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Temporal Patterns of Mexican Migrant Genetic Ancestry: Implications for Identification

The crisis at the border of ongoing migrant deaths motivates forensic practitioners (including anthropologists) to develop integrative approaches for identifying and repatriating the decedents. Beyond a one-to-one match, variation of forensic genetic markers are useful for understanding trends in the broader context of how deceased migrants from the U.S.-Mexico border are, or are not, being successfully identified. We first investigate whether genetic ancestry estimates of decedents exhibit patterns over time, space and demographic group. We then explored whether the relationship between ancestry estimates and identification trends have practical implications for future identification rates of these migrants. We draw upon Pima County Office of the Medical Examiner identified and unidentified decedent cases for which forensic genetic data is available, a county that is known for its outstanding commitment to treat all decedents equally, regardless of citizenship status. We find a relationship among identification status, case year, and ancestry that provides evidence for an identification bias in migrant casework. Specifically, our results suggest that migrants with more European ancestry are more frequently identified in recent years, regardless of the fact that census data indicate a 68% increase in indigenous migrants from 2000-2010, a phenomenon we attribute to hierarchies of structural vulnerability among those crossing the border. As understanding the geo-temporal patterns of who is dying on the border and who is being identified speaks to casework logistics, studying the ongoing evolution in undocumented border crosser demographics provides critical insight for modifying current approaches to successful identification, one that likely requires the collaboration of anthropologists across the sub-disciplines.