

Legislative Analysis



DENTAL AMALGAM: SEPARATE FROM WASTEWATER

Mitchell Bean, Director
Phone: (517) 373-8080
<http://www.house.mi.gov/hfa>

House Bill 6307 (Substitute H-1)
Sponsor: Rep. Marie Donigan
Committee: Health Policy

First Analysis (10-27-08)

BRIEF SUMMARY: The bill would require dentists to install equipment to separate dental amalgam from wastewater; require the Michigan Board of Dentistry to promulgate rules regarding dental amalgam collection, disposal, and recycling; make a violation grounds for investigation by the Department of Community Health; and preempt local control of amalgam waste.

FISCAL IMPACT: House Bill 6307 will have modest state fiscal implications for the Board of Dentistry in the Department of Community Health. A more detailed discussion follows later in the analysis.

THE APPARENT PROBLEM:

Amalgam has been used by dentists for decades to fill cavities. It is made by blending elemental liquid mercury with silver, tin, copper, zinc, and other metals; mercury makes up about 50 percent of the amalgam and acts as the binding agent. Amalgam waste is generated when dentists use amalgam to fill cavities or when they remove an old filling or extract a tooth with an amalgam filling. Chairside traps and pump filters remove the larger pieces of the amalgam waste, but finer particles get suspended in the wastewater and discharged to the sewer. From there it travels to municipal sewage treatment plants. At the treatment plant it concentrates in sludge or biosolids. Since municipalities incinerate these compounds or use them as soil amendments (e.g., to grow crops or provide nutrients and soil conditioning for mine reclamation projects, forest land, and tree farms), the mercury and silver from the amalgam is released into the environment where it pollutes streams, lakes, and groundwater.

Under federal laws and regulations, states must promulgate water quality standards to control toxic pollutants. In Michigan, anyone discharging, or proposing to discharge, waste or wastewater into the state's surface waters must obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Department of Environmental Quality. According to the DEQ website, the "NPDES program regulates pollutants discharged directly into waterways from wastewater sources." A municipality can be cited if it violates the mercury limits of its NPDES permit.

Nationwide, dental offices have been identified as a significant source of mercury that ends up in municipal sewage treatment facilities. Several years ago, the American Dental Association (ADA) developed its Best Management Practices for Amalgam Waste and

encouraged its members to voluntarily implement the identified practices as a means of reducing the amount of mercury and other toxic substances contained in amalgam waste. In October 2007, the ADA updated these Best Management Practices to include using an amalgam separator to capture waste amalgam from wastewater before it reached sewers. According to information on the ADA's website, amalgam separators can capture at least 95 percent of amalgam waste that would otherwise enter the sewer and flow to a municipal treatment plant. A dental office relying only on the Best Management Practices can capture at most about 80 percent of waste amalgam.

Recently, several states and local municipalities have enacted laws or local ordinances requiring dental offices to install and use amalgam separators as a means of reducing mercury and silver in sewage sludge. Legislation has been offered to do the same in Michigan.

THE CONTENT OF THE BILL:

House Bill 6307 would add a new section to the Public Health Code (MCL 333.16631) to require, as of December 31, 2013, a dentist have installed and be using -- on each wastewater drain used to discharge dental amalgam -- a separator with an efficiency of 95 percent or more as specified in the bill. The requirement would apply to dentists who use dental amalgam and to dentists who remove it. The bill would not apply to oral and maxillofacial surgeons and radiologists, oral pathologists, orthodontists, periodontists, or to dentists while providing services in a dental school or hospital.

No later than 90 days after the bill's effective date, the Michigan Board of Dentistry would be required to promulgate rules regarding best management practice for dental amalgam collection, disposal, and recycling. Rules would also have to be promulgated regarding the retention and inspection of dental office records on the type of amalgam separator installed, the method used to dispose of or recycle the amalgam waste collected, shipping and delivery records documenting the transfer of amalgam waste to licensed recyclers or disposers, the maintenance of the separator, and compliance with best management practices.

A dentist who did not install and use an approved dental amalgam separator would be subject to the provisions of Section 16221, which authorizes the Department of Community Health to investigate listed activities and report its findings to the appropriate disciplinary subcommittee for possible administrative sanctions.

Further, beginning on the bill's effective date, the bill would preempt and supersede any local ordinance, regulation, or resolution that imposed conflicting, different, or additional standards or requirements on dentists from those contained in the bill or departmental rules. The bill would also prohibit a local unit of government from enacting, adopting, maintaining, or enforcing an ordinance, regulation, or resolution imposing conflicting, different, or additional standards or requirements on dentists, including requiring a permit with a stricter limitation on the discharge of mercury into wastewater than that capable of being achieved by full compliance with the bill.

BACKGROUND INFORMATION:

Mercury makes up about 50 percent of amalgam, a substance used to fill dental cavities. It is considered to be safe, affordable, and more durable for chewing than alternatives like composites and porcelain. However, chewing is known to release small amounts of mercury vapor. This has led some to believe that inhaling mercury vapor released by amalgam fillings is hazardous to a person's health and may trigger some illnesses. The controversy over possible adverse health effects continues despite numerous research studies supporting the safety of amalgam fillings.

