SART: Statistical Analysis of Rates and Trends

SART

Statistical Analysis of Rates and Trends

Descriptive
This application allows the automatic calculation of a descriptive table containing the number of cases (N) and its percentage (%), the crude rate (CR), the age standardized rate (ASR, with any standard population provided by the user), the truncated ASR rate (TR) and the cumulative rate (CumulR).

Estimated Annual Percent Change (EAPC)
This web application allows the computation of the Estimated Annual Percent Change (EAPC) and its confidence interval for the sex and disease-groups defined by the user. Under the assumption of linearity on the log scale, which is equivalent to a constant change assumption, the EAPC is calculated using a generalized linear model considering a Gaussian distribution for the age-standardized rate.

Expected cases
The purpose of this application is to produce the expected number of cases for a certain population based on the time trends from the data file provided. The population for which the expected number of cases needs to be computed can either be from the same geographical area but in a different time period or from a different geographical area.

Standardized Incidence or Mortality Ratio (SIMR)
This tool allows automated calculation of the standardized incidence or mortality ratio (SIMR) and its confidence interval. The SIMR is the ratio of cases observed versus the expected. The user should provide the observed population incidence and mortality by cause and sex and age group and the comparison population (reference).

SART User Manual (PDF)

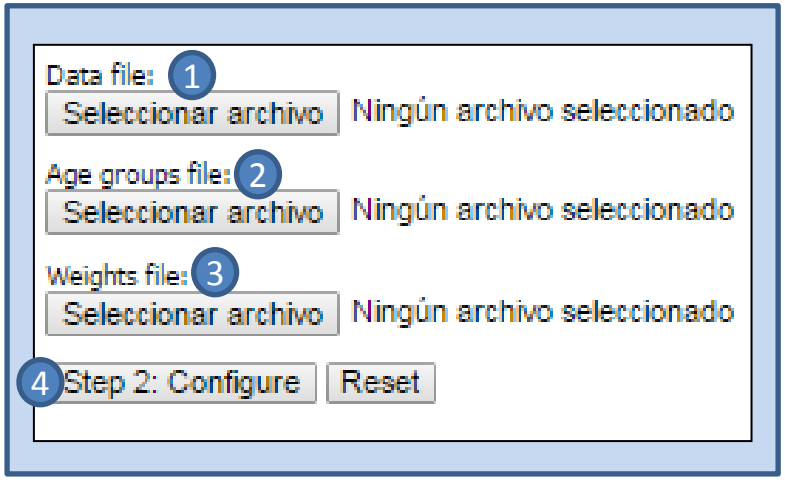
References:

Esteban L, Clèries R, Langohr K, Gálvez J, Pareja L, Escribà JM, et al. Statistical Analysis of Rates and Trends (SART): a web-based tool for statistical calculation of population indicators. Gac Sanit [Internet]. 2011 Jun 27 [cited 2011 Aug 25];25(5):427–31.

Esteban L, Clèries R, Gálvez J, Pareja L, Escribà JM, Sanz X et al. REGSTATTOOLS: freeware statistical tools for the analysis of disease population databases used in health and social studies.Izquierdo A, Galcerán J, Ribes J. BMC Public Health. 2013 Mar 7; 13:201. doi: 10.1186/1471-2458-13-201.

Descriptive

Parameter setting in Descriptive: Step 1



1 Upload a data file:

	sex	age.group	year	group	cases	population
2	1	1	1995	OCF	0	139524
3	1	2	1995	OCF	0	148256
4	1	3	1995	OCF	0	182722
5	1	4	1995	OCF	0	244917
6	1	5	1995	OCF	0	258545
7	1	6	1995	OCF	0	247004
8	1	7	1995	OCF	2	236438
9	1	8	1995	OCF	6	221344
10	1	9	1995	OCF	11	202763
11	1	10	1995	OCF	29	201789
12	1	11	1995	OCF	36	177580
13	1	12	1995	OCF	46	153287
14	1	13	1995	OCF	50	165323
15	1	14	1995	OCF	32	144589
16	1	15	1995	OCF	33	116133
17	1	16	1995	OCF	16	69179
18	1	17	1995	OCF	8	44775
19	1	18	1995	OCF	13	28170
20	1	1	1996	OCF	0	138277
21	1	2	1996	OCF	0	144892
22	1	3	1996	OCF	0	173339

2 Upload an age groups file:

	age.group.id	min.age.group	max.age.group
2	1	0	4
3	2	5	9
4	3	10	14
5	4	15	19
6	5	20	24
7	6	25	29
8	7	30	34
9	8	35	39
10	9	40	44
11	10	45	49
12	11	50	54
13	12	55	59
14	13	60	64
15	14	65	69
16	15	70	74
17	16	75	79
18	17	80	84
19	18	85	NA

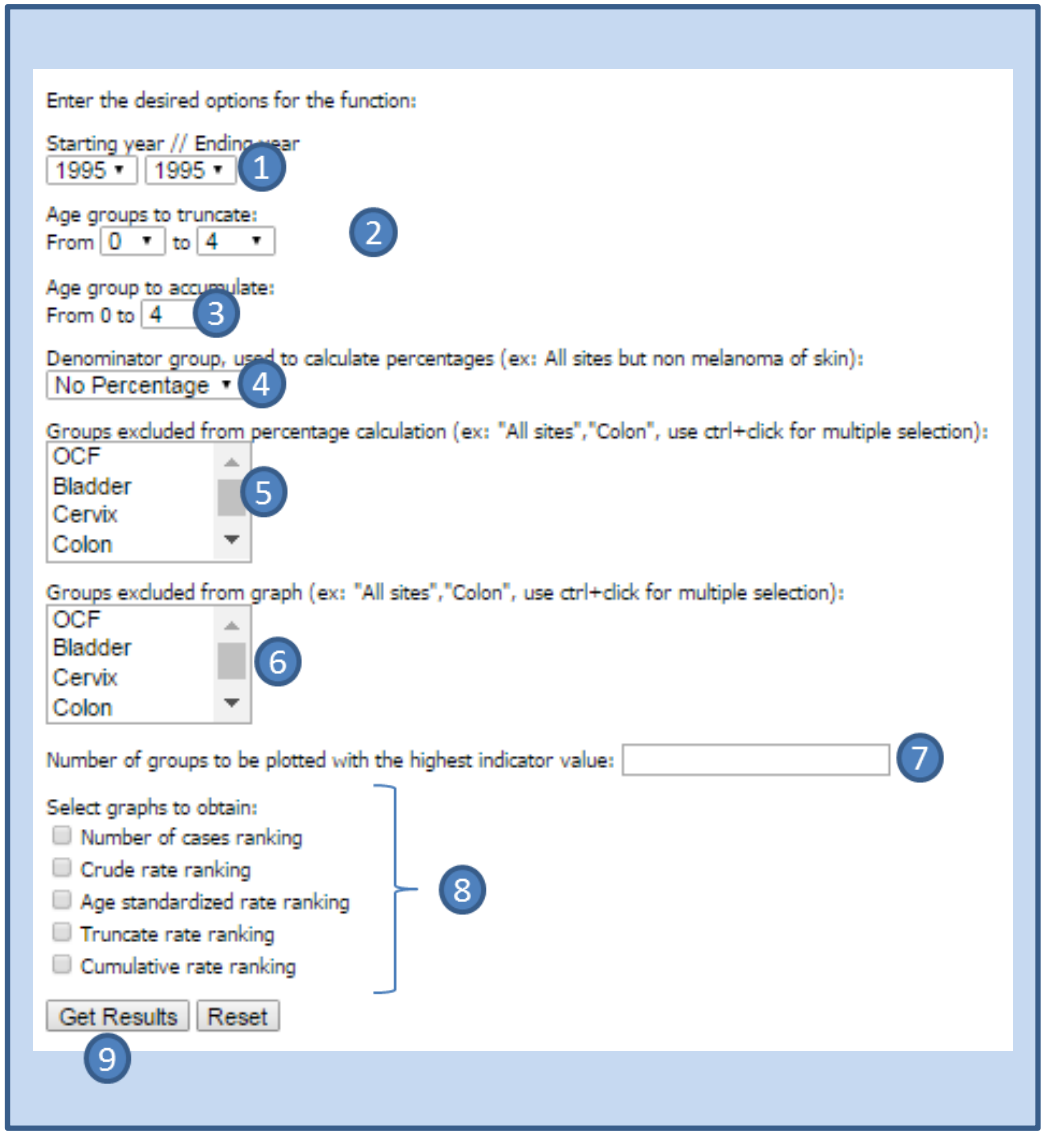
3 Upload a weights file:

	age.group	W
2	1	0.12
3	2	0.1
4	3	0.09
5	4	0.09
6	5	0.08
7	6	0.08
8	7	0.06
9	8	0.06
10	9	0.06
11	10	0.06
12	11	0.05
13	12	0.04
14	13	0.04
15	14	0.03
16	15	0.02
17	16	0.01
18	17	0.005
19	18	0.005

All files must be ASCII type, ";" separated and unquoted values (i.e: ".txt" or ".csv" files).

