

## **Total Diet Studies: narrowing down potential concerns to identify priority food safety issues**

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Total Diet Studies (TDS), as a methodological approach to perform dietary exposure assessment, emerged in the early 1960's. The specificities of TDSs are that: i) they cover most of the foods people eat (often exceeding 90% by weight), ii) the foods are prepared as consumed and iii) samples are pooled before conducting laboratory tests for food chemicals. TDS base their sampling approach and exposure estimates on food consumption data, which are, ideally, nationally representative. Consequently, the TDS data currently represents the best available tool towards identifying, among a pre-determined list of hazards and nutrients, the ones which may lead to potential health concerns.

Due to inherent limitations, a TDS is not adapted to the *a priori* standard setting process and is nonetheless complementary to other monitoring approaches, which may be better suited for regulatory purposes and conformity assessment.

However, a TDS is powerful screening tool, the granularity of which depends on available resources and the public health questions to be answered. Since 2011, EFSA, FAO and WHO have provided technical guidance on how to conduct a TDS, depending, among others, on these important considerations.

Concrete applications of the uptake of TDS results include the formulations by risk managers of dietary recommendations for specific population groups (e.g. methylmercury from predatory fish consumption by pregnant women and infants and young children) or the general population (excessive iodine intake), the optimization of the official monitoring and control plans of the food chain and the reformulation of phytosanitary products to reduce the maximum limit of metals such as Cd in fertilizers and, finally the identification of large scale inadequate or fraudulent practices in certain settings.

WHO and its partners continue to promote and share experiences of the implementation of TDS at national or regional level, as a cost-effective tool, potentially supporting the provision of answers to the scientific questions of risk managers.

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