



PROJECT FACTSHEET

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Swiss Agency for Development
and Cooperation SDC

MANAGING WASTE IN HOSPITALS: FEWER INFECTIONS AND MORE TIME FOR PATIENTS



Zulfia Djumaeva is using a needle cutter to destroy a used syringe.

Infectious hospital waste can be a serious threat for patients as well as for medical staff. Therefore, well-organised and safe management of all types of waste are indispensable for a safe environment in health institutions. With an innovative low-cost and thus sustainable approach, the Health Care Waste Management programme in Kyrgyz hospitals is a great success.

COUNTRY CONTEXT

The Kyrgyz Republic was part of the Soviet Union until its independence in 1991. It remains one of the poorest among the former Soviet republics. An estimated one third of Kyrgyzstan's 5.4 million inhabitants lives below the poverty line. Only about 35 % of the population lives in the urban centres of Bishkek, Osh and Jalal-Abad, while the majority of the population lives in rural areas.

Kyrgyzstan's transition to democracy has been turbulent. Widespread dissatisfaction over alleged corruption and an erosion of civil liberties brought about periods of instability and led to a low level of trust into government institutions.

Switzerland has been present in Kyrgyzstan since the early 1990s and has continuously endeavoured to support a peaceful social and economic transition process. In Switzerland's engagement strategy in Kyrgyzstan from 2012 to 2015, health was defined as one of three priority areas.

SECTOR CONTEXT

Kyrgyzstan's health system suffered dramatic underfunding in the years following the break-up of the Soviet Union. It inherited a poorly maintained medical infrastructure that also lacked proper waste management systems.

In most health institutions, the personnel had to disinfect syringes and needles with chlorine before dumping them. While this jeopardised general environmental safety around the hospital, it was also a very dangerous practice for staff, both because of the risk of HIV, hepatitis and other infections acquired through accidental cuts and because of the exposure to chlorine.

Most waste was simply dumped on the hospital campus. Infrequent collections to take the waste to municipal depots led to considerable piles of material scattered beyond the designated areas. This led to major health hazards.

An unsafe hospital environment can also have a devastating impact on pregnant patients. It is currently a matter of great concern in Kyrgyz society that maternal and neonatal mortalities in the country remain high compared to other countries in the region. In 2010, 16 % of maternal and 8 % of neonatal mortalities registered in Naryn and Talas oblasts were caused by infections that could have been prevented by stricter sanitary norms.

PROJECT OBJECTIVES AND ACTIVITIES

The goal of the programme is to prevent hospital-acquired infections by implementing sustainable health-care waste management and by infection control mechanisms. A specific aim is to dramatically reduce the number of preventable maternal and neonatal fatalities. The project thus fully complements the national reforms focused on improving the delivery and quality of health services. Special care was taken to develop a system with low investment and operating costs that could thus be replicated throughout the country and sustained by hospitals without further support.

Preventing dangerous needlesticks

Medical needle cutters were positioned in all health institutions targeted. Needles and syringes are cut and destroyed immediately after use, without exposing the staff to the risk of infection. Needles and syringes are rendered unusable by this procedure and are then disinfected under high pressure in an autoclave. Remaining pieces of needles are sold to metal recyclers and the syringes to plastic recycling firms. This provides the hospital with a small amount of additional income.

Buckets for infectious waste

Infectious waste is collected in buckets, which are marked with the international biohazard symbol, the type of waste and a number to keep track of each of them. The use of buckets considerably reduces operating costs as it eliminates the need for more expensive plastic bags.

All containers with infectious waste are stored in designated areas. For the sterilisation process, they are put directly in the autoclave. The material can



All containers are placed in a dedicated area.

then be mixed with regular waste, which is stored on a trailer in a fenced area outside the hospital. When full, the trailer is towed by a hospital vehicle to the municipal rubbish dump.

Anatomical waste

Inside the fenced area where disinfected waste is stored, every hospital has a six-metre-deep pit, divided into three compartments. Each compartment is lined with cement and closed by a thick slab. Anatomical waste such as placentas is dumped into one of these three compartments, gradually filling one after another. It will take an estimated 20 years before the third pit is full. This time is enough for complete composting in the first one which then can be emptied and reused.

