

Community Adherence Support Groups in Mozambique – Supplementary material

Table S1. Characteristics of Matched Population, stratified by retention at 6 months (n=22,680)

	All (n=22,680)	Not-retained (n=3,413)	Retained (n=19,267)	OR [95% CI] §	p-value
CASG member					
No	11,340 (50.0%)	2,650 (77.6%)	8,690 (45.1%)	Ref.	
Yes	11,340 (50.0%)	763 (22.4%)	10,577 (54.9%)	4.23 [3.88; 4.61]	<0.001
Sex					
Female	16,810 (74.1%)	2,519 (73.8%)	14,291 (74.2%)	Ref.	
Male	5,870 (25.9%)	894 (26.2%)	4,976 (25.8%)	0.98 [0.90; 1.07]	0.650
Age at eligibility, years (median, IQR)	32.4 [26.3;40.3]	31.1 [24.9;38.8]	32.6 [26.5;40.5]	1.02 [1.01; 1.02]	<0.001
Age at eligibility, years					
15-19 years	931 (4.1%)	235 (6.9%)	696 (3.6%)	Ref.	
20-24 years	3,582 (15.8%)	630 (18.5%)	2,952 (15.3%)	1.58 [1.33; 1.88]	<0.001
25-49 years	16,198 (71.4%)	2,291 (67.1%)	13,907 (72.2%)	2.05 [1.75; 2.39]	<0.001
50+ years	1,969 (8.7%)	257 (7.5%)	1,712 (8.9%)	2.25 [1.84; 2.74]	<0.001
Marital Status					
Cohabiting with partner	7,865 (34.7%)	1,216 (35.6%)	6,649 (34.5%)	Ref.	Ref.
Married	2,941 (13.0%)	415 (12.2%)	2,526 (13.1%)	1.11 [0.99; 1.26]	0.08
Separated/divorced/ widowed/single	5,101 (22.5%)	686 (20.1%)	4,415 (22.9%)	1.18 [1.06; 1.30]	0.001
Missing	6,773 (29.9%)	1,096 (32.1%)	5,677 (29.5%)	0.95 [0.87; 1.04]	0.233
Highest educational level attained					
None	4,624 (20.4%)	639 (18.7%)	3,985 (20.7%)	Ref.	Ref.
Primary school	10,384 (45.8%)	1,554 (45.5%)	8,830 (45.8%)	0.91 [0.82; 1.01]	0.066
Post-secondary	2,367 (10.4%)	355 (10.4%)	2,012 (10.4%)	0.91 [0.79; 1.05]	0.183
Missing	5,305 (23.4%)	865 (25.3%)	4,440 (23.0%)	0.82 [0.74; 0.92]	0.001
CD4 cell count (cells/mm ³) (median, IQR)	372 [229;551]	356 [222;544]	374 [230;552]	1.00 [1.00; 1.00]	0.124
CD4 cell count (cells/mm ³)					
<200 cells/mm ³	3,147 (13.9%)	475 (13.9%)	2,672 (13.9%)	Ref.	Ref.
200-349 cells/mm ³	4,028 (17.8%)	626 (18.3%)	3,402 (17.7%)	0.97 [0.85; 1.10]	0.602
350-499 cells/mm ³	3,551 (15.7%)	479 (14.0%)	3,072 (15.9%)	1.14 [0.99; 1.31]	0.061
≥500 cells/mm ³	4,758 (21.0%)	656 (19.2%)	4,102 (21.3%)	1.11 [0.98; 1.26]	0.105
Missing	7,196 (31.7%)	1,177 (34.5%)	6,019 (31.2%)	0.91 [0.81; 1.02]	0.106
Tuberculosis infection status at enrolment					
No	19,590 (86.4%)	2,908 (85.2%)	16,682 (86.6%)	Ref.	Ref.
Yes	2,922 (12.9%)	455 (13.3%)	2,467 (12.8%)	0.94 [0.85; 1.05]	0.304
Missing	168 (0.74%)	50 (1.46%)	118 (0.61%)	0.41 [0.30; 0.58]	<0.001
Health facility location					
Peri-urban Quelimane†	949 (4.18%)	111 (3.3%)	838 (4.35%)	Ref.	
Semi-urban Quelimane‡	2,668 (11.8%)	269 (7.9%)	2,399 (12.5%)	1.18 [0.93; 1.49]	0.167
Rural Districts	19,063 (84.1%)	3,033 (88.9%)	16,030 (83.2%)	0.70 [0.57; 0.85]	<0.001

† Peri-urban: urban health facilities in Quelimane District; ‡ semi-urban: peripheral health facilities in Quelimane District.

