

compareGroups package, updated and improved

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- In some studies such as epidemiological studies, it may be necessary to construct and report bivariate tables with descriptives of several variables by groups (e.g. case / control).
- This kind of tables can be laborious and tedious to build.

Table 1 Prevalence of obesity, smoking and hypertension in France and Spain, by age.

	45–59 years			60–74 years			All		
	France (n = 222)	Spain (n = 272)	p	France (n = 198)	Spain (n = 290)	p	France (n = 420)	Spain (n = 562)	p
BMI (kg/m ²)	27.2 ± 4.1	27.4 ± 4.0	0.718	27.0 ± 3.8	27.3 ± 3.8	0.370	27.1 ± 4.0	27.3 ± 3.8	0.395
Overweight and obesity			0.556			0.137			0.770
BMI < 25 kg/m ²	67 (30.2)	65 (28.3)		58 (29.3)	70 (29.2)		125 (29.8)	135 (28.7)	
25 ≤ BMI < 30 kg/m ²	100 (45.1)	115 (50.0)		106 (53.5)	111 (46.3)		206 (49.1)	226 (48.1)	
BMI ≥ 30 kg/m ²	55 (24.8)	50 (21.7)		34 (17.2)	59 (24.6)		89 (21.2)	109 (23.2)	
Smoking			< 0.001			< 0.001			< 0.001
Non-smokers	48 (21.6)	36 (13.3)		46 (23.2)	67 (23.3)		94 (22.4)	103 (18.5)	
Smokers	78 (35.1)	199 (73.7)		24 (12.1)	107 (37.2)		102 (24.3)	306 (54.8)	
Former smokers	96 (43.2)	35 (13.0)		128 (64.7)	114 (39.6)		224 (53.3)	149 (26.7)	
SBP (mmHg)	129 ± 20	112 ± 16	< 0.001	139 ± 22	115 ± 19	< 0.001	134 ± 21	114 ± 18	< 0.001
DBP (mmHg)	82 ± 11	66 ± 12	< 0.001	82 ± 10	66 ± 12	< 0.001	82 ± 10	66 ± 11	< 0.001
History of hypertension	82 (36.9)	107 (41.0)	0.362	85 (42.9)	162 (57.5)	0.002	167 (39.8)	269 (49.5)	0.003
Real hypertension ^a	133 (59.9)	114 (42.5)	< 0.001	147 (74.2)	172 (59.3)	0.001	280 (66.7)	286 (51.3)	< 0.001
Treated hypertension ^b	78 (95.1)	102 (98.1)	0.257	84 (100.0)	158 (97.5)	0.146	162 (97.6)	260 (97.7)	0.918
Controlled hypertension ^c	38 (48.7)	70 (68.6)	0.007	30 (35.7)	118 (74.7)	< 0.001	68 (42.0)	188 (72.3)	< 0.001

Results are given as mean ± standard deviation or number (%). BMI, body mass index; DBP, diastolic blood pressure; SBP, systolic blood pressure.

^a History of hypertension or SBP ≥ 140 mmHg or DBP ≥ 90 mmHg (≥ 130/80 mmHg in diabetic patients).

^b Patients with a history of hypertension on drug treatment.

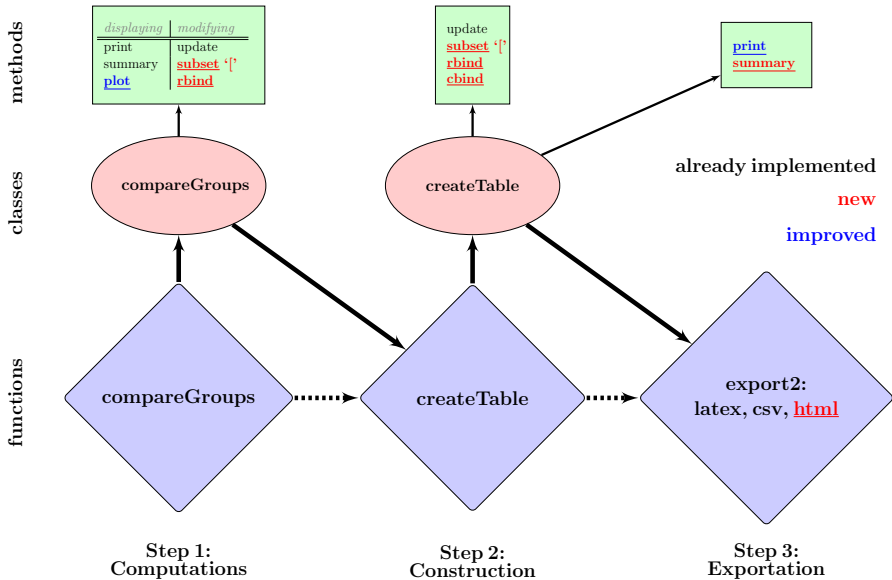
^c SBP < 140 mmHg and DBP < 90 mmHg (< 130/80 in diabetic patients) among treated patients.

