

A
COMPENDIUM
OF

DENTAL AMALGAM ACTIVITIES IN NIGERIA

(Phase down to phase out)



SRADev Nigeria



World Alliance
for Mercury-Free
Dentistry



About WAMFD

The World Alliance for Mercury-Free Dentistry (WAMFD) is a coalition of consumer, dental, and environmental organizations working together to phase out amalgam use. With eleven regional offices throughout the world and technical expertise in dentistry, environment, and policy, the World Alliance for Mercury-Free Dentistry serves as a unique resource for nations working to implement the Minamata Convention's amalgam phase-down measures.

About SRADev Nigeria

Sustainable Research and Action for Environmental Development (SRADev Nigeria) is a professional, non-governmental, non-profit think tank in environmental health research, advocacy and developmental action organization. It seeks to be the voice for environmental development in Africa particularly, Nigeria, while acting as a catalyst, advocate, educator and facilitator to promote the wise use and sustainable development of the environment. Its main mission is to promote sustainable development by facilitating sound environmental practice, exchange of information, building bridges of understanding on environmental health and natural resource conservation in a sustainable way and to ensure that the local people are put on the drivers' seat in the sustainable management of the environment. SRADev Nigeria is a member and the Nigeria focal point of WAMFD.



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http://www.whale.to/d/your_teeth_might_be_killing_you_with_mercury_nathaniel_cruz.jpg

Acknowledgement

SRADev Nigeria gratefully acknowledges the World Alliance for Mercury-Free Dentistry (WAMFD) for sole sponsorship of all the activities documented in this compendium over the years (2013 to date).

"I know I shall not for a long time stop the amalgam business, but I shall have the satisfaction of knowing that I have done my duty towards God and my fellow sufferers in this world, and my duty done I will not have to answer the question 'Am I my brother's keeper?'" - Dr. Melville Keith (1885).

1.0 INTRODUCTION



With the Mercury Treaty negotiations over, and the world agreeing that action is needed to reduce the use of dental amalgam. On dental mercury, the African Region (Nigeria) led the way. It was our region, meeting in Pretoria, South Africa which adopted the road map for amalgam reduction, known as phasedown steps. That plan, while amended in specifics, was adopted in the treaty in Annex C. Indeed, our region fought for the worldwide phase-out of amalgam as of a date certain, but consensus could not be achieved on that point.

Dental amalgam is a tooth filling material that is approximately 50% mercury, a highly polluting neurotoxin. Nations around the world are working to phase-down – and ultimately phase-out – amalgam use. This is chiefly due to the fact that dental mercury pollution is significant, mercury-free dental restorations are available and the fact that the Minamata Convention on Mercury requires the phase-down of dental amalgam use. Similarly, the West African Summit on Phasing out Amalgam was held in Abuja, Nigeria on 20th May 2014, bringing together NGO leaders from ECOWAS nations of *Benin, Ivory Coast, Ghana, Nigeria, Senegal* and *Tanzania* etc who adopted the Abuja Declaration for Mercury-Free Dentistry for Africa. The Declaration's aim is that Africa shall be the first continent to phase out amalgam.

In Nigeria, the WAMFD/SRADev Nigeria have taken up this campaign not only to ensure that Nigeria emerges dental amalgam-free, but also to implement the dental amalgam phase-down measures of the Minamata Convention (and ultimately phase out amalgam use), which has so far been ratified by eighty six (86) countries. In that spirit, we encourage action to begin now on amalgam. Amalgam is the only product which has a plan of action in the convention, specific phasedown steps which can reduce its use - and point the way toward its virtual end. With the treaty's guidance - guidance which our region proposed -- it's time to begin.

We have three reasons to address the phase-down of amalgam in Nigeria. *First*, we must reduce, eventually to zero, the dreadful pollution of the nation's water, land, and air with dental mercury. *Second*, we can make Nigeria into Africa's model for 21st-century dentistry, mercury-free dentistry. *Third*, we must stop the toxic trade of dental mercury, which most regretfully is diverted illegally into the gold fields and other sectors.

This compendium (a compilation of a 5-year process) therefore serve as a useful reference tool for stakeholder engagement/consultations, action plans, resolutions and communiques so far agreed by stakeholders to further encourage dental professionals, hospitals, governments and our nation to begin to phasedown of dental amalgam and a transition to the several non-toxic alternatives.

Leslie Adogame

Executive Director/Editor

2.0 AMALGAM INFORMATION AND FACT SHEET

World Health Organization report - *Future Use of Materials for Dental Restoration*, says that “recent data suggest that RBCs [resin-based composites] perform equally well” as amalgam¹ – and offer additional oral health benefits because “Adhesive resin materials allow for less tooth destruction and, as a result, a longer survival of the tooth itself.

Quantity of Dental Mercury

“A significant amount of mercury is estimated to be released to the environment” from the use of dental amalgam, according to the World Health Organization reports.

Between 313 and 411 tons of dental mercury is consumed each year, accounting for 10% of global mercury consumption. This makes dental amalgam among the largest consumer uses of mercury in the world, more than:

- lighting (only 120-150 tons)
- measuring devices (only 320-380 tons)
- electrical devices (only 180-220 tons)

Pathways to the Environment

Dental mercury enters the environment via many different pathways. For example, dental mercury is polluting:

- **AIR** via cremation, dental clinic emissions, sludge incineration, and respiration
- **WATER** via dental clinic releases and human waste
- **SOIL** via landfills, burials, and fertilizer

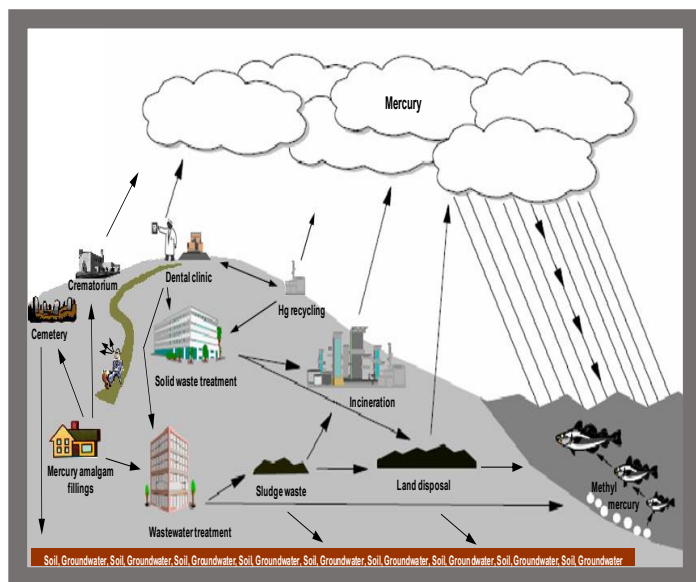
Managing amalgam waste with separators alone is not sufficient to address this whole range of mercury releases from the dental amalgam life cycle. As a result, most dental mercury goes into the environment.

