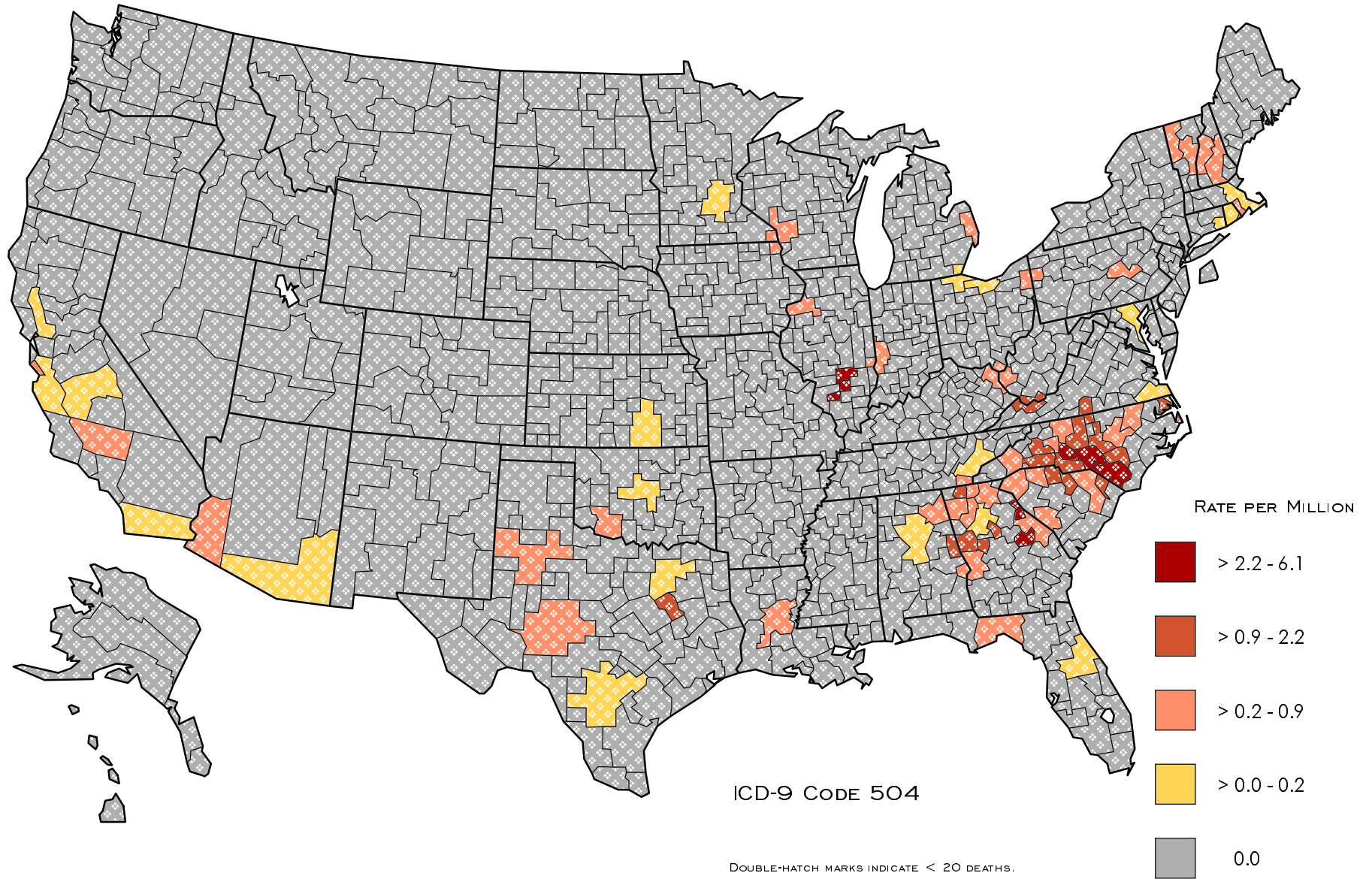
