

## CERAMIC AND POTTERY COOKWARE: A POTENTIAL SOURCE OF Pb

ON JULY 5, 1998, the Health Division was notified by the Walla Walla (Wash.) City Health Department that a local resident had purchased a glazed terra cotta bean pot at a Mexican bakery in Milton-Freewater, Oregon, and cooked beans in it. This would not ordinarily be cause for a health advisory, but between mouthfuls the consumer had noticed silver flakes in the beans, and that the lid to the pot had turned a shiny silver. The bottom of the pot was marked, "Not for Food Use," but this had been overlooked or ignored. The purchaser had been advised by the retailer to "cure" the pot with a salt water bath prior to cooking, which she had done.

The Washington Department of Health tested the pot using standard FDA procedures. The lid leached 1217 mg/l lead—over 1000 times the FDA regulatory guidelines of 1 mg/l lead for holloware. (The limit is 0.5 mg/l for pitchers, cups, and mugs; 3.0 mg/l for plates.) Although the FDA regulates the importation of these products, certain items may be allowed to exceed the guideline if they are designed for a solely decorative purpose and are permanently labeled "Not for Food Use—May Poison Food" on the bottom of the product. Other items must be rendered physically unusable for food use by drilling holes in the bottom or other means if they do not meet this decorative use exception. Unfortunately, some of these items are imported illegally, intentionally misclassified to escape scrutiny, or are altered once in the United States to hide the warning statement.

### "1000 ISLAND, ITALIAN, EDTA?"

OHD personnel collected representative products (bean pots, cups, pitchers, serving bowls, plates, etc.) from Mexican *mercados* or *tiendas* in Portland, Medford, Woodburn, Umatilla, and Walla Walla. The pottery was analyzed at the Oregon DEQ lab. Of the 13 pieces tested, 11 (85%) exceeded the FDA

limits. One green pitcher, sold for use with orange juice, had 880 mg/l of leachable lead. A 4-bowl condiment serving dish, used for salsa, guacamole and other condiments, leached 6290 mg/l of lead. The worst was a salad plate: 9170 mg/l.

### DISCUSSION

These terra cotta pots and other traditional ceramic products are widely distributed throughout Oregon and Washington. The pottery, made of red or white clay, may be glazed on the interior or exterior, and is often painted with colorful designs and flowers on the outside; some pieces have a dark green glaze. Many people, particularly Latinos, may use them to cook beans or serve traditional foods like salsa; or will use pitchers to hold orange juice, other acidic beverages, or water. Some of this pottery is labeled "not for food use," but the labels may be missing or ignored. Some retailers have erroneously reassured consumers that the pots can be made safe by various methods of preparation or "curing" such as boiling salt water, lemon juice, or milk in them.

Consumption of food prepared or stored in improperly fired ceramic pottery is a known cause of lead exposure and has caused dangerously high levels in children—sometimes after only brief use. For example, the blood lead level of a seven-year-old child of a US Embassy worker in Mexico City soared from 23 to 95 µg/dl after drinking fruit punch stored in a ceramic pitcher over a 3–4 day period.<sup>1</sup> Some of the products collected in the local area demonstrated very high levels of leachable lead. These products cannot be made safe for food or beverage use by "curing" or other treatment methods and should not be used for food preparation, serving, or storage.

### ACTION

Patients presenting with complaints compatible with lead toxicity should be questioned regarding the use of ceramic pottery for food or beverage preparation

or storage. Traditional ceramic vessels common to other non-Hispanic ethnic groups also pose a risk of lead toxicity. Screening questions to identify children at risk of lead toxicity should include household use of these products. The special vulnerability of children from these and other sources of environmental lead underscores the need for blood lead screening in children to identify asymptomatic cases.

### REFERENCE

1. Matte TD, Proops D, Palazuelos E, Graef J, Hernandez Avila M. Acute high-dose lead exposure from beverage contaminated by traditional Mexican pottery. *Lancet* 1994;344:1064-65.

### For additional information:

- Environmental Defense Fund  
<http://www.edf.org/pubs/brochures/leadinchina>  
 National Lead Information Center  
<http://www.nsc.org/ehc/lead.htm>  
 U.S. Food and Drug Administration  
<http://www.fda.gov:80/opacom/backgrounders/lead.html>  
<http://www.fda.gov:80/opacom/catalog/leadspan.html> (Spanish)

### Causes of Mortality

*[Diseases] crucify the soul of man, attenuate our bodies, dry them up, wither them, shrivel them up like old apples, make them so many anatomies.*

—Robert Burton, 1576-1640

KEEPING Oregonians healthier longer is the goal of the public health community and private health care providers. Most physicians and other health care providers do this on a patient-by-patient basis. Public health, however, strives to improve the health of at-risk communities and groups through early intervention, education, and other activities. One indicator of the health of the community, and the most unequivocal, is its death rate. The Health Division's Center for Health Statistics annually compiles, tabulates, and analyzes mortality data for the state's residents.

