

Mercury Pollution Prevention in Healthcare Initiative

Erie County Department of Environment & Planning

Western New York Healthcare Association

Buffalo Sewer Authority

Funding provided by

USEPA Region 5

Great Lakes National Program Office

Mercury Pollution Prevention in Healthcare Initiative

A two year, technical assistance mercury pollution prevention implementation project.

Goal:

To partner with four area hospitals to develop, implement and measure the success of mercury pollution prevention and reduction strategies tailored to the specific needs of each facility.

Why four hospitals?

A Pilot Study

The four participating hospitals were representative of the larger entities and therefore, provided efficient dissemination of both the project results and further participation.

Project results serve as local case studies to be used within and between the county, state, catholic and private systems.

Mercury Pollution Prevention in Healthcare Initiative

Primary Objectives:

- 1. Eliminate mercury from healthcare waste stream**
- 2. Phase out mercury products**



Why Mercury in Healthcare Facilities?

Intentional use of mercury has been declining since the early 1970s, however, medical facilities continue to have a high rate of usage.

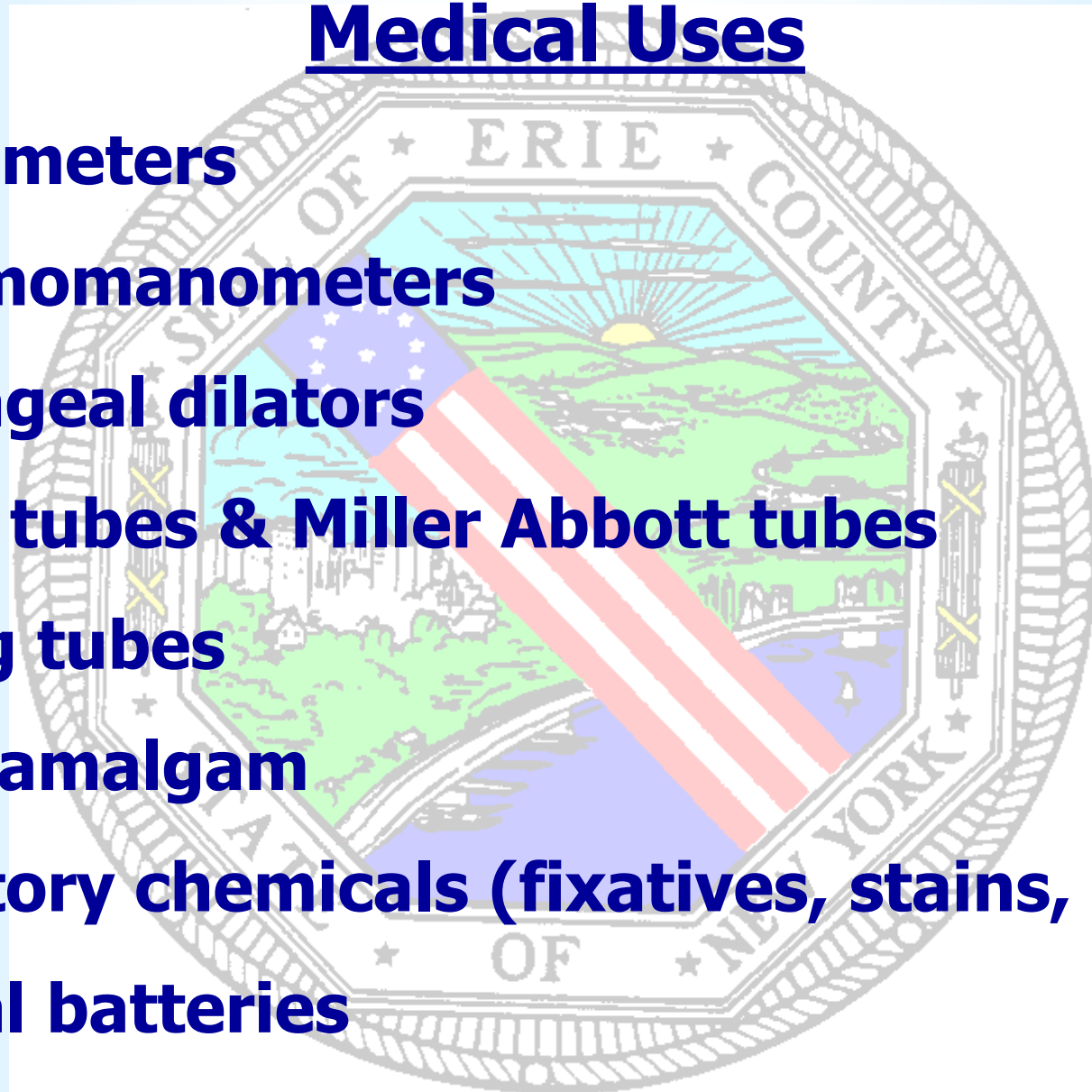
Where is Mercury found in a hospital?

