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| **Visualization and analytic tools for community engagement on the social-ecological health impacts of resource extraction** |
| **Background/Objectives:** The First Nations Health Authority (FNHA), members of the Faculty of Health Sciences, Simon Fraser University and The Local Environmental Observer (LEO) Network in British Columbia, Canada are integrating Indigenous and scientific observations about human and animal health in changing ecosystems. This interinstitutional initiative is part of a larger pan-Canadian project (with research ties to the Oceania region), funded by the Canadian Institute of Health Research titled, *The ECHO (Environment, Community, Health Observatory) Network*. ECHO has the mandate to study the cumulative health impacts of intensive resource extraction for rural, remote, sub-arctic and Indigenous communities. Concretely identifying and addressing social inequities and health across a range of intersecting axes is a priority within the ECHO project. Indigenous frameworks of health and wellbeing are centred around principles of sustainability and planetary health. These same principles are embedded within the equity-based research we conduct around healthy communities and environments. **Methods:** The findings presented in this paper are derived from layering data gathered within The BC LEO Network (originally designed by the Alaska Native Tribal Health Consortium and dubbed ‘the eyes, ears and voice of environmental change) with data on Indigenous health and wellbeing gathered by the FNHA. The insights of researchers and public health practitioners reflecting on the task of advancing equity-based approaches to health promotion for Indigenous communities and territories will also be shared.**Results:** We will present a range of visualizations of layered social and environmental data and discuss the utility, and limitations, of our methods and findings when evaluated against the task of developing integrated social-ecological health promotion interventions and policy recommendations that will support the increased health and wellbeing of Indigenous peoples, places and traditional practices.**Discussion:** We will draw upon lessons learned from our research processes and findings and locate our work within larger conversations around planetary health, sustainability, and equitable health promotion within a country engaging in a Truth and Reconciliation processes and renewed commitments to sustainable development and climate mitigation and adaptation. **Keywords:** Health Equity: First Nations Health Authority; GIS; Canada; Indigenous health |