

Supplemental material for the article: Avoidable deaths caused  
stagnation and reversal in survival improvements among adults in  
Mexican states, 1990-2015

José Manuel Aburto<sup>1</sup> and Tim Riffe<sup>2</sup>

<sup>1</sup>Department of Public Health & Max Planck Odense Center on the Biodemography of  
Aging at University of Southern Denmark

<sup>2</sup>Max Planck Institute for Demographic Research

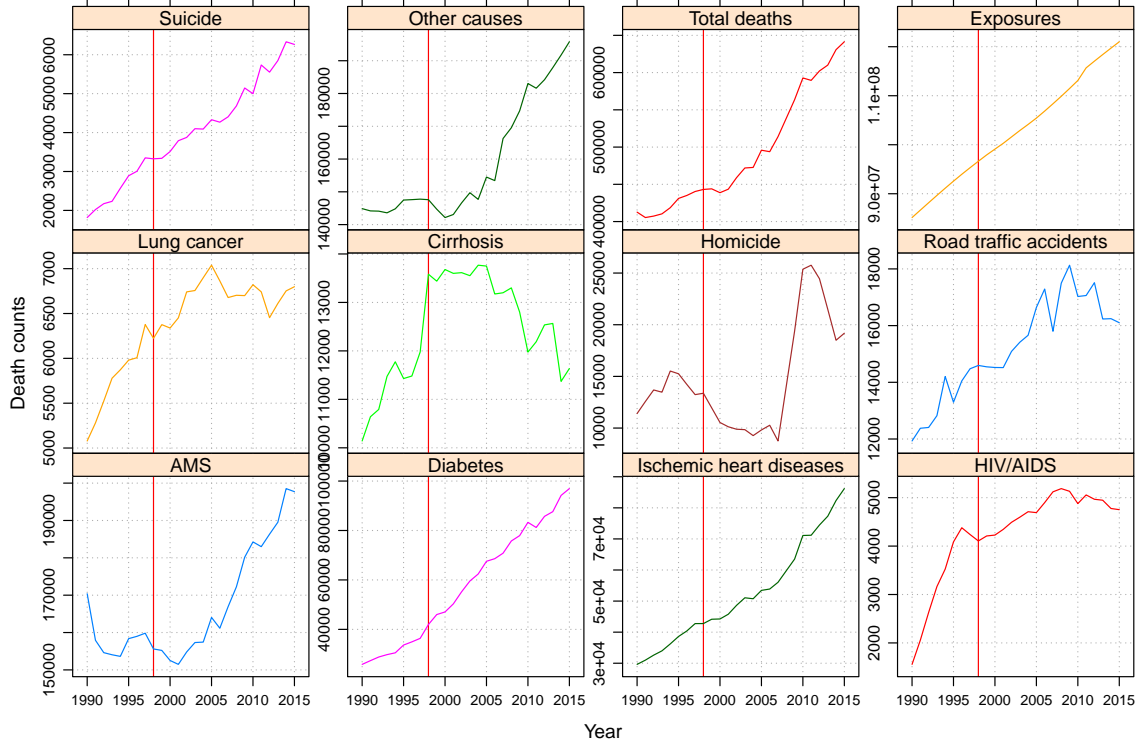
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## Supplemental material

Appendix Table 1. Definitions of cause-of-death categories using the 9th and 10th revision of the International Classification of Diseases.

Category	ICD-10	ICD-9
<b>I. Amenable to medical service</b>		
I.A. AM-Infectious & respiratory diseases : intestinal infections, tuberculosis, zoonotic bacterial diseases, other bacterial diseases, septicemia, poliomyelitis, measles, rubella, infectious hepatitis, ornithosis, rickettsioses/ arthropod-borne, syphilis (all forms), yaws, respiratory diseases, influenza & pneumonia, chronic lower respiratory diseases	A00-A09, A16-A19, B90, A20-A26, A28, A32, A33, A35, A36, A37, A40-A41, A80, B05-B06, B15-B19, A70, A68, A75, A77, A50-A64, A66, J00-J08, J20-J39, J60-J99, J09-J18, J40-J47	001-009, 010-018, 32, 33, 37, 137, 020-027, 38, 45, 55-56, 70, 73, 080-082, 087, 090-099, 102, 460-479, 500-519, 480-488, 490-496
I.B. AM-Cancers: malignant neoplasm of colon, skin, breast, cervix, prostate, testis, bladder, kidney-Wilm's tumor only, eye, thyroid carcinoma, Hodgkins disease, leukemia	C16,C18-C21, C43-C44, C50, C53, C61, C62, C67, C64, C69, C73, C81, C91-C95	153-154, 172-173, 174, 180, 185, 186, 188-189, 190, 193, 201, 204-208
I.C. AM-Circulatory: active/acute rheumatic fever, chronic rheumatic heart disease, hypertensive disease, cerebrovascular disease	I00-I02, I05-I09, I10-I13, I15, I60-I69	390-392, 393-398, 401-405, 430-438
I.D. AM-Birth: maternal deaths (all), congenital cardiovascular anomalies, perinatal deaths (excluding stillbirths)	O00-O99, Q20-Q28, P00-P96	630-676, 745-747, 760-779
I.E. AM-Other: disease of thyroid, epilepsy, peptic ulcer, appendicitis, abdominal hernia, cholelithiasis & cholecystitis, nephritis, benign prostatic hyperplasia, misadventures to patients during surgical or medical care, cisticercosis	E00-E07, 40-G41, K25-K27, K35-K38, K40-K46, K80-K81, N00-N07, N17-N19, N25-N27, N40, Y60-Y69, Y83-Y84, B69	240-246, 345, 531-533, 540-543, 550-553, 574-575.1, 580-589, 600, E870-E876, E878-E879
<b>II. Diabetes</b>	E10-E14	250
<b>III. Ischemic Heart Diseases (IHD)</b>	I20-I25	410-414, 429.2
<b>IV. HIV/AIDS</b>	B20-B24	279.1, 042-044
<b>V. Lung cancer</b>	C33-C34	162
<b>VI. Cirrhosis</b>	K70	571.1-571.3
<b>VII. Homicides</b>	X85-Y09	E960-E969
<b>VIII. Road traffic accidents</b>	V01-V99	E810-E819
<b>IX. Suicide and self-inflicted injuries</b>	U03, X60-X84, Y87.0	E950-E959
<b>X. Residual Causes</b> : other cancers and other heart diseases	C00-D48, I00-I99 if not listed above, R00-R99	140-239, 390-459 if not listed above, 780-799