4 Press “Step2: Configure” to start setting parameters

Parameter setting in Descriptive: Step 2



1. Select the period of analysis
2. Select age groups for the truncated rate
3. Select the age group for the accumulated rate
4. Select the denominator group for the percentage
5. Select group(s) excluded for the percentage
6. Select group(s) excluded for plotting
7. Enter the number of groups for the ranking plot
8. Select the indicator(s) you want to obtain in the ranking plot
9. Press “Get Results”

Descriptive results (I): Descriptive table

1	Descriptive. Period: 1995 - 2004 . Age from 0 to + 85 years.														
2	Men														
3	Group	N(period)	N(annual)	%	Age(Mean)	Age(Median)	CR	Lower CI(CR)	Upper CI(CR)	ASR(W)	Lower CI(ASR)	Upper CI(ASR)	TR(W)	CumulR	CRisk	Ratio
4	OCF	2828	283	3.08	62.5	62.1	9.18	8.84	9.52	6.11	5.88	6.35	11.41	0.85	0.85	7.19
5	Colon	7970	797	8.68	72.7	74.4	25.87	25.3	26.44	13.39	13.08	13.71	12.03	2.24	2.22	1.67
6	Colorrectal	10731	1073	NA	72.5	74	34.83	34.17	35.49	18.19	17.83	18.56	16.69	3.04	2.99	1.77
7	Oesophagus	2545	254	2.76	64.6	64.9	8.26	7.94	8.58	5.27	5.06	5.49	8.9	0.79	0.79	10.76
8	Stomach	5401	540	5.88	70.9	72.4	17.53	17.06	18	9.5	9.23	9.78	10.1	1.58	1.57	2.36
9	Liver	4936	494	5.38	70.6	71.8	16.02	15.57	16.47	8.66	8.41	8.93	8.36	1.59	1.58	2.92
10	Larynx	2382	238	2.59	66.4	66.9	7.73	7.42	8.04	4.73	4.53	4.94	7.29	0.72	0.72	31.53
11	Leukemia	2704	270	2.94	68.2	72.6	8.78	8.45	9.11	5.13	4.91	5.36	4.23	0.73	0.73	1.63
12	HL	268	27	0.29	56.3	59.1	0.87	0.77	0.97	0.61	0.53	0.7	0.88	0.07	0.07	1.97
13	NHL	2056	206	2.24	67.1	70.5	6.67	6.38	6.96	3.9	3.72	4.09	4.77	0.6	0.6	1.55
14	MDMM	1397	140	1.52	72.8	74.4	4.53	4.29	4.77	2.32	2.19	2.46	1.96	0.41	0.41	1.34
15	Skin melano	615	62	0.67	64.6	66.8	2	1.84	2.16	1.22	1.12	1.33	1.85	0.17	0.17	1.51
16	Pancreas	3490	349	3.8	69.5	70.6	11.33	10.95	11.71	6.4	6.18	6.63	7.7	1.07	1.06	1.76
17	Lung	25400	2540	27.65	68.5	69.7	82.45	81.44	83.46	47.41	46.8	48.03	59.94	8.07	7.75	9.96
18	Rectum	2761	276	3	71.6	72.8	8.96	8.63	9.29	4.8	4.61	5	4.66	0.8	0.8	2.11
19	CNS	1995	200	2.18	62.2	65.8	6.48	6.2	6.76	4.26	4.06	4.47	5.84	0.62	0.62	1.55
20	Thyroid	122	12	0.13	70.2	71.5	0.4	0.33	0.47	0.22	0.18	0.27	0.19	0.04	0.04	0.73
21	Urinary blad	5075	508	5.53	74.3	75.5	16.47	16.02	16.92	8.25	8.01	8.5	6.11	1.39	1.38	NA
22	Prostate	8394	839	9.13	78.9	80.3	27.25	26.67	27.83	12.1	11.83	12.38	3.45	1.82	1.8	NA
23	Kidney	1725	172	1.87	70.4	72.3	5.6	5.34	5.86	3.05	2.9	3.21	3.32	0.52	0.52	NA
24	Testis	40	4	0.04	46.9	42.5	0.13	0.09	0.17	0.11	0.08	0.16	0.15	0.01	0.01	NA
25	Total	91868	9187	100	70.1	71.8	298.21	296.28	300.14	165.36	164.23	166.51	183.19	26.85	23.55	2.21

The format for the output table will be “csv” separated by “;” which allows it’s exportation in virtually any data processing program for posterior manipulation

One table for each sex in the data file is provided with the following variables:

N(period): number of cases for the whole period
N(annual): number of annual cases
%: percentage
Age (mean): estimated mean age
Age (median): estimated median age
CR: crude rate x 100000 person-years
ASR(.): Age Standardized Rate x 100000 person-years
TR(.): Truncated Rate x 100000 person-years by the age groups introduced (in that case 30-64 age group)
(.): Reference Population for ASR and TR.
CumulR: Cumulative Rate to the age indicated in the in the setting parameters screen
CRisk: Cumulative Risk of developing or dying by specific cause at an indicated age (same than CumulR)
Lower CI: Lower 95% Confidence Interval for crude or age standardized rate
Upper CI: Upper 95% Confidence Interval for crude or age standardized rate
Ratio: Ratio between men and women (or vice versa, depending on the sex evaluated)

Descriptive results (II): Annual number of cases by age group

1	Annual number of cases by age group. Period: 1995-2004																			
2	Women																			
3	Group	N(annual)	[0-4]	[5-9]	[10-14]	[15-19]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]	[45-49]	[50-54]	[55-59]	[60-64]	[65-69]	[70-74]	[75-79]	[80-84]	(+85)
4	OCF	61	0	0	0	0	0	0	0	2	2	3	2	4	5	6	8	7	10	11
5	Bladder	118	0	0	0	0	0	0	0	0	0	1	1	1	4	8	13	21	29	40
6	Cervix	85	0	0	0	0	0	0	2	5	5	8	6	7	7	11	9	9	8	6
7	Colon	665	0	0	0	0	0	1	1	6	8	15	24	28	42	69	89	107	119	156
8	Colorrectal	855	0	0	0	0	0	1	2	8	11	19	31	37	53	86	115	142	154	196
9	Endometrium	131	0	0	0	0	0	0	0	0	1	2	4	8	10	18	24	25	21	19
10	Oesophagus	40	0	0	0	0	0	0	0	0	1	1	2	2	2	5	5	8	6	8
11	Stomach	344	0	0	0	0	0	1	2	5	4	8	10	11	20	31	46	54	64	87
12	Liver	261	0	0	0	0	0	0	0	1	1	2	4	7	15	32	50	55	47	45
13	Larynx	9	0	0	0	0	0	0	0	0	1	1	1	0	1	1	1	1	1	1
14	Leukemia	221	1	1	1	3	2	3	3	4	4	5	5	9	13	22	28	37	36	43
15	HL	19	0	0	0	0	1	1	1	1	1	0	1	0	1	2	2	2	3	3
16	NHL	190	0	0	0	0	1	1	2	3	2	5	6	8	12	20	31	38	30	29
17	MDMM	144	0	0	0	0	0	0	0	0	0	2	4	6	12	17	22	29	24	28
18	Breast	994	0	0	0	0	0	2	8	25	33	59	73	80	96	110	128	126	110	144
19	Skin melanoma	52	0	0	0	0	0	1	1	2	2	3	4	3	4	5	5	6	7	8
20	Ovary	283	0	0	0	0	0	1	1	4	5	11	18	23	29	37	44	43	34	32
21	Pancreas	304	0	0	0	0	0	0	1	1	3	5	8	14	20	36	47	58	54	58
22	Lung	320	0	0	0	0	0	0	1	8	11	17	20	21	27	34	47	50	40	44
23	Rectum	189	0	0	0	0	0	0	1	2	3	4	7	9	11	18	26	35	35	40
24	Kindney	93	0	0	0	0	0	0	0	1	1	3	4	3	6	11	12	19	13	19
25	CNS	157	1	1	0	1	2	2	2	3	4	6	10	14	17	24	25	21	15	10
26	Thyroid	26	0	0	0	0	0	0	0	0	0	0	1	1	1	2	5	5	5	4
27	Uterus	280	0	0	0	0	0	1	3	6	6	11	13	20	21	35	41	43	41	39
28	Total	5581	3	4	4	8	11	17	35	67	119	177	240	296	402	595	781	904	866	1053
29	N(annual): Average number of cases per year in the period. N(annual) may not match the sum of cases of each age group for reasons of rounding.																			