Environmental Risks

After amalgam is in the environment, certain microorganisms can change its elemental mercury into methylmercury, a highly toxic form that builds up in fish, shellfish and animals that eat fish. Fish and shellfish are the main sources of methylmercury exposure to humans. Methylmercury can damage children’s developing brains and nervous systems even before they are born.

Costs of Dental Mercury

After environmental costs are taken into account amalgam is significantly more expensive than the non-mercury alternatives, concludes the 2012 report *The Real Cost of Dental Mercury*. An amalgam filling can cost up to \$87 more than an equivalent composite filling, after the full costs of each material is considered.



¹ World Health Organization, FUTURE USE OF MATERIALS FOR DENTAL RESTORATION (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.11

“...amalgam is by no means the least expensive filling material when the external costs are taken into account.”

~ The Real Cost of Dental Mercury (2012)

Non-Mercury Alternatives

There are many non-mercury alternatives to amalgam today, including:

- Composite
- Glass ionomer
- Ceramics
- Compomer

These non-mercury alternatives are so effective that amalgam use is already phased out in some nations and significantly reduced in others.



The many pathways of dental mercury into the environment
(Source: EEB, 2007)

Benefits for Environment and Patients

The non-mercury alternatives to amalgam are good for both the environment and patients:

- Environment Benefits: Non-mercury filling materials are safer for the environment because they do not contain mercury. As a result, people will be exposed to less environmental mercury.
- Patient Benefits: “Adhesive resin materials allow for less tooth destruction and, as a result, a longer survival of the tooth itself,” the World Health Organization reports.

How to Help

The World Alliance for Mercury-Free Dentistry is a coalition of dental associations, environmental organizations, and consumer groups from six continents working together to phase out amalgam use. We are helping nations take effective steps toward mercury-free alternatives, including:

1. Raising public awareness about dental mercury
2. Promoting non-mercury alternatives
3. Encouraging programs and insurance policies that favor non-mercury alternatives
4. Training dental professionals to use non-mercury materials and techniques
5. Discouraging amalgam use in primary teeth
6. Developing plans setting goals for minimizing amalgam use

Please contact us for assistance with implementing the upcoming Minamata Convention on Mercury.

“If we have access to alternative materials which are getting better and better each year, it makes sense to subscribe to the principles of minimally invasive dentistry that include aesthetic materials like GIC [glass ionomer cement], compomer, and composite, for which the mechanical properties have significantly improved. It is that simple.”

Dr. Kouakou Kouadio Florent
Dentist & Dental School
Instructor (Côte D'ivoire)

3.0 Abuja Declaration for Mercury-Free Dentistry for Africa: Africa shall be the 1st Continent to Phase out Amalgam (20 MAY, 2014)

Cognisant of the fact that mercury, which is used in dental amalgam, is a restorative material that is approximately 50% elemental mercury,² and is a notorious heavy metal of global concern that is known to be a potent poison of the human nervous system.³

Aware that dental mercury accounts for 10% of annual global mercury consumption⁴ and 260-340 metric tons of mercury pollution around the world each year.⁵

Knowing that dental mercury enters the environment via many release pathways, polluting *air* via cremation, dental clinic releases, and sewage sludge incineration; *water* via human waste and dental clinic releases to septic systems and municipal wastewater; and *soil* via landfills, burials, and fertilizer.⁶

Understanding that once dental mercury is in the environment, bacteria in soils and sediments may convert it to methylmercury,⁷ “a highly toxic form that builds up in fish, shellfish and animals that eat fish, thereby making fish and shellfish the main sources of methylmercury exposure to humans.

Aware of existence of significant literature that show that methylmercury can damage children’s developing brains and nervous systems even before they are born.”⁸

Recognising that in the dental workplace, uncontrolled mercury vapours are a major occupational risk, especially to young women of childbearing age,⁹ and that amalgam is not consistent with modern dentistry; unlike less invasive mercury-free filling materials, amalgam placement requires the removal of a substantial amount of healthy tooth matter, which weakens the tooth structure and can lead to more expensive dental care later.¹⁰

Recalling that throughout the Minamata Convention negotiations, the Africa Region worked very hard to make sure that reduction in dental amalgam use specifically be included in the treaty, forcefully arguing for the phase out of amalgam generally and for an end to amalgam in milk teeth specifically.

² U.S. FDA, *Final Rule for Dental Amalgam*,

<http://www.fda.gov/downloads/MedicalDevices/ProductsandMedicalProcedures/DentalProducts/DentalAmalgam/UCM174024.pdf>, p.86.

³ UNEP, <http://www.unep.org/chemicalsandwaste/Mercury/tabid/434/Default.aspx> (“Mercury is a notorious heavy metal of global concern and known to be a potent poison of the human nervous system since Greek and Roman times.”)

⁴ UNEP/AMAP, *Technical Background Report to the Global Atmospheric Mercury Assessment* (2008), p.20

⁵ Data from UNEP.

⁶ Concorde East West, *The Real Cost of Dental Mercury* (March 2012),

http://www.zeromercury.org/index.php?option=com_phocadownload&view=file&id=158%3Athe-real-cost-of-dental-mercury&Itemid=70

⁷ <http://www.epa.gov/hg/exposure.htm>

⁸ United States Environmental Protection

Administration, <http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/a640db2ebad201cd852577ab00634848!OpenDocument> (2010).