Everywhere!

Mercury in Healthcare Facilities

Medical Uses

- thermometers
- sphygmomanometers
- esophageal dilators
- Cantor tubes & Miller Abbott tubes
- feeding tubes
- dental amalgam
- laboratory chemicals (fixatives, stains, reagents)
- medical batteries



Mercury in Healthcare Facilities

Non-Medical Uses

- **pressure gauges**
- **non-electronic thermostats**
- **some electrical switches for lights & appliances**
- **fluorescent lamps & high intensity lamps**
- **batteries**
- **cleaning solutions**

Mercury P2

Benefits to Participants

- **Reduces occupational exposure & releases to the environment;**
- **Minimizes costs associated with use e.g. disposal, recycling, spill response, environmental & employee liability;**
- **Avoids increased regulation in the future;**
- **Enhances public image: preventative medicine for public health.**

The Work Plan

Phase I

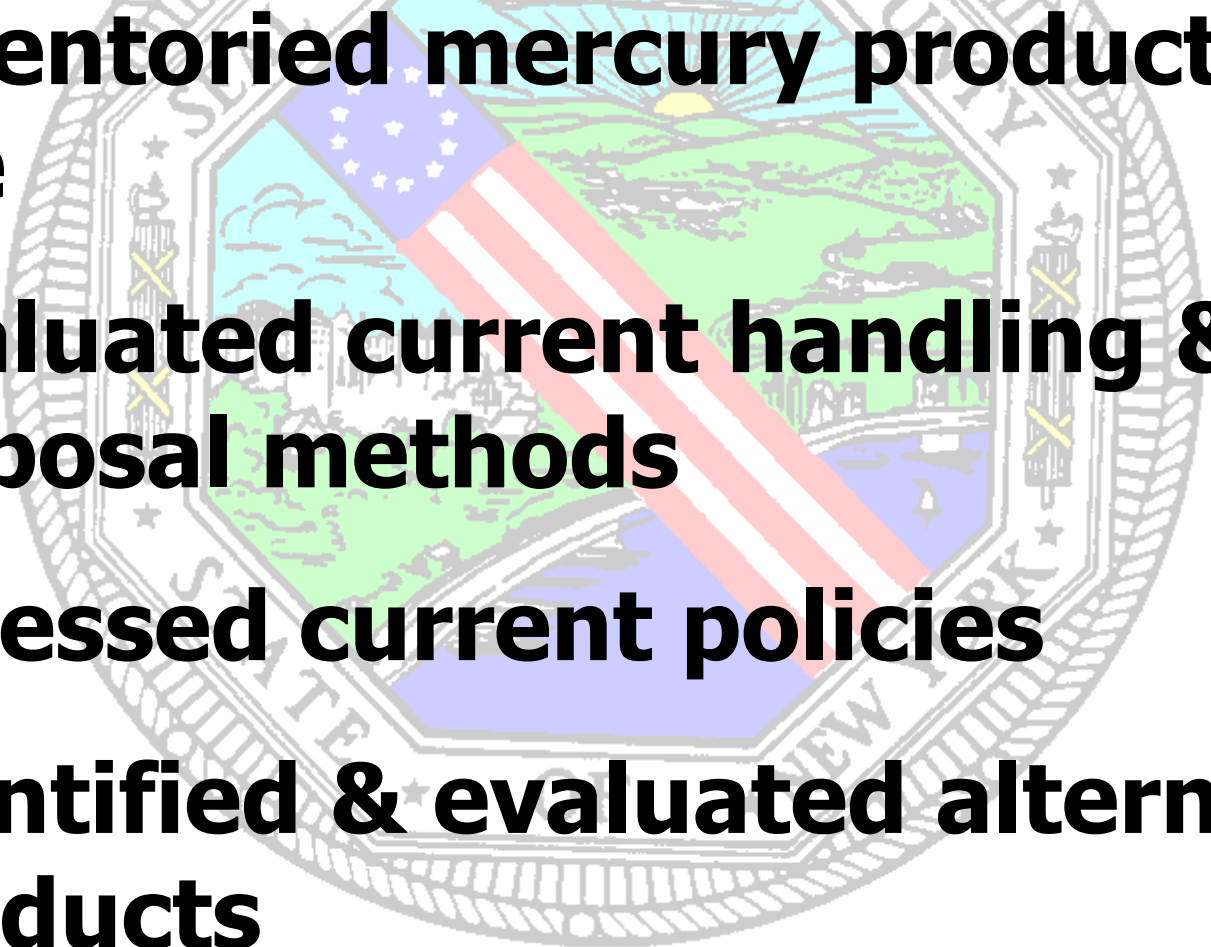
Mercury Awareness & Education

- **outreach to Safety Committee**
- **employee thermometer exchanges**
- **outreach via newsletter, webpage, display**
- **participation in safety demos and information events**

