministry of Public Health often have to travel to villages on horseback carrying their vaccines and auto-disable syringes, stored in bulky cold boxes (the measles vaccine needs to be kept between two and eight degrees Celsius).

A vaccination team heads back to Qalasharbat Village, Karukh district, Herat Province in western Afghanistan for the second time in two months. It's a "mopping up" exercise. The first time they were here they immunised some 350 children against measles but, according to their calculations, they believe they only covered about 60 per cent the children in the village. That is why they're going back, because it is as important to reach the last child as it is the first.

It's a long two-hour journey on horseback but, without all-terrain vehicles, this is the quickest way of getting themselves and their equipment here.

Planning vaccinations in advance is hampered by the lack of radios or telephones in the area. The teams simply turn up.

The vaccinators take children's details, prepare the auto-disable syringes and give the measles shots before moving onto the next village. Depending on the distances and mode of transportation, one team of three vaccinators can immunise about 200 children per day. The measles vaccine is safe and even sick children can be vaccinated against measles.

Timecode	**Western Afghanistan. (Filmed February, 2002.)**
01 00 10	Villagers help load Cold Storage vaccine box onto horse
01 00 20	Vaccinators on horses / heading off on journey to Qalasharbat Village
01 00 47	Wide shot of Qalasharbat Village
01 00 54	Vaccinators set up for immunisation
01 01 14	Village Mullah tours village with megaphone shouting "Dear Friends we are inviting you to bring your children aged between six months and 12 years old to register for immunisation"
01 01 40	Old man with baby girl and 10-year-old Jalil Ahmad come to register for measles immunisation. Vaccinators take down their details
01 02 18	Old man brings baby to vaccinator
01 02 28	Vaccinator prepares auto-disable syringe with serum
01 02 39	Baby gets measles shot
01 02 58	10-year-old Jalil Ahmad gets measles shot and then walks away

Laos (August 2001)

In northern Laos, innovative efforts to reach the remote Lanten ethnic minority show that immunizing every last child pays off.

Reaching children at the right time in their development with vaccines at the right temperature poses special challenges in a developing country like the Lao Peoples' Democratic Republic. Mountainous terrain, a long rainy season, difficult roads, poor communications, a weak health infrastructure and a diverse and distant population consisting of many different ethnic groups are all obstacles to the target of 80 per cent coverage. In the case of Luang Namtha, a province in the far north of Laos, bordering on China and Myanmar, the vaccines are flown in from the capital, Vientiane.

Getting the vaccines from the warehouse in Vientiane to the district health offices and then to the villagers is a challenge in itself. It involves many different forms of transportation including planes, trucks, cars, motorbikes, tak-taks (small tractors), and bicycles.

Since most of the villages are far from the nearest road, the last part of the journey usually has to be made on foot, with vaccinators carrying heavy cold boxes and sterilisation equipment. After a gruelling journey from Luang Namtha district health office, vaccinators finally arrive in Nam Chang village (literally Elephant River village) in the hills of northern Laos about 300 miles north of Luang Prabang near the border with China and Myanmar.

This 200-strong community of subsistence farmers and their children belong to the Lanten ethnic group, typified by its own language, indigo clothes, and cultural beliefs. The Lanten people live in communal long houses with mud floors shared by up to five families. Alongside nutritional problems, malaria and respiratory diseases are common.

A lack of communications means that the vaccinators are unable to warn villagers in advance when they are coming, so their first task is to visit the Headman, Bountham, to explain what they have come to do. Since he is one of the few people in the village who speaks Lao, his support and involvement in the vaccination process is vital. Headman Bountham rings the village bell to call the women and children together. They bring their vaccination cards with them.

First of all, many of the women in the village are given tetanus injections. Immunizing women world-wide against tetanus has helped cut maternal deaths from tetanus by two-thirds since 1990.

