Arsenic (As) is a carcinogen and developmental toxicant with detrimental health outcomes associated with early life exposure. Until recently, the potential for childhood and later-life exposure to As via food in the United States was considered minimal. Recent data suggest that rice contains large concentrations of inorganic arsenic (iAs) and dimethylarsinic acid (DMA) of particular relevance to children and certain sub-populations. In order to assess whether consumption of rice could introduce exposure to levels of As associated with disease, As levels in 1343 rice-based products were analyzed and compared to three constructed daily exposure models. The majority of tested samples had elevated levels of As in which an average single serving of rice, or many rice-products, either meets or exceeds a child’s daily modeled exposure limit. Estimates based on average daily rice consumption suggest consumption of rice is associated with elevated risk for lung and bladder cancer incidence and mortality.