⁹ Mahmood A. Khwaja and Maryum Shabir Abbasi, *Mercury Poisoning Dentistry: High level indoor air mercury contamination at selected dental sites*. REVIEWS OF ENVIRONMENTAL HEALTH (New York Academy of Sciences, April 2014)

¹⁰ American Academy of Pediatric Dentistry, *Guideline on Pediatric Restorative Dentistry* (revised 2008) (“Amalgam restorations often require removal of healthy tooth structure to achieve adequate resistance and retention.”); World Health Organization, FUTURE USE OF MATERIALS FOR DENTAL RESTORATION (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.16 (“Adhesive resin materials allow for less tooth destruction and, as a result, a longer survival of the tooth itself. Funding agencies should take the initiative and encourage the replacement of amalgam as the material of choice for posterior teeth with adhesive systems.”)

Recalling further that at the crucial Pretoria regional consultation, 9th May 2012, the African Region boldly adopted a plan for dental amalgam – the phase-down steps – that coupled with subsequent amendments was enshrined into the treaty.

“Amalgam use in Africa is gradually declining....Poor management of amalgam waste remains the main threat to its future use”

“The Amalgam Phase-Down Policy for Nigeria can begin on a sound footing”

Dr. Emmanuel C. Otoh, Director,
Intercountry Centre for Oral Health
(ICOH) For Africa

Applauding that the newly-adopted Minamata Convention on Mercury, the world recognizes that dental amalgam is a major environmental pollutant and requires each participating nation “to phase down the use of dental amalgam.”¹¹

Considering the fact that Mercury-free dental restorative materials are far less expensive than dental amalgam when environmental and societal costs are factored in.¹²

Considering further that the costs of using mercury-free glass ionomers for Atraumatic Restorative Treatment or ART (including retreatment) is about half the cost of amalgam without retreatment, making this mercury-free technique significantly more affordable in low-income communities, particularly in areas without electricity or dental clinics.¹³

Noting that mercury-free dental restorative materials are effective according to the World Health Organization report *Future Use of Materials for Dental Restoration*, which says “recent data suggest that RBCs [resin-based composites] perform equally well” as amalgam¹⁴ – and offer additional oral health benefits because “Adhesive resin materials allow for less tooth destruction and, as a result, a longer survival of the tooth itself.

Noting further that, this Abuja Declaration falls fully within the spirit of the Libreville Declaration on Health and Environment in Africa (August 2008)¹⁵.

Encouraged by the WHO’s call for funding agencies to take the initiative and encourage the replacement of amalgam as the material of choice for posterior teeth with adhesive systems.”¹⁶

Regretting the fact that pro-amalgam lobby groups view the Minamata Convention as the chance to profiteer in Africa by actually phasing *up* amalgam by promoting expensive amalgam equipment, such as separators.

¹¹ Minamata Convention (2013)

¹² Lars D. Hylander & Michael E. Goodsite, *Environmental Costs of Mercury Pollution*, SCIENCE OF THE TOTAL ENVIRONMENT 368 (2006) 352-370; Concorde East West, *The Real Cost of Dental Mercury* (March 2012), pp.3-4

¹³ Pan American Health Organization, *Oral Health of Low Income Children: Procedures for Atraumatic Restorative Treatment (PRAT)* (2006), http://new.paho.org/hq/dmdocuments/2009/OH_top_PT_low06.pdf, p.xii. (“The costs of employing the PRAT approach for dental caries treatment, including retreatment, are roughly half the cost of amalgam without retreatment. PRAT as a best practice model provides a framework to implement oral health services on a large scale, and it can reduce the inequities for access to care services.”); S. Mickenautsch, I. Munshi, & E.S. Grossman, *Comparative cost of ART and conventional treatment within a dental school clinic*, JOURNAL OF MINIMUM INTERVENTION IN DENTISTRY (2009), <http://www.miseeq.com/e-2-2-8.pdf> (“ART is also a cost-effective means of oral health care within a modern dental clinic. The ART approach can be undertaken at approximately 50% of the capital costs of conventional restorative dentistry.”)

¹⁴ World Health Organization, FUTURE USE OF MATERIALS FOR DENTAL RESTORATION (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.11

¹⁵ http://www.afro.who.int/fr/downloads/doc_download/2224-declaration-de-libreville-sur-la-sante-et-lenvironnement-en-afrique-libreville-le-29-aout-2008.html

¹⁶ World Health Organization, FUTURE USE OF MATERIALS FOR DENTAL RESTORATION (2011), http://www.who.int/oral_health/publications/dental_material_2011.pdf, p.16

Cognisant of the fact that, separators have no value in Africa as there is no infrastructure to collect and store the mercury from dental offices.