Figure 1: Cause-specific mortality counts, 1990-2010.



Note: AMS “amenable to medical service”. The red line indicates the change in ICD revision.

## Temporary Life Expectancy

Temporary life expectancy between ages  $x_1$  and  $x_2$ , for  $x_1 < x_2$ , is defined as the average years of life lived between these ages according to a given set of mortality rates (?). We denote this quantity as  $e(x_1, x_2)$ , and its benchmark minimum as  $e^*(x_1, x_2)$ . Defined in terms of lifetable survivorship,  $\ell(x)$ :

$$e(x_1, x_2) = \frac{\int_{x_1}^{x_2} \ell(x) dx}{\ell(x_1)} \quad (1)$$

If full survival is achieved, the maximum life expectancy is  $x_2 - x_1$ . For example, if we set  $x_1 = 0$  and  $x_2 = 14$ , if no person dies between the ages 0 and 14, on average the population lives 14 full years.

Figure 2: Survival inequality by age group and sex, 1990-2010.

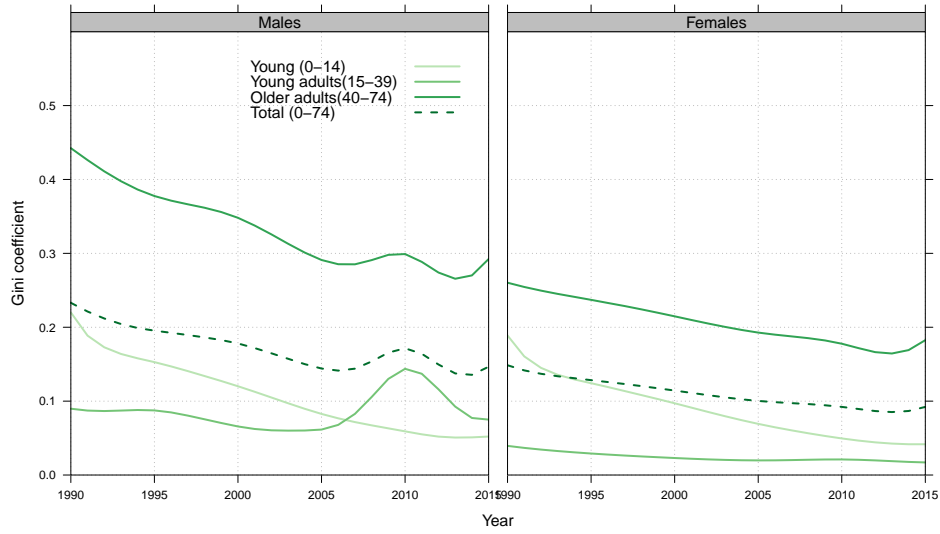
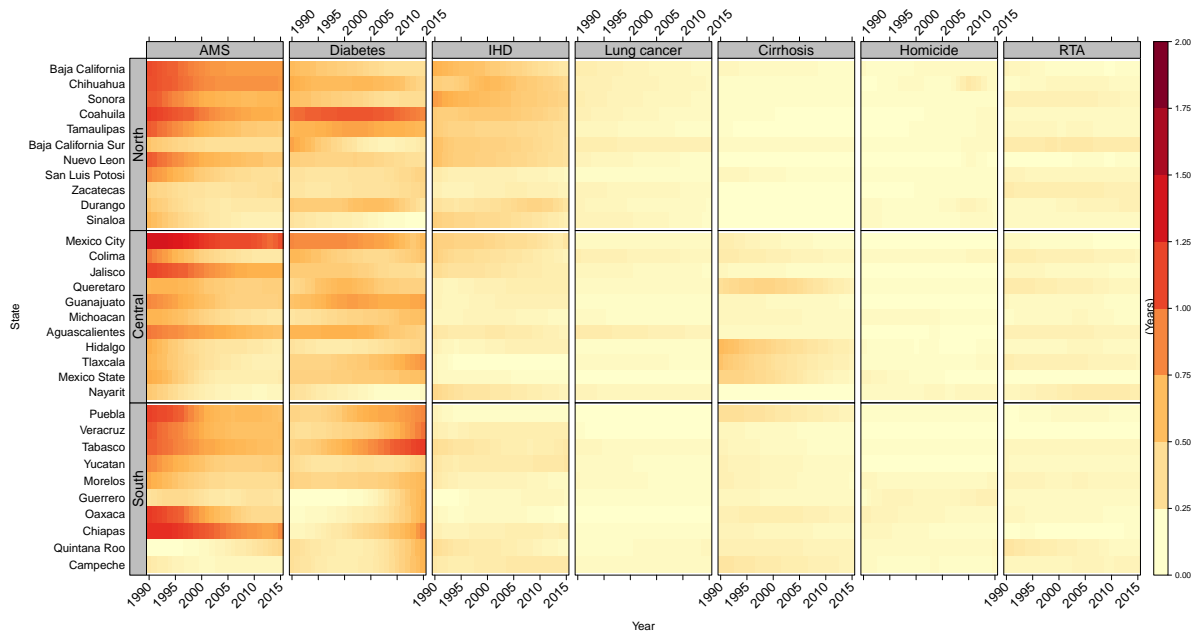
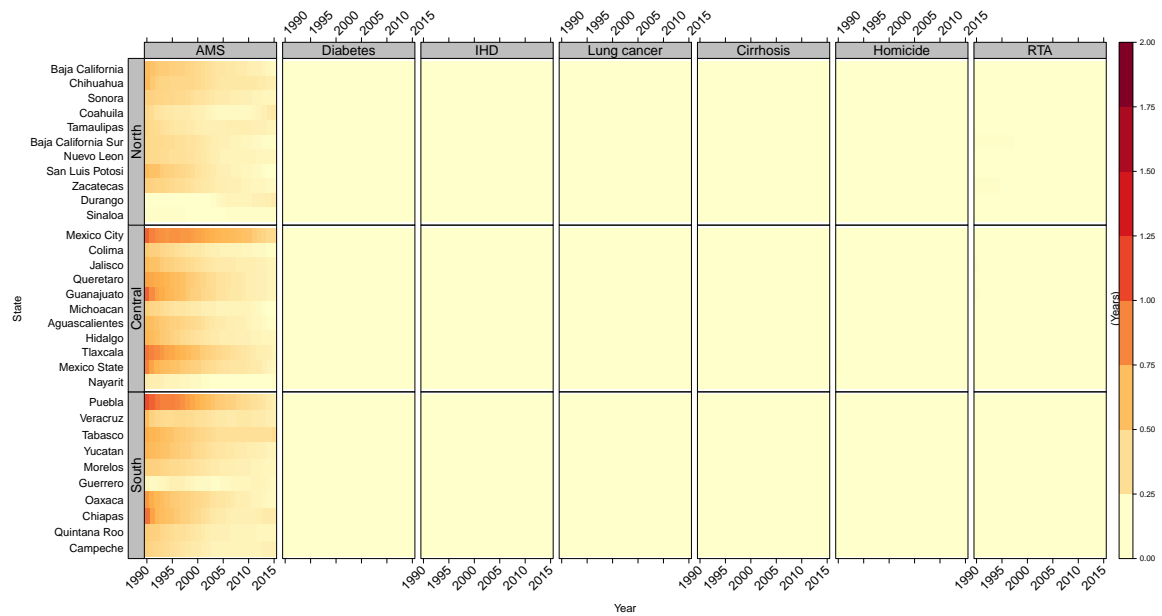