- `compareGroups` package is meant to facilitate the user to create bivariate tables in an easy and rapid way.
- It has a lot of parameters to change different options: decimals, reference category, report means or medians, etc.
- Its code is structured in classes and methods in order to make the syntax code easier (formula, update, subset,...).
- It is simple and short to change default options.
- A GUI has been implemented for non familiarized R users.

- `compareGroups` package (version 0.6) is available on CRAN.
- The present version, `compareGroups` 1.0 will be submitted to CRAN soon.

new version improvements

- entire cohort descriptives,
- analysis by time-to-event variable,
- Hazard Ratios, Odds Ratios,
- improved table aspect on R console,
- GUI easier to manage,
- stratified tables (one beside the other),
- export to...
 - HTML format and
 - to \LaTeX `longtable` environment,
- time-to-event row-variables
- subsetting
- adding more variables
- more detailed vignette
- ...



Resulting table on R console

(better on real R console)

-----Summary descriptives table -----

	MALE				FEMALE			
	1995 N=206	2000 N=390	2005 N=505	p.overall	1995 N=225	2000 N=396	2005 N=572	p.overall
Epidemiological:								
Age	54.1 (11.8)	54.3 (11.2)	55.4 (10.7)	0.212	54.1 (11.7)	54.4 (11.2)	55.2 (10.6)	0.351
History:								
Smoking status:				<0.001				<0.001
Never smoker	26.5%	29.7%	27.5%		83.1%	79.3%	74.0%	
Current or former < 1y	39.3%	52.8%	26.9%		14.6%	17.8%	14.8%	
Never or former >= 1y	34.2%	17.5%	45.6%		2.28%	2.89%	11.2%	
History of hypertension	24.3%	28.2%	36.2%	0.002	27.1%	31.1%	34.8%	0.097
Hypertension treatment	15.0%	12.3%	22.8%	<0.001	17.8%	19.9%	21.7%	0.446
History of hyperchol.	23.3%	35.8%	33.2%	0.007	21.8%	30.6%	33.3%	0.006
Cholesterol treatment	8.25%	9.84%	12.2%	0.256	4.89%	7.75%	13.2%	<0.001
Clinical and other risk factors:								
Systolic blood pressure	134 (18.4)	137 (19.3)	132 (18.7)	0.002	132 (19.8)	129 (22.6)	127 (20.5)	0.008
Diastolic blood pressure	79.0 (9.27)	83.0 (9.54)	81.7 (10.8)	<0.001	75.2 (11.3)	78.6 (10.6)	78.3 (10.0)	<0.001
Total cholesterol	224 (43.9)	224 (43.9)	210 (40.3)	<0.001	226 (42.4)	224 (44.9)	216 (50.3)	0.004
Triglycerides	131 (91.5)	128 (81.1)	132 (90.3)	0.817	97.8 (47.9)	99.7 (55.1)	104 (57.6)	0.281
LDL cholesterol	153 (39.6)	152 (39.1)	137 (36.0)	<0.001	150 (37.3)	146 (38.0)	136 (42.6)	<0.001
Height (cm)	170 (7.34)	168 (7.17)	170 (7.43)	0.021	158 (6.31)	156 (6.50)	158 (6.24)	<0.001
Weight (Kg)	77.6 (11.7)	80.1 (12.3)	80.2 (11.6)	0.023	67.3 (11.3)	67.6 (12.6)	67.7 (13.0)	0.919
Body mass index	26.9 (3.64)	28.2 (3.89)	27.9 (3.58)	<0.001	27.2 (4.57)	28.0 (5.25)	27.3 (5.39)	0.084
Physical activity (Kcal/week)	291 [178; 540]	264 [131; 475]	317 [158; 569]	0.028	478 [291; 698]	417 [262; 642]	222 [104; 356]	<0.001
Physical component	50.1 (6.71)	50.9 (8.58)	51.5 (8.07)	0.110	48.6 (9.16)	47.1 (10.2)	48.9 (9.45)	0.027
Mental component	52.1 (9.67)	50.9 (10.2)	49.2 (9.67)	0.001	46.5 (12.2)	46.9 (11.3)	44.7 (11.2)	0.017
Events:								
Cardiovascular	12.8%	9.50%	6.90%	0.110	8.10%	9.72%	9.22%	0.919
Mortality	20.3%	17.7%	19.6%	0.738	21.2%	19.3%	16.4%	0.253