Today, 25-year-old Wan has brought her six-month-old baby Pon (wearing the brightly-coloured hat) for the last of three injections to immunize him against diphtheria, pertussis (whooping cough) and tetanus. The series of immunizations known as DPT1, DPT2 and

DPT3 can prevent diphtheria, pertussis and tetanus, diseases which still kill 600,000 children and afflict millions of others every year in developing countries. To be fully protected, children must receive three doses of the vaccine at regular intervals in the first few months of life – and yet each year, 37 million children miss out on these injections.

Today, Pon is also getting the oral polio vaccine. Laos declared the country polio-free in 2000 but will continue to immunize every child under five against polio until the world is certified polio-free: the aim is to reach this target in 2005.

Pon is Wan and her husband Khamla's third child. The first two died before they reached their first month, the first child possibly due to neo-natal tetanus.
Khamla says: *"After we lost our first child, the doctor in the village told us that there are about six diseases which can kill new-born babies. That's why we've made sure that our new baby will be immunized."*

Thanks to commitment of the Government and substantial financial support from UNICEF, WHO, JICA, AusAid, Rotary International and other partners in 1994, Lao PDR has been able to increase its DPT3 coverage within the expanded programme on immunization from about 18 per cent in 1990 to 40 per cent in 2001.

Timecode	**Luang Namtha, northern Laos (Filmed August 2001)**
01 03 16	LS Plane arriving in Luang Namtha, a province in the far north of Laos, bordering on China and Myanmar carrying vaccines that are flown in from the capital, Vientiane.
01 03 31	LS vaccines being loaded off plane
01 03 40	MS Vaccinators Khamsone Chantara (male) and Soulivanh Laluanglad (female) place vaccines in truck as they prepare to make the gruelling journey from Luang Namtha district health office, to Nam Chang village (literally Elephant River village) in the hills of northern Laos about 300 miles north of Luang Prabang near the border with China and Myanmar.
01 03 48	LS Khamsone and Soulivanh mounting truck and departing
01 03 58	LS Khamsone and Soulivanh riding truck with vaccines in mud strewn fields
01 04 07	LS Khamsone and Soulivanh walking along rice fields towards their destination.
01 04 35	LS Khamsone and Soulivanh arriving in Nam Chang village
01 04 43	MS Khamsone talks with headman Bountham about importance of immunization process and gets his permission
01 04 48	MS women arriving with children, bringing their vaccination cards with them.
01 05 50	CU 25-year-old Wan and her six-month-old baby, Pon. She has brought him for the last of three injections to immunize him against diphtheria, pertussis (whooping cough) and tetanus.
01 05 06	LS Khamsone speaking to women about immunization procedures as Headman Bountham stands along side him

01 05 11	CU syringe and vaccine
01 05 17	MS women being given tetanus injections.
01 05 29	LS Wan and Pon being vaccinated
01 05 33	CU Pon receiving the oral polio vaccine
01 05 54	Khamla interview: *"After we lost our first child, the doctor in the village told us that there are about six diseases which can kill new-born babies. That's why we've made sure that our new baby will be immunized."*

Central African Republic (January 2002)

The global campaign to eradicate polio by 2005 has already reaped spectacular results. Overall, in the 14 years since the Global Polio Eradication Initiative was launched, the number of cases has fallen by 99.8%, from an estimated 350,000 cases in 1988 to 480 in 2001. In the same time period, the number of polio-infected countries was reduced from 125 to 10.

North and South America as well as Europe have been officially certified as polio-free – as have China and East Asia. But some countries still have pockets of polio while others are considered at high risk of further outbreaks of the disease. Among them is the Central African Republic.

One of the poorest countries in the world, barely 19% of the population are reached with the full range of routine immunizations against major childhood diseases. The exception is polio, where three National Immunization Days stretching over 2001 and 2002, achieved almost one hundred percent coverage. Polio strikes when children are between the ages of 0 and 5 which means that more than 600,000 need to be immunized in the Central African Republic.