Figure 3: Cause-specific contributions to state differences from low mortality benchmark for older female adults, 1990-2010. States grouped into three regions.)



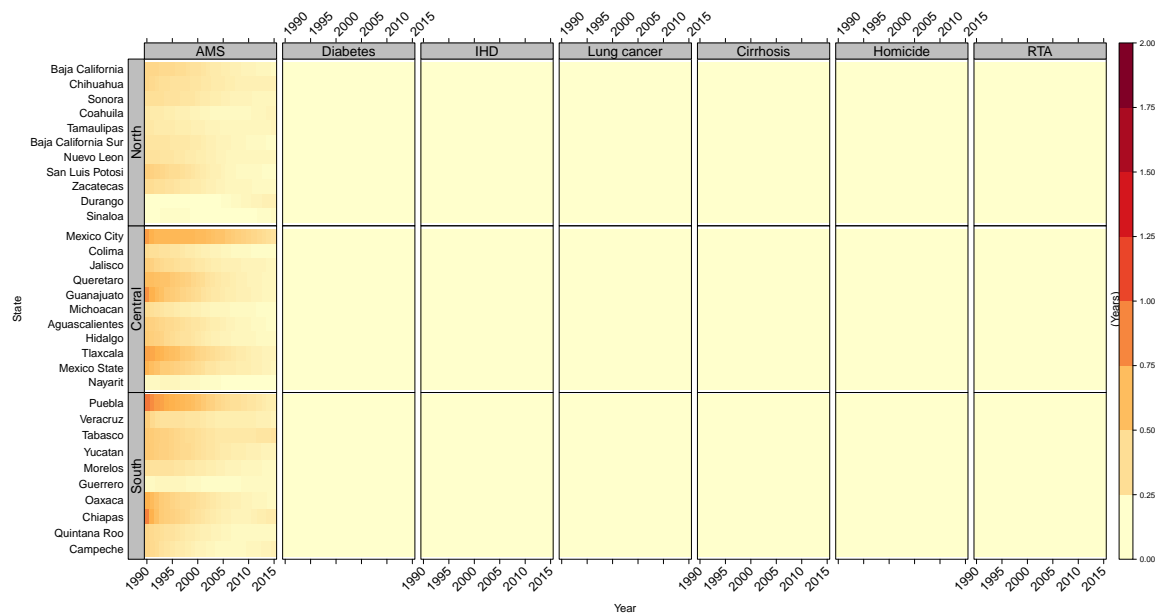
Note: AMS is “amenable to medical service”, IHD is “ischemic heart diseases”, and RTA is “road traffic accidents”.

Figure 4: Cause-specific contributions to state differences from low mortality benchmark for male young people, 1990-2010.