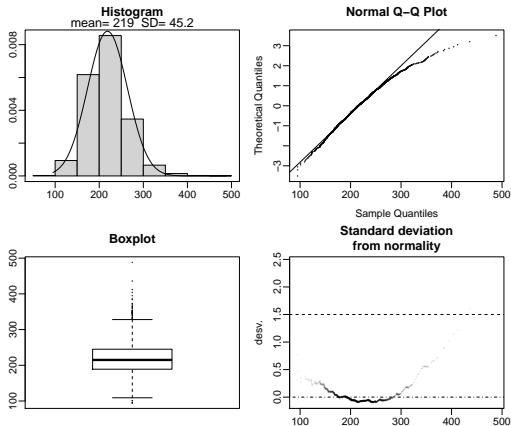
Resulting table on L^AT_EX document

	MALE				FEMALE			
	1995 N=206	2000 N=390	2005 N=505	p.overall	1995 N=225	2000 N=396	2005 N=572	p.overall
Epidemiological:								
Age	54.1 (11.8)	54.3 (11.2)	55.4 (10.7)	0.212	54.1 (11.7)	54.4 (11.2)	55.2 (10.6)	0.351
History:								
Smoking status:				<0.001				<0.001
Never smoker	26.5%	29.7%	27.5%		83.1%	79.3%	74.0%	
Current or former < 1y	39.3%	52.8%	26.9%		14.6%	17.8%	14.8%	
Never or former ≥ 1y	34.2%	17.5%	45.6%		2.28%	2.89%	11.2%	
History of hypertension	24.3%	28.2%	36.2%	0.002	27.1%	31.1%	34.8%	0.097
Hypertension treatment	15.0%	12.3%	22.8%	<0.001	17.8%	19.9%	21.7%	0.446
History of hyperchol.	23.3%	35.8%	33.2%	0.007	21.8%	30.6%	33.3%	0.006
Cholesterol treatment	8.25%	9.84%	12.2%	0.256	4.89%	7.75%	13.2%	<0.001
Clinical and other risk factors:								
Systolic blood pressure	134 (18.4)	137 (19.3)	132 (18.7)	0.002	132 (19.8)	129 (22.6)	127 (20.5)	0.008
Diastolic blood pressure	79.0 (9.27)	83.0 (9.54)	81.7 (10.8)	<0.001	75.2 (11.3)	78.6 (10.6)	78.3 (10.0)	<0.001
Total cholesterol	224 (43.9)	224 (43.9)	210 (40.3)	<0.001	226 (42.4)	224 (44.9)	216 (50.3)	0.004
Triglycerides	131 (91.5)	128 (81.1)	132 (90.3)	0.817	97.8 (47.9)	99.7 (55.1)	104 (57.6)	0.281
LDL cholesterol	153 (39.6)	152 (39.1)	137 (36.0)	<0.001	150 (37.3)	146 (38.0)	136 (42.6)	<0.001
Height (cm)	170 (7.34)	168 (7.17)	170 (7.43)	0.021	158 (6.31)	156 (6.50)	158 (6.24)	<0.001
Weight (Kg)	77.6 (11.7)	80.1 (12.3)	80.2 (11.6)	0.023	67.3 (11.3)	67.6 (12.6)	67.7 (13.0)	0.919
Body mass index	26.9 (3.64)	28.2 (3.89)	27.9 (3.58)	<0.001	27.2 (4.57)	28.0 (5.25)	27.3 (5.39)	0.084
Physical activity (Kcal/week)	291 [178; 540]	264 [131; 475]	317 [158; 569]	0.028	478 [291; 698]	417 [262; 642]	222 [104; 356]	<0.001
Physical component	50.1 (6.71)	50.9 (8.58)	51.5 (8.07)	0.110	48.6 (9.16)	47.1 (10.2)	48.9 (9.45)	0.027
Mental component	52.1 (9.67)	50.9 (10.2)	49.2 (9.67)	0.001	46.5 (12.2)	46.9 (11.3)	44.7 (11.2)	0.017
Events:								
Cardiovascular	12.8%	9.50%	6.90%	0.110	8.10%	9.72%	9.22%	0.919
Mortality	20.3%	17.7%	19.6%	0.738	21.2%	19.3%	16.4%	0.253

Row-variable: Continuous

Response: None

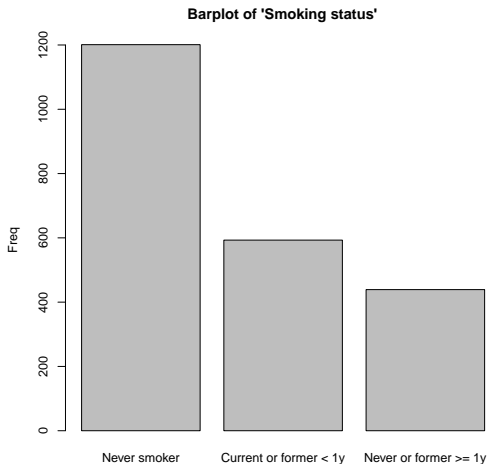
Normality plots of 'Total cholesterol'