The other challenge is making sure that oral polio vaccine reaches people in the remotest rural areas of the country – such as the Pygmy tribes that live in the Lobaye forests near the border with Congo to the South West of the capital Bangui. The pygmies are nomadic peoples, moving from place to place as they hunt. An estimated 16,500 live in the Nobaye area.

Once the live vaccines are flown in from Europe to the capital Bangui, they have to be kept cold and transported as rapidly as possible to their destination. Hundreds of doses are loaded on a motorbike and driven through through forest trails and across rivers. The pygmies hold a communal celebration, using dance and song, to mark the arrival of the vaccines.

Timecode	**Lobaye forests, south west Central African Republic. Filmed January, 2002**
01 06 16	CU/LSPolio vaccine cold-box transported on motorbike, Lobaye forests
01 06 26	LS Motorbike drives onto raft over river

01 06 35	LS Raft crosses river
01 06 42	LS Motorbike drives off raft
01 06 47	LS Motorbike goes through forest
01 06 52	LS Motorbike arrives at pygmy encampment
01 06 59	LS pygmies in encapment, cooking
01 07 05	MS pygmy drumming
01 07 08	MS pygmy woman dancing in costume
01 07 16	CU children given oral polio vaccine
01 07 52	LS pygmies dancing, woman in costume
01 08 02	WS Pygmies gathered in encampment

Ghana (December 2001)

One of the greatest achievements in global health was the extraordinary expansion of routine immunization to children around the globe at the end of the twentieth century. In the 1970s fewer than one in twenty children were being vaccinated against diseases like whooping cough, polio, diphtheria, tetanus, measles and TB. By 1990, after a concerted worldwide campaign, nearly seventy-five percent of children were being reached. And yet in the last decade that achievement has been under threat, with levels of routine vaccination stagnating or even falling back in some areas, with sub-Saharan Africa especially badly hit.

In the early 1990s just over 50 percent of children in Ghana were being vaccinated against measles, polio and tetanus. The country also struggled in the face of other challenges: only seven dollars was spent each year per person on health services, while seventy percent of mothers are illiterate. Despite this, the country began to turn the tide through a combination of government health sector reforms, decentralization of services and outside help, and coverage has now climbed back above seventy percent.

Intensive, house to house polio immunization campaigns discovered communities that were not being routinely vaccinated and, as a result, the government decided that the services needed to be brought to them. Once a month, a community nurse and other health workers travel north from the capital Accra and use boats to travel across Volta Lake – which, at 8600 sq.km, is the world's largest artificial lake, created to provide hydroelectric power.

The team visits villages in Kpandu district on the eastern shore of of the lake to carry out routine immunizations. Most of the villages have a population of a few hundred people – their main source of income: fishing.

The boats were supplied with support from the World Health Organization and UNICEF, as well as the US and Japanese governments. Teams visit the villages, provide vaccinations and other healthcare, and maintain follow-up surveillance.

Timecode	Volta Lake, central Ghana Filmed December 2001
01 08 13	WS Volta Lake
01 08 28	MS loading vaccines from truck onto boat
01 09 04	LS boat departs from shore
01 09 11	LS boat crossing lake – various
01 09 47	LS boat arrives at far shore
01 10 19	MS/LS unloading vaccines from boat
01 10 39	MS Health workers meet village elders
01 11 05	LS/MS Health Workers introduce themselves to villagers
01 11 23	CU vaccines prepared
01 11 43	CU auto-disable syringes
01 11 50	CU children and mothers waiting for vaccinations
01 12 05	CU information taken down in register
01 12 09	MS oral polio vaccination of baby
01 12 22	CU vaccination of child with syringe
01 12 42	CU syringe prepared
01 12 47	CU vaccination in child's arm

2 Vaccine Research and Development

South Africa: rotavirus trial (April 2002)

Rotavirus is one of the biggest killers of children in the world today, with an estimated death toll of 600,000 a year - more than one child every minute – and yet it is relatively unknown to the public. The virus causes diarrhoea, which, without proper treatment, often has fatal results in the world's poorer countries. A vaccine against the disease could bring enormous benefits, especially in the developing world, and trials are currently underway.