The Work Plan

Phase II

Identified Current Mercury Use & Storage

- **inventoried mercury products in use**
 - **evaluated current handling & disposal methods**
 - **assessed current policies**
 - **identified & evaluated alternative products**
- 
- The seal of Erie County, New York, is visible in the background. It features a central shield with a landscape scene including a sun, a river, and a bridge. The shield is surrounded by a circular border with the text "SEAL OF ERIE COUNTY NEW YORK".

The Work Plan

Phase III

Established Goals & Policies

- **commitment to U.S. EPA/AHA Memorandum of Understanding**
- **recommendations for mercury-free products**
- **cost analysis for replacing mercury products**

The Work Plan

Phase III

Established Goals & Policies

- **timetable for replacement**
- **identified non-replaceable mercury items**
(e.g. fluorescent lighting)

The Work Plan

Phase IV

Implementation

- **eliminated mercury-containing products**
- **established purchasing policies**
- **continued staff education**

The Work Plan

Phase V

Measure Success: Determine Total Mercury Reduction Achieved

- **determined reductions in mercury products purchased**
- **departmental assessment survey**

Mercury P2 Results

Employee Awareness & Education

- ✓ **An overview of the mercury pollution prevention program was presented to department managers at a Safety Committee meeting**

Mercury P2 Results

Employee Awareness & Education

- ✓ **Newsletter submissions & Intranet postings provided employees with background information on mercury pollution and were used to introduce & update the program.**