One table with the annual number of cases by age group is provided for each sex in the data file.

The format for these output tables will be “csv” separated by “;”

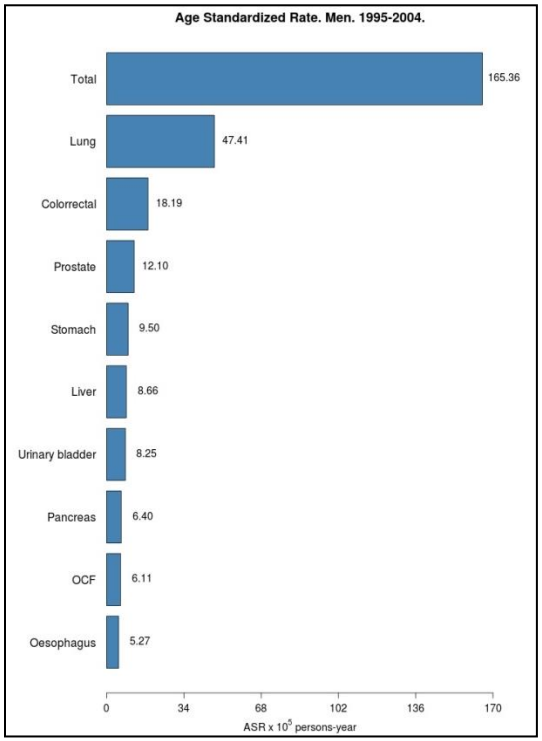
Descriptive results (III): Age specific rate

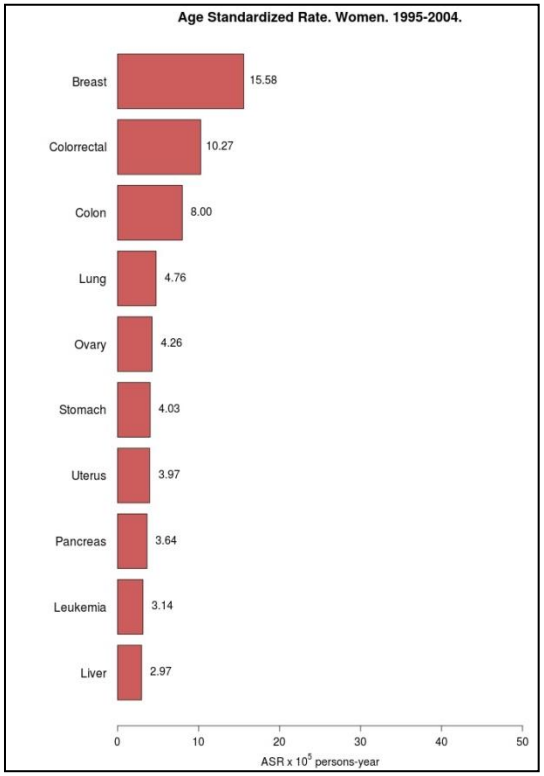
1	Specific rate x 100,000 by age group. 1995-2004.																				
2	Men																				
3	Group	N(annual)	[0-4]	[5-9]	[10-14]	[15-19]	[20-24]	[25-29]	[30-34]	[35-39]	[40-44]	[45-49]	[50-54]	[55-59]	[60-64]	[65-69]	[70-74]	[75-79]	[80-84]	(+85)	CR	ASR(W)
4	OCF	283	0	0	0	0.1	0.2	0.1	0.3	2.2	5.4	11.8	19.2	25.7	26.3	25.6	27.3	25.9	25.1	32.9	9.18	6.11
5	Colon	797	0	0	0	0	0.2	0.2	0.6	2.7	3.7	9	14	25.9	44	71.4	106.2	170.7	245.3	342.3	25.87	13.39
6	Colorrectal	1073	0	0	0	0.1	0.2	0.3	0.8	3.7	4.9	12.8	19.3	36	60.9	99.3	147.1	222.5	319.5	444.9	34.83	18.19
7	Oesophagus	254	0	0	0	0	0	0.1	0.1	0.9	3.2	8.8	16.2	18.6	24.1	26.9	27.8	30.7	31.9	28	8.26	5.27
8	Stomach	540	0	0	0	0	0.1	0.2	0.7	2.4	3.3	8.3	12.5	21	34.8	53	74.1	105.3	145.1	176.1	17.53	9.5
9	Liver	494	0.1	0.1	0	0.1	0.2	0.1	0.4	1.5	1.9	4.7	9.9	18.5	33.8	59.1	83.1	105.6	115.6	90.3	16.02	8.66
10	Larynx	238	0	0	0	0	0	0	0.1	0.9	2.3	6.5	12.2	15.8	21.8	24.8	29.4	30.8	40.5	38.4	7.73	4.73
11	Leukemia	270	0.9	1.6	1.4	1.9	1.4	1.3	1.4	2.7	1.6	2.5	4.9	7.8	12.9	24	32.1	47	76.2	113.7	8.78	5.13
12	HL	27	0.1	0	0.2	0.2	0.6	0.4	0.6	0.8	0.6	1	0.8	1	1.6	1.6	1.5	2.5	5.4	4.6	0.87	0.61
13	NHL	206	0.3	0.4	0.1	0.4	0.6	0.8	0.9	2.6	2.8	3.9	5.1	9.3	13.2	16.7	27.6	35.8	46.9	51.9	6.67	3.9
14	MDMM	140	0	0	0	0.1	0	0	0.1	0.4	0.8	1.5	2.1	4.3	7.2	12.5	20.8	31.6	42.5	54.4	4.53	2.32
15	Skin melanoma	62	0	0	0	0.1	0	0.3	0.6	1.4	0.9	1.8	2.1	3.1	4.3	5.9	6.3	8	10.2	16	2	1.22
16	Pancreas	349	0.1	0	0	0.1	0	0	0.5	0.9	2.1	5.7	11.3	17.4	25.9	38	46.9	65.1	73.4	87.9	11.33	6.4
17	Lung	2540	0.1	0	0	0.2	0.1	0.3	1.4	8.7	17.9	46.3	87.3	134.8	199.2	289.7	367.2	461.2	487.4	419.4	82.45	47.41
18	Rectum	276	0	0	0	0.1	0	0.1	0.2	1	1.3	3.9	5.3	10.1	16.9	27.9	40.9	51.9	74.2	102.6	8.96	4.8
19	CNS	200	0.5	1.1	1.1	0.7	0.7	1.4	1.6	2.2	2.5	5.9	8	11	14.6	19.6	24.7	28.5	25.5	20	6.48	4.26
20	Thyroid	12	0	0	0	0.1	0	0	0	0	0.1	0.1	0.3	0.5	0.7	1.8	1.9	3.2	2	1.8	0.4	0.22
21	Urinary bladder	508	0.1	0	0	0	0	0	0	0.4	0.8	2.7	6.8	14.2	27.9	45.9	69.7	109.3	171.2	252	16.47	8.25
22	Prostate	839	0	0	0	0	0	0	0	0	0.2	0.7	3	7.5	19.2	46.3	96.2	190.4	394.6	725.8	27.25	12.1
23	Kidney	172	0	0	0.1	0	0	0.1	0.2	0.9	1	2.6	5.4	6.6	10.3	16	24.6	36.6	39.7	54.4	5.6	3.05
24	Testis	4	0.1	0	0	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0	1	0.3	0.13	0.11
25	Total	9187	3.7	4	3.5	5.6	6.1	7.2	12.9	29.7	71	146	252.8	394.1	595.1	891.3	1230.7	1715.6	2303.3	2966	298.21	165.36

One table with the age specific rate is provided for each sex in the data file.

