

Supplementary Table 2. Goodness of Fit of the Age-Period-Cohort Models for gastric cancer incidence and mortality (1996-2012) by sex, in adults aged ≥ 20 years old, in three Brazilian cities: Belem (1996-2010), Fortaleza (1990-2006) and Sao Paulo (1997-2012).

PBCR and Model	Male				Female				
	Resid	Resid	Deviance	p*	Resid	Resid	Deviance	p*	
	df	Dev			df	Dev			
Incidence									
Fortaleza	Age	34	54.320			34	40.641		
	Age-drift	33	46.833	7.486	0.006	33	36.284	4.357	0.037
	Age-Cohort	30	33.051	13.783	0.003	30	34.753	1.531	0.680
	Age-Period-Cohort	29	31.750	1.301	0.254	29	32.922	1.831	0.176
	Age-Period	32	44.986	-13.236	0.004	32	34.521	-1.599	0.660
	Age-drift	33	46.833	-1.847	0.174	33	36.284	-1.763	0.184
Belem	Age	34	59.527			34	57.779		
	Age-drift	33	58.077	1.451	0.229	33	56.293	1.486	0.223
	Age-Cohort	30	57.750	0.327	0.955	30	50.624	5.668	0.129
	Age-Period-Cohort	29	34.406	23.344	<0.001	29	35.158	15.467	<0.001
	Age-Period	32	34.931	-0.526	0.913	32	42.471	-7.313	0.063
	Age-drift	33	58.077	-23.146	<0.001	33	56.293	-13.822	<0.001
Sao Paulo	Age	34	1519.06			34	747.62		
	Age-drift	33	108.04	1411.03	<0.001	33	124.29	623.33	<0.001
	Age-Cohort	30	100.03	8.01	0.046	30	89.67	34.61	<0.001
	Age-Period-Cohort	29	66.80	33.23	<0.001	29	80.33	9.35	0.002
	Age-Period	32	77.62	-10.82	0.013	32	117.30	-36.97	<0.001
	Age-drift	33	108.04	-30.41	<0.001	33	124.29	-6.99	0.008
Mortality									
Fortaleza	Age	34	53.682			34	37.538		
	Age-drift	33	35.723	17.960	<0.001	33	36.289	1.249	0.264
	Age-Cohort	30	32.535	3.187	0.364	30	36.071	0.218	0.975

Belem	Age-Period-Cohort	29	28.831	3.705	0.054	29	35.016	1.054	0.305
	Age-Period	32	31.489	-2.658	0.447	32	35.196	-0.180	0.981
	Age-drift	33	35.723	-4.234	0.040	33	36.289	-1.092	0.296
	Age	34	66.640			34	58.487		
	Age-drift	33	46.372	20.268	<0.001	33	46.584	11.903	<0.001
	Age-Cohort	30	44.104	2.268	0.519	30	44.344	2.240	0.524
	Age-Period-Cohort	29	40.263	3.841	0.050	29	39.005	5.339	0.021
	Age-Period	32	42.799	-2.537	0.469	32	41.112	-2.107	0.551
	Age-drift	33	46.372	-3.573	0.059	33	46.584	-5.472	0.019
	Age	34	279.665			34	168.199		
Sao Paulo	Age-drift	33	55.108	224.558	<0.001	33	77.119	91.080	<0.001
	Age-Cohort	30	52.872	2.235	0.525	30	62.338	14.781	0.002
	Age-Period-Cohort	29	46.901	5.971	0.015	29	49.250	13.088	<0.001
	Age-Period	32	49.555	-2.653	0.448	32	64.436	-15.186	0.002
	Age-drift	33	55.108	-5.553	0.018	33	77.119	-12.683	<0.001

Abbreviations: PBCR, population-based cancer registry; Resid Dev, residual deviance for the Poisson model; Resid df, degrees of freedom from deviance residue. *P value based on the χ^2 test. In bold: The model with better adjusted.