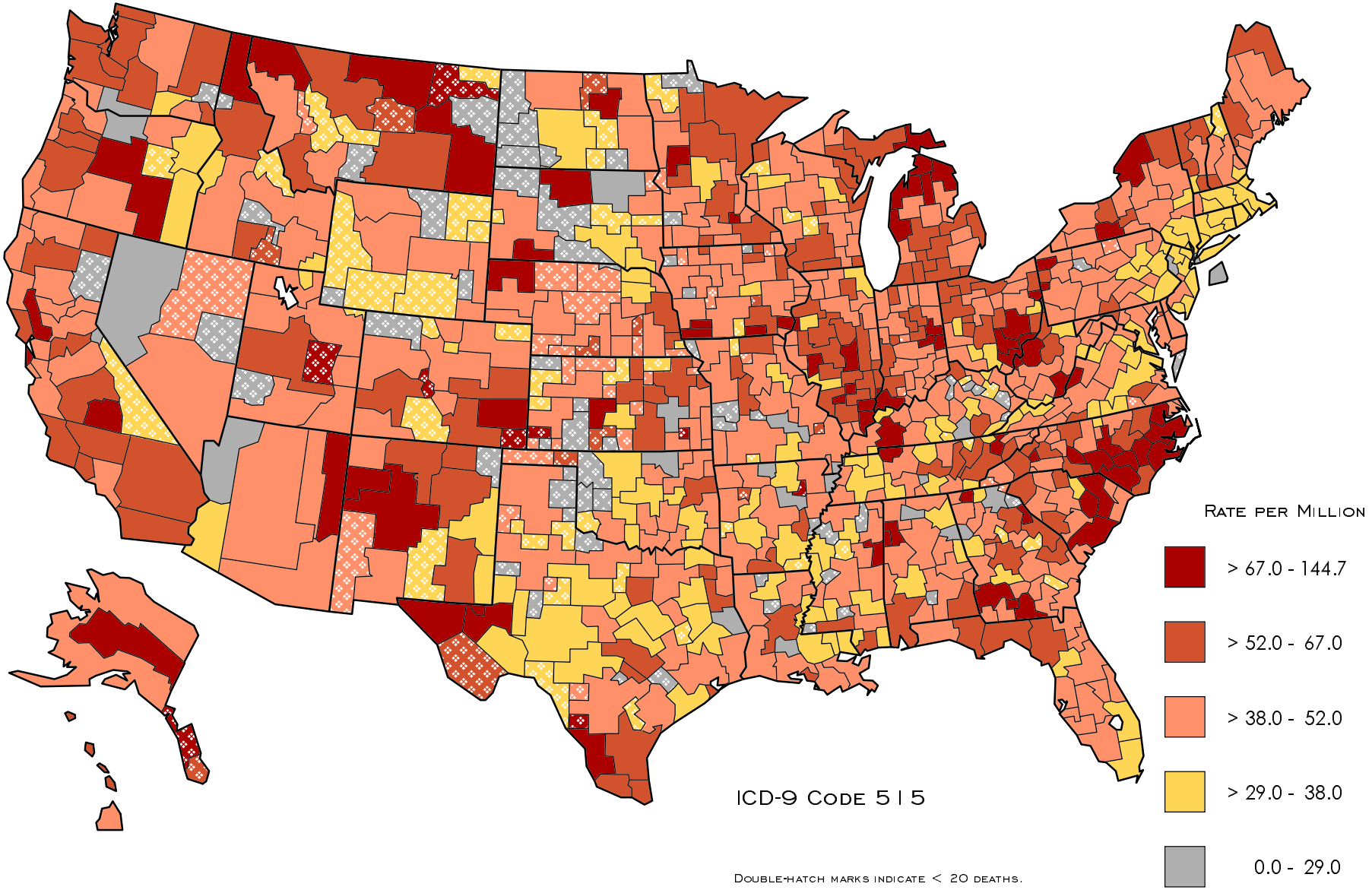
Pulmonary Fibrosis

Age-Adjusted Death Rates by HSA

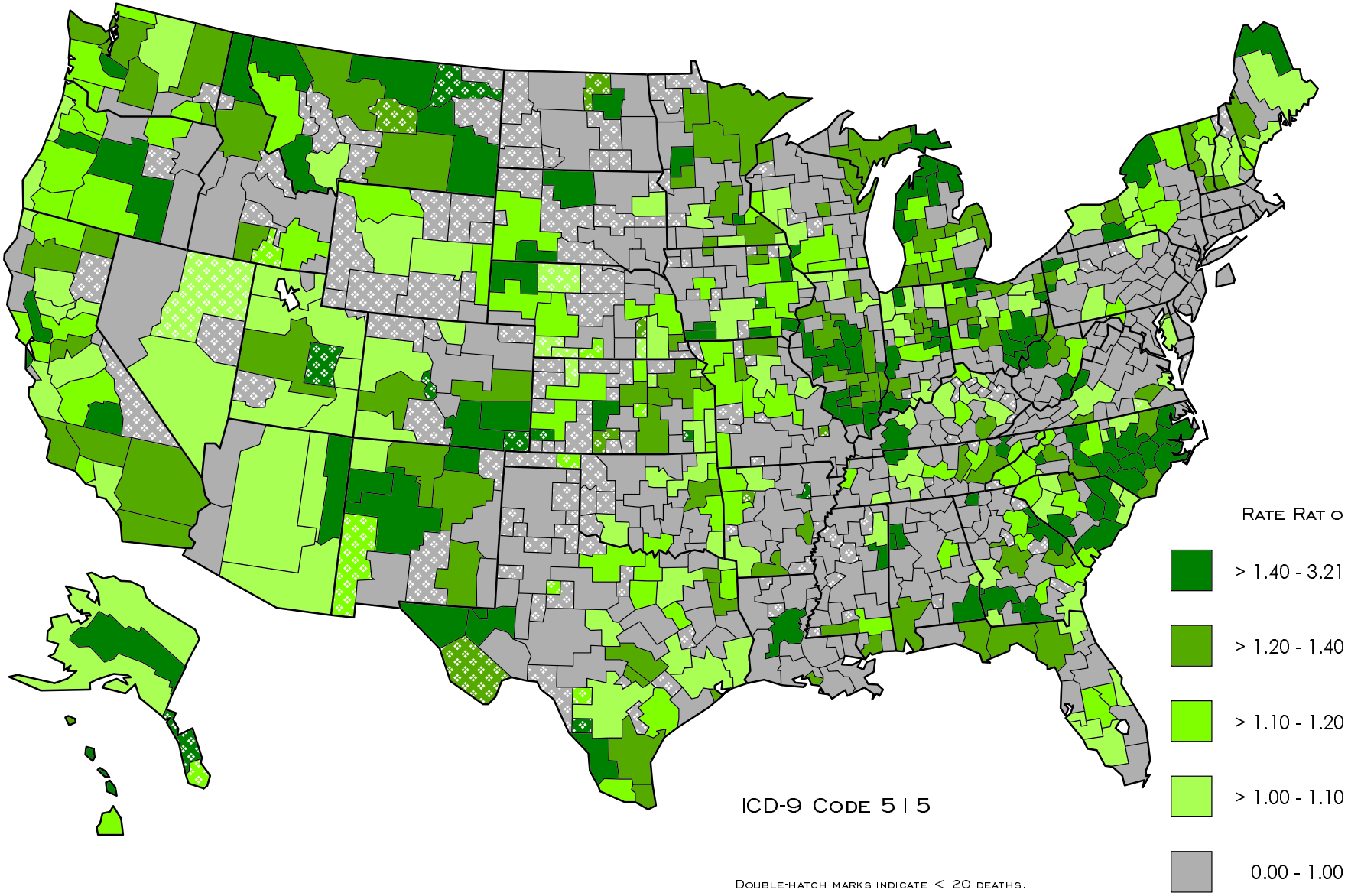
U.S. Residents 15 Years of Age and Older, 1982-1993



Pulmonary Fibrosis

Death Rates of HSA Compared with U.S. Rate

U.S. Residents 15 Years of Age and Older, 1982-1993



Pulmonary Fibrosis (ICD-9 Code 515)

The term postinflammatory pulmonary fibrosis (ICD-9 code 515) is used for a group of chronic disabling lung disorders characterized by diffuse scarring of the lungs. These conditions are often of unknown cause, but may occur after severe lung injury due to infection or other known causes. The pathogenesis of these illnesses involves initiation and then continuation of an inflammatory process in the gas exchange regions of the lung, with resulting progressive tissue injury. Involvement of the immunological system in the production of pulmonary fibrosis is evident from the frequent association of these disorders with a variety of autoimmune manifestations [Raghu 1998].

Upon careful evaluation, some cases of pulmonary fibrosis are found to be a consequence of the inhalation of agents (e.g., asbestos, crystalline silica, or organic dusts) found in occupational settings. When a specific agent is recognized as the cause, the diagnostic terminology for the particular pneumoconiosis (e.g. asbestosis, silicosis) or hypersensitivity pneumonitis (e.g., farmer's lung) is generally preferred. However, in their later stages, illnesses caused by various inhaled agents may be difficult to distinguish, and thus may be clinically diagnosed as pulmonary fibrosis.