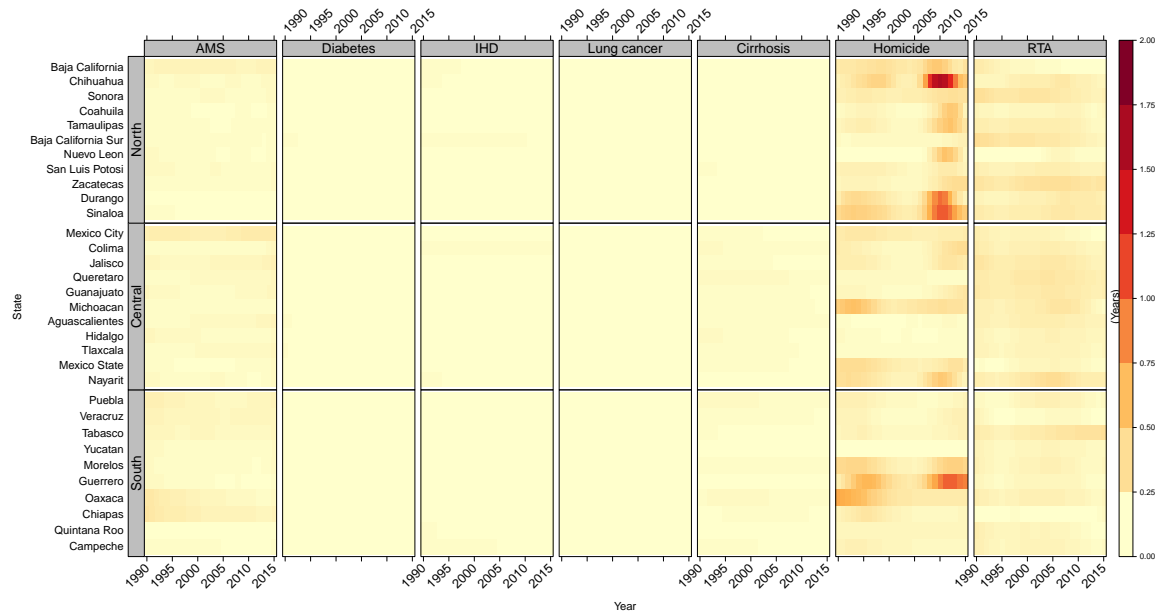
Note: AMS is “amenable to medical service”, IHD is “ischemic heart diseases”, and RTA is “road traffic accidents”.

Figure 5: Cause-specific contributions to state differences from low mortality benchmark for female young people, 1990-2010.



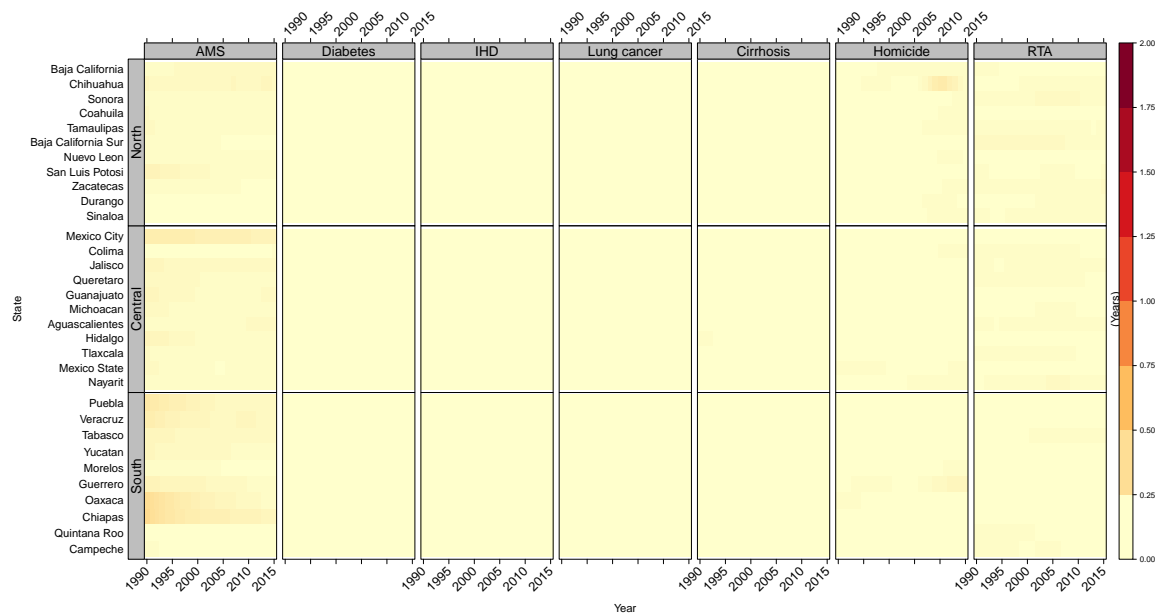
Note: AMS is “amenable to medical service”, IHD is “ischemic heart diseases”, and RTA is “road traffic accidents”.

Figure 6: Cause-specific contributions to state differences from low mortality benchmark for male young adults, 1990-2010.



Note:  
AMS is “amenable to medical service”, IHD is “ischemic heart diseases”, and RTA is “road traffic accidents”.

Figure 7: Cause-specific contributions to state differences from low mortality benchmark for female young adults, 1990-2010.



Note:  
AMS is “amenable to medical service”, IHD is “ischemic heart diseases”, and RTA is “road traffic accidents”.