Shapiro-Wilks p-value: <0.001

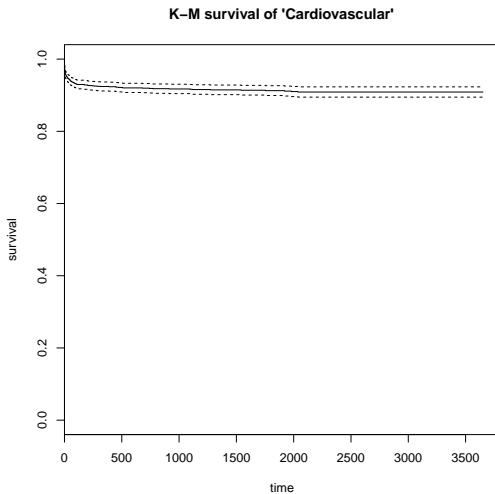
Row-variable: Categorical

Response: None

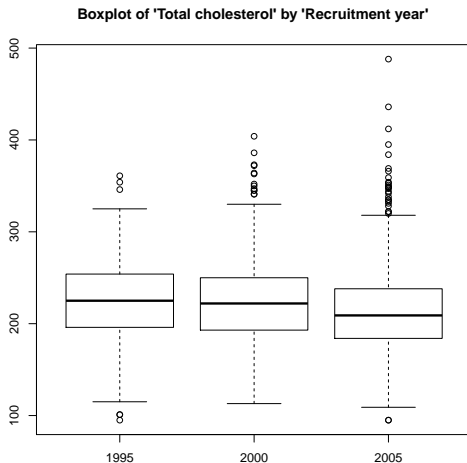


Row-variable: Time-to-event

Response: None

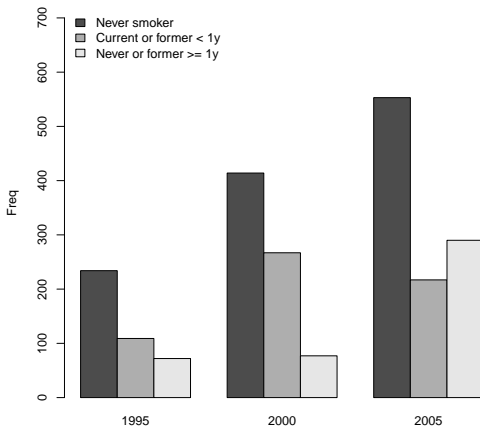


Row-variable: Continuous
Response: Categorical

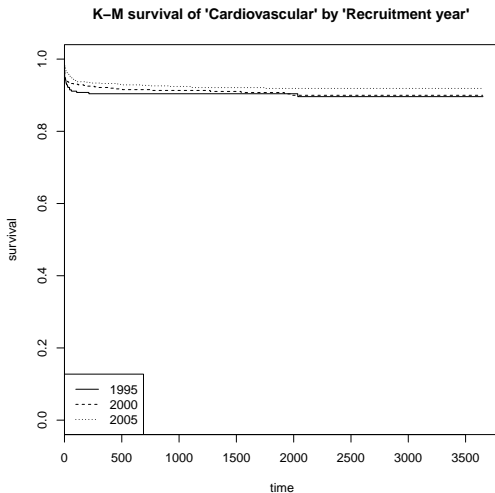


Row-variable: Categorical
Response: Categorical

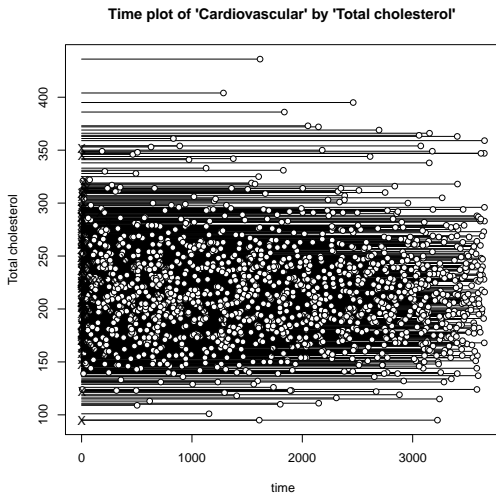
Barplot of 'Smoking status' by 'Recruitment year'



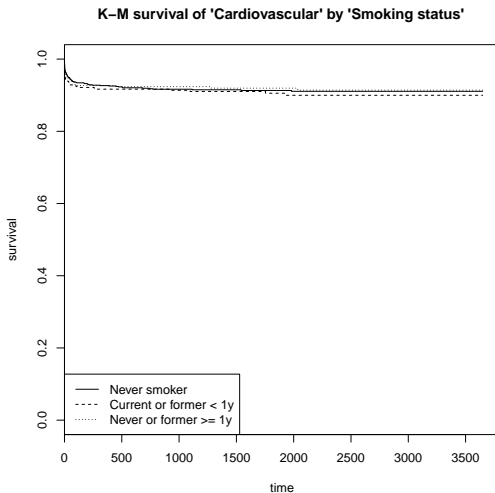
Row-variable: Time-to-event
Response: Categorical



Row-variable: Continuous
Response: Time-to-event



Row-variable: Categorical
Response: Time-to-event



- 1 Computes and stores in 'res' object.

```
> res <- compareGroups(tcv ~ . - id - tdeath,
+   data = regicor, method = c(triglyc = 2),
+   ref.no = "no")
```