Pulmonary fibrosis of occupational origin may be associated with extrapulmonary manifestations of an immune type (e.g., Caplan's syndrome or scleroderma in silicosis) [Parker and Petsonk 1998]. In addition to hypersensitivity pneumonitis and the classical pneumoconioses, agents that have been associated with pulmonary fibrosis include a variety of silicate minerals and several metals [Short and Petsonk 1996]. In addition, individuals who have experienced a high level inhalation exposure to toxic or irritant agents can develop acute respiratory distress which, in some cases, progresses to bronchiolitis obliterans with pulmonary fibrosis [Schwartz and Blaski 1998].

References

Parker JE, Petsonk EL [1998]. Coal workers' lung diseases and silicosis. In: Fishman AP, Elias JA, Fishman JA, Grippi MA, Kaiser LR, Senior RM, eds. Fishman's pulmonary diseases and disorders, 3rd ed. New York, NY: McGraw-Hill, pp.901-914.

Raghu G [1998]. Interstitial lung disease: a clinical overview and general approach. In: Fishman AP, Elias JA, Fishman JA, Grippi MA, Kaiser LR, Senior RM, eds. Fishman's pulmonary diseases and disorders, 3rd ed. New York, NY: McGraw-Hill, pp.1037-1053.

Schwartz DA, Blaski CA [1998]. Toxic inhalations. In: Fishman AP, Elias JA, Fishman JA, Grippi MA, Kaiser LR, Senior RM, eds. Fishman's pulmonary diseases and disorders, 3rd ed. New York, NY: McGraw-Hill, pp.925-940.

Short S, Petsonk EL [1996]. Nonfibrous inorganic dusts. In: Harber P, Schenker M, Balmes J, eds. Occupational and environmental respiratory disease. St. Louis, MO: Mosby-Year Book, Inc., pp.345-361.

Other Alveolar/Interstitial Diseases (ICD-9 Code 516)

Alveolar and parietoalveolar pneumonopathy (ICD-9 code 516) is a heterogeneous diagnostic grouping that includes a number of rare lung conditions, including pulmonary alveolar proteinosis, idiopathic pulmonary hemosiderosis, pulmonary alveolar microlithiasis, and idiopathic fibrosing alveolitis (e.g., diffuse interstitial pulmonary fibrosis). Overlap with the postinflammatory pulmonary fibrosis (ICD-9 Code 515) is likely, particularly if the diseases present in their later stages when more specific clinical or pathologic patterns may no longer be recognizable.

Risk factors for most of these conditions are not well understood, although occupational associations have been reported. An inflammatory lung condition has recently been observed among workers producing nylon textile flock [Kern et al. 1997]. An outbreak of fatal pneumonitis with fibrotic sequelae was caused by a textile printing process in which spraying procedures which delivered a hazardous respirable aerosol [Moya et al. 1994]. Fibrosing alveolitis caused by exposure to hard metal dusts has also been recognized [De-Capitani et al 1993; Lison et l. 1996]. Diffuse, severe alveolar damage due to inhalation of amitrole-containing herbicide has been reported [Balkisson et al. 1992]. Acute silicosis can resemble pulmonary alveolar proteinosis [Davis 1996]. Unrecognized hypersensitivity pneumonitis, an interstitial lung condition most often caused by inhalation of organic dusts or aerosols, can present with alveolitis and progress to pulmonary fibrosis [Rose 1996; Malmberg et al. 1993].

References

Balkisson R, Murray D, Hoffstein V [1992]. Alveolar damage due to inhalation of amitrole-containing herbicide. Chest 101(4):1174-1176.

Davis GR [1996]. Silica. In: Harber P, Schenker M, Balmes J, eds. Occupational and environmental respiratory disease. St. Louis, MO: Mosby-Year Book, Inc., pp. 373-399.

De-Capitani EM, Saldiva PH, Pereira MC [1993]. Hard metal subacute pneumopathy: a case report. In: Hurych J, Lesage M, David A, eds. Proceedings, eighth international conference on occupational lung disease, Prague, Czechoslovakia: Czech Medical Society, pp. 1026-1031.

Kern DG, Durand KTH, Crausman RS, et al. [1997] Chronic interstitial lung disease in nylon flocking industry workers—Rhode Island, 1992-1996. MMWR 46:897-901.

