ATTACHMENT C

February 3, 2010

To: Kay Graham for

Donald Schwarz, MD, MPH
Health Commissioner
Philadelphia Dept of Health

Dear Dr.Schwarz:

re: Review of Risks of Mercury Dental Amalgam - Fact Sheet

Thank you for the opportunity to submit suggested revisions to the Amalgam Mercury Dental Filling Fact Sheet approved by the Department of Health during the February 10, 2009 Board Meeting.

Although the brochure is an important first step in creating public awareness about the potential harm of amalgam fillings, it does not accurately inform consumers of the health risks from placing mercury fillings into the body. Based on the evidence of toxicity contained in the scientific research submitted, the fact sheet is vague, incomplete and inaccurate. It, therefore, does not c*ontribute to a patient's ability to make an informed decision when choosing between the use of dental amalgam which contains mercury or an alternative material in a dental procedure* as stipulated in Councilwoman Reynolds Brown's bill..

We recommend that the information contained in the consumer fact sheet reflect the continual toxic exposure to mercury vapor emanating from amalgam fillings under normal chewing compression, and its toxic effect on the kidneys, immune system, pregnant women and the fetus.. As noted in the submitted Affidavit of Dr. Boyd Haley, 80% of inhaled mercury vapor is retained by the human body and that the major contributor of mercury to human body burden is from dental amalgam. This position of the World Health Organization is evidenced in their recent studies showing that released mercury vapor from dental amalgams

setting quietly in sealed test tubes is in the range of 4 to 21 ur/cm2/day. In another study, it was estimated that “The integrated daily mercury dose absorbed from amalgam was estimated up to 3 microg for an average number of fillings and 7.4 for a high amalgam load.”

Also indicated in Dr .Haley’s research, air and oral ingestion of mercury vapor primarily effect the central nervous system whereas the kidney is the major organ affected by the cationic forms of mercury. Haley notes, added to this problem is the fact that prolonged mercury vapor exposure can lead to inhibition of the mercury excretion process itself. Therefore, extended exposure to mercury from amalgams will, by itself, decrease the body’s ability to excrete mercury. See his comments re: Children’s Amalgam Trial.

In the 2009 study by Dr. Lars Barregard**,** *Cadmium, mercury, and lead in kidney cortex of living kidney donors: Impact of different exposure sources* ,it indicated that the kidneys is a major target of mercury from amalgams:

> "Kidney Hg increased by 6% for every additional amalgam surface, but was not associated with fish consumption. Lead was unaffected by the background factors surveyed. CONCLUSIONS: In Sweden, kidney Cd levels have decreased due to less smoking, while the impact of diet seems unchanged. Dental amalgam is the main determinant of kidney Hg."

Haley also points to the connection between exposure to mercury and immunotoxicity. “Namely, mercury can serve as a co-factor in autoimmune disease in the presence of other triggering events, either genetic or acquired.” He notes that mercury toxicity is a retention toxicity, where mercury is extracted from the blood and retained in certain tissues, leading to elevated levels that can cause illnesses.

> In the Laks 2009 study submitted: "The results indicate that due to chronic mercury exposure, inorganic mercury deposits accumulate in organs of the human body, in a time dependent manner. This study indicates that I-Hg deposition within the human body is significantly associated with biomarkers for the main targets of chronic mercury exposure, deposition and effect: the liver, immune system, and pituitary. ,,,,The evidence presented in this study indicates that effects of chronic mercury exposure within the US population may result in a significant rise over time in the population risks of associated neuro-developmental and neurodegenerative diseases."

The scientific evidence presented in Haley's paper and several others found that only mercury could cause a major biological abnormality in a major brain protein when added to normal human brain tissues or in rat brain on exposure to mercury vapor, a major pathological diagnostic hallmark of Alzheimer's disease.

Further, Haley presents studies indicating that mercury in dental amalgams in a pregnant mother increases
The exposure of the in utero infant to elevated mercury vapors as it dramatically increases the mother's blood mercury levels. He notes, that "there can be little doubt that the exposure of a pregnant mother to mercury vapor by aggressive dental amalgam treatment could cause harm to her infant in utero."

Considering the submitted evidence of risk, it would be prudent for the Dept of Health to revise the Amalgam Patient Fact Sheet to include, at the very least, the Warnings and Contraindications included in the Amalgam Materials Safety Data Sheet as follows:

Prop 65

- This product contains mercury, which is known by the state of California to cause birth defects or other reproductive harm.

Contraindications:

The use of amalgam is contraindicated:

- In proximal or occlusal contact to dissimilar metal restorations.

- **In patients with severe renal deficiency.**
- In patients with known allergies to mercury amalgam.
- For retrograde or endodontic filling.
- As a filling material for cast crown.
- **In children 6 and under.**
- In expectant and nursing mothers.

Precautions:
The number of amalgam restorations for one patient should be kept to a minimum.

Side Effects and Warnings
- Mercury may also be a skin sensitizer, pulmonary sensitizer, nephrotoxin and neurotoxin.
- Removal of clinically acceptable amalgam restorations should be avoided to minimize mercury exposure, especially in expectant mothers.
- Health hazards (acute and chronic). Mercury poisoning is usually chronic.
- The number of amalgam fillings for one patient should be kept to a minimum.
- Exposure to mercury may cause irritation to skin, eyes respiratory tract and mucous membranes.
- Mercury expressed during condensation and unset amalgam may cause amalgamation or galvanic effect if in contact with other metal restorations. If symptoms persist, the amalgam should be replaced by a different material.

Dental personnel should also be made aware of their occupational exposure to mercury vapors. It has been well documented that among other symptoms, female dental personnel have a high percentages of miscarriages, infertility and neurological problems.

Considering these warnings, we strongly recommend that the current brochure be amended to include these facts, and any other necessary information to afford patients the ability to make educated decisions. We encourage patients to read and understand the information presented in the brochure before agreeing to any dental treatment. If they have concerns related to the use of mercury fillings or they would prefer composite fillings, we suggest conferring with their dentist, but to ultimately make their own decision.

We also request that disadvantaged patients be informed that Medicaid insurance does pay for white composite fillings. This fact had been eliminated by

the Dept of Health from the original adopted brochure. We ask that the following be reinstated in the brochure: “There may be a cost difference between resin composite and dental amalgam, however, many insurance providers, including Medicaid provide coverage for resin composite fillings,”.. Patients should be made aware of this.

Sincerely,

Freya B.Koss
For Consumers for Dental Choice