

THE Port - Hackathon at CERN

Qualitative and Quantitative Analysis of Counterfeit Drugs



Summary:

In recent years the proportion of counterfeit drugs, especially in some African countries, increased dramatically up to levels of 60-80%. International organisations therefore buy their medication in Europe or the US or need to send samples back to Europe/US for chemical analysis before they can be released. This causes several week delays and significant costs. Clients of local pharmacies don't have this possibility and especially harming contaminations are a significant risk for them.

Goals:

Explore the full spectrum of counterfeit drug identification from qualitative verification with cheap screening devices for obtaining suspicious facts to qualitative analysis for content verification. Capillary electrophoresis has been proven to be a reasonably simple method for the latter. Commercial devices range between 50-100 kCHF. The University of Geneva has developed and distributed 10 prototypes with 10 kCHF material cost each. They seek to build a 2nd generation, open-source prototype with a price goal of 1kCHF.

Resources:

Multiple commercial capillary electrophoresis devices, a 10 kCHF prototype, several building components, various capillaries and special tools needed for the analysis
Expertise from the Uni Geneva, ICRC and WHO available



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