§Univariate logistic regressions were used to assess the impact of each variable on 6-months retention.

Abbreviations: CASG: Community adherence support group; OR: odds ratio; CI: confidence interval.

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Table S2. Characteristics of Matched Population, stratified by retention at 12 months (n=15,604)

	All (n=15,604)	Not-retained (n=3,444)	Retained (n=12,160)	OR [95% CI] §	p-value
CASG member					
No	7,802 (50%)	2,629 (76.3%)	5,173 (42.5%)	Ref.	
Yes	7,802 (50%)	815 (23.7%)	6,987 (57.5%)	4.36 [4.00; 4.75]	<0.001
Sex					
Female	11,494 (73.7%)	2,463 (71.5%)	9,031 (74.3%)	Ref.	
Male	4,110 (26.3%)	981 (28.5%)	3,129 (25.7%)	0.87 [0.80; 0.95]	0.001
Age at eligibility, years (median, IQR)	32.9 [26.9;40.8]	31.9 [26.0;40.2]	33.2 [27.3;41.0]	1.01 [1.01; 1.01]	<0.001
Age at eligibility, years					
15-19 years	546 (3.5%)	181 (5.3%)	365 (3%)	Ref.	
20-24 years	2,250 (14.4%)	560 (16.3%)	1,690 (13.9%)	1.50 [1.22; 1.83]	<0.001
25-49 years	11,313 (72.5%)	2,393 (69.5%)	8,920 (73.4%)	1.85 [1.54; 2.22]	<0.001
50+ years	1,495 (9.6%)	310 (9%)	1,185 (9.8%)	1.90 [1.52; 2.36]	<0.001
Marital Status					
Cohabiting with partner	5,399 (34.6%)	1,195 (34.7%)	4,204 (34.6%)	Ref.	Ref.
Married	1,929 (12.4%)	398 (11.6%)	1,531 (12.6%)	1.09 [0.96; 1.24]	0.169
Separated/divorced/ widowed/single	3,588 (23.0%)	758 (22.0%)	2,830 (23.3%)	1.06 [0.96; 1.18]	0.257
Missing	4,688 (30.0%)	1,093 (31.7%)	3,595 (29.6%)	0.93 [0.85; 1.03]	0.158
Highest educational level attained					
None	3,219 (20.6%)	685 (19.9%)	2,534 (20.8%)	Ref.	Ref.
Primary school	7,092 (45.4%)	1,551 (45.0%)	5,541 (45.6%)	0.97 [0.87; 1.07]	0.501
Post-secondary	1,535 (9.84%)	323 (9.38%)	1,212 (9.97%)	1.01 [0.87; 1.18]	0.853
Missing	3,758 (24.1%)	885 (25.7%)	2,873 (23.6%)	0.88 [0.78; 0.98]	0.024
CD4 cell count (cells/mm ³) (median, IQR)	367 [228;543]	353 [214;539]	370 [232;544]	1.00 [1.00; 1.00]	0.056
CD4 cell count (cells/mm ³)					
<200 cells/mm ³	2,206 (14.1%)	527 (15.3%)	1,679 (13.8%)	Ref.	Ref.
200-349 cells/mm ³	2,844 (18.2%)	621 (18.0%)	2,223 (18.3%)	1.12 [0.98; 1.28]	0.085
350-499 cells/mm ³	2,480 (15.9%)	488 (14.2%)	1,992 (16.4%)	1.28 [1.11; 1.47]	<0.001
≥500 cells/mm ³	3,205 (20.5%)	676 (19.6%)	2,529 (20.8%)	1.17 [1.03; 1.34]	0.015
Missing	4,869 (31.2%)	1,132 (32.9%)	3,737 (30.7%)	1.04 [0.92; 1.17]	0.555
Tuberculosis infection status at enrolment					
No	13,518 (86.6%)	2,953 (85.7%)	10,565 (86.9%)	Ref.	Ref.
Yes	1,956 (12.5%)	430 (12.5%)	1,526 (12.5%)	0.99 [0.89; 1.11]	0.887
Missing	130 (0.83%)	61 (1.77%)	69 (0.57%)	0.32 [0.22; 0.45]	<0.001
Health facility location					
Peri-urban Quelimane†	719 (4.6%)	98 (2.9%)	621 (5.1%)	Ref.	
Semi-urban Quelimane‡	1,641 (10.5%)	244 (7.1%)	1,397 (11.5%)	0.90 [0.70; 1.16]	0.434
Rural Districts	13,244 (84.9%)	3,102 (90.1%)	10,142 (83.4%)	0.52 [0.41; 0.64]	<0.001

