Towards a global strategy to use DNA to reunify families

Family separations due to armed conflicts, global migration, and disasters affect millions of families worldwide. Given the significant harms of family separations, strategies are needed to support prompt reunification of parents and children. A DNA-led database approach can expedite reunification for genetic families without stigmatizing non-genetic family structures. Despite the common use of DNA technologies for postmortem identifications, there is no global system to use DNA to reunify lost or missing children separated from their families. With separations expected to increase due to worsening climate change, political instability, and inequities, scalable methods to reunify families are urgently needed so reunifications can occur quickly and safely. DNA Bridge (www.dnabridge.org) is an interdisciplinary group of scientists and human rights scholars developing a science and ethics-based approach to DNA technology and DNA data management to support family reunification of children separated from their families. The 501(c)(3) non-profit organization is comprised of expert leaders from academic, non-profit, and commercial organizations.

Our team was galvanized by the family separations under the 2017-2018 U.S "zero tolerance" policy to develop strategies to assist with reunification. We developed and published in *Science* an approach to provide DNA kinship comparisons outside of government control and with international data privacy protections. DNA data from families should never be used to persecute migrants, yet families should have access to DNA as a tool to support reunification. Reunifications of families separated under the "zero tolerance" policy are ongoing, but there is no structure in place to include DNA as a reunification tool.

In the time since our group first came together, new, and urgent separation contexts have emerged.[1] Since February 2022, the Russian government has operated a large-scale systematic network of children's camps and other facilities to hold thousands of children from Ukraine within Russia-occupied Crimea and mainland Russia.[2] Children with clear guardianship status predating the invasion of Ukraine appear to be targeted for re-education camps and similar facilities. Both those purported to be orphans and those children who were residents of state institutions appear mostly targeted for deportation to Russia's territory for adoption and/or placement in foster care.[3] Recently we published in *Nature* a commentary on the need for a global streamlined system to use DNA securely to aid reunifications.

No technology—including DNA analysis—can reunite all families; however, DNA can and should be used when pertinent in a manner that is secure, ethical, and humane

The unfolding situation in Ukraine parallels past tragedies of stolen children from Argentina, El Salvador, and Chile, where most children who reconnected with family members only did so decades later using DNA. This tragedy for Ukrainian families is the first global opportunity to proactively collect the DNA of living family members for urgent reunification, or for eventual reunification for the children who might be separated well into adulthood.

The challenge we face across contexts is overcoming barriers to use of DNA so that family separations are not needlessly prolonged. A DNA-led family reunification framework must be based on a clear understanding of the strengths and limitations of DNA technologies. Key barriers preventing DNA data use for reunification at scale include:

(1) lack of clarity on parameters for which scenarios DNA data are useful and which DNA methods are most appropriate
(2) lack of outreach to families of deported Ukrainian children and separated Central American children
(3) fear of DNA data misuse or revelation of sensitive information
(4) lack of protocols (including on consent) for how to use DNA data
(5) lack of knowledge among key actors on how to implement protocols for using DNA to safely expedite reunifications

[1] Gall C, Chubko O. The Russians took their children. These mothers went and got them back. *The New York Times*. April 8, 2023
[2] Yale School of Public Health, Humanitarian Research Lab. February 14, 2023. Russia's systematic program for the re-education & adoption of Ukraine's children. A Conflict Observatory Report
[3] Yale School of Public Health, Humanitarian Research Lab. December 3, 2024. Russia's systematic program of coerced adoption and fostering of Ukraine's children. A Conflict Observatory Report

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DNA Bridge has planned activities for 2025-2026 towards building out and implementing processes for safe, voluntary use of DNA data for family reunifications

Plans include:

- Strengthen infrastructure to support ethical use of DNA for reunifications
- Embed secure DNA data management principles in Ukrainian family reunification efforts
- Pilot alternate path for DNA protections for Ukrainian families
- Build awareness of U.S.-based policy gaps that inhibit safe use of DNA data

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Embed DNA Bridge principles in Ukraine efforts ($10-20K)

In partnership with Northwestern University Buffett Institute for Global Affairs, we will be traveling to Kyiv **August 25 - September 5, 2025** for interviews and ethnography. During this trip, for any families that are separated from their children or have missing family members, DNA Bridge can connect them to ICMP to collect family reference samples and take missing persons reports. families DNA Bridge can connect families with the International Commission on Missing Persons (ICMP, www.icmp.int), an intergovernmental organization with DNA capabilities and a history of data management for war crime and mass disaster identifications.

Funding is needed to support travel, accommodations, and coordination

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Pilot investigative genetic genealogy processes ($20-80K)

We seek to **pilot** in collaboration with U.S.- and Ukraine-based allies the use of genetic genealogy kits to develop infrastructure for long-term connections with families forcibly separated. There is an immediate need for collection of Ukrainian relationship data from close and distant relatives of the 20,000 deported children.

Funding is needed to support stipends for partnering NGOs and DNA kits

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Strengthen DNA Bridge infrastructure ($10-20K)

We will develop **outreach strategies in partnership with NGOs** to locate and engage adults separated from children and family members, build **model MOUs** for use as the program broadens, develop **consent processes and informed consent forms** that are trauma-informed and protect acquired samples and data through de-identification strategies, and develop a **DNA data management** system for communication of data and kinship matches.

Funding is needed to support development of materials

Build U.S. awareness of policy issues ($10-20K)

DNA Bridge members will prepare a **Capitol Hill briefing** to raise awareness and understanding among policymakers of the need for a global strategy for the humanitarian use of DNA for family reunifications and the barriers to DNA data use for reunification.

Funding is needed to support effort to develop a U.S.-based proposal and hosting a program event in Washington, DC