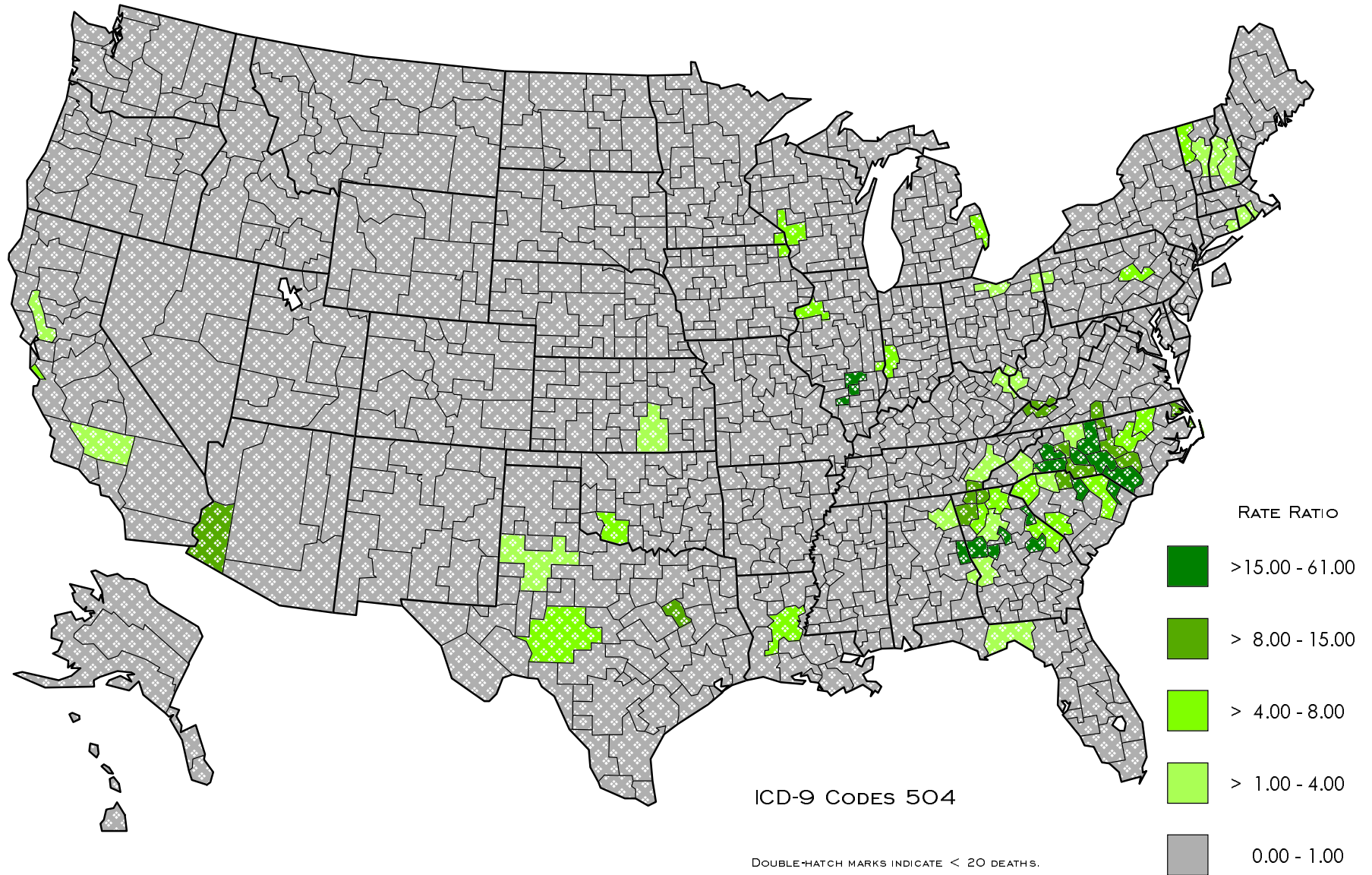