†Peri-urban: urban health facilities in Quelimane District; ‡ semi-urban: peripheral health facilities in Quelimane District.

§Univariate logistic regressions were used to assess the impact of each variable on 12-months retention.

Abbreviations: CASG: Community adherence support group; OR: odds ratio; CI: confidence interval.

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Table S3. Characteristics of Matched Population, stratified by lost-to-follow-up status (n=26,858)

	All (n=26,858)	Not-LTFU (n=21,701)	LTFU (n=5,157)	HR [95% CI]	p-value
CASG member					
No	13,429 (50.0%)	9,513 (43.8%)	3,916 (75.9%)	Ref.	
Yes	13,429 (50.0%)	12,188 (56.2%)	1,241 (24.1%)	0.28 [0.26; 0.30]	<0.001
Sex					
Female	20,020 (74.5%)	16,398 (75.6%)	3,622 (70.2%)	Ref.	
Male	6,838 (25.5%)	5,303 (24.4%)	1,535 (29.8%)	1.27 [1.20; 1.35]	<0.001
Age at eligibility, years (median, IQR)	31.9 [25.9;40.0]	32.0 [26.0;40.1]	31.5 [25.7;39.6]	1.00 [0.99; 1.00]	0.058
Age at eligibility, years					
15-19 years	1,223 (4.55%)	947 (4.36%)	276 (5.35%)	Ref.	
20-24 years	4,469 (16.6%)	3,588 (16.5%)	881 (17.1%)	0.84 [0.73; 0.96]	0.009
25-49 years	18,908 (70.4%)	15,343 (70.7%)	3,565 (69.1%)	0.78 [0.69; 0.88]	<0.001
50+ years	2,258 (8.41%)	1,823 (8.40%)	435 (8.44%)	0.85 [0.73; 0.99]	0.032
Marital Status					
Cohabiting with partner	9,415 (35.1%)	7,633 (35.2%)	1,782 (34.6%)	Ref.	Ref.
Married	3,516 (13.1%)	2,945 (13.6%)	571 (11.1%)	0.83 [0.75; 0.92]	<0.001
Separated/divorced/ widowed/single	5,974 (22.2%)	4,810 (22.2%)	1,164 (22.6%)	1.04 [0.95; 1.13]	0.392
Missing	7,953 (29.6%)	6,313 (29.1%)	1,640 (31.8%)	1.11 [1.03; 1.20]	0.005
Highest educational level attained					
None	5,397 (20.1%)	4,476 (20.6%)	921 (17.9%)	Ref.	Ref.
Post-secondary	2,937 (10.9%)	2,347 (10.8%)	590 (11.4%)	1.22 [1.09; 1.37]	0.001
Primary school	12,290 (45.8%)	10,049 (46.3%)	2,241 (43.5%)	1.08 [1.00; 1.18]	0.061
Missing	6,234 (23.2%)	4,829 (22.3%)	1,405 (27.2%)	1.41 [1.29; 1.55]	<0.001
CD4 cell count (cells/mm3) (median, IQR)	375 [231;555]	384 [239;561]	337 [199;523]	1.00 [1.00; 1.00]	<0.001
CD4 cell count (cells/mm3)					
<200 cells/mm3	3,666 (13.6%)	2,780 (12.8%)	886 (17.2%)	Ref.	Ref.
200-349 cells/mm3	4,715 (17.6%)	3,737 (17.2%)	978 (19.0%)	0.82 [0.74; 0.91]	<0.001
350-499 cells/mm3	4,156 (15.5%)	3,467 (16.0%)	689 (13.4%)	0.62 [0.56; 0.70]	0
≥500 cells/mm3	5,712 (21.3%)	4,731 (21.8%)	981 (19.0%)	0.65 [0.59; 0.72]	<0.001
Missing	8,609 (32.1%)	6,986 (32.2%)	1,623 (31.5%)	0.73 [0.66; 0.80]	<0.001
Tuberculosis infection status at enrolment					
No	23,232 (86.5%)	18,777 (86.5%)	4,455 (86.4%)	Ref.	
Yes	3,440 (12.8%)	2,824 (13.0%)	616 (11.9%)	0.92 [0.84; 1.01]	0.075
Missing	186 (0.69%)	100 (0.46%)	86 (1.67%)	3.63 [2.71; 4.84]	<0.001
Health facility location					
Peri-urban Quelimane†	1,055 (3.93%)	830 (3.82%)	225 (4.36%)	Ref.	
Semi-urban Quelimane‡	3,262 (12.1%)	2,922 (13.5%)	340 (6.59%)	1.17 [1.02; 1.33]	0.025
Rural Districts	22,541 (83.9%)	17,949 (82.7%)	4,592 (89.0%)	0.67 [0.56; 0.79]	<0.001

