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Response to: 'Pleural abnormalities in the Framingham Heart Study: prevalence and CT image features' by Araki *et al*

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The report by Araki *et al* is important for a number of reasons, most significantly that it is the first-ever study of pleural abnormalities potentially related to asbestos in a large, general population (the Framingham Heart Study (FHS) Third Generation cohort) that is based on chest CT scans rather than chest radiographs.[1] Pleural abnormalities were reported to be present in 1.5% of the study population. A key conclusion of the study was that the prevalence of pleural abnormalities in the present study was significantly lower than what was observed in NHANES II (3.9%), and this was taken as evidence in support of reduced asbestos exposures in the decades since the National Health and Nutrition Examination Survey (NHANES) II data were collected in the period 1976–1980.[2] It is important to note that the results of NHANES II were based on chest radiographs, while the results for the FHS cohort were based on chest CT scans. Because of this difference in radiographic methods, we take issue with the comparison of the results from Araki *et al* with results from NHANES II.[12]

Araki *et al* noted that since 'CT scan has a better capacity to detect and characterize pleural plaques and thickening than chest radiography, the decrease in prevalence over several decades could be more substantial'.[1] The first part of this sentence acknowledges the fact that chest radiography has a lower sensitivity for the detection of pleural plaques compared with chest CT scan (ie, chest radiography has a considerable rate of false-negative results compared with chest CT scan). However, the article fails to note that chest radiography also has a significant rate of false-positive findings relative to chest CT scan and that the latter is significantly related to body mass index (BMI), age and possibly other factors.[3] In the absence of a statistical analysis that adjusts for age, BMI and other factors in the NHANES II and FHS cohorts, it is impossible to know the overall impact of false-positive and false-negative results in NHANES II relative to the FHS. While we concur with the conclusions that asbestos use in the USA has declined since NHANES II and that asbestos exposures in

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the US population have also likely declined, a simple comparison of chest radiograph and chest CT scan results for pleural plaques is not valid.

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