

Another limitation of our study is that we have a single urinary As measurement, which may not adequately reflect long-term exposure. In a U.S. study of Native American populations ( $n = 60$ ), Navas-Acien (2009) found that urinary As excretion (including As concentrations and percent of urinary As species) remained fairly constant over a 10-year period. In a study in Bangladesh that measured urinary As in 196 participants over 2 years, Kile et al. (2009) also found that the concentrations of urinary As species were fairly reproducible over time, but the percent of As species varied. Studies from Chile ( $n = 73$ ) (Hopenhayn-Rich et al. 1996) and the United States ( $n = 81$ ) (Steinmaus et al. 2005) reported that proportions of As species were fairly stable over time, but only over 2 months and 1 year, respectively. Overall, findings from previous studies suggest that a single urinary measurement may be a reliable measure of exposure for a period of months to years. We recognize, however, that the latency period for As exposure could be very long. Our participants tended to use the same water source for many years (median, 17 years); although water As concentration was associated with urinary As (see Supplemental Material, Table S1), other factors such as diet also influence As exposure (European Food Safety Authority 2009). ORs stratified by the duration of current water system use did not significantly differ (Table 3). Our study was also limited by the fact that we were unable to measure As concentrations directly in the tissue of interest, the skin. Further understanding about As metabolism, tissue distribution, and excretion is necessary to understand the biological interpretation of the associations between urinary As and SCC in our study population.

## Conclusion

Using sensitive methods to measure urinary As exposure in a population-based study of SCC in residents of New Hampshire, we observed that urinary concentrations of  $\Sigma$ As, MMA, and DMA were positively associated with SCC. These findings suggest that common exposure levels may influence cancer risk in the United States and elsewhere.

## CORRECTION

In Table 1 of the manuscript originally published online, the numbers of SCC cases under “highest level of education” were incorrect. In addition, for seafood and rice consumption, the values for cases and controls were switched, and the numbers for “missing” were accidentally included in the “no” totals. The errors have been corrected here.

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