- 2 Printing preliminary results (of the first 12 variables):

```
> res[1:12]
```

```
----- Summary of results by groups of 'Cardiovascular'-----
```

	var	N	p.value	method	selection
1	Recruitment year	1772	0.359	categorical	ALL
2	Age	1772	0.064*	continuous normal	ALL
3	Gender	1772	0.916	categorical	ALL
4	Smoking status	1772	0.814	categorical	ALL
5	Systolic blood pressure	1772	0.249	continuous normal	ALL
6	Diastolic blood pressure	1772	0.685	continuous normal	ALL
7	History of hypertension	1772	0.545	categorical	ALL
8	Hypertension treatment	1772	0.245	categorical	ALL
9	Total cholesterol	1772	0.006**	continuous normal	ALL
10	HDL cholesterol	1772	0.128	continuous normal	ALL
11	Triglycerides	1772	0.137	continuous non-normal	ALL
12	LDL cholesterol	1772	0.001**	continuous normal	ALL

```
-----
```

```
Signif. codes:  0 '**' 0.05 '*' 0.1 '.' 1
```

- Summarize results (not a table yet) of first 2 variables:

```
> summary(res[1:2])
```

```
--- Descriptives of each row-variable by groups of 'Cardiovascular' ---
```

```
-----
```

```
row-variable: Recruitment year
```

	1995	2000	2005	1995 (row%)	2000 (row%)	2005 (row%)	p.overall
[ALL]	294	578	900	16.59142	32.61851	50.79007	
No event	265	525	831	16.34793	32.38742	51.26465	0.358694
Event	29	53	69	19.2053	35.09934	45.69536	

	HR	HR.lower	HR.upper
1995	1		
2000	0.915907	0.582427	1.440328
2005	0.75448	0.488958	1.16419

```
-----
```

```
row-variable: Age
```

	N	mean	sd	p.overall
[ALL]	1772	54.62133	11.04457	
No event	1621	54.48489	11.08421	0.064491
Event	151	56.08609	10.53372	

	HR	HR.lower	HR.upper
[1,]	1.0124	0.997837	1.027174

Plots

- Univariate plots of all analysed variables:
 - > `plot(res)`
 - normal: normality plots
 - categorical: barplots
 - time-to-event: Kaplan Meier plots
- Bivariate plots analysed variables by 'year':
 - > `plot(res, bivar = TRUE)`
 - normal: stratified box plots
 - categorical: stratified barplots
 - time-to-event: Kaplan Meier curves

- Creates the bivariate table from 'res' object

```
> restab <- createTable(res, hide.no = "no")
```

```
> restab
```

```
-----Summary descriptives table by 'Cardiovascular'-----
```

	No event N=1621	Event N=151	p.overall
Recruitment year:			0.359
1995	265 (16.3%)	29 (19.2%)	
2000	525 (32.4%)	53 (35.1%)	
2005	831 (51.3%)	69 (45.7%)	
Age	54.5 (11.1)	56.1 (10.5)	0.064
Gender:			0.916
Male	778 (48.0%)	71 (47.0%)	
Female	843 (52.0%)	80 (53.0%)	
Smoking status:			0.814
Never smoker	884 (54.5%)	81 (53.6%)	
Current or former < 1y	408 (25.2%)	41 (27.2%)	
Never or former >= 1y	329 (20.3%)	29 (19.2%)	
Systolic blood pressure	130 (19.9)	132 (21.8)	0.249
Diastolic blood pressure	79.3 (10.5)	79.8 (10.4)	0.685
History of hypertension	498 (30.7%)	50 (33.1%)	0.545
Hypertension treatment	293 (18.1%)	33 (21.9%)	0.245
Total cholesterol	217 (44.8)	226 (46.0)	0.006
HDL cholesterol	53.1 (14.7)	52.0 (15.0)	0.128
Triglycerides	94.0 [70.0; 132]	100 [76.0; 128]	0.137
LDL cholesterol	142 (40.3)	152 (39.3)	0.001
History of hyperchol.	490 (30.2%)	47 (31.1%)	0.778
Cholesterol treatment	163 (10.1%)	19 (12.6%)	0.359
Height (cm)	163 (9.31)	163 (8.81)	0.897
Weight (Kg)	73.2 (13.6)	72.8 (13.3)	0.806
Body mass index	27.5 (4.58)	27.4 (4.15)	0.949
Physical activity (Kcal/week)	405 (404)	394 (310)	0.574
Physical component	49.6 (9.04)	48.5 (9.32)	0.060
Mental component	47.5 (11.2)	52.0 (7.23)	<0.001

- Update. Display Odds Ratio:

```
> update(restab, show.ratio = TRUE)
```

```
-----Summary descriptives table by 'Cardiovascular'-----
```