A potential new vaccine for rotavirus has been undergoing a trial in South Africa. South Africa was chosen since there has been a strong tradition of research into the disease and because there is a proven need for a vaccine: 12 South African children are killed by the virus every day.

In a village not far from the country's capital Pretoria, sixty-one mothers with healthy babies were invited to take part in the trial and were given two rounds of oral vaccine. Over the next seven months health workers visited the mothers in their homes and assessed the health of the babies during check-ups at the nearby Bertoni clinic.

Eva Sekati is one of the mothers taking part in the trial:

"*I think the concern about diarrhoea is that it can kill a child if it becomes strong, and if you don't take the vaccine the child might end up being admitted in the hospital and those who are unfortunate might die. So it is better if you take the vaccine."*

If the trial is successful, further testing will take place – but it could be ten years or more before a vaccine becomes available in the developing world.

Centers for Disease Control interviews on rotavirus

Doctor Joe Bresee is a medical epidemiologist medical officer at the Centers for Disease Control.

"South Africa has already started testing this vaccine in infants. They're doing small studies now to see if it's safe and to see if it works well, to see if kids will respond immunologically to it. They're going to follow it up with a large trial to see if it actually works and prevents hospitalizations. And so the data from South Africa from these vaccines, whether it works or not, ought to be available starting next spring, and probably the next two or three years, we'll have a good estimate of whether this vaccine will work in a developing country setting, which will be very important because vaccines haven't worked well there before, and if this vaccine does – especially if we know that in two years, it'll be a huge advance, and it'll speed up the process to developing new vaccines greatly."

"*As a paediatrician who knows about rotavirus, when you see these kids, it's scary, because they look sick. They have sunken eyes. They're listless. They don't seem to have any energy. They're throwing up and you think, 'If this kid doesn't eat soon, he's going to die.' And they do die. And they die in developing countries because they don't have access to care. And if we could give them a vaccine where they wouldn't have to go to the hospital at all, kids wouldn't die and they'd live."*

Doctor Roger Glass is chief of the viral gastroenteritis at the Centers for Disease Control in Atlanta.
"*I see rotavirus as a major problem for children in developing countries, and for children in the United States who will be hospitalized. And my hopes would be to have a cheap, safe and effective vaccine that would be available to all children - that could be rapidly introduced into the global program of childhood immunizations. So that in five or ten years, after introduction, all children would have the benefits of this vaccine. Rich or poor, black or white, all children worldwide. And I think this is a goal that we could conceivably achieve in the next ten years."*

Timecode	**Pretoria area, north east South Africa. Filmed April, 2002**
01 13 04	LS Sick children in ward, hospital in Pretoria area – a third of the children suffering from diarrhoea in this hospital are infected with rotavirus

01 13 21	MS sick children – various – doctors and nurses attending
01 14 27	MS/CU virology laboratory – Pretoria area – researchers at work, lab samples
01 15 14	LS Volunteer researcher Happy Madisa visits mother and baby as part of trial, village in Pretoria area
01 15 34	MS researcher sits with mother and takes info on baby's health
01 16 03	CU baby and mother and researcher
01 16 29	WS over plains and hills around Bertoni clinic, Pretoria area
01 16 40	LS mother and baby outside clinic
01 16 53	LS mothers with babies who are part of the rotavirus trial, in clinic waiting room
01 16 57	LS/MS/CU Doctor gives check-up to baby with diarrhoea, speaks to baby's mother, Eva Sekati
01 19 18	Eva Sekati: "*I think the concern about diarrhoea is that it can kill a child if it becomes strong, and if you don't take the vaccine the child might end up being admitted in the hospital and those who are unfortunate might die. So it is better if you take the vaccine."*
01 19 44	Doctor Joe Bresee, medical epidemiologist medical officer at the Centers for Disease Control. See quotes in script material above.
01 21 06	Doctor Roger Glass, chief of the viral gastroenteritis at the Centers for Disease Control in Atlanta. See quote in script material above.