We the NGOs that met in Abuja this 20th day of May 2014, call upon

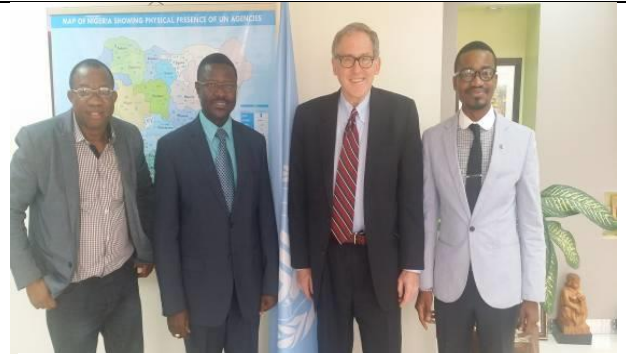
1. African Countries to declare that the children of Africa -- and all the people of Africa -- have a basic human right to mercury-free dental care and a mercury-free environment.
2. African Countries to work together and make Africa the first continent with mercury-free dentistry – considering that the current amount of dental amalgam used in Africa is much closer to zero than in any other continent. In 2010, the Sub-Saharan African Region used just six (6) tons of dental mercury.¹⁷
3. African nations to adopt effective amalgam phase down strategies that have been proven in nations that have already phased out or significantly reduced dental mercury use by:
 - a. Raising awareness about dental mercury to parents, consumers, dental workers, health professionals, and educators.
 - b. Promoting the benefits of non-mercury dental restorative materials,
 - c. Encouraging government programs and insurance policies that favour non-mercury dental restorative materials,
 - d. Training dental professionals to use non-mercury dental restorative materials and techniques,
 - e. Discouraging amalgam use in milk teeth (primary teeth),
 - f. Protecting dental workers from mercury vapours in the workplace,
 - g. Developing a national plan setting goals for minimizing and eliminating amalgam use,
 - h. Updating dental schools training to emphasize mercury-free dentistry, and
 - i. Moving hospitals to mercury-free health care services.
4. African Countries to impress upon the exporting nations and funding organisations to cease the toxic trade of dental mercury into Africa, and cease sending to Africa interest groups whose agenda is to phase *up* amalgam in Africa.
5. African Countries to oppose Minamata Convention funds being used to profit the separator industry or other foreign manufacturing interests seeking to phase up amalgam use in Africa.
6. African countries to reject the double standard mentality which infers that Africans must accept toxins that the rest of the world rejects.
7. All African Governments, the African Union to form a united front for mercury-free dentistry in Africa.
8. The CSOs to promote and advocate for, in their countries, mercury-free dentistry as a route of expanding oral health care especially children.

¹⁷ AMAP/UNEP Technical Report for the Global Mercury Assessment” (2013), <http://www.amap.no/documents/doc/technical-background-report-for-the-global-mercury-assessment-2013/848>, at p. 103

Photo speaks



Meeting with UNIDO Environmental Expert Mr Yomi Banjo



Meeting with UNIDO Representative to Nigeria, ECOWAS & Director of the Regional Office (Dr. Patrick Kormawa)



Meeting with the Federal Ministry of Env's team



Meeting with Hon Minister of Environment, Alhaji Ibrahim Jubri



With CPC departmental team



With CPC during sensitization activity



Meeting with Dr Loto (LASUCOM)



Participants at NGO meeting



Meeting at NAFDAC Office



Meeting with Edo state commissioner for Environment



At courtesy visit to UBTH



Meeting with Edo state commissioner for Environment

CPC Information Sheet

DENTAL FILLINGS: THE CHOICES YOU HAVE

THE CHOICE IS YOURS

The legally binding treaty *Minamata Convention on Mercury* requires nations to "phase down" the use of amalgam fillings and urges the use of mercury-free fillings. The Nigerian government has signed the *Minamata Convention* and is committed to reducing amalgam filling use. As a consumer, you are strongly encouraged to

- **Review** this brochure to learn about your choices.
- **Ask** your dentist about your mercury-free filling options.
- **Consider** the environmental impact of mercury from amalgam fillings.
- **Consider** helping phase down amalgam filling use by choosing a mercury-free filling like composite resin or glass ionomer.
- **Make** an informed decision about your dental filling.

FOR MORE INFORMATION

Consumer Protection Council
Plot 1105 Dar es-Salaam Street
Off Aminu Kano Crescent Wuse II
P.M.B 5077, Wuse, Abuja

SRADev Nigeria
18, Olorunlogbon Street
Anthony Village, Lagos
sradevnigeria@yahoo.com
www.sradev.org
Tel: 234-8033301305, 07025283219



CONSUMER PROTECTION COUNCIL
(Established under Decree No. 66 of 1992)
Plot 1105 Dar es-Salaam Street
Off Aminu Kano Crescent Wuse II, P.M.B 5077, Wuse, Abuja

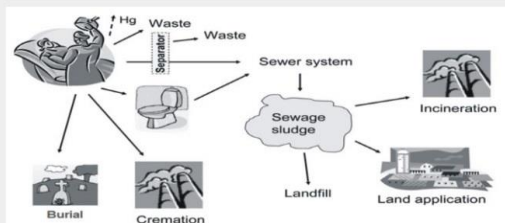
KNOW YOUR RIGHTS

The Federal Government's Consumer Protection Council (CPC) advises that this brochure be made available to consumers at dental clinics, dental schools, and hospitals in order to protect the rights of Nigerian consumers, including the

- Right to information on the mercury in amalgam dental fillings
- Right to choose a mercury-free dental filling

TOXICITY OF MERCURY IN AMALGAM FILLINGS

- Amalgam dental fillings are 50% mercury and 50% silver, tin, copper, and other trace metals.
- Mercury can cause neurological and reproductive problems, including damage to the brain, the kidneys, and fetuses.
- Much of the mercury from amalgam is eventually released into the environment, where it can contaminate fish and damage children's developing brains and nervous systems.



COMMON CHOICES IN DENTAL FILLINGS

COMPOSITE RESIN FILLINGS

Advantages	Disadvantages
<ul style="list-style-type: none"> ➢ Mercury-free ➢ Durable and easy to repair ➢ Strengthens and preserves more healthy tooth structure, which can help the tooth last longer ➢ Tooth-colored 	<ul style="list-style-type: none"> ➢ Sometimes costs more ➢ Can shrink when hardened

GLASS IONOMER FILLINGS

Advantages	Disadvantages
<ul style="list-style-type: none"> ➢ Mercury-free ➢ Releases fluoride that can help prevent tooth decay ➢ Preserves more healthy tooth structure ➢ Tooth-colored 	<ul style="list-style-type: none"> ➢ Not always recommended for biting surfaces in permanent teeth ➢ Sometimes costs more ➢ Older types might be weaker

AMALGAM FILLINGS

Advantages	Disadvantages
<ul style="list-style-type: none"> ➢ Durable ➢ Relatively cheap in the short-term 	<ul style="list-style-type: none"> ➢ Releases mercury, which is not recommended for children and pregnant women ➢ Requires removal of more healthy tooth structure ➢ Gray-colored

“The average person with amalgam excretes approximately 0.1 mg of mercury per day in his/her feces which are being flushed out to sewers, streams, and lakes.”

