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Micronesia: Tuberculosis

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Federal State of Micronesia



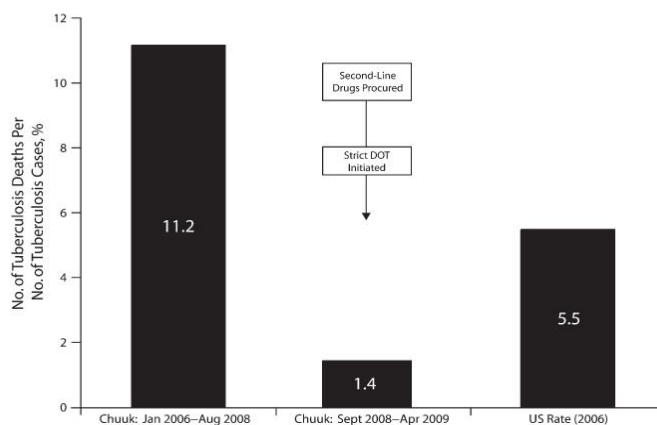
Location: The Federal state of Micronesia is located in the Western Pacific Ocean, 3220.52 miles Southwest of Hawaii.

Population: In 2015 the total population was 102,116. Micronesia has more than 600 islands, consisting of 4 main Island states. Pohnpei with 37,554 people, Kosrae with 6,273 people, Chuuk with 46,874 people, and Yap with 11,588 people. There have been no refugees entering the country in 2016. It is a Christian dominated country, namely Roman Catholic, and protestant. Other religions include Jehovah's witness, Assembly of God, and Seventh - day Adventist. Micronesia has two major ethnic groups and multiple minority groups, half of the people are Chuukese and almost one quarter are Pohnpeian. The minority ethnic groups are Kosraean, Yapese, Yap people.

Political aspect of the country: Micronesia has drafted a constitution that has incorporated the four states. The Congress includes fourteen people called senators. The four states each select one senator at large for a four year term. The remaining ten senators are elected for two year terms.

Major challenges: Micronesia was colonized by four world powers; Spain, Germany, Japan, and the United States. When under Japan's control, Micronesia took part in the Second World War resulting in the harsh treatment and loss of lives as well as mass relocation. There is also a high rate of unemployment, high suicide rates, and in 2005 was hit by a cyclone destroying the Chuuk and Yap islands.

Public health problem: Tuberculosis and Multidrug-Resistant tuberculosis are among the main infectious diseases as well as among the main public health problem in Micronesia. As CDC defines it, the cause for Tuberculosis is bacterium called Mycobacterium tuberculosis. The bacterium mainly attacks the lungs, but also TB bacteria can attack another part of the body such as the kidney, spine, and brain. In some circumstances tuberculosis become Multidrug resistance tuberculosis (MDR) TB, When TB becomes (MDR) TB, which is dangerous compare to TB disease. As the article Island of Hope says, what makes TB challenging to the world is that the ongoing appearance of (MDR) TB (Brostrom et al. 2011). TB becomes MDR-TB, when people do not take the treatment properly at time, they had it. Micronesian people are more exposed to (MDR), because they issues that make them not take their medication properly. Low income, shortage of health centers and inaccessibility of the treatment.



Note. DOT = directly observed therapy; TB = tuberculosis.

FIGURE 2—Tuberculosis survival during treatment improved dramatically for all cases after establishment of community-based DOT.

American Journal of Public Health, Jan 2011, Vol. 101 Issue 1, p14-18, 5p, 2 Color Photographs, 1 Chart, 2 Graph; found on p16

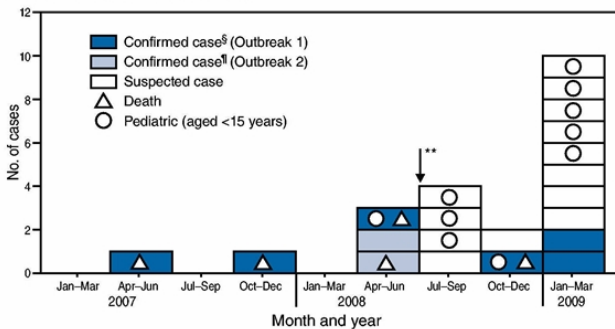
The people can't attend the directly observed therapy (DOT), as they don't have the economic support and access to therapy. As a result, controlling MDR-TB was difficult due to resistance to the drugs had made it difficult for

Micronesia to control the disease, especially in Chuuk.

Part of Population at Risk: Based on CDC, people at high risk can be categorized into two: people who have been recently infected with TB bacteria and people with weak immune system. Under the people with weak immune system, it can be mentioned babies and young children and also people with other health issues, for example HIV/AIDS.

Prevalence: In Chuuk, the average number of people who live in one household is seven people, but it is common for Chuuk people to sleep as family of 20 people in a single dwelling, (Brostrom et al. 2011). This kind of living style exposes the entire family member for TB if one of them gets attacked. The two outbreaks in Chuuk of tuberculosis can be taken as example. According to MMWR page 253, the 2007 incidence rate was 127 TB cases per 100,000, which indicates that, it is 29 times higher than the 2007 U.S. rate.

FIGURE. Number of confirmed and suspected multidrug-resistant tuberculosis cases (N = 21) in two outbreaks,* by initial sputum collection date — Chuuk State, Federated States of Micronesia, 2007–2009†



* Based on geographic location, genotypes, and drug-resistance patterns.
 † As of March 13, 2009.
 ‡ Resistance to isoniazid, rifampin, ethambutol, pyrazinamide, and streptomycin.
 § Resistance to isoniazid, rifampin, and ethionamide.
 ¶ Investigation by CDC and World Health Organization began in July 2008.

(MMWR: Morbidity & Mortality Weekly Report, 3/20/2009, Vol. 58 Issue 10, p253-256, 4p, 1 Chart, 1 Graph; found on p255)

The second graph indicates that suspected cases were increasing from 2007 to 2009. And also from the graph we can understand the second outbreak.

Outcomes: If tuberculosis isn't treated properly, it leads to death. During December 2007- June 2008

four patients with (MDR) TB had died, among these people, two of them are children. In November 2008 five people and one of them was 4 years old.

Treatment: Tuberculosis has different treatment for latent stage and disease stage.

- For (MDR) TB, a treatment called DOT (directly observed therapy) is needed.

Intervention: According to an article in MMWR, CDC was asked to intervene on the outbreak of (MDR) TB. Other agencies were also cooperating, like the U.S. departments of Interior, Health and Human Services, State, and Defense; WHO; the Secretariat of the Pacific Community; and the Commonwealth of the Northern Mariana Islands Department of Public Health. With help of these organizations Micronesia was able to reduce all TB transmissions.

To protect Micronesians from another outbreak of (MDR) TB, the people should get awareness about the means of transmission and they need to get enough space to live and health service nearby. It is also important to have pure air circulation in transportation and at populated areas.

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Two Simultaneous Outbreaks of Multidrug-Resistant Tuberculosis -- Federated States of Micronesia, 2007-2009. (2009). *MMWR: Morbidity & Mortality Weekly Report, 58*(10), 253-256.