Developing Aids Vaccines (April 2002)

Prevention programmes-including education, condom and clean needle distribution and peer counseling-have slowed the spread of HIV/AIDS, but have not stopped it. Treatment advances have yielded important new AIDS therapies, but the cost and complexity of their use put them out of reach for most people in the countries where they are needed the most. In addition, more than 95% of all new infections are in developing countries, making HIV/AIDS among the most serious threats not only to global health, but to global development.

Given this background, an AIDS vaccine is a vital need – and the scientific consensus is that an AIDS vaccine is possible. Non-human primates have been protected by experimental AIDS vaccines while some people repeatedly exposed to HIV resist infection and have developed immune responses.

Interview

Doctor Seth Berkley is President and Chief Executive Officer of the International AIDS Vaccine Initiative, an organization working to speed the development and distribution of preventive AIDS vaccines.

"The future of AIDS vaccines: I actually think the future is quite good. We obviously won't know until we test it to see if it works, but there now is a pipeline. We know that humans can temporarily block the virus. We know this from studies in Africa and from other parts of the world and we also know that in the animal models – we don't know how good they are – but we can get full protection. So from my perspective, really the issue is how much effort, how fast, how hard do we try to move these vaccines into humans and figure out which ones work. And that's really the challenge for the world to do this as fast as is humanly possible because speed matters today 15,000 people become newly infected each day and the sooner we get a vaccine the faster we can can stop this horrible epidemic."

"What's different about HIV vaccines is that we certainly can build on the existing immunization infrastructure and must, but this vaccine is going to be delivered to adolescents, to commercial sex-workers, to perhaps IV drug-users if that's what's in the area and we don't have a delivery system to reach those people so we're going to have to build in a delivery system, we're going to have to figure out how to finance that, how to reach them and with an AIDS vaccine you are also going to have to have behaviour change programmes in place, so there are a lot of differences that are going to have to be worked on."

Timecode	**Developing AIDS vaccines. (Filmed April 2002)**
01 21 49	Doctor Seth Berkley, President and Chief Executive Officer of the International AIDS Vaccine Initiative. See quotes in script material above.

Interview and footage of vaccine development.

The Global Alliance for Vaccines and Immunization, or GAVI, was created in 2000. Its partners include the World Health Organization, the World Bank, the Bill and Melinda Gates Foundation, UNICEF, and representatives of more than 50 governments, non-governmental organizations, foundations, public health and research institutions and the vaccine industry.

GAVI:

The Global Alliance for Vaccines and Immunization is a historic alliance between the private and public sector committed to one goal: saving children's lives and people's health through the widespread use of vaccines. International organizations, governments, vaccine industry, research institutions, and major philanthropists collectively form a dedicated partnership serving the shared GAVI objectives. Intent on increasing child immunization around the globe, GAVI and its financial arm, The Vaccine Fund, act as a fuel energizing the efforts of poorer countries to provide children with basic access to life saving vaccines.

GAVI's goals are:

- By 2005, 80% of developing countries will have routine immunization coverage of at least 80% in all districts.

- By 2002, 80% of all countries with adequate delivery systems will have introduced hepatitis B vaccine. By 2007, all countries.

- By 2005, 50% of poorest countries with high disease burdens and adequate delivery systems will have introduced Hib vaccine.

- By 2005, the world will be certified polio-free.

By 2005, the vaccine efficacy and burden of disease will be known for all regions for rotavirus and pneumococcal vaccine, and mechanisms identified to make the vaccines available to the poorest countries.