†Peri-urban: urban health facilities in Quelimane District; ‡semi-urban: peripheral health facilities in Quelimane District.
Abbreviations: CASG: Community adherence support group; HR: hazard ratio; CI: confidence interval.

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Table S4. Characteristics of Matched Population, stratified by viral suppression (n=7,674)

	All (n=7,674)	Not virally suppressed (n=1,678)	Virally suppressed (n=5,996)	OR [95% CI] §	p-value
CASG member					
No	3,837 (50.0%)	895 (53.3%)	2,942 (49.1%)	Ref.	
Yes	3,837 (50.0%)	783 (46.7%)	3,054 (50.9%)	1.19 [1.06; 1.32]	0.002
Sex					
Female	5,851 (76.2%)	1,209 (72.1%)	4,642 (77.4%)	Ref.	
Male	1,823 (23.8%)	469 (27.9%)	1,354 (22.6%)	0.75 [0.67; 0.85]	<0.001
Age at eligibility, years (median, IQR)	32.2 [26.2;40.3]	31.5 [25.5;39.2]	32.5 [26.4;40.6]	1.01 [1.01; 1.02]	<0.001
Age at eligibility, years					
15-19 years	335 (4.37%)	77 (4.59%)	258 (4.30%)	Ref.	
20-24 years	1,227 (16.0%)	318 (19.0%)	909 (15.2%)	0.85 [0.64; 1.13]	0.274
25-49 years	5,450 (71.0%)	1,162 (69.2%)	4,288 (71.5%)	1.10 [0.84; 1.43]	0.469
50+ years	662 (8.63%)	121 (7.21%)	541 (9.02%)	1.33 [0.96; 1.84]	0.081
Marital Status					
Cohabiting with partner	2,799 (36.5%)	660 (39.3%)	2,139 (35.7%)	Ref.	
Married	959 (12.5%)	200 (11.9%)	759 (12.7%)	1.17 [0.98; 1.40]	0.082
Separated/divorced/ widowed/single	1,794 (23.4%)	381 (22.7%)	1,413 (23.6%)	1.14 [0.99; 1.32]	0.064
Missing	2,122 (27.7%)	437 (26.0%)	1,685 (28.1%)	1.19 [1.04; 1.36]	0.013
Highest educational level attained					
None	1,551 (20.2%)	316 (18.8%)	1,235 (20.6%)	Ref.	
Primary school	883 (11.5%)	182 (10.8%)	701 (11.7%)	0.99 [0.80; 1.21]	0.887
Post-secondary	3,577 (46.6%)	868 (51.7%)	2,709 (45.2%)	0.80 [0.69; 0.92]	0.002
Missing	1,663 (21.7%)	312 (18.6%)	1,351 (22.5%)	1.11 [0.93; 1.32]	0.25
CD4 cell count (cells/mm ³) (median, IQR)	385 [236;565]	355 [209;526]	395 [246;577]	1.00 [1.00; 1.00]	<0.001
CD4 cell count (cells/mm ³)					
<200 cells/mm ³	1,032 (13.4%)	272 (16.2%)	760 (12.7%)	Ref.	
200-349 cells/mm ³	1,332 (17.4%)	311 (18.5%)	1,021 (17.0%)	1.17 [0.97; 1.42]	0.093
350-499 cells/mm ³	1,246 (16.2%)	264 (15.7%)	982 (16.4%)	1.33 [1.10; 1.62]	0.004
≥500 cells/mm ³	1,761 (22.9%)	331 (19.7%)	1,430 (23.8%)	1.55 [1.29; 1.86]	<0.001
Missing	2,303 (30.0%)	500 (29.8%)	1,803 (30.1%)	1.29 [1.09; 1.53]	0.004
Tuberculosis infection status at enrolment					
No	6,660 (86.8%)	1,456 (86.8%)	5,204 (86.8%)	Ref.	Ref.
Yes	974 (12.7%)	210 (12.5%)	764 (12.7%)	1.02 [0.87; 1.20]	0.836
Missing	40 (0.52%)	12 (0.72%)	28 (0.47%)	0.65 [0.34; 1.33]	0.228
Health facility location					
Peri-urban Quelimane†	470 (6.12%)	73 (4.35%)	397 (6.62%)	Ref.	
Semi-urban Quelimane‡	778 (10.1%)	121 (7.21%)	657 (11.0%)	1.00 [0.73; 1.37]	0.996
Rural Districts	6,426 (83.7%)	1,484 (88.4%)	4,942 (82.4%)	0.61 [0.47; 0.79]	<0.001