The format for these output tables will be “csv” separated by “;”

Descriptive results (IV): Ranking plot



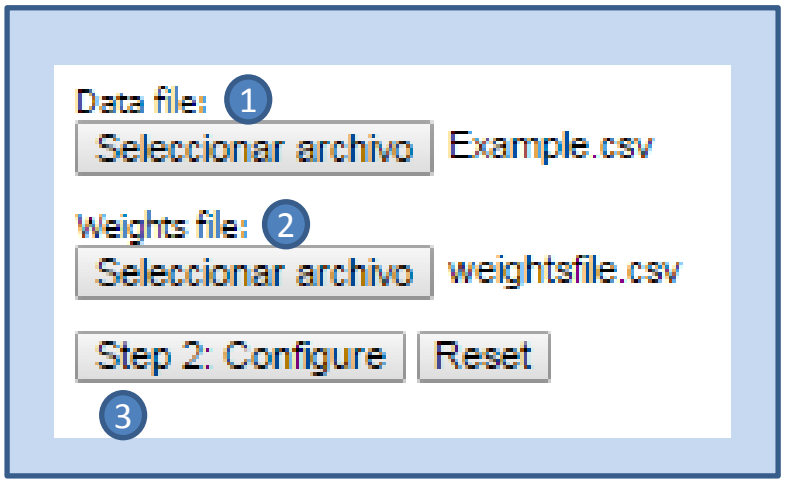


One ranking plot for the indicator selected and for each sex included in the data file is returned.

The output format for the plots is ".jpg"

EAPC: Estimated Annual Percent Change

Parameter setting in EAPC: Step 1



1 Upload a data file:

	sex	age.group	year	group	cases	population
2	1	1	1995	OCF	0	139524
3	1	2	1995	OCF	0	148256
4	1	3	1995	OCF	0	182722
5	1	4	1995	OCF	0	244917
6	1	5	1995	OCF	0	258545
7	1	6	1995	OCF	0	247004
8	1	7	1995	OCF	2	236438
9	1	8	1995	OCF	6	221344
10	1	9	1995	OCF	11	202763
11	1	10	1995	OCF	29	201789
12	1	11	1995	OCF	36	177580
13	1	12	1995	OCF	46	153287
14	1	13	1995	OCF	50	165323
15	1	14	1995	OCF	32	144589
16	1	15	1995	OCF	33	116133
17	1	16	1995	OCF	16	69179
18	1	17	1995	OCF	8	44775
19	1	18	1995	OCF	13	28170
20	1	1	1996	OCF	0	138277
21	1	2	1996	OCF	0	144892
22	1	3	1996	OCF	0	173339

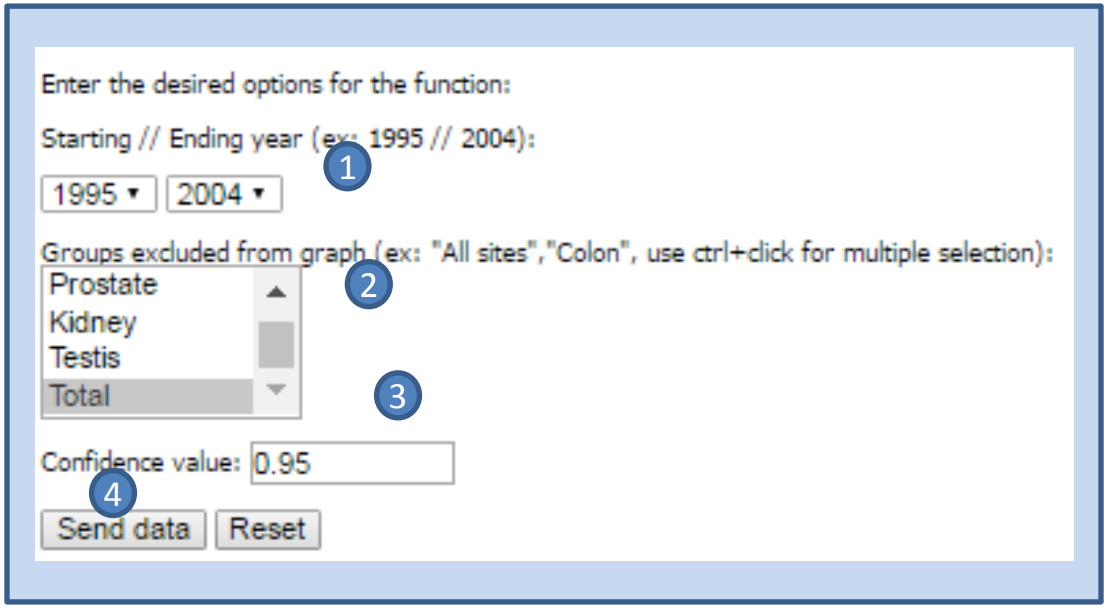
2 Upload a weights file:

	age.group	W
2	1	0.12
3	2	0.1
4	3	0.09
5	4	0.09
6	5	0.08
7	6	0.08
8	7	0.06
9	8	0.06
10	9	0.06
11	10	0.06
12	11	0.05
13	12	0.04
14	13	0.04
15	14	0.03
16	15	0.02
17	16	0.01
18	17	0.005
19	18	0.005

3 Press “Step2: Configure” to start setting parameters

All files must be ASCII type, ";" separated and unquoted values (i.e: ".txt" or ".csv" files).

Parameter setting in EAPC: Step 2



1. Select the period of analysis
2. Select groups excluded from graph
3. Enter the confidence value
4. Press “Get Results”

EAPC results(I): Number of cases per year

1	Number of cases per year for each group. Period 1995-2004.										
2	Men										
3	group	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
4	OCF	282	223	293	316	311	289	288	268	281	277
5	Urinary blad	442	368	500	482	501	464	543	577	566	632
6	Colon	723	686	719	779	811	817	872	819	825	919
7	Colorrectal	967	930	973	1044	1073	1107	1187	1112	1114	1224
8	Oesophagus	271	264	225	237	274	262	232	269	266	245
9	Stomach	592	514	564	548	521	547	532	501	525	557
10	Liver	524	536	464	504	513	498	496	473	447	481
11	Larynx	248	230	261	232	248	248	262	227	223	203
12	Leukemia	254	239	230	258	255	258	306	280	314	310
13	HL	27	27	35	34	25	28	15	29	24	24
14	NHL	178	168	188	177	204	208	240	230	263	200
15	MDMM	149	128	152	155	134	136	124	121	160	138
16	Skin melano	72	48	36	73	50	57	75	68	75	61
17	Pancreas	329	302	351	316	343	295	397	357	381	419
18	Prostate	815	834	879	926	846	775	826	839	814	840
19	Lung	2380	2286	2462	2475	2707	2562	2613	2576	2675	2664
20	Rectum	244	244	254	265	262	290	315	293	289	305
21	Kidney	154	150	149	178	163	179	182	184	174	212
22	CNS	196	155	171	213	193	195	214	222	218	218
23	Testis	7	7	2	1	3	3	4	2	7	4
24	Thyroid	11	3	9	18	15	21	10	11	10	14
25	Total	8766	8444	8839	9128	9377	9105	9529	9307	9588	9785

One table containing the number of cases per year and group is provided for each sex included in the data file

The format for the output table will be “csv” separated by “;”

EAPC results(II): ASR per year

1	Age Standardized ratio per year for each group (expressed in 100000 person-years). Period 1995-2004.										
2	Women										
3	group	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
4	OCF	0.81	0.86	0.99	0.71	0.86	0.67	0.85	0.89	0.89	0.95
5	Bladder	1.21	1	1.13	1.11	1.28	0.99	1.09	1.05	0.9	1.18
6	Cervix	2.09	1.51	1.72	1.61	1.73	1.63	1.45	1.22	1.01	1.29
7	Colon	8.51	7.51	8.17	8.73	8.33	7.54	7.81	7.75	7.84	7.86
8	Colorrectal	10.86	10.35	10.44	10.94	10.65	9.65	9.9	9.96	10.01	9.95
9	Endometriur	1.59	1.83	1.91	1.72	1.51	1.68	1.72	1.71	1.52	1.4
10	Oesophagus	0.44	0.59	0.42	0.57	0.5	0.39	0.44	0.43	0.55	0.54
11	Stomach	4.53	4.73	4.37	4.14	4.14	4.02	3.67	3.66	3.49	3.66
12	Liver	3.51	2.97	3.12	3.33	3.32	2.82	2.94	2.73	2.54	2.5
13	Larynx	0.11	0.09	0.17	0.09	0.15	0.11	0.1	0.21	0.29	0.17
14	Leukemia	3.16	2.94	3.1	3.15	3.19	2.96	3.31	3.19	3.52	2.8
15	HL	0.38	0.4	0.26	0.26	0.43	0.43	0.23	0.3	0.16	0.24
16	NHL	2.35	2.01	2.66	2.38	2.75	2.82	2.54	2.55	2.71	2.28
17	MDMM	2.24	1.76	1.87	2	1.69	1.69	1.6	1.5	1.46	1.48
18	Breast	18.76	15.62	16.93	16.4	15.06	15.22	15.75	15.34	13.52	13.71
19	Skin melano	0.88	0.57	0.73	0.87	0.86	0.95	0.9	0.78	0.79	0.79
20	Ovary	4.97	4.24	4.18	4.04	4.17	4.12	4.63	4.07	4.13	4.06
21	Pancreas	3.68	2.86	3.2	3.34	3.33	3.88	3.93	4.25	3.69	4.21
22	Lung	4.36	3.56	4.53	4.24	4.51	4.22	4.5	5.64	5.66	6.05
23	Rectum	2.35	2.84	2.27	2.21	2.33	2.11	2.09	2.21	2.17	2.09
24	Kindney	1.45	1.19	1.16	1.21	1.43	1.11	1.31	0.89	1.31	0.94
25	CNS	2.58	2.35	2.59	2.67	3.06	2.56	2.86	2.95	2.98	2.62
26	Thyroid	0.33	0.2	0.39	0.33	0.37	0.26	0.35	0.26	0.24	0.3
27	Uterus	4.68	4.58	4.38	4.18	4.14	3.99	3.75	3.72	3.22	3.32
28	Total	81.42	73.54	77.27	76.99	76.02	72.06	74.35	73.6	71.19	70.71

