

# Counterfeit Medicines in Cambodia—Possible Causes

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## INTRODUCTION

The use of counterfeit medicines present a world-wide public health crisis (1). Although few reports are available on the global consequences of counterfeit medicines, the consequences of the issue are enormous, and people could be at considerable risk if they use counterfeit medicines (2,3).

The epidemiology data is often limited. Data compilation and comparison is difficult due to the fact that different methods are used to produce the estimates. In developed countries, less than 1% of medicines are estimated to be counterfeits; however, the evidence suggests that the percentage is much higher in developing countries, where regulatory systems and their enforcements are weakest (4).

The prevalence of counterfeit and substandard medicines reported in Cambodia ranges from 4% to as high as 90%

from 2001 to the present (5–8). To tackle the situation, the Ministry of Health of Cambodia initiated a collaborative project with Kanazawa University and Japan Pharmaceutical Manufacturers Association (JPMA), Japan in 2006 to assess the prevalence of counterfeit pharmaceutical products and to investigate factors that influence counterfeiting.

## METHODS

In 2006, amoxicillin, ampicillin, cephalexin, paracetamol, artesunate and chloroquine were sampled. In 2007, similar samples of 2006, except artesunate and chloroquine, were collected, and in 2008, anti-helminthics albendazole, mebendazole and metronidazole were collected. In Cambodia, licensed drug outlets are categorized into Pharmacy, Depot-A and Depot-B. A Pharmacy outlet is run by a registered pharmacist, a Depot-A outlet by an assistant pharmacist (who received 3 years pharmacy training), and a Depot-B outlet by a doctor or retired nurse (9). Approxi-

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