	No event N=1621	Event N=151	HR	p.overall
Recruitment year:				0.359
1995	265 (16.3%)	29 (19.2%)	Ref.	
2000	525 (32.4%)	53 (35.1%)	0.92 [0.58;1.44]	
2005	831 (51.3%)	69 (45.7%)	0.75 [0.49;1.16]	
Age	54.5 (11.1)	56.1 (10.5)	1.01 [1.00;1.03]	0.064
Gender:				0.916
Male	778 (48.0%)	71 (47.0%)	Ref.	
Female	843 (52.0%)	80 (53.0%)	1.02 [0.74;1.40]	
Smoking status:				0.814
Never smoker	884 (54.5%)	81 (53.6%)	Ref.	
Current or former < 1y	408 (25.2%)	41 (27.2%)	1.11 [0.76;1.61]	
Never or former >= 1y	329 (20.3%)	29 (19.2%)	0.96 [0.63;1.47]	
Systolic blood pressure	130 (19.9)	132 (21.8)	1.00 [1.00;1.01]	0.249
Diastolic blood pressure	79.3 (10.5)	79.8 (10.4)	1.00 [0.99;1.02]	0.685
History of hypertension	498 (30.7%)	50 (33.1%)	1.11 [0.79;1.56]	0.545
Hypertension treatment	293 (18.1%)	33 (21.9%)	1.26 [0.85;1.85]	0.245
Total cholesterol	217 (44.8)	226 (46.0)	1.00 [1.00;1.01]	0.006
HDL cholesterol	53.1 (14.7)	52.0 (15.0)	0.99 [0.98;1.01]	0.128
Triglycerides	94.0 [70.0; 132]	100 [76.0; 128]	1.00 [1.00;1.00]	0.137
LDL cholesterol	142 (40.3)	152 (39.3)	1.01 [1.00;1.01]	0.001
History of hyperchol.	490 (30.2%)	47 (31.1%)	1.05 [0.74;1.48]	0.778
Cholesterol treatment	163 (10.1%)	19 (12.6%)	1.25 [0.77;2.02]	0.359
Height (cm)	163 (9.31)	163 (8.81)	1.00 [0.98;1.02]	0.897
Weight (Kg)	73.2 (13.6)	72.8 (13.3)	1.00 [0.99;1.01]	0.806
Body mass index	27.5 (4.58)	27.4 (4.15)	1.00 [0.96;1.03]	0.949
Physical activity (Kcal/week)	405 (404)	394 (310)	1.00 [1.00;1.00]	0.574
Physical component	49.6 (9.04)	48.5 (9.32)	0.99 [0.97;1.00]	0.060
Mental component	47.5 (11.2)	52.0 (7.23)	1.05 [1.03;1.07]	<0.001

- Update. Select >45 years old participants:

```
> update(restab, x = update(res, subset = age > 45))
```

```
-----Summary descriptives table by 'Cardiovascular'-----
```

	No event N=1216	Event N=118	p.overall
Recruitment year:			0.231
1995	187 (15.4%)	20 (16.9%)	
2000	377 (31.0%)	44 (37.3%)	
2005	652 (53.6%)	54 (45.8%)	
Age	59.2 (8.37)	60.3 (7.54)	0.149
Gender:			0.850
Male	584 (48.0%)	55 (46.6%)	
Female	632 (52.0%)	63 (53.4%)	
Smoking status:			0.822
Never smoker	705 (58.0%)	68 (57.6%)	
Current or former < 1y	256 (21.1%)	27 (22.9%)	
Never or former >= 1y	255 (21.0%)	23 (19.5%)	
Systolic blood pressure	134 (19.9)	137 (21.0)	0.174
Diastolic blood pressure	80.9 (10.4)	81.2 (10.6)	0.900
History of hypertension	463 (38.1%)	47 (39.8%)	0.704
Hypertension treatment	286 (23.5%)	33 (28.0%)	0.271
Total cholesterol	221 (45.0)	229 (45.9)	0.039
HDL cholesterol	53.3 (14.8)	52.3 (15.6)	0.135
Triglycerides	98.0 [73.0; 134]	103 [79.2; 134]	0.059
LDL cholesterol	146 (40.1)	154 (39.7)	0.019
History of hyperchol.	412 (33.9%)	43 (36.4%)	0.530
Cholesterol treatment	157 (12.9%)	19 (16.1%)	0.360
Height (cm)	162 (9.01)	162 (8.48)	0.915
Weight (Kg)	73.7 (12.9)	73.7 (12.9)	0.814
Body mass index	28.1 (4.44)	28.1 (4.14)	0.974
Physical activity (Kcal/week)	410 (393)	380 (300)	0.856
Physical component	48.6 (9.50)	47.5 (9.77)	0.187
Mental component	47.7 (11.2)	52.4 (7.12)	<0.001

- Update. No group variable (entire cohort descriptives):

```
> update(restab, x = update(res, ~.))
```

```
-----Summary descriptives table -----
```

	[ALL] N=2294	N
Recruitment year:		2294
1995	431 (18.8%)	
2000	786 (34.3%)	
2005	1077 (46.9%)	
Age	54.7 (11.0)	2294
Gender:		2294
Male	1101 (48.0%)	
Female	1193 (52.0%)	
Smoking status:		2233
Never smoker	1201 (53.8%)	
Current or former < 1y	593 (26.6%)	
Never or former >= 1y	439 (19.7%)	
Systolic blood pressure	131 (20.3)	2280
Diastolic blood pressure	79.7 (10.5)	2280
History of hypertension	723 (31.6%)	2286
Hypertension treatment	428 (19.0%)	2251
Total cholesterol	219 (45.2)	2193
HDL cholesterol	52.7 (14.7)	2225
Triglycerides	97.0 [72.0; 136]	2231
LDL cholesterol	143 (39.7)	2126
History of hyperchol.	709 (31.2%)	2273
Cholesterol treatment	228 (10.2%)	2239
Height (cm)	163 (9.22)	2259
Weight (Kg)	73.4 (13.7)	2259
Body mass index	27.6 (4.56)	2259
Physical activity (Kcal/week)	399 (388)	2206
Physical component	49.6 (9.01)	2054
Mental component	48.0 (11.0)	2054