One table containing the age standardized rate per year and group for each sex included in the data file is provided

The format for the output table will be “csv” separated by “;”

EAPC results(III): EAPC and its confidence interval

1	Estimated Annual Percent Change for the period 1995-2004.0.95 Confidence Interval.					
2	Men					
3	Group	EAPC	LCI	UCI	Comments	
4	OCF	-1.41	-3.54	0.77		
5	Urinary bladder	2.23	0.45	4.04		
6	Colon	0.63	-0.45	1.72		
7	Colorrectal	0.69	-0.29	1.68		
8	Oesophagus	-1.89	-3.36	-0.4		
9	Stomach	-2.5	-3.58	-1.41		
10	Liver	-3.16	-4.24	-2.06		
11	Larynx	-3.22	-4.47	-1.96		
12	Leukemia	1.3	-0.01	2.61		
13	HL	-5.36	-9.9	-0.59		
14	NHL	1.15	-1.12	3.47		
15	MDMM	-2.72	-4.66	-0.74		
16	Skin melanoma	0.36	-4.23	5.18		
17	Pancreas	0.6	-1.18	2.41		
18	Prostate	-2.57	-3.59	-1.55		
19	Lung	-0.39	-1.22	0.45		
20	Rectum	0.87	-0.14	1.89		
21	Kidney	0.98	-0.67	2.66		
22	CNS	0.9	-1.17	3.02		
23	Testis	-5.21	-15.14	5.88		
24	Thyroid	2.43	-6.45	12.15		
25	Total	-0.67	-1.2	-0.14		

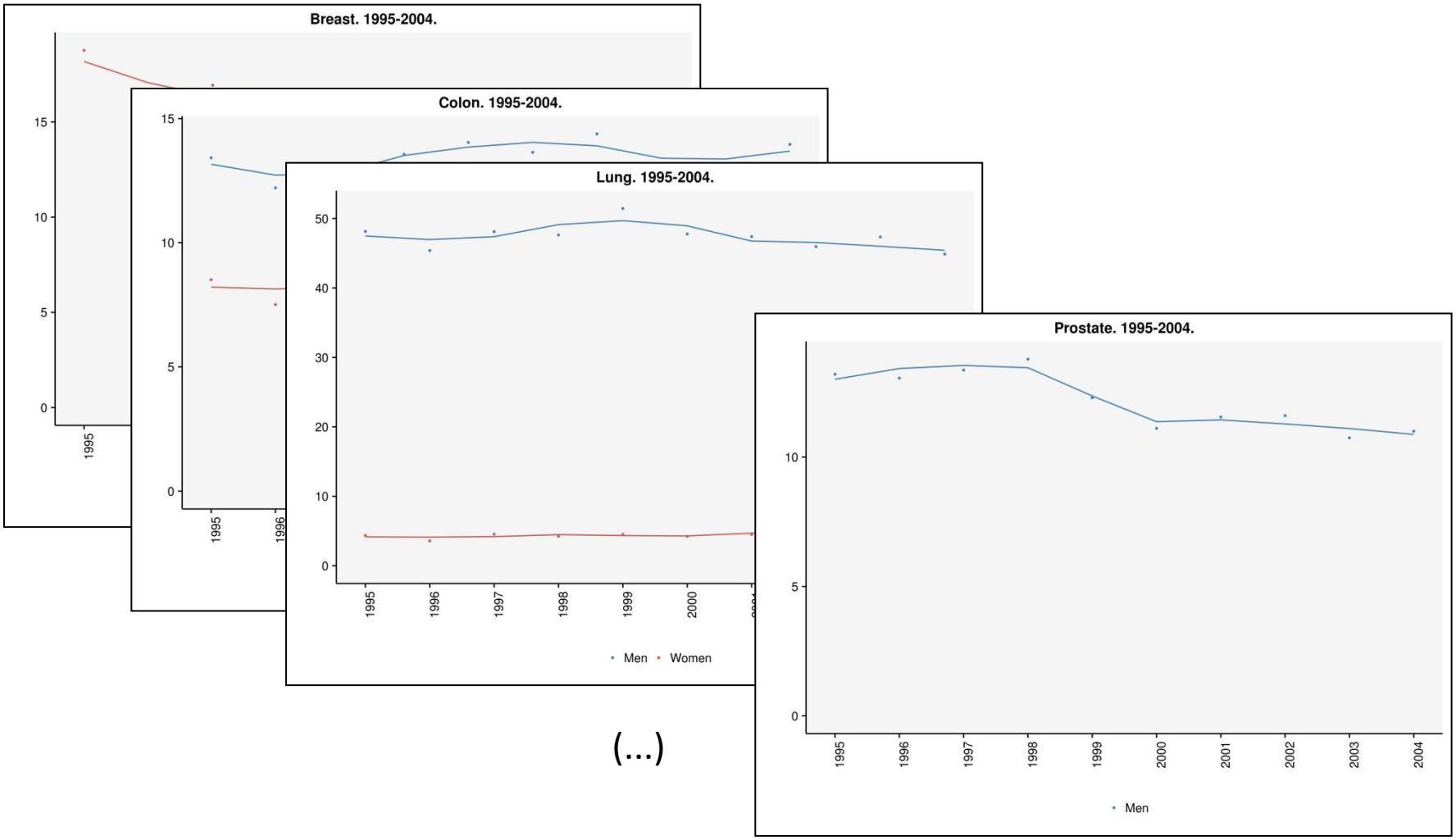
One table for each sex included in the data file with the following information:

EAPC: Estimated Annual Percent Change
LCI: Lower bound for Confidence Interval
UCI: Upper bound for Confidence Interval
Comments:

(*) Less than or equal to 1/4 of the ASR (Age Standardized Rates) by year are zero.
(**) More than 1/4 of the ASR by year are zero and the analysis for this groups should be declared invalid for lack of data.
In all groups marked (* or **) the application adds 0.001 in all ASR.

The format for the output table will be “csv” separated by “;”