¹Bayero Kasimu Director,
Federal Ministry of
Environment

4.0 COMMUNIQUÉ

4.1 A COMMUNIQUÉ ISSUED AT THE END OF THE NATIONAL STAKEHOLDERS’ FORUM ON PHASING DOWN DENTAL AMALGAM IN NIGERIA HELD AT BOLTON WHITE HOTEL, ABUJA, ON WEDNESDAY, 21ST MAY, 2014.

OBJECTIVE

The objective of the forum was to bring together key stakeholders to deliberate on the issues bothering on the phasing down of the use dental amalgam in Nigeria.

OBSERVATIONS

Following extensive deliberations by participants at forum, the following observations were made:

1. Mercury is recognized as a chemical of global concern due to its ability transport in the atmosphere, bioaccumulate in ecosystems and significant negative effect on human health and the environment.
2. The Minamata Convention on Mercury signed by Nigeria in October 2013 stipulates measures to be taken by parties to phase down the use of dental amalgam.
3. Dental amalgam has been a widely used and affordable dental filling material serving the oral health needs of communities around the world for over a century.
4. The awareness and recognition of the environmental implications of mercury have increased and alternative filling materials have become imperative.
5. Dental amalgam has been widely used over decades as a dental restorative material. Providers of oral health care in low- and middle income countries also generally consider amalgam of relevance in serving their patients.
6. The limited availability of oral health manpower, service facilities and materials for dental restoration, and the high cost of dental restorative treatment
7. The need to deal with amalgam waste from dental care and will need to promote measures to reduce environmental releases of mercury from amalgam.

RECOMMENDATIONS

1. Strengthening of disease prevention and health promotion is the most relevant approach to reduce the need for restorative care and it may be prudent to consider “phasing down” instead of “phasing out” dental amalgam.
2. Constitution of a committee on Phase down of Dental Amalgam to consist of relevant stakeholders.
3. Development of a national phasedown workplan
4. The need for intensive stakeholders consultations/engagement

5. Legislation review and development of phase down guidelines
6. The need for national demonstration/pilot projects
7. Application of Best Available Technology (BAT) and Best Environmental Practice (BEP) in the management of dental amalgam.
8. Increase in Awareness Raising Programme.
9. Application of Best Available Technology and Best Environmental Practice in the disposal of waste
10. Introduction of Alternatives/Transition to alternatives

CONCLUSION

Participants at the one-day stakeholders' forum unanimously agreed that, in compliance with the provisions of the Minamata convention, a coordinated multi-sectorial approach is required for an effective phase down of use of dental amalgam in Nigeria.

“The importation of amalgam in dispensations other than in encapsulated forms should be curtailed by NAFDAC”¹⁸

4.2. COMMUNIQUE AT A ONE-DAY WORKSHOP ON PHASEDOWN OF DENTAL AMALGAM IN NIGERIA AT THE WESTOWN HOTEL, IKEJA ON FEBRUARY 22ND 2016

The Sustainable Research and Action for Environmental Development (SRADev Nigeria) under the auspices of *World Alliance for Mercury-Free Dentistry, USA* organised a one-day workshop on Phasedown of Dental Amalgam in Nigeria at the Westown Hotel, Ikeja on February 22nd 2016. The forum brought together over 60 participants drawn from scientists, medical practitioners, the academia, the media and civil society groups among others, and deliberated on the issues bothering on the phasing down of the use dental amalgam in Nigeria.

¹⁸ bi-lateral meeting was held at Director-General's (Dr Paul Orhi) office of NAFDAC, Oshodi, Lagos State on 17th April, 2015



Cross section of the Lagos stakeholders' forum

During the meeting participants **observed** the following:

1. Mercury is a chemical of global concern due to its toxicity which can harm man and animal, bio-accumulate in ecosystems and significantly affect human health and the environment.
2. Low level of awareness among Nigerians on the dangers of mercury.
3. Dental amalgam is still widely used and is the most affordable dental filling material serving the restorative health needs of Nigerians
4. The limited availability of oral health manpower, service facilities and materials for dental restoration, and the high cost of dental restorative treatment
5. Resistance to change by dental professionals owing to old threat of loss, beliefs, convention and practices which have turned some into bigots.
6. Limited number of dental clinics and centres to provide services for the Nigeria's teeming population.
7. Inadequate number of dentists and other auxiliary personnel to provide dental services to patients.
8. Expensive nature of dental profession in terms of training personnel, acquisition of instruments and equipment and provision of dental services to patients.
9. Recognition of the negative impacts of mercury on people's health and the environment led to the adoption and signing of Minamata Treaty by over 87 nations of the world on the 9th October, 2013 at Minamata, Japan. The Nigerian government signed the Minamata Convention on Mercury in October 2013 but is yet to domesticate the Convention

10. Alternative direct restorative materials such as composite, GIC, copolymer and ceramics can be used for restoration of carious and non-carious cavities involving anterior and posterior teeth based on specific selection criteria and indications.

“Consumer Protection Council will do all in its power to ensure that consumers are aware of their rights so as to demand them” Emmanuel Amlai Director CPC¹⁹

RECOMMENDATIONS

1. In compliance with the provisions of the Minamata convention, government should initiate a coordinated multi-sectoral approach for an effective phase down of use of dental amalgam in Nigeria.
2. Government at all levels should strengthen disease prevention and health promotion to reduce the need for restorative care and it may be prudent to consider “phasing down” before the eventual “phasing out” of dental amalgam.
 3. Constitution a Committee on Phase down of Dental Amalgam to consist of relevant stakeholders including civil society. This group should come up with a National Strategic Plan (NSP)
 4. Initiation of a phased down work plan. This must also include legislative review and development of guidelines, gathering baseline data and developing the national overview.
 5. Initiation of demonstration projects and application of best available technology and environmental practice in the management of dental amalgam
 6. Introduction and promotion of Alternatives/Transition to alternatives
 7. Engaging the media in awareness creation on the health impacts of mercury in dental amalgam.