Training and monitoring

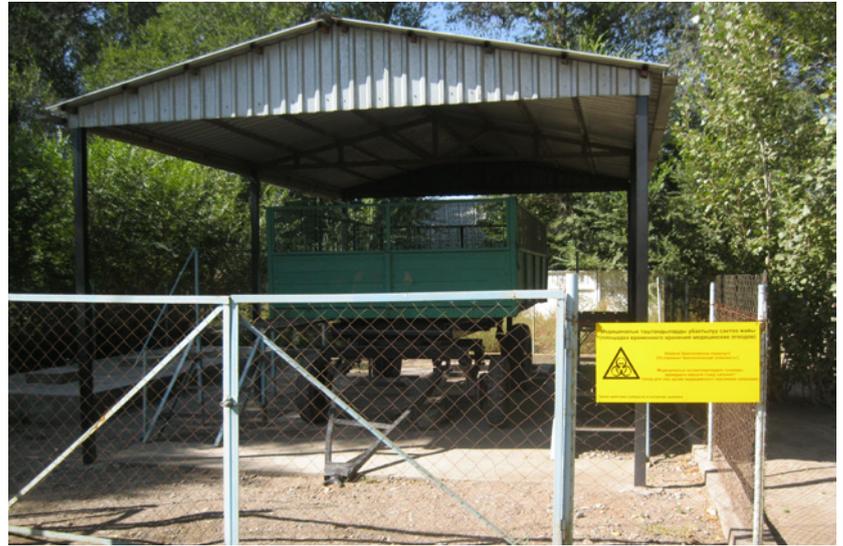
Awareness-raising workshops with all stakeholders and training for the hospital staff accompany the equipment. Every hospital creates a committee which periodically reviews the procedures related to the treatment of waste and monitors related activities. Additionally, a trained specialist is responsible for infection control. He or she takes charge of implementing specified sanitary standards and trains all hospital staff to use new respective guidelines.



Waste is safely disinfected under high pressure in the autoclave

MAIN ACHIEVEMENTS SO FAR

The model was piloted in five facilities of one region in 2006, which have successfully maintained the systems on their own for the last eight years. From 2008 on, the model was expanded throughout the country and since 2013 it has been implemented in 203 governmental facilities, including hospitals and outpatient services. This covers about 67.3 % of all hospital beds in the country and the model has now been included in the national medical waste strategy of Kyrgyzstan. The broad acceptance of the new system by the hospital staff and directors is an important benefit that enhances the sustainability of the project.



The area and manner to store waste before... ..and after the implementation of the project

A survey in three hospitals in Naryn oblast showed that after the implementation of the project in 2013 fewer newborns acquired infections (6.5 %) than two years before (17 %). In the same period, the number of infected mothers decreased from 3.9 % to 0 %. The operating costs are today approximately one third lower than the average amount the hospitals had previously been paying for waste treatment. This is mainly because they no longer have to pay for transportation or for disinfection chemicals. Money saved in the hospital budget is directed towards improving infection control measures. This allows hospitals to maintain their health-care waste management models without further donor contributions.

FURTHER STEPS

The goal of the third and last phase of the project is to apply the infection control system to the totality of Kyrgyzstan's hospitals. It has to be ensured that the systems are institutionalised and sustained in all facilities without the project's support in the future.

NATALIA PAPENKO'S VIEW

"They think it always worked like that"

Natalia Papenko is the chief nurse at Sokulskaya hospital in Chui oblast. According to her, the risk for nurses to be injured and thus infected was quite high before the safe disposal of used syringes: cases of jabs and scratches were common. When the hospital decided to simply burn used syringes, nurses were afraid that environmental inspectors would come and fine them. Therefore, they did this work late in the evening. "What a smell, you cannot even imagine! I often went to check if there were any syringes in the medical waste dump of our hospital. If I found one, I traced its origin back to the department it came from. That's why I was called the 'queen of the rubbish dumps'. Only the crown was missing," Natalia laughingly jokes. Now, the former dump area is clean and she does not have to check any more.

Natalia approaches Zulfiya, a nurse cutting off a needle from the used syringe with the special needle cutter. Zulfiya smiles and explains: "Now it is much more convenient and much safer, since the needle is cut off immediately after use and stays in a separate bucket. We don't have to be afraid of pricking ourselves anymore."

Nurse Tamara also remembers the difficulties of the past: often, more time was spent working on decontamination of waste than on patient care. As many tanks of chlorine for disinfection were standing open in the rooms, the personnel had to smell it all the time. Many nurses got allergic skin reactions and respiratory disorders because of the toxic effect of the fumes. Today, waste is safely collected in buckets and decontaminated by autoclaving.

Natalia Papenko smiles: "A lot has changed in medical waste disposal. Our youngest generation of nurses thinks that the system always worked as it does now. Today, nurses don't waste their time for unnecessary procedures and they feel safer. And this is good both for our patients and for the hospital."



COUNTRY FACTS (Source: World Bank)

Population (2013)

Kyrgyzstan: 5.7 millions
Switzerland: 8 millions

Life Expectancy (2012)

Kyrgyzstan: Female 74.1 years, Male 66.1 years
Switzerland: Female 84.9 years, Male 80.6 years

Gross Domestic Product (GDP) per capita (2012)

Kyrgyzstan: USD 1,178
Switzerland: USD 78,928

Health Expenditure per capita (2012)

Kyrgyzstan: USD 84.3
Switzerland: USD 8,980

PROJECT AT A GLANCE

Project title:

Health Care Waste Management
in Kyrgyz Hospitals

Location:

All oblasts of the Kyrgyz Republic

Duration:

2009–2017 (currently Phase 3)

Current Budget (2014-2017):

CHF 3.9 million

Implementing agency:

Swiss Red Cross (SRC)

Landscape in Kyrgyzstan



IMPRINT

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