† Peri-urban: urban health facilities in Quelimane District; ‡ semi-urban: peripheral health facilities in Quelimane District.

§ Univariate logistic regressions were used to assess the impact of each variable on viral suppression.

Abbreviations: CASG: Community adherence support group; OR: odds ratio; CI: confidence interval.

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Table S5. Multivariable cox regression to assess whether non-CASG members were associated with higher hazards of being LTFU, while adjusting for sex, age at baseline, educational level, marital status, CD4 count at baseline, and district.

	LTFU HR [95% CI] (n=26,858)
CASG member: No	3.45 [3.20; 4.73]
Sex: Male	1.35 [1.26; 1.44]
Age at eligibility	
25 years	1.09 [1.04; 1.14]
35 years	Ref
50 years	1.06 [0.99; 1.13]
Highest educational level attained	
None	1.02 [0.95; 1.10]
Primary	Ref
Post-Secondary	1.02 [0.93; 1.11]
Marital status	
Living with partner	Ref
Married	1.01 [0.92; 1.10]
Separated/Divorced/Widowed/Single	1.12 [1.04; 1.20]
CD4 cell count (cells/mm ³)	
150 cells/mm ³	0.99 [0.88; 1.11]
300 cells/mm ³	Ref
500 cells/mm ³	1.03 [0.96; 1.10]
District	
Quelimane	Ref
Gilé	0.71 [0.58; 0.86]
Ile	1.05 [0.90; 1.22]
Inhassunge	1.43 [1.24; 1.65]
Maganja da Costa	3.27 [2.88; 3.72]
Mocubela	0.62 [0.51; 0.75]
Alto Molócuè	0.84 [0.74; 0.97]
Namacurra	0.90 [0.79; 1.02]
Pebane	0.65 [0.57; 0.75]

Note: Age and CD4 were fitted using restricted cubic splines. Reference levels for the variable *CASG member* is *yes* and for *sex* is *female*. Values are described in terms of point estimates and the corresponding 95% confidence intervals, obtained after a multivariable logistic regression model. **Abbreviations:** LTFU: Loss to follow-up; CASG: Community adherence support group; HR: Hazard ratio; CI: confidence interval.