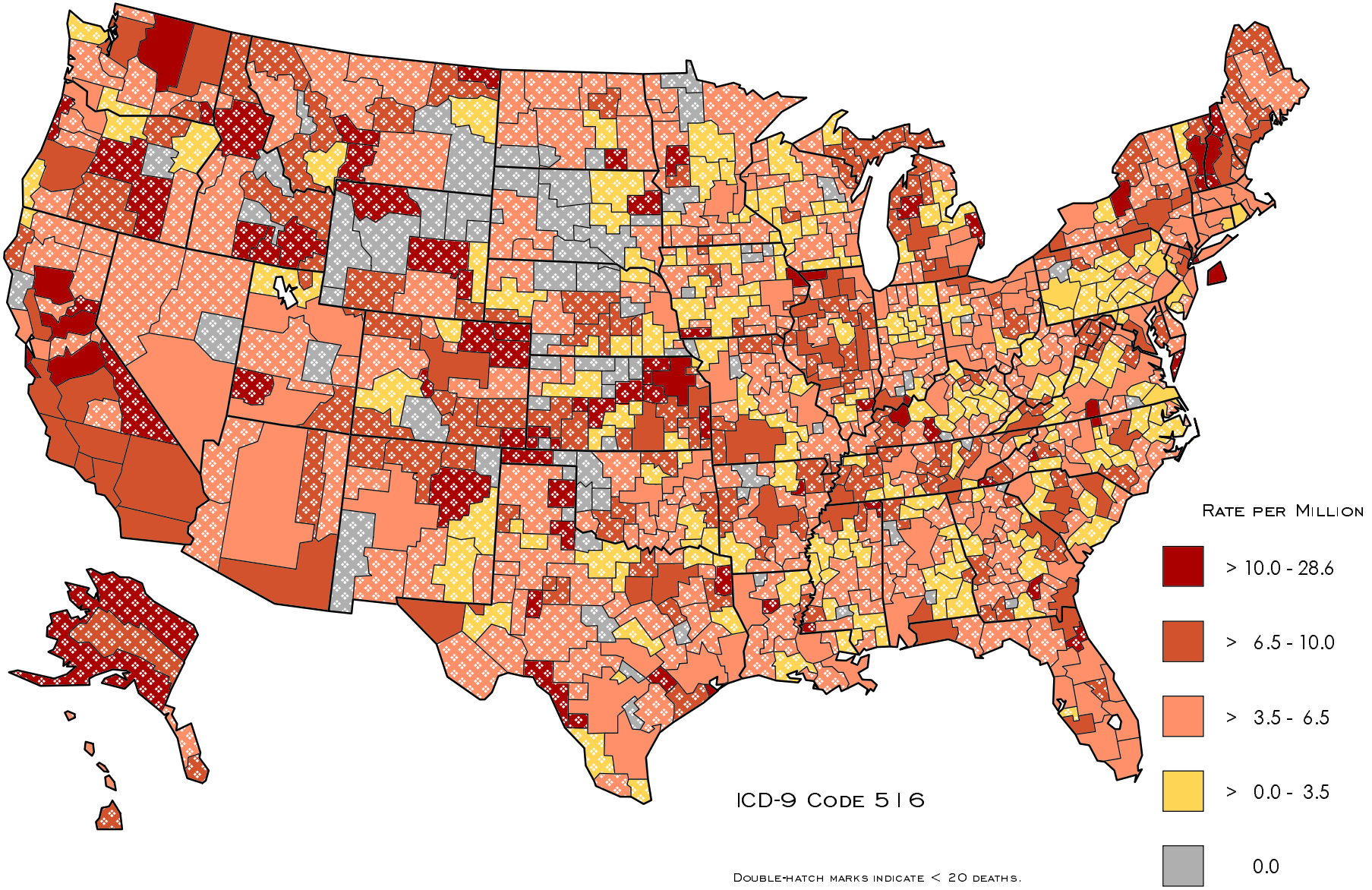
Lison D, Lauwerys R, Demedts M, Nemery B [1996]. Experimental research into the pathogenesis of cobalt/hard metal lung disease. Eur Respir J 9:1024-1028.

Malmberg P, Rask-Andersen A, Rosenhall L [1993]. Exposure to microorganisms associated with allergic alveolitis and febrile reactions to mold dust in farmers. Chest. 103:1202-9.

Moya C, Anto JM, Taylor AJ [1994]. Outbreak of organizing pneumonia in textile printing sprayers. Lancet 344:498-502.

Rose C [1996]. Hypersensitivity pneumonitis. In: Harber P, Schenker M, Balmes J, eds. Occupational and environmental respiratory disease. St. Louis, MO: Mosby-Year Book, Inc., pp. 201-215.

Other Alveolar / Interstitial Diseases
Age-Adjusted Death Rates by HSA
U.S. Residents 15 Years of Age and Older, 1982-1993



Other Alveolar / Interstitial Diseases
Death Rates of Each HSA Compared with U.S. Rate
U.S. Residents 15 Years of Age and Older, 1982-1993