- Subset. Select some variables from the table:

```
> restab[c(1, 2, 10, 11, 12)]
```

```
-----Summary descriptives table by 'Cardiovascular'-----
```

	No event N=1621	Event N=151	p.overall
Recruitment year:			0.359
1995	265 (16.3%)	29 (19.2%)	
2000	525 (32.4%)	53 (35.1%)	
2005	831 (51.3%)	69 (45.7%)	
Age	54.5 (11.1)	56.1 (10.5)	0.064
HDL cholesterol	53.1 (14.7)	52.0 (15.0)	0.128
Triglycerides	94.0 [70.0; 132]	100 [76.0; 128]	0.137
LDL cholesterol	142 (40.3)	152 (39.3)	0.001

- rbind. Grouping variables:

```
> rbind(`First group of variables` = restab[1:4],
+       `Second group of variables` = restab[5:12])
```

```
-----Summary descriptives table by 'Cardiovascular'-----
```

	No event N=1621	Event N=151	p.overall

First group of variables:			
Recruitment year:			0.359
1995	265 (16.3%)	29 (19.2%)	
2000	525 (32.4%)	53 (35.1%)	
2005	831 (51.3%)	69 (45.7%)	
Age	54.5 (11.1)	56.1 (10.5)	0.064
Gender:			0.916
Male	778 (48.0%)	71 (47.0%)	
Female	843 (52.0%)	80 (53.0%)	
Smoking status:			0.814
Never smoker	884 (54.5%)	81 (53.6%)	
Current or former < 1y	408 (25.2%)	41 (27.2%)	
Never or former >= 1y	329 (20.3%)	29 (19.2%)	
Second group of variables:			
Systolic blood pressure	130 (19.9)	132 (21.8)	0.249
Diastolic blood pressure	79.3 (10.5)	79.8 (10.4)	0.685
History of hypertension	498 (30.7%)	50 (33.1%)	0.545
Hypertension treatment	293 (18.1%)	33 (21.9%)	0.245
Total cholesterol	217 (44.8)	226 (46.0)	0.006
HDL cholesterol	53.1 (14.7)	52.0 (15.0)	0.128
Triglycerides	94.0 [70.0; 132]	100 [76.0; 128]	0.137
LDL cholesterol	142 (40.3)	152 (39.3)	0.001

- cbind. Stratified tables by gender:

```
> t1 <- update(restab, x = update(res, subset = gender == "Male"))
> t2 <- update(restab, x = update(res, subset = gender == "Female"))
> cbind(MALES = t1, FEMALES = t2)[1:12]
```

-----Summary descriptives table -----

	MALES			FEMALES		
	No event N=778	Event N=71	p.overall	No event N=843	Event N=80	p.overall
Recruitment year:			0.110			0.919
1995	127 (16.3%)	17 (23.9%)		138 (16.4%)	12 (15.0%)	
2000	258 (33.2%)	26 (36.6%)		267 (31.7%)	27 (33.8%)	
2005	393 (50.5%)	28 (39.4%)		438 (52.0%)	41 (51.2%)	
Age	54.6 (11.2)	55.7 (10.5)	0.420	54.4 (11.0)	56.4 (10.6)	0.068
Gender:			.			.
Male	778 (100%)	71 (100%)		0 (0.00%)	0 (0.00%)	
Female	0 (0.00%)	0 (0.00%)		843 (100%)	80 (100%)	
Smoking status:			0.215			0.570
Never smoker	230 (29.6%)	15 (21.1%)		654 (77.6%)	66 (82.5%)	
Current or former < 1y	282 (36.2%)	32 (45.1%)		126 (14.9%)	9 (11.2%)	
Never or former >= 1y	266 (34.2%)	24 (33.8%)		63 (7.47%)	5 (6.25%)	
Systolic blood pressure	133 (18.6)	135 (20.3)	0.317	127 (20.8)	129 (22.7)	0.484
Diastolic blood pressure	81.1 (10.2)	82.0 (10.9)	0.993	77.6 (10.5)	77.8 (9.58)	0.552
History of hypertension	229 (29.4%)	26 (36.6%)	0.203	269 (31.9%)	24 (30.0%)	0.717
Hypertension treatment	129 (16.6%)	17 (23.9%)	0.108	164 (19.5%)	16 (20.0%)	0.909
Total cholesterol	215 (43.2)	226 (44.8)	0.019	218 (46.3)	227 (47.3)	0.115
HDL cholesterol	48.0 (12.4)	47.9 (13.2)	0.559	57.8 (15.1)	55.7 (15.7)	0.104
Triglycerides	104 [77.0; 141]	104 [76.5; 142]	0.757	86.0 [64.0; 118]	95.0 [76.0; 119]	0.045
LDL cholesterol	144 (39.5)	154 (39.5)	0.018	141 (41.0)	151 (39.4)	0.019

