invasive alternative procedures. Gerberding also suggested that if a policy had been implemented in 1970 requiring HBV vaccination for matriculation in professional school, for those already in practice, and for continued contact with patients, more than 95% of clinician-to-patient transmission of HBV would have been prevented.

FROM: 1. Esteban JI, Gomez J, Martell M, et al. Transmission of hepatitis C virus by a cardiac surgeon. *N Engl J Med* 1996;334:555-560.

2. Harpaz R, VonSeidlein L, Averhoff FM, et al. Transmission of hepatitis B virus to multiple patients from a surgeon without evidence of inadequate infection control. *N Engl J Med* 1996;334:549-554.

3. Gerberding JL. The infected healthcare provider. *N Engl J Med* 1996;334:594-595.

Mad Cows and CJD

The British Government recently announced that there may be a link between bovine spongiform encephalopathy and Creutzfeldt-Jakob Disease (CJD). A committee of scientists set up to advise the government on this issue concluded that the recent outbreak of CJD was linked to the fatal neurologic disease of cattle known as "mad cow disease." A doubling in reported cases of CJD occurred between 1990 and 1994, reaching 55 cases in 1994. Ten cases were discovered in individuals under the age of 41, with some in their teens; normally, CJD affects an older age group. In addition, four dairy farmers whose herds had become infected with mad cow disease developed CJD. The incidence of mad cow disease in Britain has been decreasing after reaching a peak of 900 to 1,000 cases per week in 1992 and 1993. There were approximately 200 to 300 cases per week in January 1996. Experts estimate that more than 1 million infected animals have been consumed already.

CJD is a rare disease affecting one per million people. The incubation period is between 10 and 40 years. CJD was thought to be related to bovine spongiform encephalopathy because the two diseases have similar pathology and clinical course. The precise cause of CJD is still a mystery; earlier theories have suggested a virus-like agent, but recent research has advanced a theory that relates both diseases to an abnormal protein in the cell membrane, presumably transmitted through exposure or consumption of infected tissue, which sets off a chain reaction that damages other proteins.

One theory of why it has appeared in British cows is that bovine encephalopathy can be traced to a similar disease in sheep, scrapie, that may have crossed the species barrier in Britain. Experts note that this theory is supported by the practice for years of taking bone and meat remnants from sheep, including brains, grinding it up, and feeding it to cows as a protein supplement. This practice recently was stopped, however.

British Health Secretary Steven Dorrell said it was believed that the 10 new cases of CJD had acquired their disease from exposure to bovine spongiform encephalopathy before 1989. In that year, measures were adopted for abattoirs to dispose of specified offal from cows, including the brains, by burning them. But spot inspections show that the regulations are not always observed. The US Department of Agriculture said that no processed beef or cattle have been imported into the United States from Britain since 1989 and that mad cow disease has not been detected in this country.

FROM: Darnton J. Britain ties deadly brain disease to cow ailment. *New York Times* March 21, 1996;Al.

Infectious Diseases Mortality Rises

The CDC reported recently that the US death rate due to infectious diseases as the underlying cause of death increased 55% from 1980 to 1992, from 41 to 65 deaths per 100,000 population. Age-adjusted mortality from infectious diseases increased 39% during the same period. Infectious diseases mortality increased 25% among those aged 65 years and older and 6.3 times among 25 to 44 year olds. Considered together, infectious diseases were the third leading cause of death in the United States in 1992.

The authors point out that information about infectious diseases usually is presented one disease at a time, causing a fragmented overall view of infectious diseases by obscuring their aggregate impact. This approach can confound public policy decisions, which rest on assessment of infectious disease in the context of other public health or policy issues and may be based more on current estimates than trends. Infectious disease trends are susceptible to rapid shifts, in contrast to other disease categories such as cancer and heart disease. Thus, to anticipate public health threats effectively, these trends must be monitored as well, and policy decisions must take them into account.

The authors note that public health policy during the past 2 decades has been based largely on trends in the earlier part of this century, when mortality from infectious diseases was declining. However, the thesis that infectious diseases would continue to decrease in the United States and other developed countries and be replaced in time by noninfectious causes of death requires reconsideration.

The Institute of Medicine recently provided a conceptual framework for this issue in their report on emerging infections by characterizing the dynamic factors that allow or promote the emergence and reemergence of infectious disease. These include increasing population size and age, changes in human behaviors, and rapid changes in technology and industry, creating new niches for microbial pathogens. These trends call for renewed interest in infectious diseases in the medical and public health communities.

The authors conclude that, despite historical predictions that infectious diseases would wane in the United States, these data show that infectious disease mortality in the United States has been increasing in recent years. This study was reported in the January 17, 1996, issue of the *Journal of the American Medical Association (JAMA)* as part of a series of articles on emerging infections. In January, *JAMA* joined 35 other medical journals worldwide to document the occurrence, causes, and consequences of emerging and reemerging infections. This resurgence of

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