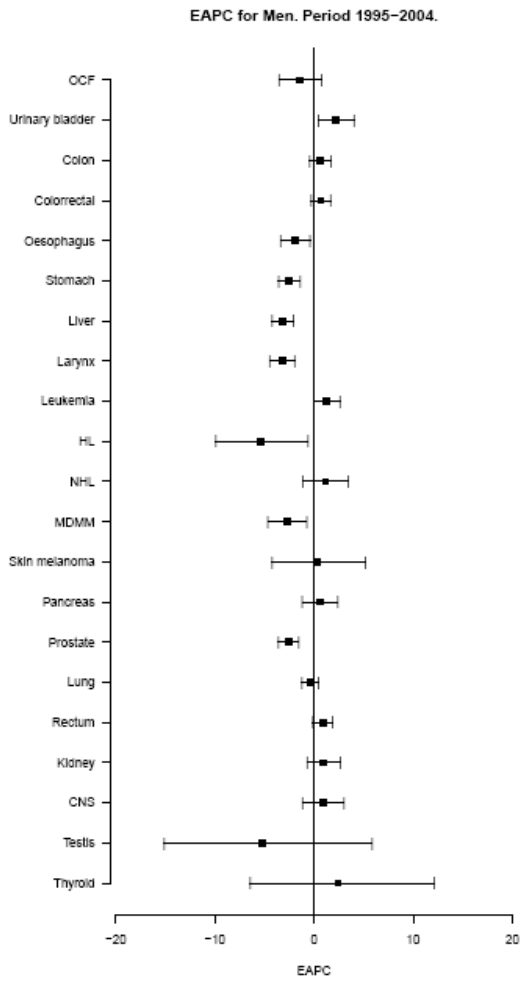
EAPC results(IV): Time trends

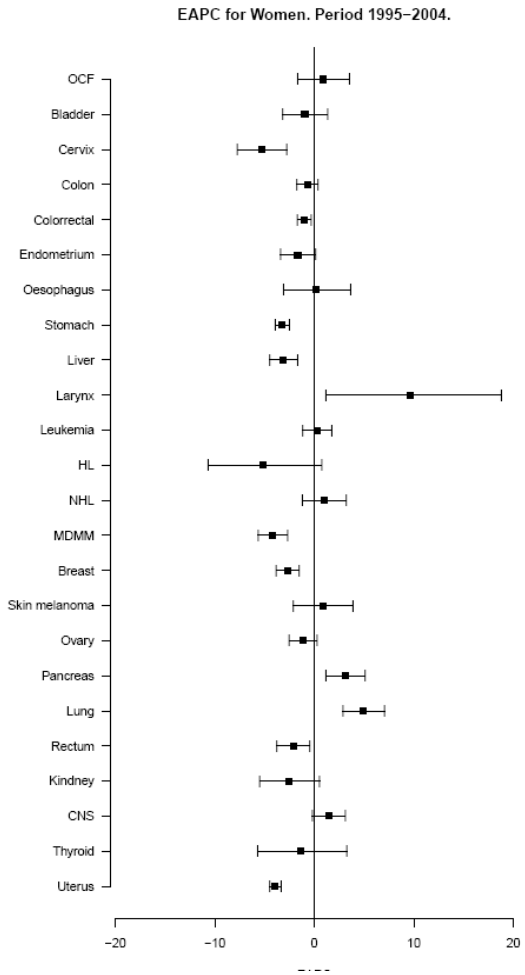


(...)

Time trends plot for all groups selected

EAPC results(V): EAPC comparison plot

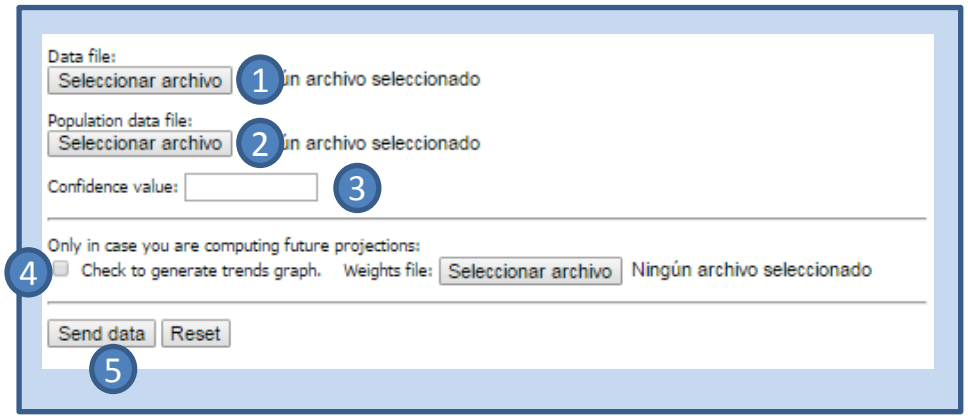




EAPC comparison plots are provided for each sex in the data file

Expected cases

Parameter setting in Expected cases



2 Upload a population file:

1	sex	age.group	year	population
2	1	1	2005	235540
3	1	2	2005	208672
4	1	3	2005	175636
5	1	4	2005	162972
6	1	5	2005	177887
7	1	6	2005	236296
8	1	7	2005	329057
9	1	8	2005	346686
10	1	9	2005	306152
11	1	10	2005	271742
12	1	11	2005	238360
13	1	12	2005	205810
14	1	13	2005	189580
15	1	14	2005	156744
16	1	15	2005	123764
17	1	16	2005	114000
18	1	17	2005	77914
19	1	18	2005	55830
20	2	1	2005	223087
21	2	2	2005	198760

1 Upload a data file:

1	sex	age.group	year	group	cases	population
2	1	1	1995	OCF	0	139524
3	1	2	1995	OCF	0	148256
4	1	3	1995	OCF	0	182722
5	1	4	1995	OCF	0	244917
6	1	5	1995	OCF	0	258545
7	1	6	1995	OCF	0	247004
8	1	7	1995	OCF	2	236438
9	1	8	1995	OCF	6	221344
10	1	9	1995	OCF	11	202763
11	1	10	1995	OCF	29	201789
12	1	11	1995	OCF	36	177580
13	1	12	1995	OCF	46	153287
14	1	13	1995	OCF	50	165323
15	1	14	1995	OCF	32	144589
16	1	15	1995	OCF	33	116133
17	1	16	1995	OCF	16	69179
18	1	17	1995	OCF	8	44775
19	1	18	1995	OCF	13	28170
20	1	1	1996	OCF	0	138277
21	1	2	1996	OCF	0	144892
22	1	3	1996	OCF	0	173339

3 Enter confidence value

4 Check to generate graph, in this case, a weights file will be required.

5 Press “Send data”

All files must be ASCII type, ";" separated and unquoted values (i.e: ".txt" or ".csv" files).

Expected cases results(I): Models selected

1	Model selection by group and sex					
2	group	sex	model.chose	pv.test	significant	method.AIC.GOF
3	OCF	1	Poisson age-	0.965	No	Minimum AIC
4	OCF	2	Poisson age-	1	No	Minimum AIC
5	Bladder	2	Poisson age-	1	No	Minimum AIC
6	Cervix	2	Poisson age-	0.9887	No	Minimum AIC
7	Colon	2	Poisson age-	0.9942	No	Minimum AIC
8	Colon	1	Poisson age-	1	No	Minimum AIC
9	Colorrectal	2	Poisson age-	0.9905	No	Minimum AIC
10	Colorrectal	1	Poisson age-	0.9896	No	Minimum AIC
11	Endometriur	2	Poisson age-	1	No	Minimum AIC
12	Oesophagus	2	Poisson age-	1	No	Minimum AIC
13	Oesophagus	1	Poisson age-	0.9859	No	Minimum AIC
14	Stomach	2	Poisson age-	0.9992	No	Minimum AIC
15	Stomach	1	Poisson age-	0.9345	No	Minimum AIC
16	Liver	2	Poisson age-	0.9999	No	Minimum AIC
17	Liver	1	Poisson age-	0.3599	No	Minimum AIC
18	Larynx	2	Poisson age-	1	No	Minimum AIC
19	Larynx	1	Negative Bin	0.9987	No	Minimum AIC
20	Leukemia	2	Poisson age-	0.3549	No	Minimum AIC
21	Leukemia	1	Poisson age-	0.7307	No	Minimum AIC
22	HL	2	Poisson age-	0.9981	No	Minimum AIC
23	HL	1	Poisson age-	1	No	Minimum AIC
24	NHL	2	Poisson age-	0.9913	No	Minimum AIC
25	NHL	1	Poisson age-	0.8183	No	Minimum AIC
26	MDMM	2	Poisson age-	1	No	Minimum AIC
27	MDMM	1	Poisson age-	1	No	Minimum AIC
28	Breast	2	Poisson age-	0.8501	No	Minimum AIC
29	Skin melano	2	Poisson age-	0.9924	No	Minimum AIC
30	Skin melano	1	Poisson age-	0.9999	No	Minimum AIC
31	Ovary	2	Poisson age-	0.8821	No	Minimum AIC
32	Pancreas	2	Poisson age-	0.9882	No	Minimum AIC
33	Pancreas	1	Poisson age-	0.9726	No	Minimum AIC
34	Lung	2	Poisson age-	0.9691	No	Minimum AIC

Expected cases returns one table with the models information for each sex and group. The information included is:

group: Group of interest
sex: 0= Both sexes, 1= Men, 2= Women
model.chosen: The fitted model chosen for predictions
pv.test: The p-value of the goodness of fit test
significant: Is the preceding p.value significant? (Note that best fitting models should not be significant)
method.AIC.GOF: The method used for model selection (AIC: Akaike Information Criterion, GOF: chi-square goodness of fit test)

