

# CHALLENGES AND OPPORTUNITIES FOR TOXICOSURVEILLANCE IN ASIA

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## **Abstract**

The challenge of toxico-surveillance in Asia is that it must operate in an environment of variable quality non-harmonised regulatory systems, large exposed populations, difficulties in communication and analytical capacity. Toxico-surveillance needs to encompass risk from deliberate, accidental, environmental and occupational exposure. As Asia is a major global supplier of many goods and medicines toxicosurveillance has both local and global importance. Thus any practical approach in Asia must involve current global toxicosurveillance mechanisms. Current toxicosurveillance approaches lie on a spectrum from voluntary spontaneous reporting (eg Poisons Information Centres) to systematic data collection (eg Clinical cohort studies). The most widespread system of poison information centres (PIC), has the advantage of relatively similar information structures and existing regional links. PIC tend to focus upon spontaneous reporting generally of acute events. Validation of this data against cohort studies using Taiwan poison centre data and prospective Sri Lankan clinical data showed comparable results for case fatality rates. If these correlations can be demonstrated for wider range of toxins it may have significant practical regulatory implications. PICs have capacity to detect new sporadic events which can be confirmed by focused analytical testing. It is unlikely that we will ever have the capacity to perform systematic repeated analytical testing for all potential toxicological threat eg for adulterated traditional medicines or manufacturing defects. The most practical approach is to continue to improve networking between various monitoring services in the region and globally to detect early signals, then to provide appropriate capacity to investigate these signals.

Prospective clinical studies are expensive but have the capacity to collect more detailed information about exposure and clinical outcomes which can direct clinical treatment. Our experience for successful funding of such studies comes from including them within a public health framework or exploring questions of basic science. These funding areas represent an opportunity for Asian toxicology. Additional areas include relatively untapped areas include research into low level exposures or chronic health effects following acute exposure. One way to strengthen such applications is to increase partnerships within the region and globally, such partnerships need to be actively sought. We are in a strong position to supply necessary clinical experience and education to toxicologists from outside of the region, this opportunity if taken could form the basis of longstanding collaborative partnerships.