Figure 8: Distance from low mortality benchmark for selected years between ages 0-14

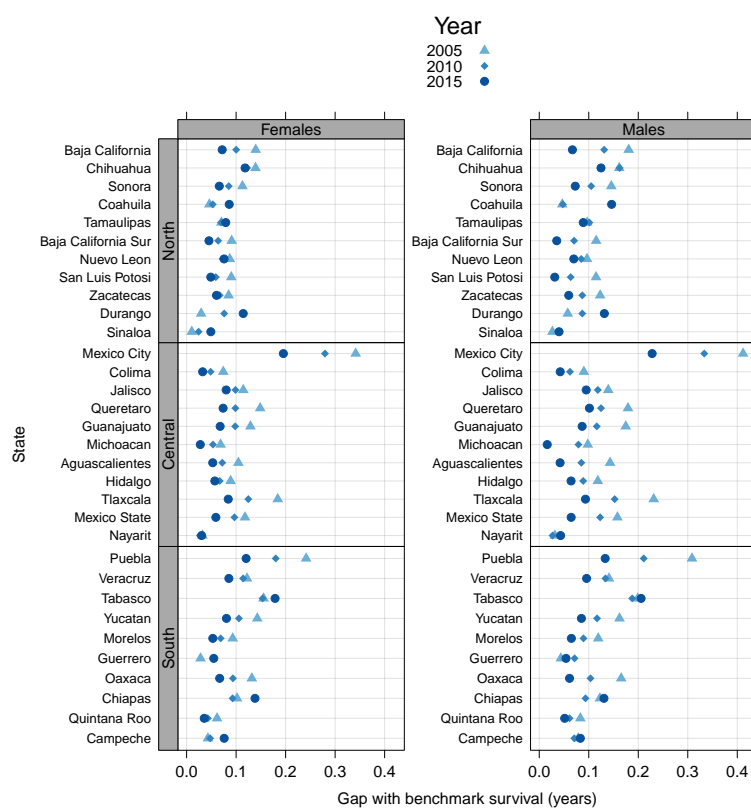


Figure 9: Distance from low mortality benchmark for selected years between ages 15-39

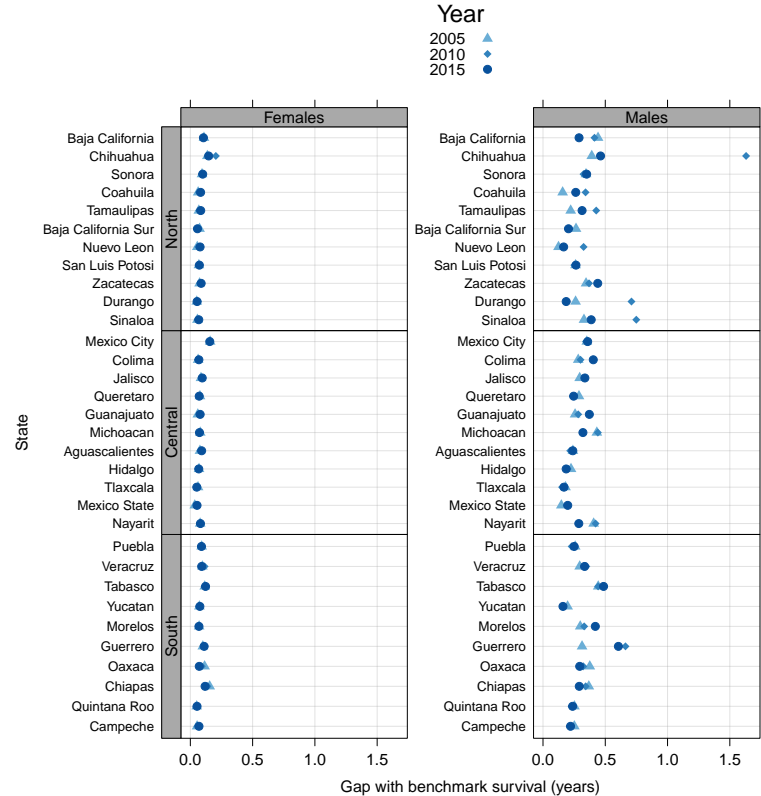




Figure 10: Distance from low mortality benchmark for selected years between ages 40-74

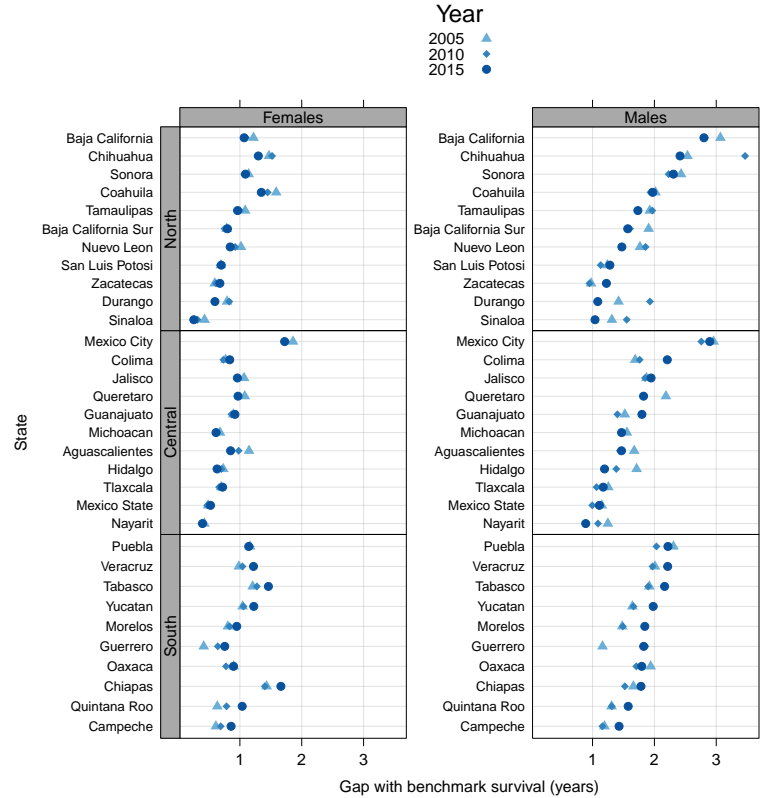


Figure 11: Proportion by cause of death from benchmark mortality.