To date, peer-reviewed, scientific studies have not found an association between the mercury released from amalgam fillings and organ damage or systemic or neurological diseases, such as multiple sclerosis and Alzheimer's disease. A review conducted by the Life Sciences Research Office found that "individuals with dental amalgam-attributed complaints had neither elevated urinary mercury nor increased prevalence of hypersensitivity to dental amalgam or mercury when compared to controls." (The full report is available at www.lsro.org.) More recently, a Scientific Committee of the European Commission concluded that "dental amalgams are effective and safe, both for patients and dental personnel." The commission also noted that "alternative materials are not without clinical limitations and toxicological hazards." (This information was derived from the American Dental Association Positions and Statements posted on its website, www.ADA.org.)

FISCAL INFORMATION:

House Bill 6307 will have modest state fiscal implications for the Board of Dentistry in the Department of Community Health. Costs to the Board will include the promulgation of rules regarding best management practices for dental amalgam collection, disposal, and recycling, and for the retention and inspection of related dental office records. Costs may also be increased to the Department for inspection of dental office records.

The price of this equipment is approximately \$500-\$3,000 per installation and \$500-\$1,000 annually to maintain according to the Michigan Dental Association and Michigan Department of Environmental Quality.

Because some dental practices may already meet these requirements, and because the costs to comply for those that do not meet them are relatively modest, it is not anticipated that state costs would be affected for dental services to persons covered by Medicaid and public medical assistance programs.

Installation and maintenance of this type of equipment may be a new cost for local public health departments that operate dental clinics. There are currently about 13 local health departments with 27 clinics according to the Michigan Department of Community Health.

The significant intent of the bill to contribute to the reduced exposure to and use of mercury, while imposing costs, also will create long term savings by reducing the impact of mercury exposure on public health.

Recent data indicate that approximately 7,850 dentists are licensed in Michigan.

ARGUMENTS:

For:

Since late 2007, the American Dental Association has encouraged dentists to voluntarily install and use amalgam separators to capture toxic wastes before entering the sewer systems. Reportedly, amalgam waste - which is 50 percent mercury - has been a significant source of mercury getting into the environment and polluting soil, lakes, streams, groundwater, and fish. Dental offices using an amalgam separator can capture almost all of the mercury and silver that otherwise would travel to municipal sewer treatment plants or be dumped directly into the state's waterways. The waste collected by an amalgam separator can then be responsibly recycled.

According to information on the ADA's website, most dentists are in support of the association's best practices model and many have already voluntarily installed amalgam separators. However, when municipalities adopt local ordinances, a patchwork system of differing regulations can arise. Since many dentists have offices in more than one locale, dealing with differing regulations can be confusing and burdensome.

The bill would create a uniform requirement statewide that would implement the ADA's Best Management Practices recommendation of installing an efficient separator. Most importantly, the bill's requirement would protect Michigan residents and visitors by reducing the amount of mercury and silver discharged into the environment by those dentists who have been slow to act on the ADA's recommendations.

For:

Amalgam separators are manufactured in different sizes to fit the need of a dental office. For example, a small separator may accommodate up to four chairs, whereas larger models can handle the waste generated by up to 40 chairs. According to committee testimony offered by a representative of the Michigan Dental Association, the cost to dentists to initially purchase and install an approved separator would most likely range from \$500 to \$3,000 depending on the size of the practice. Ongoing costs to maintain the equipment, such as the replacement of collection tanks, is reasonable. Therefore, the bill is not expected to pose a hardship for dentists.

For:

Since some studies have found dental practices to be a significant source of mercury and other toxic substances being discharged to city sewage plants or directly to the state's waterways, dentists should be held responsible to purchase and install equipment to reduce or eliminate the release of these pollutants into the environment. Considering the deleterious health effects of these substances, it is unconscionable for any dentist to

ignore the American Dental Association's Best Management Practices that call for all practitioners to install amalgam separators. Since many dentists are already using the separators, the bill would only affect those who have been slow to respond to the ADA's recommendations.

Against:

Federal laws require municipalities to impose restrictions on the types and amounts of toxic wastes and pollutants that businesses can send to wastewater treatment facilities. Some locals have therefore developed standards and programs to address the problem of mercury from amalgam waste generated from dentists' offices. The bill, however, by superseding and preempting local regulations, would conflict with the federal mandates and invalidate local programs and controls. In a nutshell, municipalities would still be subject to sanctions from state and federal regulators if the mercury levels in waste sludge were too high, but would have their hands tied regarding the mercury contributed from dental practices. If uniform regulations are needed, it would be better if the Department of Community Health and/or the Department of Environmental Quality drafted the rules rather than relying on a private professional association's specification of an amalgam separator, as the bill does.

POSITIONS:

The Department of Community Health supports the bill in concept. (9-25-08)

The Michigan Dental Association supports the bill. (9-25-08)

The Michigan Environmental Council supports the bill. (9-25-08)

A representative of the City of Wyoming indicated opposition to the bill. (9-25-08)

Legislative Analyst: Susan Stutzky
Fiscal Analyst: Susan Frey

■ This analysis was prepared by nonpartisan House staff for use by House members in their deliberations, and does not constitute an official statement of legislative intent.