Supplemental Figures

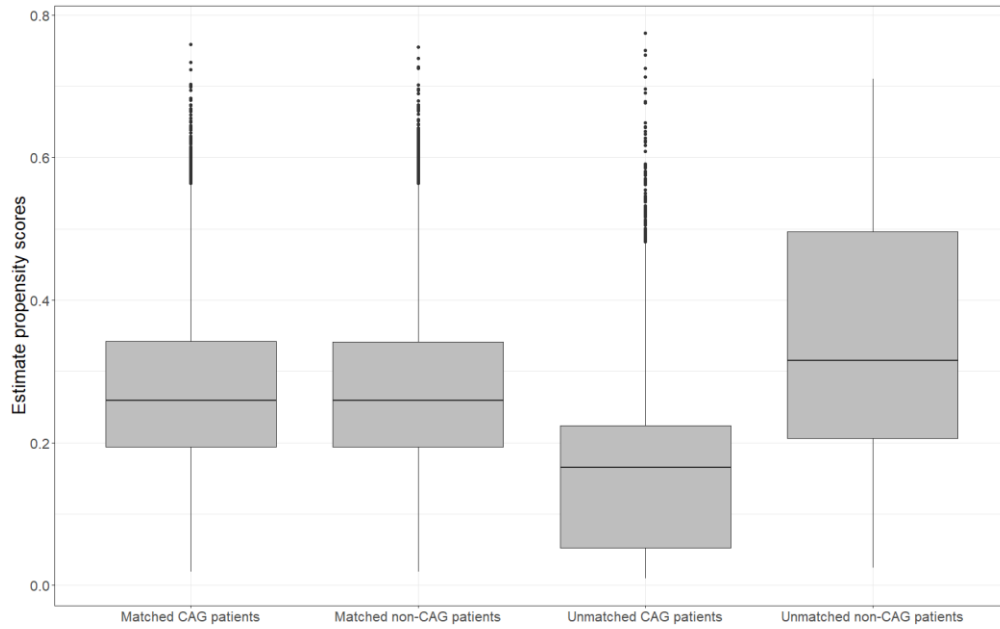


Figure S1. Distribution of estimated propensity scores across all four groups: matched CAG patients, matched non-CAG patients, unmatched CAG patients, and unmatched non-CAG patients, respectively.

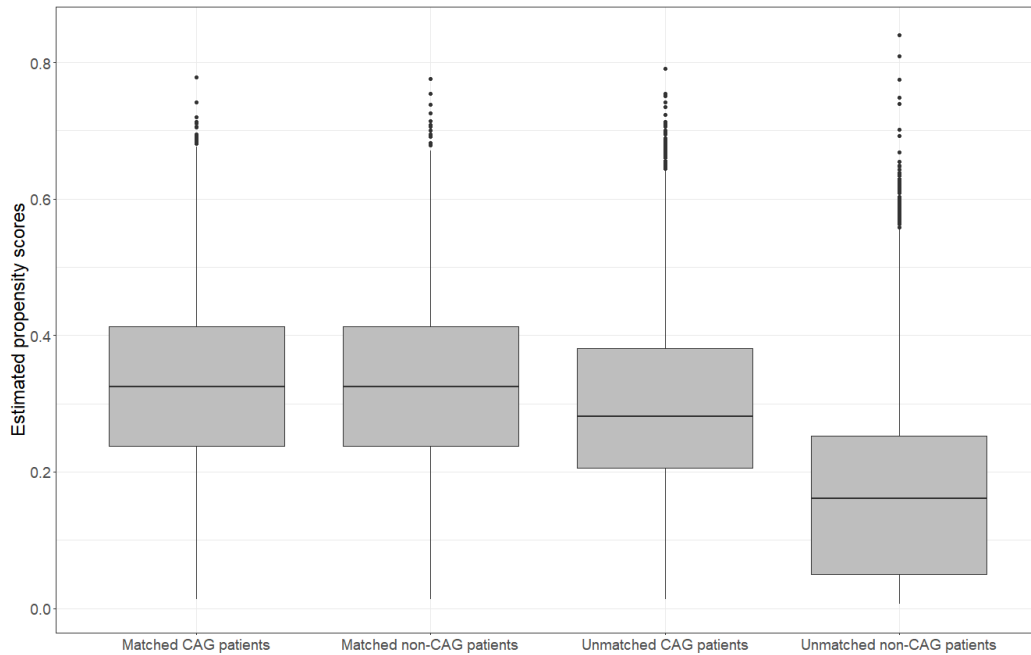


Figure S2. Distribution of estimated propensity scores across all four groups, among patients with viral load results: matched CAG patients, matched non-CAG patients, unmatched CAG patients, and unmatched non-CAG patients, respectively.