Expected cases results(II): Expected number of cases

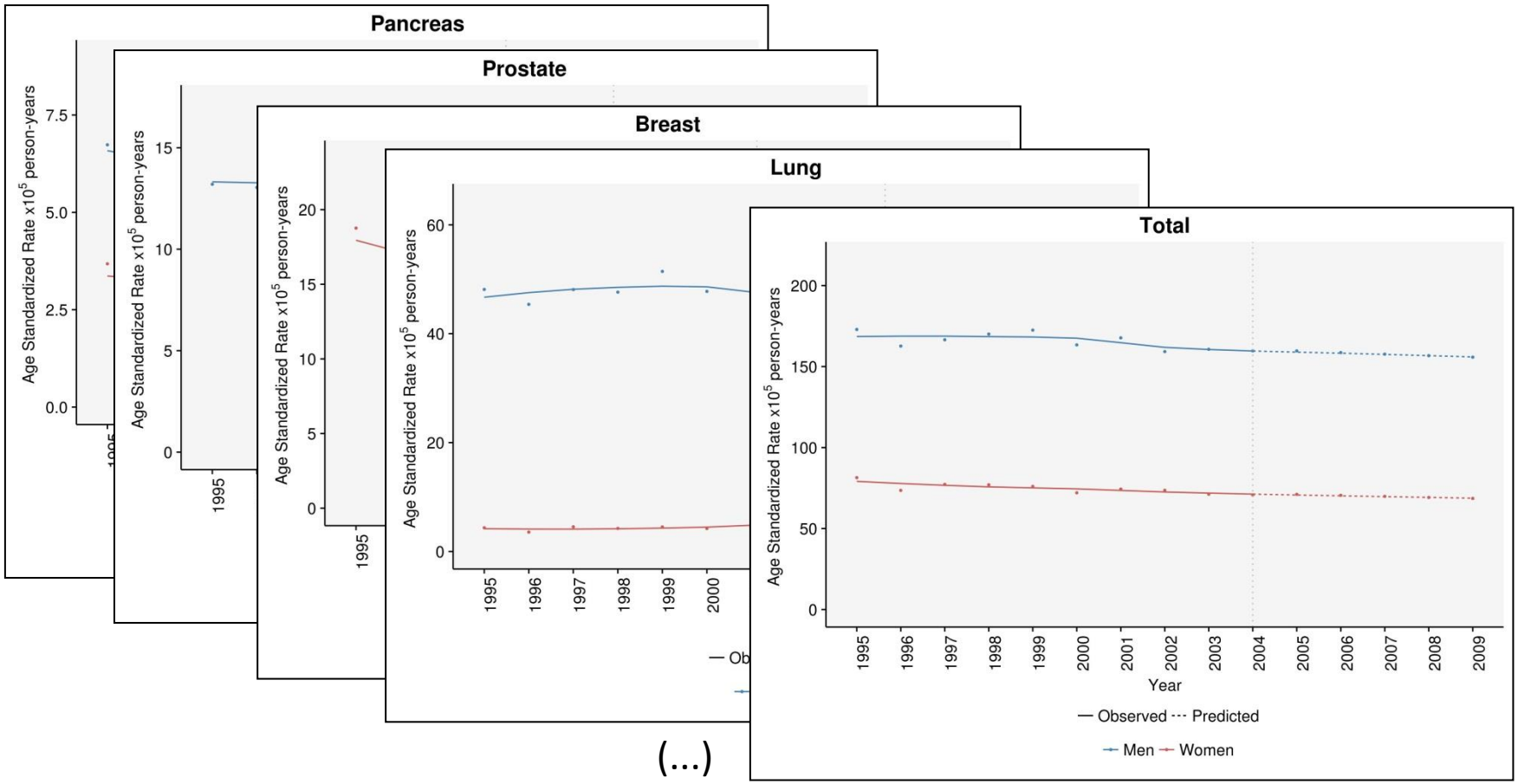
1	sex	age.group	year	group	cases	population
2	1	1	2010	OCF	0	238540
3	1	2	2010	OCF	0	211672
4	1	3	2010	OCF	0	178636
5	1	4	2010	OCF	0	165972
6	1	5	2010	OCF	0	180887
7	1	6	2010	OCF	0	239296
8	1	7	2010	OCF	1	332057
9	1	8	2010	OCF	7	349686
10	1	9	2010	OCF	15	309152
11	1	10	2010	OCF	29	274742
12	1	11	2010	OCF	41	241360
13	1	12	2010	OCF	47	208810
14	1	13	2010	OCF	45	192580
15	1	14	2010	OCF	36	159744
16	1	15	2010	OCF	31	126764
17	1	16	2010	OCF	27	117000
18	1	17	2010	OCF	18	80914
19	1	18	2010	OCF	17	58830
20	1	1	2015	OCF	0	222534
21	1	2	2015	OCF	0	247956
22	1	3	2015	OCF	0	219790
23	1	4	2015	OCF	0	186327
24	1	5	2015	OCF	0	179695
25	1	6	2015	OCF	0	201022
26	1	7	2015	OCF	1	255296
27	1	8	2015	OCF	7	340532
28	1	9	2015	OCF	16	352549
29	1	10	2015	OCF	30	308910
30	1	11	2015	OCF	43	272200
31	1	12	2015	OCF	50	236435
32	1	13	2015	OCF	44	201504
33	1	14	2015	OCF	39	181839
34	1	15	2015	OCF	33	146223
35	1	16	2015	OCF	24	109756

Expected cases returns a file containing the same information than the population file provided adding the number of expected cases computed

Expected cases results(III): Warnings

The tool Expected cases fits a model for each combination of sex and disease group provided in the data file. In case that any of these models do not fit, the tool generates a warnings file indicating in which cases the results should not be used

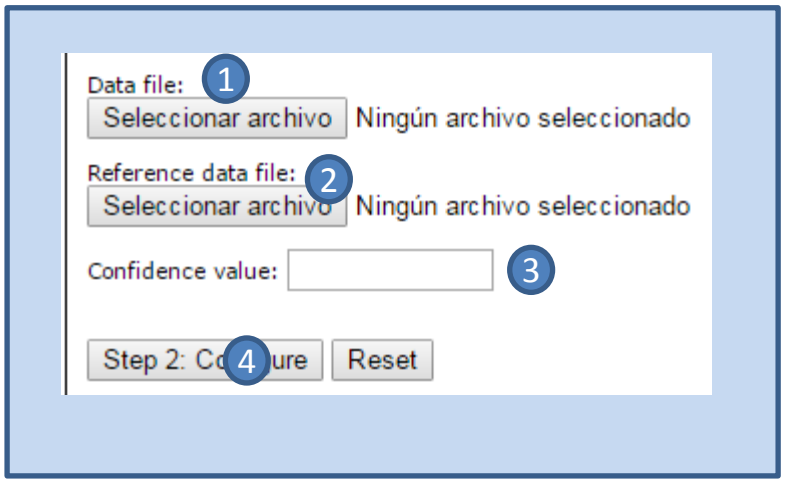
Expected cases results(IV): time trends and projections



Time trends and projections for each group.

SIMR: Standardized Incidence or Mortality Ratio

Parameter setting in SIMR: Step 1



1 Upload a data file:

1	sex	age.group	year	group	cases	population
2	1	1	2000	OCF	0	148738
3	1	2	2000	OCF	0	141298
4	1	3	2000	OCF	0	151262
5	1	4	2000	OCF	0	186696
6	1	5	2000	OCF	0	252544
7	1	6	2000	OCF	0	269589
8	1	7	2000	OCF	1	256641
9	1	8	2000	OCF	5	241585
10	1	9	2000	OCF	7	223170
11	1	10	2000	OCF	27	201963
12	1	11	2000	OCF	35	198063
13	1	12	2000	OCF	37	171329
14	1	13	2000	OCF	55	144731
15	1	14	2000	OCF	37	151426
16	1	15	2000	OCF	35	125521
17	1	16	2000	OCF	27	92522