- Prints info table with available data, etc.:

```
> summary(restab)
```

```
---Available data---
```

```
-----
```

	[ALL]	No event	Event	method	select	Fact	OR/HR
Recruitment year	1772	1621	151	categorical	ALL	--	
Age	1772	1621	151	continuous-normal	ALL	1	
Gender	1772	1621	151	categorical	ALL	--	
Smoking status	1772	1621	151	categorical	ALL	--	
Systolic blood pressure	1772	1621	151	continuous-normal	ALL	1	
Diastolic blood pressure	1772	1621	151	continuous-normal	ALL	1	
History of hypertension	1772	1621	151	categorical	ALL	--	
Hypertension treatment	1772	1621	151	categorical	ALL	--	
Total cholesterol	1772	1621	151	continuous-normal	ALL	1	
HDL cholesterol	1772	1621	151	continuous-normal	ALL	1	
Triglycerides	1772	1621	151	continuous-non-normal	ALL	1	
LDL cholesterol	1772	1621	151	continuous-normal	ALL	1	
History of hyperchol.	1772	1621	151	categorical	ALL	--	
Cholesterol treatment	1772	1621	151	categorical	ALL	--	
Height (cm)	1772	1621	151	continuous-normal	ALL	1	
Weight (Kg)	1772	1621	151	continuous-normal	ALL	1	
Body mass index	1772	1621	151	continuous-normal	ALL	1	
Physical activity (Kcal/week)	1772	1621	151	continuous-normal	ALL	1	
Physical component	1772	1621	151	continuous-normal	ALL	1	
Mental component	1772	1621	151	continuous-normal	ALL	1	

```
-----
```

- to \LaTeX

```
> export2latex(restab, "table1")
```
- to ASCII (csv)

```
> export2csv(restab, "table1")
```
- to HTML

```
> export2html(restab, "table1")
```

Var	Male N=1101	Female N=1193	p.overall
Recruitment year:			0.506
1995	206 (18.7%)	225 (18.9%)	
2000	390 (35.4%)	396 (33.2%)	
2005	505 (45.9%)	572 (47.9%)	
Age	54.8 (11.1)	54.7 (11.0)	0.840
Triglycerides	110 [80.0; 147]	87.5 [66.0; 120]	<0.001
LDL cholesterol	145 (38.5)	142 (40.7)	0.092
Hystory of hypercol	353 (32.3%)	356 (30.2%)	0.308

Graphical User Interface (GUI)

> cGroupsGUI()

The screenshot shows the 'Compare Groups' GUI window. On the left, a list of variables in the data frame includes 'year', 'age', 'gender', 'smoker', 'sbp', 'dbp', 'height', 'weight', 'b-htn', 'hdl', 'triglyc', 'ldl', 'hstchol', 'bchol', 'height', 'weight', 'bse', 'phyact', 'pcs', 'mcs', 'cv', 'tcw', 'death', and 'todeath'. The 'year' variable is selected in the 'Factor to report' section. The 'Variable to report' table lists various variables with their types and digits. The 'Global subset' is set to 'age > 45'. The 'Variable subset' is empty.

Factor to report:

- Factor: Variable: year, Reference: [dropdown], Plot: [button]
- Survival: Time to event: [dropdown], Status: [dropdown], Event: [dropdown]

Variable to report:

Name	Type	Digits	Hide (Ref.)	Subset
gender	Categorical	1	fl	Gender
smoker	Categorical	1	fl	Smoking status
sbp	Normal	1	fl	Systolic blood press
dbp	Normal	1	fl	Diastolic blood pres
height	Categorical	1	Last	History of hypert
b-htn	Categorical	1	fl	HTN treatment
chol	Normal	1	fl	Total cholesterol
hdl	Normal	1	fl	HDL cholesterol
triglyc	Non-Normal	1	fl	Triglycerides
ldl	Normal	1	fl	LDL cholesterol
hstchol	Categorical	1	fl	History of hypercc
bchol	Categorical	1	fl	Cholesterol treatm
height	Normal	1	fl	height (cm)
weight	Normal	1	fl	Weight (kg)

Method:

- Categorical
- Non Normal
- Normal
- Test (S-W): 0.05

Plots:

- Univariate
- Bivariate

Decimals digits:

- 1 dec
- 2 dec
- 3 dec
- Default dec

Hide (Ref.) category:

- First
- Last
- No category

Global subset: age > 45 [Apply subset]

Variable subset: [Apply subset]

Future works

- table and tabular environments when exporting to \LaTeX .
- Other bivariate table symbols format (e.g. mean \pm SD).
- Add some functionalities already implemented using syntax but not GUI.
- ...
- Suggestions

Thank you!!

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