Mercury P2 Results

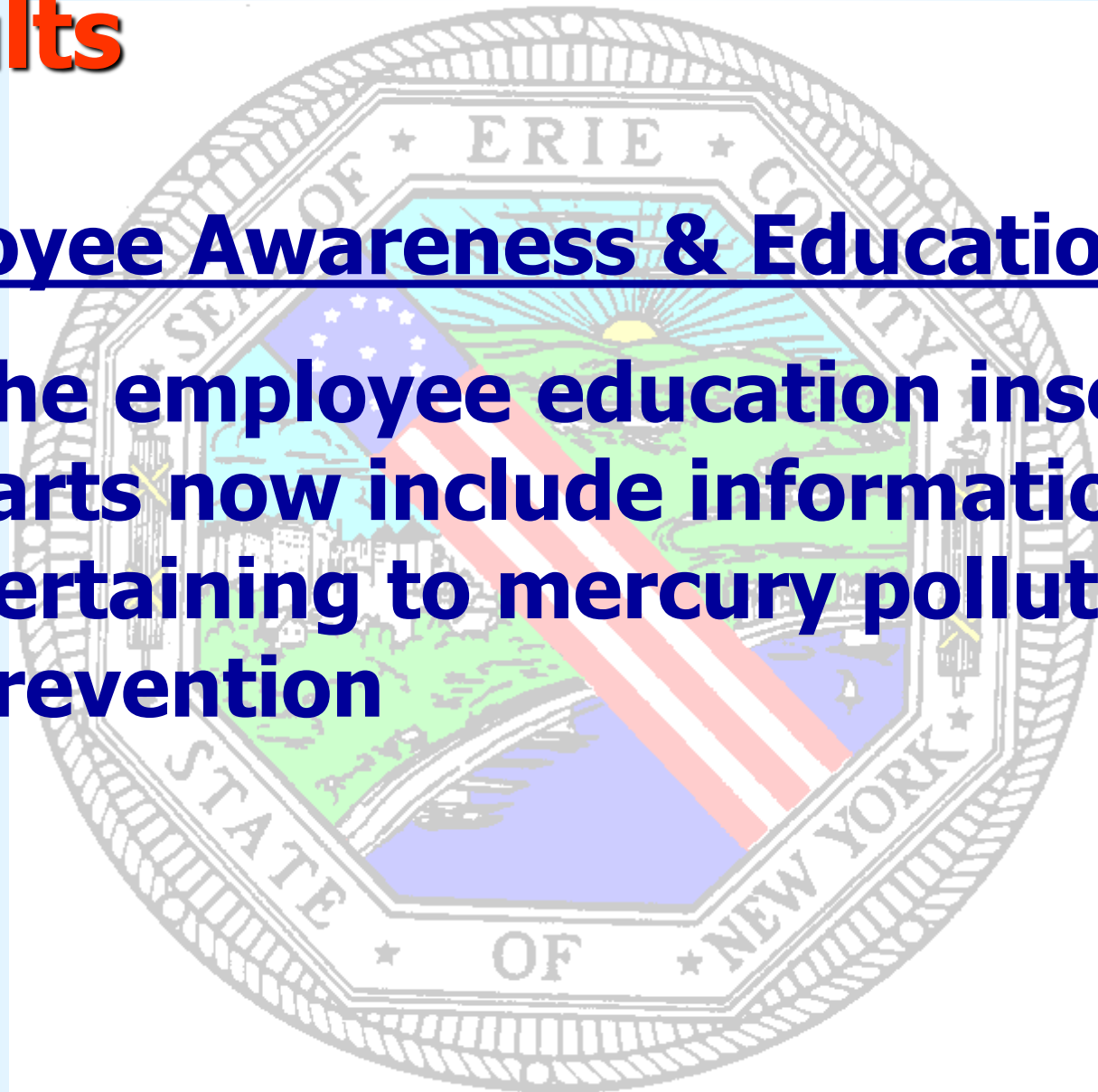
Employee Awareness & Education

- ✓ **Thermometer exchanges offered employees an opportunity to trade their household mercury fever thermometers for a mercury-free thermometer.**
- ✓ **949 thermometers were collected from hospital employees**

Mercury P2 Results

Employee Awareness & Education

- ✓ **The employee education inservice carts now include information pertaining to mercury pollution prevention**



Mercury P2 Results

Thermometers

- ✓ **eliminated mercury thermometers from patient care packages**
- ✓ **identified alternatives for isolation units**
- ✓ **discontinued use of mercury thermometers for patient care**

Mercury P2 Results

Thermometers

- ✓ phasing out mercury thermometers in laboratories
- ✓ Visiting Nurses Association no longer providing mercury thermometers to patients
- ✓ eliminated purchase of ~1,800 thermometers per year

Mercury P2 Results

Sphygmomanometers

- ✓ replaced ~1,456 mercury sphygmomanometers with aneroid models
- ✓ will phase out use of the remaining units as well



Mercury P2

Results

Gastrointestinal Tubes

- ✓ replaced mercury-weighted tubes with tungsten-weighted models
- ✓ eliminated purchase of ~930 tubes annually
- ✓ no longer use mercury esophageal dilators



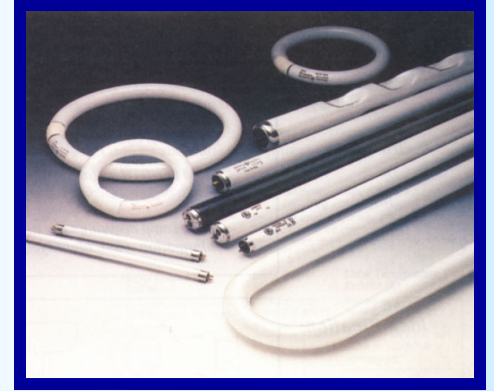
Mercury P2 Results



Dental Amalgam

- ✓ implemented recycling programs for amalgam waste (~5lbs. /year)
- ✓ no longer dispose amalgam as Regulated Medical Waste

Mercury P2 Results



Fluorescent Lamps

- ✓ **implemented programs to recycle spent fluorescent lamps**
- ✓ **eliminated fluorescents from the solid waste stream**

Mercury P2 Results



Batteries

- ✓ **all batteries, mercury-containing and non-mercury diverted from the solid waste stream and collected for recycling**

Other Accomplishments

- ✓ **implemented lead foil recycling**
- ✓ **established or enhanced solid waste recycling programs**
- ✓ **established a relationship with Intervol to collect unused durable equipment, surgical supplies and surgical packaging for reuse**

Mercury P2

Future Direction

- ✓ **Continue to phase out remaining mercury products**
- ✓ **Eliminated future purchases**
- ✓ **Continue employee awareness & education**
- ✓ **Extend to other hospitals & facilities**

Solution to Pollution?

P2

Pollution Prevention

Protection of the environment & preserving ecosystems are the most fundamental steps in preventing human illness.