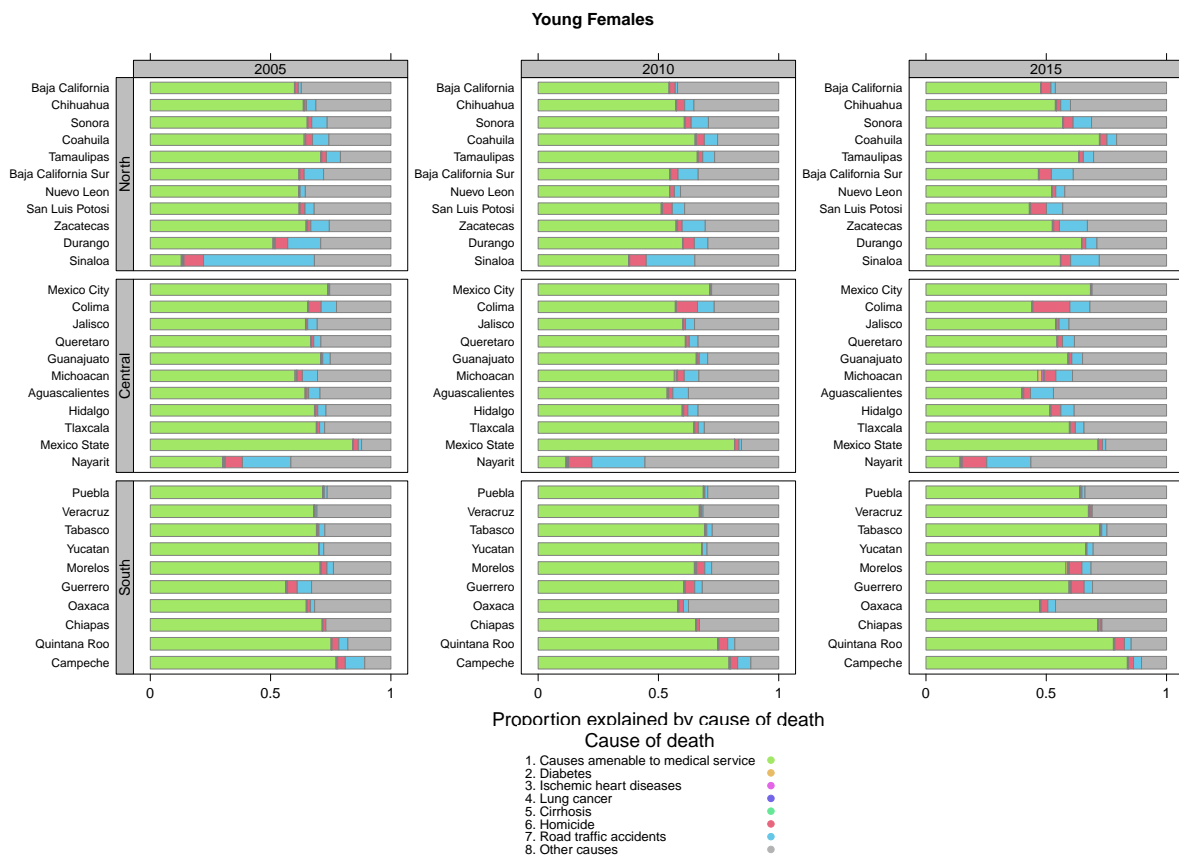


Figure 12: Proportion by cause of death from benchmark mortality.

