

BIOMARKERS IN ENVIRONMENTAL EPIDEMIOLOGY: ETHICAL CHALLENGES

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Environmental epidemiology is a multidisciplinary science and covers a range of methodological and design approaches. Exposure assessment is a critical component of the discipline and there are continued efforts to improve it in order to determine smaller scale, but widespread, environmental risks. Biomarkers are promising tools to overcome measurement error from subjective, less sensitive, and nonspecific questionnaires. However, this involves collection of bodily fluids or tissue, which is an invasive and potentially more ethically challenging approach than self-reports or other forms of exposure assessment. If such biospecimens are collected from study participants, the benefits, risks, and discomfort associated with collection should be explained during the consent of participants. This can lead to lower response rates and more scrutiny by Institutional Review Boards. The study aims that biospecimens will be needed to address, must be disclosed beforehand to study participants. Furthermore, the final disposition of any remaining samples after the study is completed must be explained. If future studies require the use of these samples for different questions there must be prior approval and consent by participants to that. If less invasive or more accurate methods of exposure assessment are available, it may be unethical to utilize biomarkers that do not offer better quality measurement data. There are more biobanks established through out the world than in previous years, but there is no corresponding increase in literature on ethical use of these biomarkers in environmental epidemiology. The presentation will discuss some of these questions in light of the relevant oral sessions in the symposiums that involve biomarkers.