4.3 COMMUNIQUE AT STAKEHOLDERS WORKSHOP AT LUTH

A Communiqué Issued at the End of the Stakeholders’ forum on Phasing Down of Mercury Amalgam in Nigeria Held at The Old Great Hall, College of Medicine, University of Lagos, Lagos, Nigeria on June 28-29, 2016.

To mark its 10th annual scientific conference, the Faculty of Dental Sciences, College of Medicine, University of Lagos organised a two-day workshop on “Phase Down of Mercury Amalgam-The Alternatives”, at the Old Great Hall, College of Medicine of the University of Lagos on June 28th – 29th, 2016. The first day of the conference featured free papers and mercury free restorative materials exhibitions. The second day featured lectures delivered by different invited experts on Mercury Amalgam phase down.

¹⁹ Emmanuel Amalia, (CPC) 2014. *Nigeria Stakeholders’s Forum on Phasing down of Amalgam Use on 21st May 2014, at the Conference Hall, Bolton White Hotels, Abuja.*

*Amalgam as a major contributor to mercury pollution..... A phase-down in the use of dental amalgam in restorative dentistry is an acceptable option as opposed to outright ban on dental amalgam. It is feasible and desirable.*²⁰ **Dr Loto A.O.(LASUCOM)**

The forum brought together over 140 participants drawn from Government, dental practitioners, dental associations, (*doctors, nurses, technicians, therapist* etc), academia, bankers, pharmaceutical industry, media and civil society groups among others, and deliberated on phasing down of dental amalgam use in Nigeria.

In his opening remarks, The Dean, Faculty of Dental Sciences, College of Medicine, University of Lagos, **Prof. Godwin Arotiba** said, mercury amalgam phase down is a topical issue of global importance that requires the urgent attention of all stake holders. He further noted that ‘a road map for mercury amalgam phase down for Dental schools and clinics, and a draft action plan for mercury free dentistry implementation in Nigeria are expected outcomes of the conference’.

The Honourable Minister of Education, *Mallam Adamu Adamu*, represented by **Mrs. Stella Olagunju**, commended the organizers for focusing on a very topical issue and expressed the willingness of her ministry to look into the recommendations that may arise from the meeting particularly as it relates to its implementation in Dental Schools. The Vice Chancellor of the University of Lagos, **Prof. Rahman Bello**, represented by **Prof. B.O. Sylva**, noted that the Faculty of Dental Sciences remains the pioneer Dental Institution in Nigeria and as a centre of excellence in dental education, it is more strategic to the promotion of mercury amalgam phase down initiatives for dental education and practice in Nigeria. He further stated that the University of Lagos currently has facilities for scientific research and analysis to support the phase down program.

The Federal Ministry of Environment representative, Mr. Olubunmi Olusanya who stood in for **Dr Idris Goji** noted that mercury emission and releases from the use of dental amalgam poses health and environmental concerns and called for a speedy transition to mercury free alternatives. He further called for a national road map in line with the national phase down plan, which would help to save lives and the environment from mercury poisoning.

‘The reality is that whether we like it or not, soon and very soon, amalgam will no longer be available for use. We do not manufacture amalgam in Nigeria, we import it and if the countries from where we import no longer export. We have to use the alternatives’.

Prof. Olusile Adeyemi Oluniyi (OAU) former NDA National President and President of African Regional Organization of World Dental Federation (FDI)

²⁰ Dr Adolphus Loto, at the National Stakeholders Forum on Phasing Down Amalgam In Nigeria , Held in Bolton Hotel, Abuja

The Representative of the National Agency for Food and Drug Administration and Control (NAFDAC) *Dr. Anthony Hotton* noted that NAFDAC regulates the importation, sales, use, manufacturing and distribution of chemicals which are grouped as General, Controlled and Restricted chemicals. He stated the mercury and its compounds are placed under restriction due to its health impact and banned in cosmetic. He, therefore, called for the development of a National Action Plan (NAP) and goal setting for monitoring companies and also inter-phasing with dental practitioners to eliminate or phase down mercury amalgam use in Nigeria.

Mr. Leslie Adogame Executive Director, Sustainable Research and Action for Environmental Development (SRADev), Lagos, Nigeria presented a paper titled “Mercury Pollution in Dental Schools and Clinics in Nigeria.” He highlighted the high levels of mercury pollution in simulation laboratories and clinics in Dental Schools and some private clinics in Lagos, Ibadan and Abuja. He reported that mercury pollution levels at dental schools and some private clinics were higher than at dump sites.

The keynote speaker, **Prof. Adeyemi Oluniyi Olusile**, a past President of the Nigerian Dental Association (NDA) and presently the President of African Regional Organization of World Dental Federation (FDI), outlined the effect of mercury on the environment and health especially occupational exposures. He called for the inclusion of mercury free filling materials in the National Health Insurance Scheme in Nigeria. He further noted that curriculum changes are already in place in some institutions like Faculty of Dental Sciences, College of Medicine, University of Lagos, University College Hospital, Ibadan, Lagos State University Teaching Hospital (LASUTH), Obafemi Awolowo University, Ile -Ife and other Dental schools. *‘The reality is that whether we like it or not, soon and very soon, amalgam will no longer be available for use. We do not manufacture amalgam in Nigeria, we import it and if the countries from where we import no longer export. We have to use the alternatives’.*

Mrs Umego Adaora who represented Dr. Emmanuel Amlai of Consumer Protection Council highlighted the rights of the patient to know about the inherent health hazard of mercury amalgam in order to make an informed choice.

“While most dental professionals who place mercury amalgams typically charge somewhat less for amalgams than for the alternatives, the full costs borne by the rest of society are much higher after taking into account the overall environmental health ramifications”-
Cost of dental mercury²¹

Dr Uche Ewelike who represented the Executive Secretary of the National Health Insurance Scheme, presented a paper titled Dentistry in the National Health Insurance Scheme. This paper generated much interest from participants.

