Toward a Global DNA Database for Family Reunifications

As conflicts and climate crises proliferate and intensify, countless families are being torn apart. Now, a group is exploring a DNA-based extragovernmental solution to help reunite those separated.

FAMILY SEPARATIONS HAVE MOUNTED INTO A GLOBAL CRISIS

Family separations due to armed conflicts, global migration and disasters affect millions of families worldwide. The number of displaced people has reached historic highs over the past decade, mounting into a global crisis that only stands to be exacerbated by climate change and increasing global conflicts.

Particularly for children, even short-term separations from parents and caregivers can lead to severe developmental consequences ranging from mental health disorders to impaired memory, planning and auditory processing. The physiological consequences of separation-induced stress can increase the likelihood of disease and ultimately reduce life expectancy.

Reunification is challenging, especially across borders and when separations are forced. Traditional paper documents might be difficult to find, and migrant diaspora can be chaotic during a conflict. Yet there is currently no global system to use DNA to reunify lost or missing children separated from their families, despite broad consensus among scientists and advocates that DNA data can and should be used in context-specific reunifications in the best interest of children with appropriate safeguards and protections. DNA data can supplement traditional paper documents by verifying genetic relationships, thus expediting processes, and can be especially useful for linking infants and preverbal children with their families. The lack of such a global system needlessly prolongs family separations and detrimentally impacts the historically high number of children separated from their parents. With separations expected to increase due to worsening climate change and political instability, scalable methods to reunify families are urgently needed so reunifications can occur quickly and safely.

EXPERTS EXPLORE THE FIRST USE OF A DNA DATABASE FOR FAMILY REUNIFICATION

Nearly 20,000 Ukrainian children disappeared into Russia and Belarus following the invasion of Ukraine. This case demonstrates the need to develop systems to proactively collect the DNA of living family members to establish an international database. The database can be used to expedite the reunification of rescued children with their families, or for eventual reunification for those families that might be separated for decades.

A multidisciplinary group of U.S.-based researchers are collaborating with international organizations to pilot the use of a DNA database that is independent of any national government and is dedicated to supporting immediate reunification and future searches. Established by the Global Working Group program at Northwestern University's Roberta Buffett Institute for Global Affairs, the Global FamDNA Working Group includes researchers from institutions across the U.S. whose expertise spans bioethics, genetics, pediatrics, child psychology, human development, forensics, social policy, law and more.

The group has established a partnership with the intergovernmental organization, the International Commission on Missing Persons (ICMP), to manage the collected DNA for the database, ensuring its long-term storage is secure from government or law enforcement subpoena. The group could use Rapid DNA equipment to process samples on-site, ensuring samples will be destroyed once the DNA is collected to protect families that could be persecuted based on their genetic data.

Global FamDNA Working Group co-lead Sara Huston led a panel on using advanced technologies to identify large numbers of missing children at the ICMP's summer 2024 roundtable on Ukraine's missing children.

During the pilot, the Global FamDNA Working Group also will gather qualitative data on the perspectives of families, allies and experts on the use of DNA for family reunification and practical barriers to implementation. The group is conducting this ethnographic fieldwork in Europe, which will inform their adaptation of trauma-sensitive approaches and consent processes to develop a prospective program to enroll parents and relatives of separated Ukrainian children. Importantly, the group is attentive to privacy concerns and protections for potentially sensitive genetic data. The proposed system works outside of government control in partnership with civil societies and treaty-level intergovernmental agencies to protect data from being used for anything other than family reunification and documentation of human rights violations.

The group plans for the International Commission on Missing Persons-hosted database to serve as a long-term resource for children to investigate their family origins and connect with parents, siblings or cousins in years to come.

THE FUTURE OF DNA-ASSISTED FAMILY REUNIFICATION

As Ukrainian children are released from Russian authority, any unknown kinship can be tested against the group's ICMP-hosted DNA database. However, many children may grow into adulthood in Russia and Russian-occupied territories. The group plans for the ICMP-hosted database to serve as a long-term resource for children to investigate their family origins and connect with parents, siblings or cousins in years to come.

Members of the Global FamDNA Working Group also are leading an advocacy consortium, DNA Bridge, to promote the acceptance and functionality of such a global DNA database system. The DNA Bridge consortium includes physicians, scientists and human rights advocates from 20 academic, nonprofit and commercial organizations across five countries. The Global FamDNA Working Group's pilot presents opportunities for the consortium to develop strategies for other relevant contexts, such as children separated at the U.S.-Mexico border and in the aftermath of natural disasters. Together, these experts aim to develop and deploy a replicable, scalable and sustainable framework to manage sensitive DNA data to support secure, ethical and humane family reunifications worldwide.