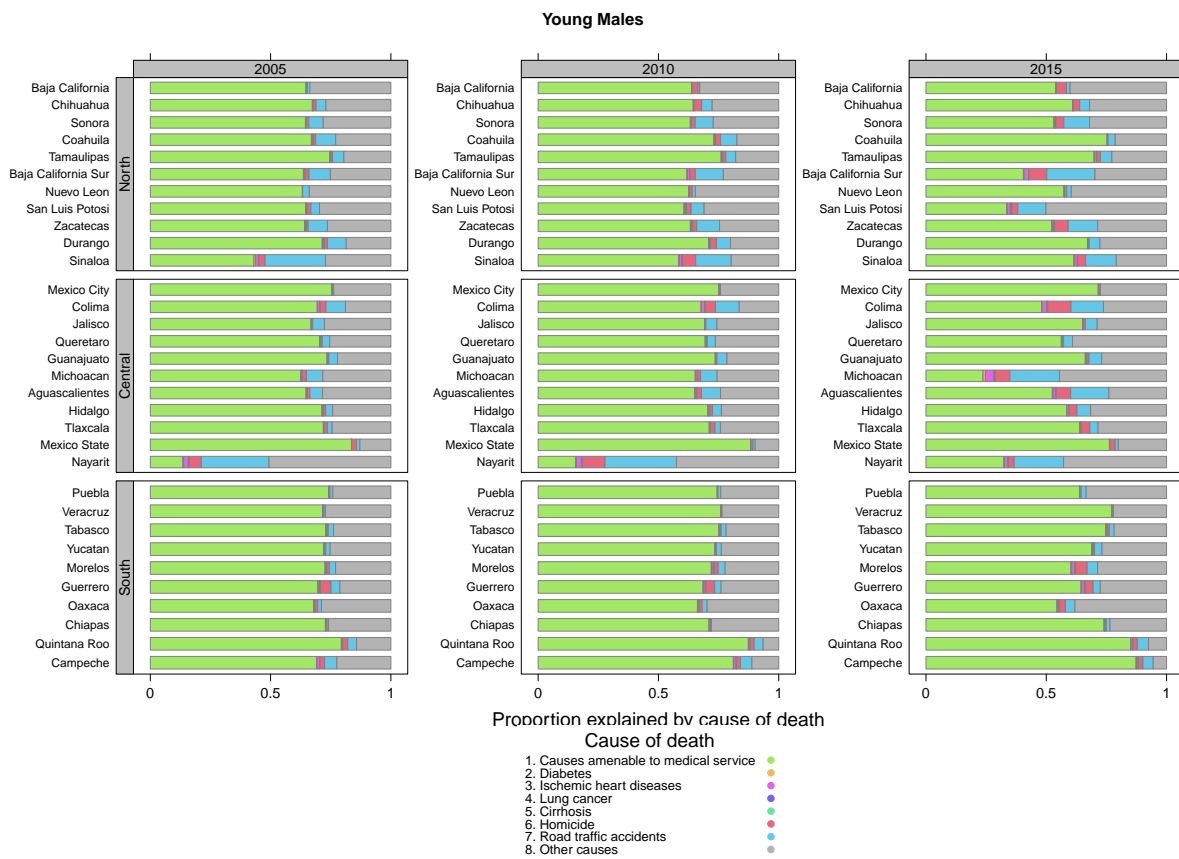


Figure 13: Proportion by cause of death from benchmark mortality.

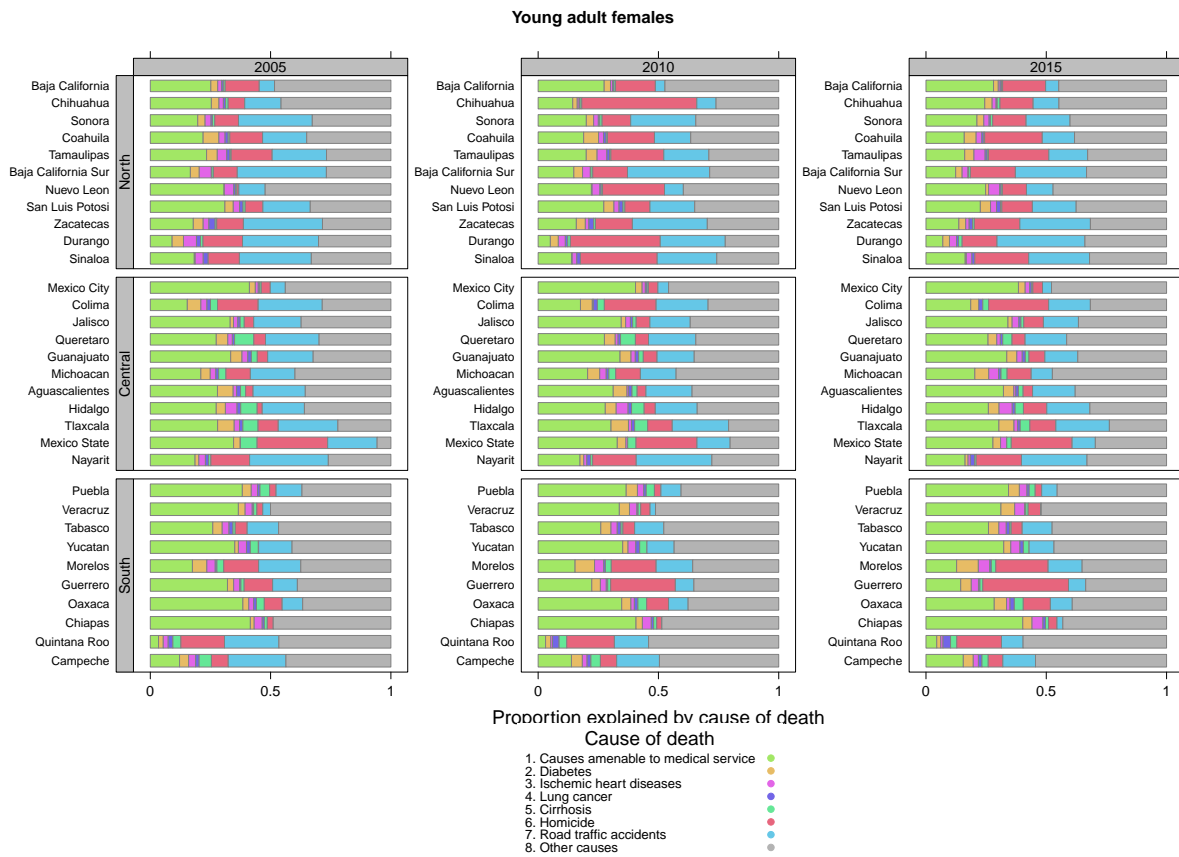


Figure 14: Proportion by cause of death from benchmark mortality.