OBSERVATIONS

During the meeting participants observed the following:

²¹ <http://www.toxicteeth.org/CMSTemplates/ToxicTeeth/pdf/The-Real-Cost-of-Dental-Mercury-final.aspx>

1. Mercury is recognized as a chemical of global concern due to its ability to be easily transported in the atmosphere, bio-accumulate in ecosystems and its significant negative effect on human health and the environment.
2. The Minamata Convention on Mercury signed by Nigeria in October 2013 stipulates measures to be taken by parties to phase down the use of mercury amalgam.
3. There is low level of awareness among Nigerians on the dangers of mercury pollution.
4. Mercury amalgam is still widely used in Nigeria as a dental restorative material.
5. There are limited numbers and distribution of dental clinics and centres to provide oral health services for Nigeria's teeming population.
6. There is inadequate number of dentists and other auxiliary personnel to provide dental services for over 160,000,000 Nigerians.
7. Alternative direct restorative materials such as composite, copolymer and glass ionomer cements can be used for restoration of carious posterior teeth based on specific selection criteria and indications.

4.4 COMMUNIQUE ISSUED AT THE STAKEHOLDERS' WORKSHOP ON PHASE DOWN OF DENTAL AMALGAM IN EDO STATE

The Sustainable Environment Development Initiative (SEDI Nigeria) under the auspices of *World Alliance for Mercury-Free Dentistry*, organized a workshop on Phase-down of Dental Amalgam Use in Edo State at the WHARC Event Centre, Benin, Edo State, Nigeria on 31 October 2017. The forum brought together over 59 participants drawn from Government, Dental practitioners, Dental students, Dental surgery technicians, Academia, Media and civil society groups among others, and deliberated on issues bothering on the phasing down of the use dental amalgam in Edo State.

During the meeting participants **observed** the following:

1. Mercury is a chemical of global concern due to its long range atmospheric transport, persistence in the environment once introduced and its ability to bio-accumulate in ecosystems.
2. Exposure to mercury can harm the brain, heart, kidneys, lungs, cardiovascular system and immune system, particularly in women, unborn children and infants.
3. Low level of awareness among Nigerians on the dangers of mercury in dental amalgam.
4. Dental amalgam is still widely used and is the most affordable dental filling material serving the health needs of Nigerians.

There is evidence that hot foods and liquids, as well as normal chewing, release mercury vapours from fillings. In a number of scientific studies health effects have been observed, although the effects of exposure on human health continue to be debated. (Mutter *et al.* 2004)

chemical of global concern due to its long range atmospheric transport, persistence in the environment once introduced and its ability to bio-accumulate in ecosystems. mercury can harm the brain, heart, kidneys, lungs, cardiovascular system and immune system, particularly in women, unborn children and infants. awareness among Nigerians on the dangers of mercury in dental amalgam. still widely used and is the most affordable dental filling material serving the health needs of Nigerians.

5. The limited availability of oral health manpower, service facilities and materials for dental restoration, and the high cost of dental restorative treatment.
6. Limited number of dental clinics and centres to provide services for the Nigeria's teeming population.
7. Recognition of the negative impacts of mercury on people's health and the environment led to the adoption and signing of Minamata Treaty by over 128 nations of the world on the 10th October, 2013 at Minamata, Japan. Nigeria has signed but is yet to ratify and become a party to the convention. However, there are efforts to initiate programmes that will ensure significant reduction in mercury use.
8. The convention entered into force on 15th August, 2017 having been ratified by 84 countries.
9. Alternative direct restorative materials such as composites, compomers and ceramics can be used for restoration of carious and non-carious cavities involving anterior and posterior teeth based on specific selection criteria and indications.
10. Aware that the Federal Ministry of Environment, Federal Ministry of Health, UNIDO and other stakeholders have completed the Nigeria Minamata Initial Assessment (MIA) report to usher the national implementation of the convention.

Recommendations

1. In compliance with the provisions of the Minamata convention, government should initiate a coordinated multi-sectorial approach for an effective phase down of use of dental amalgam in Nigeria.
2. Updating dental schools training curriculum to emphasize mercury-free dentistry.
3. Implementation of a phase down work plan. This must also include legislative review and development of guidelines, gathering baseline data and developing the national overview.
4. Initiation of demonstration projects and application of best available technology and environmental practice in the management of dental amalgam.
5. Promotion of alternatives/transition to alternatives by a concession for imported alternative restorative materials.
6. Engaging the public and media as well as other stakeholders in awareness creation on the health impacts of mercury in dental amalgam and the need for prevention of caries.
7. An urgent need for Nigeria to domesticate the Minamata convention as soon as possible.

Edo State Resolution to End Dental Amalgam for Children in 2018

Assembled this 31 October 2017, we the stakeholders of Edo State:

Call for the end of dental amalgam use in children under 16, pregnant and breastfeeding women as of 1st July 2018.

Urge the Federal government, other States of Nigeria, and all nations of Africa to end amalgam use in children under 16, pregnant and breast feeding women as of 1st July 2018.

“Amalgam phase down is real and dentists should be actively involved in the process.....NDA should own and drive the process of dental amalgam phase down.” ~ Prof.

Matthew Sede, School of Dentistry, University of Benin²²

²² Prof Matthew Sede Edo State Stakeholder Forum on ‘Phasing down Dental Amalgam Use’ held on 31 October 2017

Annexes

Annex 1: the list of participants At Nigerian Stakeholders' Forum on Phasing down of Amalgam Use on 21st May 2014, at the Conference Hall, Bolton White Hotels, Abuja.