Interview

Jean Stephenne is President and General Manager of GlaxoSmithKline Biologicals, Belgium. GSK is one of the vaccine producers working with GAVI to supply vaccines to developing countries.

"So the costs of the development of a vaccine or a pharmaceutical are similar. We speak about a few hundred million dollars per molecule. So it's very very expensive and generally it requires 12 to 18 years to develop completely a vaccine."

Timecode	Interview and footage of vaccine development. (Filmed March, 2002)
01 23 10	Jean Stephenne, President and General Manager of GlaxoSmithKline Biologicals, Belgium. See quote from script material above.
01 23 35	Vaccine research and production: various – research workers, computer research images, vats, mass production of vials

3 Introducing New Vaccines in the Developing World

Mali (July 2002)

A new immunization device, which can be used by non-professionals, has the potential to make it easier to vaccinate thousands of women and their new-born children against life-threatening tetanus. "Uniject" is a small, prefilled syringe with a short needle, about one inch long – the single dose is simply squeezed out of it by applying finger-pressure.

In July 2002, after a massive public awareness mobilization, the device was used for the first time in Africa, in rural southern Mali. In an intensive, week-long campaign, more than 100,000 women of child-bearing age were immunized with vaccines for maternal and neo-natal tetanus. Traditional birth attendants, teachers and community workers

were trained by government health-workers to use the Uniject device in the remote districts of Bla and Bougoni.

Bintou Doumbia, a traditional birth attendant, who has been trained to give Uniject injections:
"*I feel comfortable giving this because it's easy and the mothers are happy to receive it."*

Immunization and hygienic birth practices are the key to eliminating deaths caused by maternal and neonatal tetanus. Last year alone, tetanus claimed the lives of 200,000 newborns and 30,000 women in 57 developing countries.

Not surprisingly, tetanus strikes poor nations the hardest. Mali faces many obstacles to effective immunization. A land-locked, predominantly Muslim nation of nearly 12 million people, Mali is sparsely spread over a 500,000 square mile area, 65% of which is desert. Among the poorest countries in the world, Mali has limited resources in the face of multiple health threats and has one of the highest maternal mortality rates in Africa.

Neonatal tetanus is a highly deadly disease. Up to 70 per cent of all babies that develop the disease die in their first month of life. It is caused by unhygienic birth practices, leading to contamination of the umbilical cord with tetanus spores when it is being cut or dressed after delivery. The disease usually emerges on the third day after birth, causing the baby's jaw muscle to lock, preventing feeding. The baby then goes into painful convulsions, coma and eventually dies.

Maternal tetanus is also caused by contamination from tetanus spores through puncture wounds, and is linked to unsafe and unclean deliveries. Maternal tetanus is responsible for at least five per cent of all maternal deaths. Women at risk must receive at least three doses of the vaccine over a one-year period to be fully protected.

Unlike smallpox and polio, complete eradication of tetanus is not possible as the tetanus spores can survive outside the human body, in dirt and in the stool of infected people and animals. The disease can be transmitted without any human contact.

Timecode	**Southern Mali. (Filmed July 2002)**
01 24 57	MS Uniject devices containing tetanus vaccine loaded into box from cold storage
01 25 09	LS vaccines delivered on motorbike to village
01 25 17	LS village scenes – farmer with cattle
01 25 28	LS man alerts village to vaccinations with drum
01 25 32	LS traditional birth attendant arrives with instructions for Uniject
01 25 39	MS vaccines and Uniject prepared
01 25 43	MS mothers wait for vaccination
01 25 56	CU Uniject/tetanus instructions
01 26 06	MS traditional birth attendant gives tetanus shots with Uniject
01 26 27	LS/MS female Instructor from Mali's Ministry of Health gives training in using Uniject to group of traditional birth attendants