BYSSINOSIS
AGE-ADJUSTED DEATH RATES BY HSA
U.S. RESIDENTS 15 YEARS OF AGE AND OLDER, 1982-1993



BYSSINOSIS
DEATH RATES OF EACH HSA COMPARED WITH U.S. RATE
U.S. RESIDENTS 15 YEARS OF AGE AND OLDER, 1982-1993



Byssinosis (ICD-9 Code 504)

Pneumonopathy due to inhalation of other dust (ICD-9 code 504) refers primarily to byssinosis, an airway disease caused by exposure to cotton dust, flax, hemp, or sisal dust [Christiani 1991]. Respiratory disease among processors of vegetable fiber for textiles was first recognized by Ramazzini, the father of occupational medicine, who described dust from retted flax as a major occupational health problem. The term “byssinosis” has been applied both to the acute, reversible response to cotton dust inhalation and to the permanent shortness of breath with impaired function that develops after years of exposure [Kilburn 1992]. When diagnosed in late stages of the disease, affected individuals may be diagnosed as chronic obstructive pulmonary disease [Christiani 1991].

Substantial evidence suggests that inhalation of gram-negative bacterial endotoxin may cause byssinosis [Castellan 1997]. In the cotton textile industry, the prevalence of byssinosis has generally been found to be highest among workers employed in the initial stages of cotton processing (e.g., opening, carding) in mills that process a coarse grade of cotton; generally, these areas are associated with higher concentrations of dust. In the United States, approximately 500,000 workers are at potential risk, with perhaps half this number in jobs with potential high exposure [Christiani 1991]. Control of occupational exposures to dust in the cotton textile industry has reduced the risk of disease substantially in the United States [Merchant 1983].

References

- Castellan RM [1997]. Endotoxin as an etiologic agent of byssinosis: evidence from experimental and epidemiological studies involving human exposure to cotton dust. In: Fischer JJ, Domelsmith L, eds. Cotton and microorganisms. United States Department of Agriculture, Agriculture Research Service, ARS-138, pp. 145-158.
- Christiani, DC [1991]. Byssinosis. In: Weeks J, Levy BS, Wagner GR eds. Preventing occupational disease and injury. Washington, D.C.: American Public Health Association, pp. 188-194.
- Kilburn KH [1992]. Byssinosis and other disease of textile workers. In: Rom WN, ed. Environmental and occupational medicine. 2nd ed. Boston, MA: Little, Brown and Company, pp. 359-365.
- Merchant JA [1983]. Byssinosis: progress in prevention. Am J Pub Health 73: 137-139.

Toxic Inhalation Injury (ICD-9 Code 506)

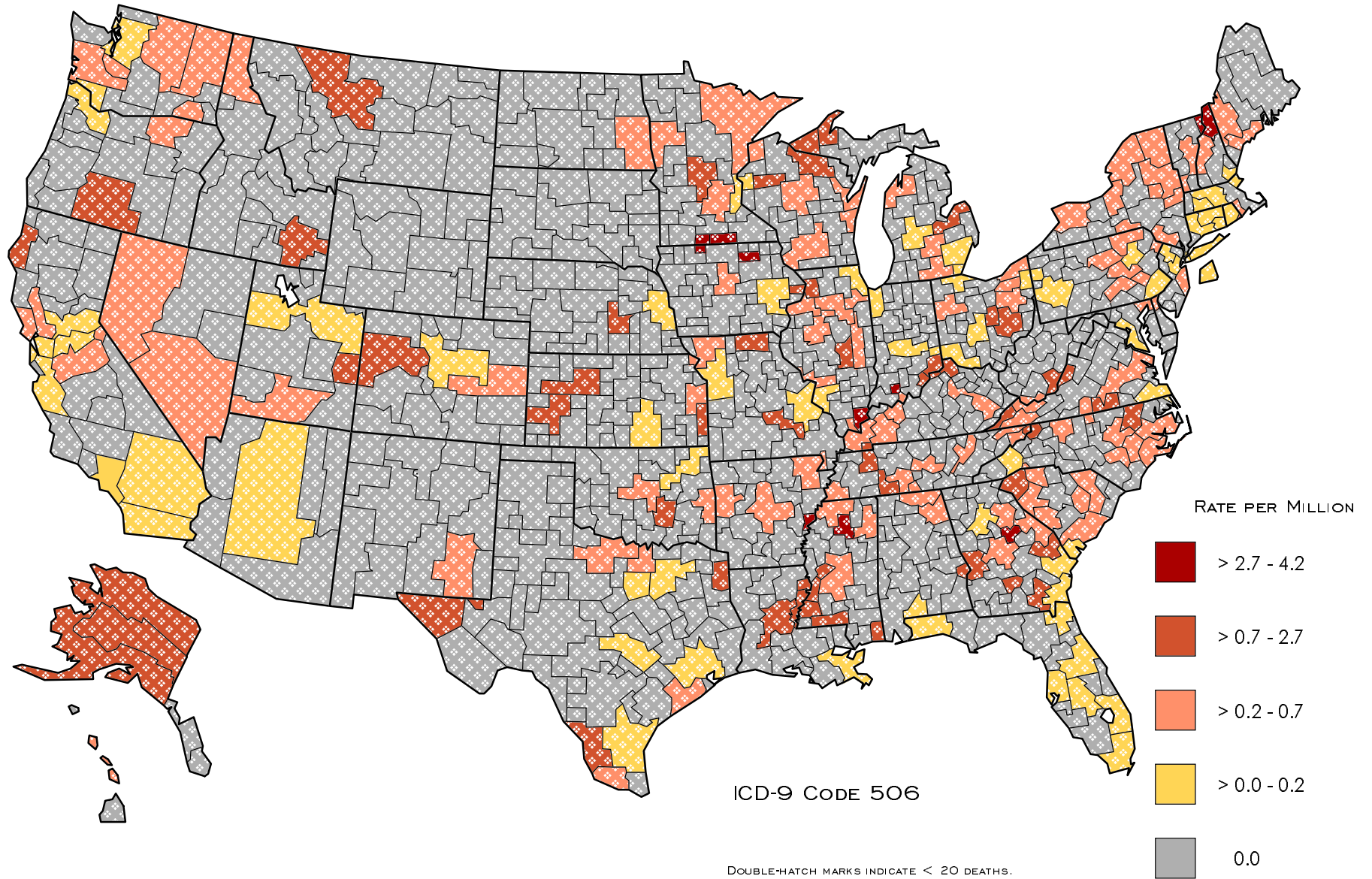
Respiratory conditions due to chemical fumes and vapors (ICD-9 code 506) may include upper airway inflammation, acute bronchitis, reactive airways dysfunction disorder, bronchiolitis, pneumonitis, and pulmonary edema, as well as chronic sequelae (e.g., pulmonary fibrosis, bronchiolitis obliterans, and emphysema) of chemical inhalation. One study identified occupational exposure as a cause of 39 percent of cases admitted to New Jersey hospitals with an ICD code of 506 [Kipen et al. 1991].

