“Reach a point where dental restorative materials are rare for everybody”

An interview with Christopher H. Fox, Executive Director of the International Association for Dental Research

The adoption of the Minamata Convention in Japan recently made way for a ban on mercury-containing products on a worldwide scale. Provision was also made for phasing down the use of amalgam in dental amalgam. By this means, the future of dental amalgam as a restorative dental material is in jeopardy. This could have on dentistry and the health facilities in the long run and did the outcome meet the expectations of those involved in dentistry?

The most discussed dental amalgam issue was a ban versus a phase-down. Led by the Responsible Office to Combat Mercury, the WHO Global Oral Health Programme, Dr Poul Erik Petersen, a coalition of concerned dental organisations was able to show country negotiators that a ban would be detrimental to population oral health. Dental amalgam is a safe and effective dental restoration and remains the best treatment choice in many clinical situations or health system situations. As with any complex negotiation, the outcome has met many people’s expectations, but there are those who would have preferred a phase-out of dental amalgam and those who would have preferred no limitations set on dental amalgam.

Another area of discussion was the need for best environmental practices in dental facilities to reduce releases of mercury and mercury compounds to water and land. Dentistry must be a good steward of the environment and implement best environmental practices for dental amalgam, as well as for all other dental materials, medical waste and consumables.

You mention that in the dental community amalgam is still considered to be effective and safe. So why phase down its use?

Dental amalgam is a safe and effective restoration. The US National Institute of Dental and Craniofacial Research funded two large-scale randomised clinical trials on the safety of dental amalgam in children and failed to find any adverse health effects. The reason for the agreed-upon phase-down is solely the environmental and health effects of mercury in the environment, not which they work. In addition to the provision in the Minamata Convention calling for best environmental practices, there is a provision calling for dental amalgam separators and many more dental professional organisations are calling for their universal use.

Even if we were successful with our oral health promotion programmes however and could stop using dental amalgam tomorrow, by the introduction of next-generation dental restorative materials, dental facilities would need dental amalgam separators and many more dental professional organisations are calling for their universal use.

According to the Convention, a number of products containing mercury will be banned from 2020. Do you believe that amalgam will still play a major role in restorative dentistry by this time?

Seven years is a short time frame when we are relying on a research and development pipeline to deliver improved dental restorative materials. Without being too pessimistic, a typical research and development time frame from discovery to clinical use in the pharmaceutical arena is 17 years. So, I believe dental amalgam will still be with us in 2020, but I am optimistic it will play a much-reduced role in restorative dentistry.

Alternatives to mercury-containing dental filling material were discussed last year at an IADR-FDI workshop on dental materials. Is there any viable alternative, and what needs to be done to implement and sustain its use in the future?