



**The Mexican Health and Aging Study:
Restricted-Use Files
Version 2**

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Although most of the MHAS data files and documentation are public use and available at www.MHASweb.org to registered users, the set of restricted-use files are only available under specific conditions, as explained in this document below.

All the restricted data sets are intended for exclusive use of the approved users listed in the Confidentiality Agreement form (*Form 7*). If there are any questions about any of the data sets contact the MHAS team (info@mhasweb.com).

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I. Introduction

This following document describes the content of the available restricted data sets of the Mexican Health and Aging Study (MHAS) and the process to obtain the data.

Although most of the MHAS data is unrestricted and available through the website (www.MHASweb.org) to any registered user, other MHAS datasets are restricted, and are available only under specific contractual conditions. Additional information on the restricted data files can be obtained from a special section of the MHAS website; documentation for many of these files is also available upon request. We encourage researchers to review this document to see if any of the restricted data files will meet their research needs.

II. Study Description¹

The 2001 baseline survey of the Mexican Health and Aging Study (MHAS) is a national representative survey of individuals born prior to 1951, that is, the population aged 50 or older as of the year 2001. The baseline survey was conducted in the summer of 2001, and a follow-up visit to the same individuals was carried out in the summer of 2003. The sample for the MHAS baseline was selected from residents of both rural and urban areas, from the National Employment Survey (Encuesta Nacional de Empleo, ENE), carried out by the INEGI (Instituto Nacional de Estadística y Geografía) in Mexico. Households with at least one resident of ages 50 or older were eligible to be part of the MHAS baseline sample. If more than one person was age-eligible in the selected households, then one person was selected at random for the study. If the selected MHAS person was married or in a consensual union, with the spouse residing in the same household, then the spouse or partner was also recruited to be part of the MHAS regardless of his/her age.

The 2012 follow-up visit to all panel individuals was conducted in the fall of 2012. In addition, the sample was refreshed by adding a representative sample of the population from the 1952-1961 birth cohorts, as well as their spouses/partners regardless of age. Similar to the baseline interview, the sampling frame for the new cohort sample was the Mexican National Employment and Occupation Survey (ENOE, previously named National Employment Survey, ENE) 2012.

¹ Wong R, Michaels-Obregon A, Palloni A. Cohort Profile: The Mexican Health and Aging Study (MHAS). *Int. J. Epidemiol.* (2015). First published online: January 27, 2015. *Int. J. Epidemiol.* (2015). First published online: January 27, 2015. doi: 10.1093/ije/dyu263

III. Data sets content

The restricted datasets are created by the MHAS team to answer specific research questions. The team considers the feasibility of the linkage, the importance of the research questions that can be answered, and the willingness to have the linked files available to all users. The MHAS has created the following linked files:

- Community-level characteristics
- Mortality data
- *Seguro Popular* enrollment

The following is a description of the contents of each data set.

A. Community-level characteristics

In order to extend the analysis that the users can perform with the MHAS data and the availability of external data, the MHAS team combined information with two sources of data at the community-level. The characteristics of the community included in the data sets add important information for studies on the behavior of individuals.

The following databases were used to create this linked file²:

- 1) The household-level file of the Mexican Health and Aging Study (MHAS/ENASEM) 2001.
- 2) The community-level file of the 2000 Mexican Census of Population and Dwellings, provided by INEGI.
- 3) The 2002 Directory of Public Health Sector Facilities, provided by the Mexican Ministry of Health.

² Upon request, the MHAS team will provide the descriptive file "*MHAS 2001 Community Linkage – Public Release.pdf*", that includes the content of the final restricted data file.

B. Mortality data

Although the MHAS design enables the analysis of mortality at the individual level, a set of mortality restricted-files was constructed to enhance the analysis and to allow municipality and community level comparisons. The mortality data at municipality and community level comes from the Health Impairment and Births Subsystem of the National System for Health Information (SINAIS), provided by the Mexican Ministry of Health.

Two groups of data sets were constructed: a set including the linkages of death counts by cause and a set including the linkages of death counts grouped as violent or non-violent. The mortality-restricted files include mortality registries at the municipality (*municipio*) and community (*localidad*) level.

a) Linkages with death counts by cause

The MHAS files were linked at the individual level to the mortality registries to include the number of deaths by cause. The linkage was done at municipality level (*municipio*). The death counts set of restricted data includes 14 files per wave (2001, 2003 and 2012), one for each year of mortality counts from 1998 to 2011. Each MHAS observation was linked to the mortality registries of each municipality from 1998 to 2011 and the observations in each file correspond to the number of completed interviews in each wave.