01 26 45	MS instructor practises on orange
01 27 21	MS traditional birth attendants practise on each other
01 27 40	LS villagers gathered under tree for vaccinations
01 27 44	MS women playing percussion instruments, woman on megaphone calling people for vaccination
01 27 55	CU box with tetanus vaccines, Bintou Doumbia, traditional birth attendant gives vaccinations with Uniject
01 28 26	Bintou Doumbia, traditional birth attendant: "*I feel comfortable giving this because it's easy and the mothers are happy to receive it."*

Ghana – new "Five-in-One" vaccine (December 2001)

In December 2001, Ghana introduced a new "five-in-one" vaccine into the country for the first time. The new vaccine contained two doses that had never before been available to Ghana's children: vaccines for Hepatitis B and for Haemophilus Influenza b, or "Hib," which is a cause of potentially life-threatening pneumonia and meningitis, killing up to 500,00 children a year. Hepatitis B is connected with cancer later in life and accounts for 900,000 deaths yearly. The two new doses were combined with vaccines for diphtheria, tetanus and pertussis (whooping cough).

2,000 mothers brought their babies to the event in the capital Accra, where the country's First Lady gave the first injection of the new five-in-one vaccine.

Previously unable to afford the the "Hib" and Hepatitis B vaccines, Ghana successfully applied for support from GAVI – the Global Alliance for Vaccines and Immunization.

A major advantage of the five-in-one vaccine is that it reduces the number of times mothers need to bring their children for vaccination and cuts down on the number of syringes that need to be disposed of.

The Hepatitis B and Hib vaccines have long been available in the US and Europe, but until recently were rarely used in Africa.

Dr. Mercy Essel Ahun, is manager of the Expanded Programme on Immunization for Ghana:
"People have realized that -- have been reminded again that immunization is one of the most cost-effective public heath interventions. And it is one thing that we should all invest into because that is a way of ensuring that the children of Ghana have a healthy childhood."

Timecode	**Accra, capital of Ghana. (Filmed December 2001)**
01 28 40	WS Olympic Sport and Immunisation Festival, Accra Sports Stadium
01 28 57	MS mothers with babies

01 29 13	WS/LS/MS performers and singers at festival
01 29 37	MS First Lady of Ghana gives first shot of new combination vaccine
01 30 28	LS mothers wait with babies
01 30 48	MS baby given shot, tilts up to mother
01 31 03	MS Dr. Mercy Essel Ahun, manager of the Expanded Programme on Immunization for Ghana with mothers
01 31 15	Dr. Mercy. See quote from script material above.

Mozambique: **New "Four-in-One" Vaccine (April 2001)**

In April 2001, the world's most effective anti-cancer vaccine was introduced to Mozambique. The vaccine for hepatitis B was combined with three traditional vaccines – for diphtheria, tetanus, whooping cough – to make a "four-in-one" combination vaccine.

At Boane District Health Clinic, 45 km from the capital city Maputo, the first Mozambican children were immunized with the new combination in April 2001. Mozambique successfully applied to GAVI, the Global Alliance for Vaccines and Immunization, for funding for the new vaccine. With GAVI's support, healthworkers are being trained in using it safely, and in how to mobilize parents to bring their children for a full course of immunizations.

Immunizing children for hepatitis B this year can prevent one million deaths per year in the future, since chronic carriers of the virus can infect others and are at risk of developing liver cancer later in life. The World Health Organization recommends that all children worldwide receive the "hep B" shot.

The vaccine has been available for decades, but many countries still cannot afford to use it. Studies in Mozambique show that approximately 20 percent of the adult population are chronically infected with hepatitis. The new funding is helping the country increase its effort to fight the disease.

Doctor Rosa Batista Boane monitors children and mothers coming to Boane clinic for the new vaccination:
"For us it's very important when the vaccine is combined in one dose together with DPT. The tetravalent vaccine that GAVI is promoting for Mozambique is important – why? – because the mother does not have to come back to the health station to get the next vaccine. This vaccine comes in one visit and the child has access to four different doses. Otherwise, you have one vaccine, the second vaccine…and so it goes on. When the programme of Hep B vaccination was still separated from this vaccine there were often problems, because there were breakdowns when mothers forgot the date, and there were different challenges over access - for example transportation, time, and other things.