Examples of agents associated with these conditions include irritant gasses such as ammonia, chlorine, and oxides of nitrogen; asphyxiant gasses such as carbon monoxide and hydrogen cyanide; and fumes such as mercury, polytetrafluoroethylene, and cadmium oxide [Delclos and Carson 1996; Newman 1996; Lee et al. 1997; Sorahan et al. 1995]. Occupations at risk are identified in a wide range of manufacturing processes [Bates et al. 1992], as well as among farmers [May and Schenker 1996] and miners [Lapp 1996].

References

- Bates DV, Gotsch AR, Brooks S, Landrigan PJ, Hankinson JL, Merchant JA [1992]. Prevention of occupational lung disease. *Chest* 102S:257s-276s.
- Delclos GL, Carson AI [1996]. Acute gaseous exposure. In: Harber P, Schenker M, Balmes J, eds. *Occupational and environmental respiratory disease*. St. Louis, MO: Mosby-Year Book, Inc., pp. 514-534.
- Kipen HM, Gelperin K, Tepper A, Stanbury M [1991]. Acute occupational respiratory diseases in hospital discharge data. *Am J Ind Med* 19:637-642.
- Lee CH, Guo YL, Tsai PJ, et al. [1997]. Fatal acute pulmonary edema after inhalation of fumes from polytetrafluoroethylene. *Eur Respir J* 10(6): 1408-1411.
- Lapp NL [1996]. Mining. In: Harber P, Schenker M, Balmes J, eds. *Occupational and environmental respiratory disease*. St. Louis, MO: Mosby-Year Book, Inc., pp 655-664.
- May JL, Schenker MB [1996]. Agriculture. In: Harber P, Schenker M, Balmes J, eds. *Occupational and environmental respiratory disease*. St. Louis, MO: Mosby-Year Book, Inc., pp 617-636.
- Newman L [1996]. Metals. In: Harber P, Schenker M, Balmes J, eds. *Occupational and environmental respiratory disease*. St. Louis, MO: Mosby-Year Book, Inc., pp 469-513.
- Sorahan T, Lister A, Gilthorpe MS, Harrington JM [1995]. Mortality of copper cadmium alloy workers with special reference to lung cancer and non-malignant diseases of the respiratory system, 1946-92. *Occup Environ Med* 52:804-812.

TOXIC INHALATION INJURY
AGE-ADJUSTED DEATH RATES BY HSA
U.S. RESIDENTS 15 YEARS OF AGE AND OLDER, 1982-1993



TOXIC INHALATION INJURY
DEATH RATES OF EACH HSA COMPARED WITH U.S. RATE
U.S. RESIDENTS 15 YEARS OF AGE AND OLDER, 1982-1993