The following databases were used to create this linked file³:

- 1) The individual-level files of the Mexican Health and Aging Study (MHAS/ENASEM) 2001, 2003 and 2012
- 2) The municipality-level file of the 1998-2011 datasets with general deaths of the Health Impairment and Births Subsystem of the National System for Health Information (SINAIS), provided by the Mexican Ministry of Health.

³ Upon request, the MHAS team will provide the descriptive file "*MHAS Death Counts Linkages.pdf*", that includes the content of the final restricted data file.

b) Linkages with violent and non-violent death counts

The violent and non-violent death counts set of restricted data includes 3 files, one for each wave of the MHAS (2001, 2003 and 2012). The files were linked at the individual level to the mortality registries to include i) the number of deaths classified as violent or non-violent, ii) the violent and non-violent death rates and iii) the State and Municipality population. The death counts at municipality (*municipio*) and state (*entidad*) level were used; each observation was linked to the mortality registries from 1998 to 2011.

The following databases were used to create this linked file⁴:

- 1) The individual-level files of the Mexican Health and Aging Study (MHAS/ENASEM) 2001, 2003 and 2012
- 2) The municipality-level file of the 1998-2011 datasets with general deaths of the Health Impairment and Births Subsystem of the National System for Health Information (SINAIS), provided by the Mexican Ministry of Health.
- 3) The total population files of the 2000 and 2010 Mexican Census of Population and Dwellings, provided by INEGI.

C. ***Seguro Popular*** enrollment

Seguro Popular is a social protection policy designed to provide access to health insurance and regular and preventive medical care to uninsured Mexicans. The linked data set allows extending the research on health insurance coverage by incorporating the *Seguro Popular* coverage at the state level over time.

This restricted file was created at the individual level to link data from the *Seguro Popular* to each wave of the MHAS (2001, 2003 and 2012). From *Seguro Popular*, the linkage was done at state level (*entidad*); including, for each observation, i) the number of enrollees to the *Seguro Popular*, ii) the population estimates from National Population

⁴ Upon request, the MHAS team will provide the descriptive file *MHAS Violent and Non-violent Linkages.pdf*, that includes the content of the final restricted data file.

Council (CONAPO) and INEGI, and iii) the percentages of enrolled population to Seguro Popular using CONAPO and INEGI's population.

The following databases were used to create this linked file:

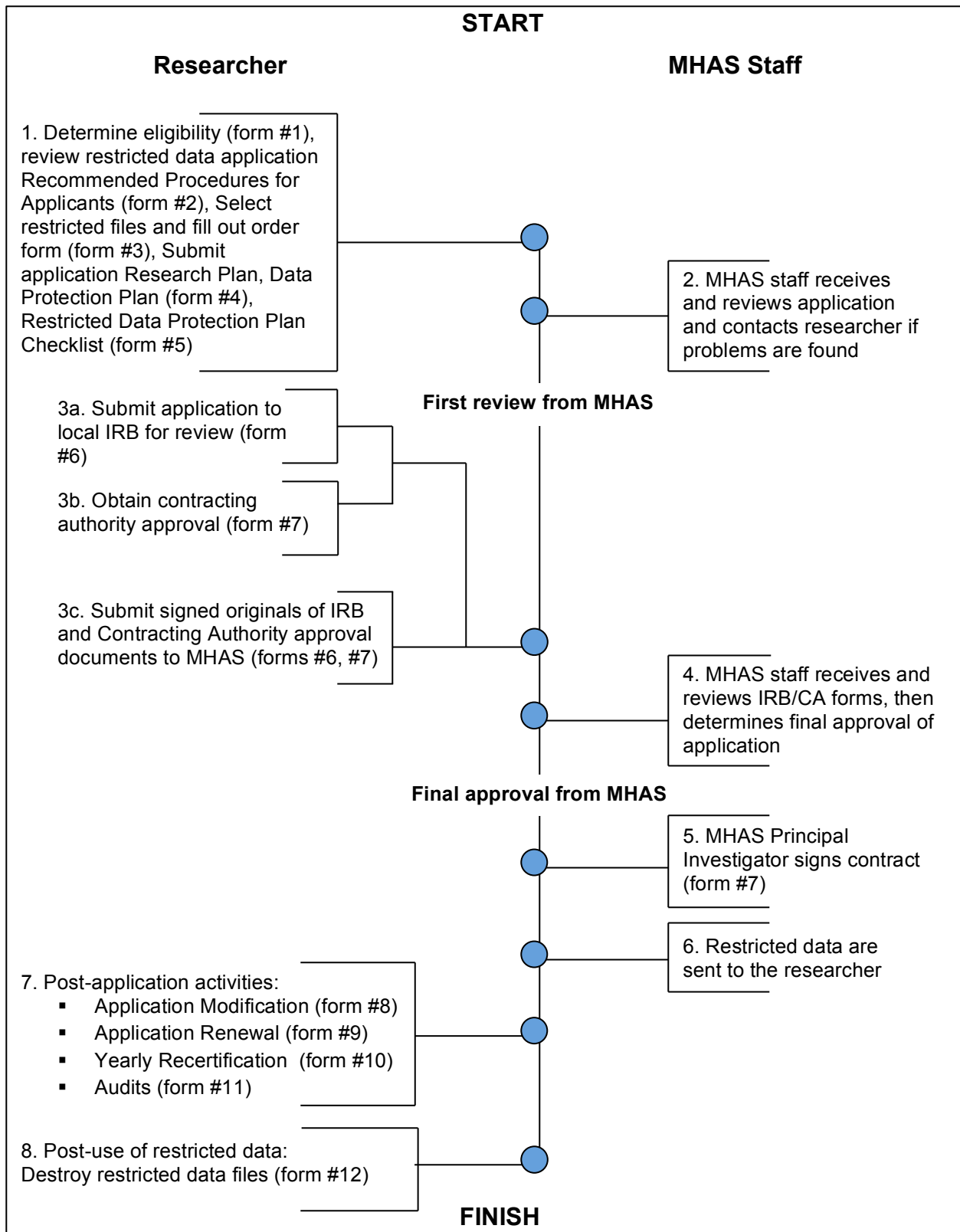
- 1) The individual-level files of the Mexican Health and Aging Study (MHAS/ENASEM) 2001, 2003 and 2012
- 2) The state-level file of the 2002 to 2012 cumulative enrollees to the Seguro Popular, provided by the National Committee of Health Protection of the Ministry of Health⁵.
- 3) The state-level population projections from 2002 to 2012, provided by the National Population Council (CONAPO).

The description of this linked file is included in the document: "*MHAS 2001 Seguro Popular linkages.pdf*" which can be found in the MHAS website.

⁵ Upon request, the MHAS team will provide a descriptive file that includes the content of the final restricted data file.

IV. Procedure to Obtain the Restricted-Use data

Figure 1. Process to obtain MHAS restricted data



A. Application overview

The figure above describes the process to obtain the restricted MHAS data. The following is a brief description for each step in the process.

Preliminary Steps

- 1) After reviewing this document and the available data files, a researcher needs to review Form 1 for eligibility requirements. Researchers are recommended to begin the process by reviewing the application forms and procedures (Form 1). If the researchers find the necessary data, they should submit a preliminary application package, Forms 1 to 5, including a short research proposal and a data protection plan, and a data protection plan checklist.
- 2) After the application is received, the MHAS group will review the application. If problems are found with the application, the group will contact the researcher to resolve the issue. Once the review is complete the group will issue the "FIRST APPROVAL" for the project and will assign a project number.

Final Review

- 3) After the application is complete, Form 6 needs to be forwarded to the researcher's institutional IRB for review and approval. If "FINAL APPROVAL" is granted the researcher and the MHAS representative will sign the restricted data agreement (Form 7), and the researcher will need to submit a signed original of IRB and Contracted Authority approval documents to the MHAS group.
- 4) MHAS staff will then review the submitted forms, and will determine final approval of the application.
- 5) And, the MHAS representative will sign the contract.
- 6) Access to the restricted data will be given to the researchers.

Post-Application Activities

- 7) If the institutional or physical circumstances of the researchers change, such as if new persons are added to the project or there is a department/institution change, they should contact the MHAS to modify the agreement. To report any change

they should use Form 8. Additionally, Form 9 must be used every year to recertify the project. Also, if the researchers need to continue with analysis of the data after the expiration date of the initial agreement, they will need to submit Form 10. Finally, the MHAS group will complete periodic audits to all ongoing projects to ensure that all conditions of the agreement are being met.

Post-Use of Restricted Data

- 8) After the contractual agreement expires, researchers will need to destroy the data files and submit Form 12.

B. Publications

The restricted contractual agreement specifies that researchers will need to inform MHAS of any papers, publications, or presentations based on this restricted data set. Researchers will need to send the publication list in PDF format to info@mhasweb.com.