A New Resource for Pathology Informatics: The New Mexico Decedent Image Database

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Background

The New Mexico Decedent Image Database is a new and unique database comprised of computed tomography (CT) scans and associated personal, health, lifestyle and circumstances of death data. The database consists of 15,242 decedents whose deaths were investigated at the New Mexico Office of the Medical Investigator.

Methods

In 2014, a study determined the minimum data set to associate with these CT images using a modified Delphi method. Through an iterative process, researchers from a wide variety of fields (anthropology, medicine, forensics, informatics, epidemiology, biomedical research and dentistry), selected variables that they believed to be essential to making the CT scans useful to researchers in multiple fields. In 2016, the National Institute of Justice awarded a grant (2016-DN-BX-0144) to create the CT database with associated lifestyle, health, and cause of death information. The data for all 69 variables derive from both the medical examiner's database and through phone interviews with next of kin.

Results

The sample includes decedents who died between 2010 and 2017, and accounts for approximately 11% of deaths in New Mexico. Over two thirds of the scans have no discernable decomposition. Ten thousand decedents are male, 30% are Hispanic and 13% Native American. Natural causes of death and accidents account for 73% of the sample with the remainder of deaths due to suicide, homicide and unknown. The information available can differ greatly between individuals but can include variables such as: education, occupations, habitual activities, number of children, country of origin for decedent, parents, and grandparents, health history, medications, socioeconomic status, and medical diagnoses.

Conclusions

As of January 2021, there 372 users of the database from 34 countries, with over 100 requesting access to the CT images. Reasons for accessing the database have included research, education and art. Projects have included COVID-19 research, age estimation, cancer treatment, automobile safety, biomechanics, morphometric analyses and informatics projects. The database is available at NMDID.UNM.EDU.