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	Dr. Mrs Adebimpe			

Annex 2: List of NGOs and African countries represented at the Abuja declaration

S/N	COUNTRY	ORGANISATION
01	Benin	GAPROFFA
02	Côte d'Ivoire	JVE COTE D'IVOIRE
03	Ghana	Ecological Restorations
04	Nigeria	SRADev Nigeria
05	Senegal	PAN AFRICA
06	Tanzania	AGENDA for Environment and Responsible Development (AGENDA)
07	Nigeria	Consumer Campaign Foundation
08	Nigeria	SEDI Nigeria
09	Cameroon	CREPD
10	Burundi	Propreté, Environnement et Santé "P.E.S."
11	Tanzania	Environment, Human Rights Care and Gender Organization (ENVIROCARE)
12	Mauritius	Pesticide Action Network (PANeM)
13	Uganda	Uganda Network on Toxic Free Malaria Control (UNETMAC)
14	Tanzania	Tanzania Association of Public, Occupational and Environmental Health Experts (TAPOHE)
15	Tanzania	ASP (T) Network
16	Nigeria	The Movement for the Survival of the Ogoni People (MOSOP)
17	Tanzania	Foundation HELP
18	Kenya	ECO-Ethics Kenya
19	Tanzania	Tanzania Consumer Advocacy Society (TCAS)
20	Ethiopia	Pesticide Action Nexus (PAN) Ethiopia
21	Ghana	Environment Youth Action Network (EYAN)
22	Nigeria	Gender and Environmental Right Initiative
23	Tanzania	Irrigation Training and Economic Empowerment Organization (IRTECO)
24	Nigeria	Friends of the Environment (FOTE)
25	South Africa	Earthlife Africa – Cape Town
26	South Africa	Institute for Zero Waste in Africa (IZWA)
27	Kenya	PSR Kenya
28	Uganda	Earthsavers Movement Uganda Chapter
29	Mauritius	Development Indian Ocean Network (DION)
30	Uganda	Pro-biodiversity Conservation in Uganda (PROBICOU)
31	South Africa	Groundwork

Annex 3: WORKSHOP ON PHASEDOWN OF DENTAL AMALGAM USE IN LAGOS STATE

Venue: Westown Hotel, Ikeja

Date: Tuesday, 23rd February 2016.

ATTENDANCE SHEET

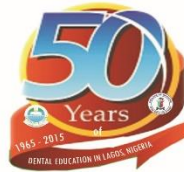
S/N	NAME	ORGANISATION	DESIGNATION
1.	Dr Loto A.O.	LASUCOM/LUTH	Snr. Lecturer
2.	Miss Oguntominyi Busolami	LUTH	Dental Nurse
3.	Mrs Fadayomi	LUTH	Dental Nurse
4.	Dr Lanre Oginni	CCF	Exc. Director
5.	Dr Tom Aneni	SEDI	Director
6.	Dr Jokodola	Ogun HMBB	Consultant
7.	Chike Chiwendu	FOTE	Director
8.	Akpan S.E.	LUTH	HOD Dental Nurse
9.	Dr O.A. Ijarogbe	CMUL/NDA	NDA President
10	Prof. G.R. Arotiba	CMUL/LUTH	Dean, Fds
11.	Dr Anthony Hutton	NAFDAC, Lagos	Rep. Of Director
12.	Kingsley Adegboye	Vanguard	Journalist
13.	Mr Akindele Olulana W.A.	Mod	Dental Therapist
14.	Dr Eugene Itua	SRADev	Director
15.	Dr Iyere Abisola	Contemporary Dental Clinic	Dentist
16.	Fabunmi Victor	SRADev	Project Officer
17.	Olukoya L.A.	Dental Clinic	P.Dentist
18.	Dr Emeka C.I.	Dental Clinic	Dentist
19.	Ahaneku C. Peter	NEST, Ibadan	Programme/Admin Officer
20.	Nkoli Omhoudu	AIT	Reporter
21.	Matemi Abiodun	AIT	Cameraman
22.	Dr Aiyenimelo K.M.	Ebhc	Dental Officer
23.	Mrs Mbah Adaora	Consumer Protection	Scientific Officer
24.	Dr Aina-Badejo.O.M.	445, NAF Hospital Ikeja	Dentist
25.	Dr Fatile A.J.	445, NAF Hospital Ikeja	Dentist
26.	Dr. Shoyomi K.N.	Benjo Dental Clinic	Dentist
27.	Dr. Pedro Abiola	Snowwhite Dental	Dentist
28.	Kayode Aboyeji	Newswatch	Reporter
29.	Philip Jakpor	Environmental Right Action	Reporter
30	Dr. Obiora Chinwuba	Fmc, Ebuttemetta	Dentist
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34.	Mrs Kofo Asekun	LUTH	Chief D/ Therapist
35.	Dr Okah John	Bluelace Dental	Dentist
36.	Prof F.A. Oredugba	LUTH	Paed Dentist
37.	Dr Enone L.L.	LASUTH	Restorative Dentistry
38.	Dr Akinleye A.I.	LASUTH	Consultant Family Dentist
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49.	Zion Thompson	RTM	Chief Consultant
50.	Mrs. Adejo Tolu	Ministry of Environment	Scientific Officer

51.	Mrs. Raji Titilayo	Ministry of Environment	CSO
52.	Dr. Thompson	E.D. Dental	Dentist
53.	Dr. Oyedokun	Quo Plus Health Services	Executive Director
54.	Leo Ezekiel	Press	CEO
55.	Dr. Azuara	Ave Dental	Dentist
56.	Dr Oparemi	Federal Medical Centre	Dentist
57.	Omogbadegun M.	Federal Medical Centre	Dental Nurse
58.	Edith T. Iriruage	WAMASAN	Admin Sec.
59.	Umor Ofofon	Enviro News	Journalist
60.	Dr. Idris Goji	FMEEnv	Deputy Director
61.	Prof Awele Maduemezia	SRADev	Director
62.	Leslie Adogame	SRADev	Executive Director

Annex 4: List of attendees at the symposium



SRADev Nigeria



World Alliance
for Mercury-Free
Dentistry

Faculty of Dental Sciences, College of Medicine,
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SYMPOSIUM

PHASE DOWN OF MERCURY AMALGAM IN NIGERIA

LIST OF PARTICIPANTS

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Annex 7**WORKSHOP ON PHASE-DOWN OF DENTAL AMALGAM USE IN EDO STATE**

Theme: `Towards Mercury-Free Dentistry in Dentistry in Edo State`

Venue: WHARC Event Centre, Benin Date: Tuesday, 31 October 2017

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