In 2000, a significant number of the 10-15,000 new cases of hepatitis B in Mozambique resulted from unsafe injections. World-wide there are between eight to 16 million new

cases each year. Mozambique plans to fully integrate auto-disable syringes for all immunizations.

Mozambique has one of the highest rates of child mortality in the world with 146 out of 1,000 children dying before their first birthday. Some 12.5 percent of Mozambican babies are born with low birth weight due to maternal malnutrition and 36 percent of all children under three years of age are stunted because of chronic malnutrition. Immunization rates are improving but are still low with only 73 percent of children completing their vaccination schedule. The state of emergency caused by the floods in 2000 and 2001 worsened the situation in the central and southern provinces, and increased the vulnerability of women and children to malnutrition and disease.

In addition to the vaccines themselves, auto-disable syringes and safety boxes have also been provided. The auto-disable syringe includes a safety device that prevents its re-use. WHO, UNICEF, UNFPA (The UN Population Fund) and the Federation of Red Cross and Red Crescent Assocations have adopted a global policy on injection safety calling for the use of auto-disposable syringes for all immunization by the end of 2003.

Timecode	**Boane District, near Maputo, southern Mozambique. (Filmed April 2001)**
01 31 39	WS/MS Boane Disctrict Clinic – mothers and children waiting
01 31 56	MS health worker gives out vaccination cards
01 32 13	LS mother have their children weighed
01 32 32	MS small child plays with immunization card
01 32 48	LS mothers with children inside clinic
01 32 56	CU health worker gives vaccinations to babies with auto-disable syringe
01 33 42	MS Doctor Rosa Batista Boane examining babies
01 33 56	Doctor Rosa Batista Boane. See quote from script material above.

Cambodia – New "Four-in-One" Vaccine (December 2001)

In December 2001, a new four-in-one vaccine was launched for Cambodia's children at the Poh Mean Chey Health Center in Siem Reap. For the first time Cambodia is using a vaccine that protects children against diphtheria, pertussis (whooping cough), tetanus and Hepatitis B. The launch was made possible after Cambodia applied to GAVI, the Global Alliance for Vaccines and Immunization, for funding to strengthen its immunization services.

More than 10% of Cambodia's population is infected with hepatitis B.
Cambodia's health status is among the poorest in the Western Pacific Region. The aftermath of decades of civil conflict has left the country's basic infrastructure severely damaged and the quality of health services very low. In an effort to increase awareness of health issues, the government sends instructors into rural areas aiming to keep parents informed about basic healthcare, including immunization.

In 1998, Cambodia's infant mortality rate was 89 per 1000 compared with a regional average of 38 per 1000 live births. HIV prevalence rates have been increasing since 1991, with an estimated 4 per cent of the adult population infected. Leading causes of childhood mortality are diarrhoeal diseases, acute respiratory infections, malaria, malnutrition, and vaccine-preventable diseases.

As part of the GAVI partnership, Cambodia and other countries, is responsible for reporting, on a yearly basis, the headway they have made toward achieving immunization goals. The Vaccine Fund must receive a satisfactory progress report in order to continue funding beyond the first year.

Timecode	**Siem Reap, Cambodia – New "Four-in-One" Vaccine. (Filmed December, 2001.)**
01 35 00	LS children waving flags by side of road
01 35 27	MS dignitaries arriving at vaccine launch event
01 35 40	LS banner at vaccine launc event
01 35 46	CU auto-disable syringe prepared, vaccine given to baby
01 36 09	LS farmer with water buffalo
01 36 15	LS woman with two children
01 36 27	MS farmer with water buffalo
01 36 36	LS mothers being given health instruction
01 36 40	MS female health instructor holding up picture of immunization
01 36 48	CU/LS mothers and children in audience