Considerable reliance is placed on the death certificates completed by medical examiners and other physicians. Although death data are not perfect, no other health database is as universal in

coverage, and as standardized, uniform, and timely. Mortality data are often integral to establishing health policy. Many state and national health initiatives are measured in terms of mortality statistics; these data also serve as a key source for epidemiological studies. This is why, dear reader, it is vital that death certificates be completed as accurately and completely as possible.

**1997 TALLIES**

The total number of resident deaths declined last year by 222 to 28,678. The number of AIDS deaths fell from 223 to 80. For a decade or more, both diabetes and Alzheimer's disease death rates have shown a nearly inexorable increase, with a near doubling of rates for both diseases since 1987. At the same time, the total Oregon death rate has shown relatively little change (<1%).

**MEASURES OF MORTALITY**

Everybody dies eventually, but the timing and causes of death vary. These differences reflect changes in sanitation, behaviors, history, social structures, medical knowledge and the availability of health care, and everything else. Although death data are most commonly presented as rates (crude or age-adjusted), even simple tabulations provide an indicator of the health and characteristics of a community. Counting not only the individual deaths but summing the number of years of potential life each decedent lost before a standard age provides insight into the causes of death that lead to premature mortality. Age 65 is the most common cut-off used in calculating the years of potential life lost (YPLL).\*

\*Sorry, Grandma, you just don't count.

The OHD's Center for Health Statistics continuously updates and makes available new reports on its web site (<http://www.ohd.hr.state.or.us/statinfo.htm>). Another excellent source of mortality data is the CDC's WONDER site (<http://wonder.cdc.gov>) where users can calculate various death counts and rates (crude and age-adjusted) by cause, state, county, race, and age. Now that's fun.

- 1**
1. Unintentional injuries
  2. Cancer
  3. Heart disease
  4. Suicide
  5. Perinatal conditions
  6. Congenital anomalies
  7. Homicide
  8. Alcoholism
  9. Cerebrovascular disease
  10. SIDS

- 5**
1. Heart disease
  2. Cancer
  3. Cerebrovascular disease
  4. Accidents
  5. Influenza & pneumonia
  6. Bronchitis, emphysema
  7. Arteriosclerosis
  8. Diabetes
  9. Suicide
  10. Cirrhosis of the liver

- 2**
1. Tuberculosis
  2. Heart disease
  3. Accidents
  4. Pneumonia
  5. Cancer
  6. Senility
  7. Diarrhea and enteritis
  8. Bright's disease
  9. Cerebral congestion/hemorrhage
  10. Congenital debility

- 6**
1. Unintentional injuries
  2. Heart disease
  3. Cancer
  4. Perinatal conditions
  5. Cerebrovascular disease
  6. Homicide
  7. Diabetes
  8. Congenital anomalies
  9. Pneumonia & influenza
  10. Suicide

**Physician, Test Thyself!**

See if you can match the following causes of death rankings with the times and places:

- London, 1632
- Boston, 1810-20
- Oregon, 1904-06
- Oregon, 1940
- Oregon, 1970
- Oregon Hispanics, 1997
- Oregon YPLL, 1997

- 3**
1. Chromosomes and infants
  2. Consumption
  3. Fever
  4. Aged
  5. Flocks and small pox
  6. Teeth
  7. Abortive and stillborn
  8. Bloody flux and scowring
  9. Dropsie and swelling
  10. Convulsion

- 7**
1. Consumption
  2. Infantile Disease
  3. Typhus fever
  4. Pneumonia
  5. Old age
  6. Convulsions
  7. Dropsy
  8. Sudden death
  9. Dysentery
  10. Fever

- 4**
1. Heart disease
  2. Cancer
  3. Nephritis
  4. Intracranial lesions
  5. Accidents
  6. Pneumonia
  7. Tuberculosis
  8. Diabetes
  9. Premature birth
  10. Suicide

- Answers**
1. Years of potential life lost, Oregon, 1997
  2. Oregon, Oct. 1904-Apr. 1906
  3. London, 1632
  4. Oregon, 1940
  5. Oregon, 1970
  6. Oregon Hispanics, 1997
  7. Boston, 1810-1820