2 Upload a reference data file:

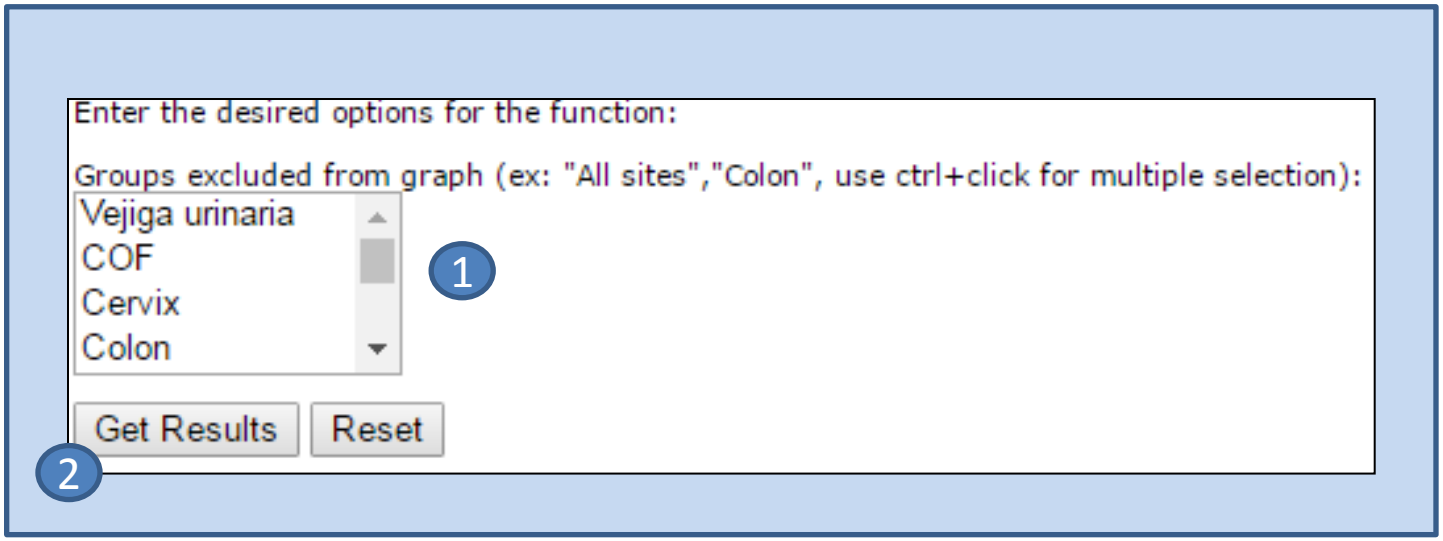
1	sex	age.group	year	group	cases	population
2	1	1	1995	OCF	0	139524
3	1	2	1995	OCF	0	148256
4	1	3	1995	OCF	0	182722
5	1	4	1995	OCF	0	244917
6	1	5	1995	OCF	0	258545
7	1	6	1995	OCF	0	247004
8	1	7	1995	OCF	2	236438
9	1	8	1995	OCF	6	221344
10	1	9	1995	OCF	11	202763
11	1	10	1995	OCF	29	201789
12	1	11	1995	OCF	36	177580
13	1	12	1995	OCF	46	153287
14	1	13	1995	OCF	50	165323
15	1	14	1995	OCF	32	144589

3 Enter confidence value

4 Press “Step2: Configure” to start setting parameters

All files must be ASCII type, ";" separated and unquoted values (i.e: ".txt" or ".csv" files).

Parameter setting in SIMR: Step 2



1 Select groups excluded for graph

2 Pres “Get results”

SIMR results (I): SIMR and its confidence interval

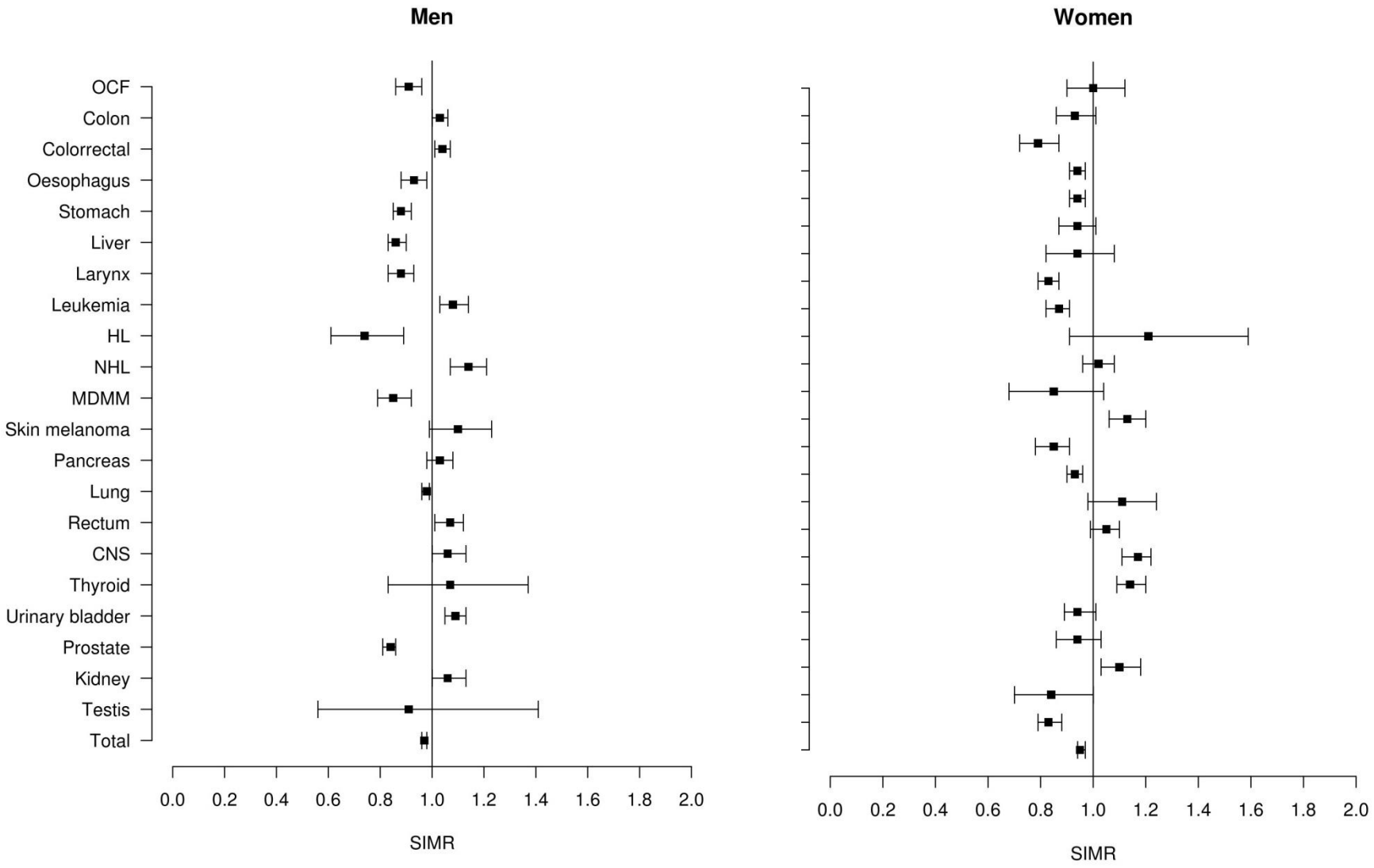
1	Standardized Incidence or Mortality Ratio by sex and group					
2	Men					
3	Group	Observed ca	Expected cas	SIMR	LCI	UCI
4	OCF	1403	1542	0.91	0.86	0.96
5	Colon	4252	4124	1.03	1	1.06
6	Colorrectal	5744	5524	1.04	1.01	1.07
7	Oesophagus	1274	1368	0.93	0.88	0.98
8	Stomach	2662	3016	0.88	0.85	0.92
9	Liver	2395	2774	0.86	0.83	0.9
10	Larynx	1163	1319	0.88	0.83	0.93
11	Leukemia	1468	1359	1.08	1.03	1.14
12	HL	120	162	0.74	0.61	0.89
13	NHL	1141	1003	1.14	1.07	1.21
14	MDMM	679	798	0.85	0.79	0.92
15	Skin melano	336	305	1.1	0.99	1.23
16	Pancreas	1849	1797	1.03	0.98	1.08
17	Lung	13090	13389	0.98	0.96	0.99
18	Rectum	1492	1401	1.07	1.01	1.12
19	CNS	1067	1003	1.06	1	1.13
20	Thyroid	66	61	1.07	0.83	1.37
21	Urinary blad	2782	2546	1.09	1.05	1.13
22	Prostate	4094	4889	0.84	0.81	0.86
23	Kidney	931	875	1.06	1	1.13
24	Testis	20	22	0.91	0.56	1.41
25	Total	47314	48960	0.97	0.96	0.98

One table for each sex:

- Observed cases
- Expected cases
- SIMR: Standardized incidence or mortality ratio
- LCI: Lower bound for confidence interval
- UCI: Upper bound for confidence interval

The format for the output table will be “csv” separated by “;”

SIMR results(II): SIMR comparison plot



SIMR comparison plots are provided for each sex in the data file