Harmful and potentially harmful constituents – testing regimes around the world

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Chris Proctor

Overview

- A brief history of tobacco product analysis for regulation
- Challenges in moving from “tar” to toxicants
- Consortia of interests to develop the science to underpin tobacco product regulation

Analysis of tar, nicotine and carbon monoxide

- How?
  - Basic technique of using smoking machines to collect tobacco smoke developed in the 1950s/60s
  - ISO standardised methods
  - Intense regimes
  - Validated methods through collaborative studies
- Why?
  - Various regulatory views on measuring tar, nicotine and CO
  - eg EU and many others (still) requires measurement, disclosure and limits (10mg tar, 1mg nicotine, 10mg CO)
  - Others require disclosure but set no limits

Challenges in moving from “tar” to toxicants

- Health Canada have for years required measurement of “Hoffmann analytes”, a set of 44 substances thought to cover a range of toxicants in tobacco smoke
- Despite this, there remain challenges relate to both the how and the why

- How – many of the toxicants are found at much lower levels than tar, nicotine and carbon monoxide, and need more sophisticated analytical techniques
- Why – which of the toxicants are most important to tobacco related diseases such as lung cancer, COPD and cardiovascular disease, and hence relevant to regulation

Consortia for tobacco science

- CTP have rightly asked questions such as:
  - What level of reduction in harmful and potentially harmful constituents result in decreased disease risk?
  - What assays best compare toxicity between different tobacco products?
  - What biomarkers of disease risk can be associated with measures of tobacco exposure?
- These are big scientific questions that need groups of scientists (academic, public health, regulatory and industry) to working on in a collaborative way
- The scientific answers help determine the regulatory “why” and set out a way of working that makes agreeing the how much easier