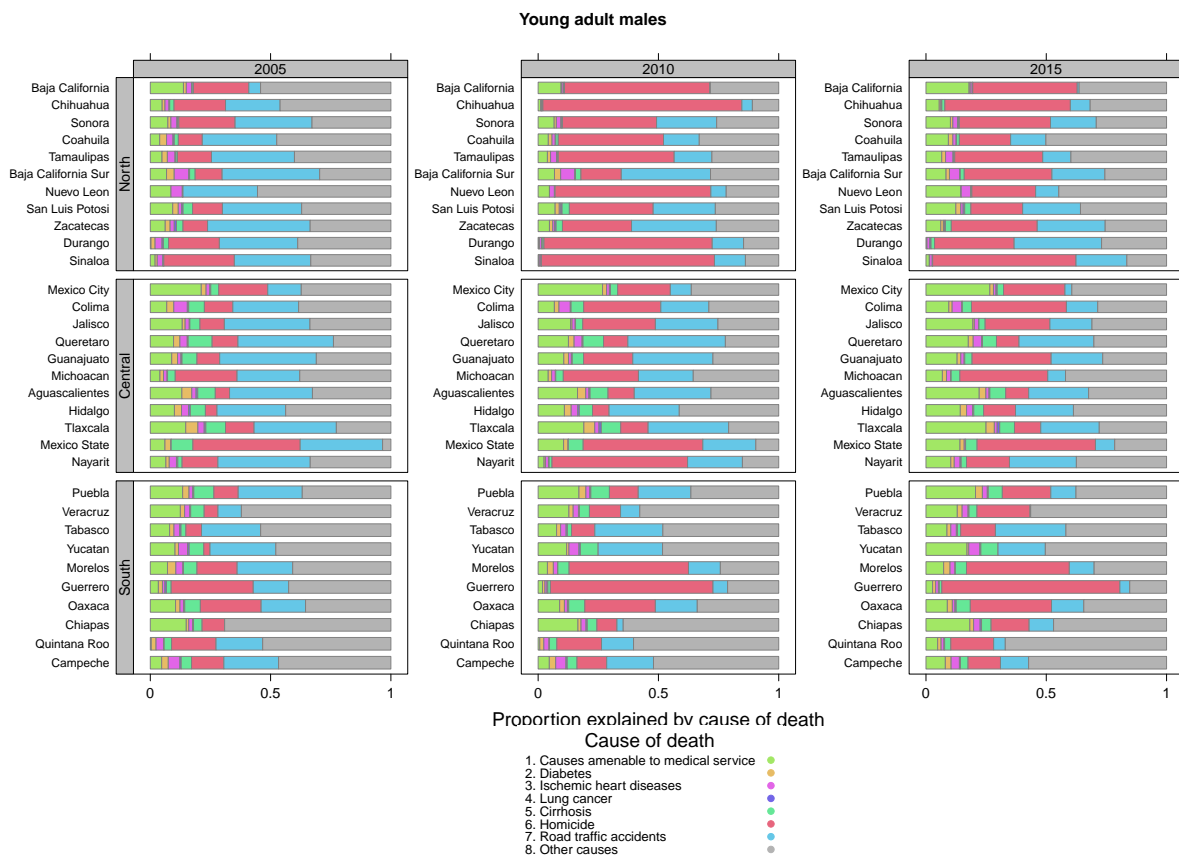


Figure 15: Proportion by cause of death from benchmark mortality.

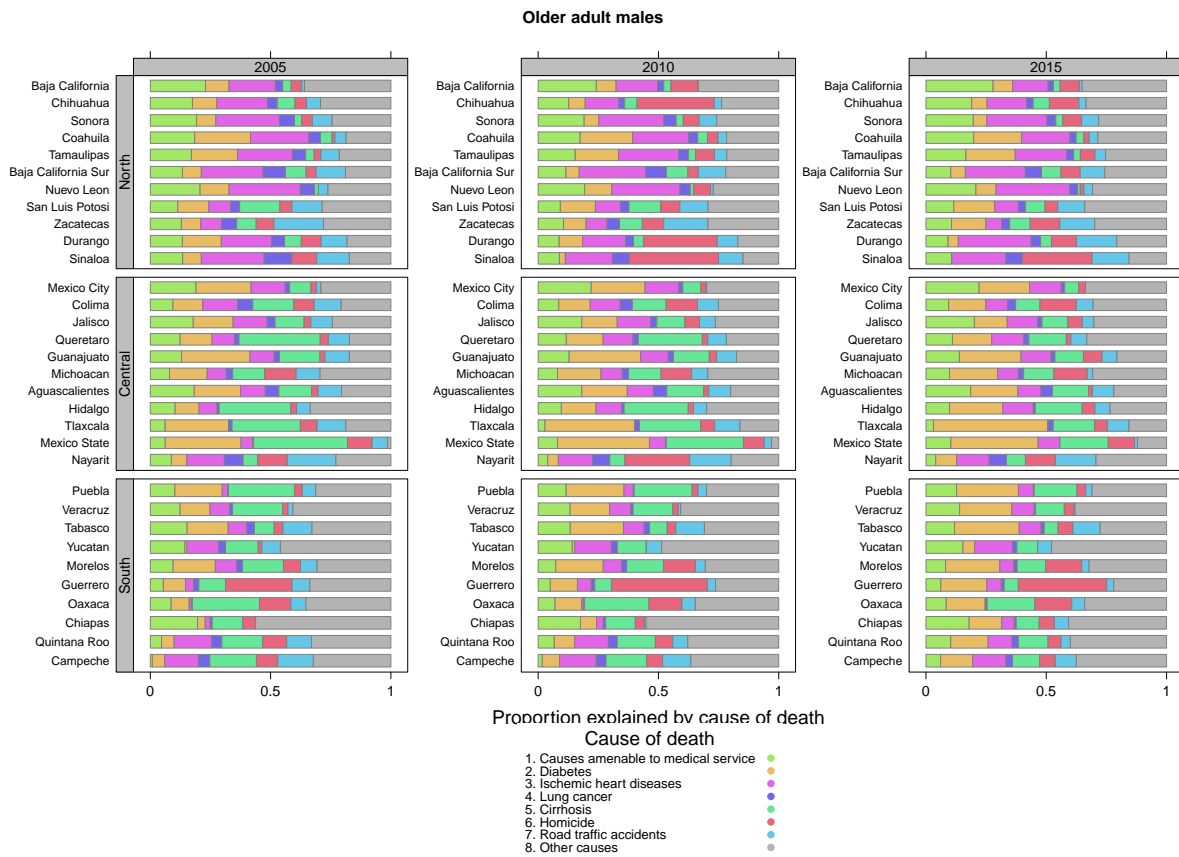


Figure 16: Proportion by cause of death from benchmark mortality.

