[MUSIC PLAYING]

ANN LINDSTRAND: Hello, my name is Ann Lindstrand. I'm a public health pediatrician and lecturer in international health. Currently I work as the head of the Vaccine Programme at the Public Health Agency of Sweden. In this lecture, we will go through the three main killers taking lives after the neonatal time in a child's life. Namely, pneumonia, diarrhea, and malaria. Together these diseases cause 1.8 million unnecessary deaths in young children, and one third of all child deaths yearly. To a large extent, these three main child killers diseases are either possible to prevent or to cure. So why do a third of all child deaths in the world still continue to happen? I'll take you through this for each of the three diseases.

First, pneumonia is the single largest infection cause of death in children worldwide. Pneumonia killed 1 million children under the age of five in 2014. Pneumonia affects children and families everywhere. But deaths is most prevalent in South Asia and sub-Saharan Africa. Pneumonia can be caused by viruses, bacteria, or fungi. The most common germs are streptoccocus pneumonia, haemophilus influenza type B, and respiratory syncytial virus. In infants infected by HIV, pneumocystis is a major cause.

Viral and bacteria pneumonia in patients look similar, which is part of the problem, identifying those really needing antibiotics. And pneumonia is a difficult disease to diagnose. Children under five years of age are defined by WHO to have pneumonia if they have cough and or difficult breathing, with or without fever, and the presence of either fast breathing or chest indrawings. Very severely ill infants may be unable to feed or drink, and may also experience unconsciousness, hypothermia, and convulsions.

Pneumonia caused by bacteria can be treated by antibiotics. But only one third of children with pneumonia receive the antibiotics they need. Why? Well, mainly due to poverty, bad health care systems, and lack of knowledge on when to seek health care for the children. The antibiotic choice is amoxicillin in tablets. Most cases of pneumonia require oral antibiotics, often prescribed at a health center. These cases can also be diagnosed and treated at the community level by trained community health workers.

Hospitalization is recommended only for severe cases of pneumonia, and for all cases of pneumonia in infants younger than two months of age. Since treatment still do not reach more

than a third of pneumonia cases, preventing pneumonia is essential. Children with weak immunity due to, for example, malnutrition, are at higher risk of developing pneumonia, especially in infants who are not exclusively breastfed. Pneumonia is, therefore, also a disease of poverty.

Indoor pollution is caused by cooking and heating with wood and dung-- and or dung-- living in crowded homes with many siblings, and with parents smoking at home is also risk for pneumonia. Providing affordable, clean, indoor stoves, and encouraging good hygiene in crowded homes reduce the number of pneumonia cases. In recent years, in addition to vaccination against measles and whooping cough, the new vaccines against Hib pneumococcus have become the most effective way of preventing pneumonia.