

## Tackling DNA data-sharing challenges

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**Administrative and ethical barriers to DNA data sharing for identification of migrants found along the US–Mexico border exemplify the need for long-term solutions and sustainable processes.**

Inherited and unchanging throughout life, DNA is a powerful metric for identifying human remains. Technical improvements in using it have advanced over the decades; however, ethical, administrative and bureaucratic barriers restrict its use, particularly for transnational identification. This is apparent in US border states, where unidentified human remains (UHR) thought to be those of migrants are buried without DNA sampling or left to languish unnamed for years.

Since 2008, over 800 UHR have been found in Brooks County, over 70 miles north of the Texas border with Mexico.<sup>1</sup> Such unexplained deaths are subject to investigation which in most places includes an autopsy with DNA sampling; in South Texas, however, the relevant laws and practices were not followed prior to 2013, meaning that DNA samples were not taken. Graves are now being exhumed to collect DNA and other anthropological data to investigate the identities of the deceased. So far, 34 of 163 long-term deceased have been identified and more graves await exhumation. Due to the historic lack of case tracking in the region, we do not know how many more nameless or unmarked graves might contain the remains of missing people.<sup>2</sup>

Identification often takes years. Usually, UHR are sent to a medico-legal authority for identification where, in most cases, an autopsy will be performed, including DNA sampling. DNA data can be uploaded to the federal DNA data system, the Combined DNA Index System (CODIS). These data will be compared with the missing persons index and with an index of relatives of missing persons. The theory of DNA-based identification via CODIS is that at some point family members will report the missing person and provide ‘family reference’ DNA samples (FRS). Any jurisdiction in the US can take a missing

person report and an FRS, then submit that FRS to a CODIS DNA laboratory.

### Need for cooperation and collaboration

For migrant families, however, multiple barriers limit identifications. CODIS was designed for criminal casework, not for missing persons identifications. It is designed to protect the quality of the data and includes restrictions on access that create heavy paperwork burdens for FRS and UHR submissions. Moreover, crime laboratories prioritise casework where a person’s life or liberty might be at stake; this means UHR and FRS processing might be delayed. CODIS laboratories also require a missing person case report number from a US jurisdiction, which might not be possible if the report is filed outside the US.

Most importantly for transnational missing cases, it is a federal requirement of CODIS that FRS be collected by law enforcement personnel. However, relatives of the missing might be unwilling or unable to provide FRS to law enforcement, perhaps fearing deportation of themselves or their family members. Further, public awareness of a missing person report can endanger the lives of the family and that of the migrant. Family members reporting a missing person often face extortion.

Numerous governmental and non-governmental efforts to improve search and recovery, identification processes, and communication and repatriation processes are ongoing. For example, some jurisdictions have begun sending UHR and FRS to a private DNA laboratory that does not require FRS be obtained in the presence of law enforcement, and this has contributed to the identification of many individuals. A private laboratory can also accept UHR and FRS from other countries. However,



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emerged from these efforts, such as: improved communication among stakeholders; a new humanitarian database to enable comparison of FRS data not in CODIS with the UHR data in CODIS; and that consular officials are now allowed to collect FRS for CODIS.<sup>3</sup>

One of the roles academics can play is to provide unbiased research approaches to examine the policy gaps and differing perspectives that restrict progress. Our team drew up a research strategy focusing on the use of DNA data for identifications, and in March 2020 we held a symposium for professional stakeholders to debate policy options (we also plan to bring together families of transnational missing persons). This enabled us to chronicle the specific challenges identified by stakeholders and consider the priorities and proposals of each stakeholder group.

### Different missions, different priorities

Despite the good intentions of all stakeholders, political pressures and stark differences in mission-based priorities lead to disagreements and miscommunications on policy matters. For example, a criminal justice unit has

an interest in maintaining the integrity of a missing person case that could be a homicide. Similarly, border security has an interest in learning the identities of migrants and their affiliates in order to investigate gang and smuggling rings. In contrast, humanitarian organisations advocate for a family's right to know and for the repatriation of their loved ones regardless of their involvement in illegal activity. Each of these missions holds intrinsic value – but the differences create friction.

Much of the information surrounding a transnational missing person is highly sensitive. Geographic data on where remains are found are useful both for finding more people and for investigating smuggling routes. Names of family members of the missing can be exploited by smugglers or

An unknown migrant's grave in the Sacred Heart cemetery in Brooks County.

most UHR are in CODIS, and some are in a private database, while most FRS are in a private database and not in CODIS. This has created two DNA data systems that are disconnected from one another and individually under-populated, resulting in missed opportunities for identifications.

Over the years, various stakeholder groups have convened to address these and other DNA identification challenges. Stakeholders include all levels of law enforcement, Justices of the Peace, medico-legal officials, consulates, intergovernmental organizations, humanitarian organizations, migrant family advocates, forensic anthropologists, database stewards, DNA experts, governmental officials and human rights experts. Some improvements have

kidnappers or used to investigate immigration violations in the US. DNA data from the missing and from family members can also be used to investigate criminal activity. Given these sensitivities, distrust between stakeholder groups is high. Understanding the processes at play and the interests of stakeholders is the first step toward progress, and at this stage in our research certain key areas for improvement can be noted.

**Shift the narratives surrounding the unidentified:** Many assumptions cloud perceptions of the circumstances of missing persons at the border. One assumption is that they are all migrants; many are, but not all. Another is that the migrants are all from Mexico and countries in Central America. Increasingly, migrants from around the world are travelling to South America to go north to the US. Another assumption is that the challenges to DNA-based identifications are unique to missing migrants. In reality, many of the data-sharing and funding restrictions apply to all types of missing persons investigations. We have adjusted our language recently from ‘missing migrants’ to ‘transnational missing persons’ to more accurately reflect the fact that the challenges are not unique to migrants or to particular regions of the world and to highlight the issues specific to US–Mexico cross-border identifications.

**Improve communications:** Misunderstandings percolate through organisations, particularly when so many stakeholders are involved. Transparency is essential in implementing current policies, formulating new policies and communicating between organisations.

**Leverage creative solutions:** The most promising outcomes of our research are ideas that could improve the status quo. For example, many of the stakeholders expressed general support for the use of ‘rapid DNA’ instruments for quick DNA data analysis of UHR or FRS. Such instruments can be used by non-experts, can process samples in 90 minutes, and are relatively portable. There

was also strong agreement on the need for a mechanism for training and certifying non-law enforcement personnel as FRS collectors.

Though the precise policy mechanisms needed to enable improvements remain unclear, every single stakeholder with whom we have interacted agrees that current practices must be reformed. We hope that building a policy framework based on priorities and stakeholder-driven solutions can aid the construction of sustainable solutions.

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The views expressed here are those of the authors and not of their affiliations or funding sources. This work was supported by Grant No R01HG009923 from the National Human Genome Research Institute.

1. Although Brooks County is not located along the border, it handles many migrant deaths due to the presence of a US Customs and Border Patrol checkpoint.
2. Spradley M K and Gocha TP (2020) ‘Migrant deaths along the Texas/Mexico border: a collaborative approach to forensic identification of human remains’, *Forensic Science and Humanitarian Action: Interacting with the Dead and the Living* <https://doi.org/10.1002/9781119482062.ch34>
3. Budowle B, Bus M M, Josserrand M A and Peters D L (2020) ‘A standalone humanitarian DNA identification database system to increase identification of human remains of foreign nationals’, *International Journal of Legal Medicine* 134(6) <https://link.springer.com/article/10.1007/s00414-020-02396-9>