

Additional File 2.

Table 1. Variables characterizing each cluster in baseline study for 1% prevalence cut-off point (N= 916 619)

	1.Nervous and digestive	2. Respiratory, circulator and nervous	3. Circulatory and digestive	4. Mental, nervous and digestive, female dominant	5. Mental, digestive and blood, female oldest-old dominant	6. Nervous, musculoskeletal and circulatory, female dominant	7. Genitourinary, mental and musculoskeletal, male dominant	8. Non-specified, youngest-old dominant	All
Number of people, n	25 142	46 144	64 299	86 819	113 910	154 411	178 511	247 382	916 619
Multimorbidity, n (%)	25 011 (99.5)	45 969 (99.6)	64 210 (99.9)	86 815 (100.0)	113 869 (100.0)	154 406 (100.0)	177 392 (99.4)	185 414 (75.0)	853 085 (93.1)
Polypharmacy, n (%)	16 859 (67.1)	33 629 (72.9)	49 776 (77.4)	64 969 (74.8)	76 376 (67.0)	96 657 (62.6)	94 463 (52.9)	54 773 (22.1)	487 502 (53.1)
Women, n (%)	14 637 (58.2)	26 113 (56.6)	38 930 (60.5)	61 441 (70.8)	95 491 (83.8)	135 476 (87.7)	4 675 (2.6)	152 368 (61.6)	529 131 (57.7)
Men, n (%)	10 506 (41.8)	20 031 (43.4)	25 369 (39.5)	25 378 (29.2)	18 419 (16.2)	18 935 (12.3)	173 836 (97.4)	95 014 (38.4)	387 488 (42.3)
Age (categories), n (%)									
[65,70)	4 766 (19.0)	8 485 (18.4)	8 980 (14.0)	18 070 (20.8)	23 078 (20.3)	35 167 (22.8)	53 918 (30.2)	99 715 (40.3)	252 178 (27.5)
[70,80)	10 562 (42.0)	19 970 (43.3)	24 698 (38.4)	34 460 (39.7)	43 362 (38.1)	72 030 (46.6)	86 357 (48.4)	103 146 (41.7)	394 586 (43.0)
[80,90)	8 367 (33.3)	15 458 (33.5)	25 810 (40.1)	29 261 (33.7)	39 382 (34.6)	41 966 (27.2)	35 304 (19.8)	39 197 (15.8)	234 744 (25.6)
[90,99]	1 448 (5.8)	2 230 (4.8)	4 811 (7.5)	5 028 (5.8)	8 089 (7.1)	5 248 (3.4)	2 933 (1.6)	5 324 (2.2)	35 111 (3.8)
MEDEA* index									
R	4 921 (19.6)	8 815 (19.1)	12 845 (20.0)	16 718 (19.3)	22 224 (19.5)	29 369 (19.0)	35 849 (20.1)	51 507 (20.8)	182249 (21.4)
U1	3 669 (14.6)	6 651 (14.4)	9 244 (14.4)	13 108 (15.1)	17 669 (15.5)	21 028 (13.6)	26 416 (14.8)	47 006 (19.0)	144791 (17.0)
U2	3 513 (14.0)	6 502 (14.1)	8 859 (13.8)	12 527 (14.4)	16 843 (14.8)	22 642 (14.7)	26 697 (15.0)	38 847 (15.7)	136431 (16.0)
U3	3 624 (14.4)	6 806 (14.7)	9 057 (14.1)	12 495 (14.4)	16 973 (14.9)	24 536 (15.9)	27 619 (15.5)	37 112 (15.0)	138222 (16.2)
U4	3 452 (13.7)	6 586 (14.3)	8 808 (13.7)	12 279 (14.1)	16 327 (14.3)	24 859 (16.1)	27 294 (15.3)	33 383 (13.5)	132988 (15.6)
U5	3 206 (12.8)	6 188 (13.4)	8 305 (12.9)	11 362 (13.1)	14 676 (12.9)	23 003 (14.9)	23 650 (13.2)	26 493 (10.7)	116883 (13.7)
Number of chronic diseases, median [IQR]	8.0 [6.0; 10.0]	8.0 [6.0; 10.0]	8.0 [6.0; 10.0]	8.0 [6.0; 10.0]	7.0 [5.0; 9.0]	6.0 [5.0; 8.0]	5.0 [4.0; 7.0]	3.0 [1.0; 4.0]	6.0 [4.0;8.0]
Number of chronic diseases (categories), n (%)									
0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	25 380 (10.3)	25 380 (2.8)
1	131 (0.5)	175 (0.4)	90 (0.1)	5 (0.0)	41 (0.0)	5 (0.0)	1 120 (0.6)	36 588 (14.8)	38 154 (4.2)

[2, 5)	3 207 (12.8)	5 466 (11.8)	5 560 (8.6)	6 424 (7.4)	13 367 (11.7)	18 862 (12.2)	57 441 (32.2)	158 509 (64.1)	268 836 (29.3)
[5,10)	14 285 (56.8)	27 482 (59.6)	37 649 (58.6)	54 013 (62.2)	78 670 (69.1)	116 135 (75.2)	109 238 (61.2)	26 237 (10.6)	463 709 (50.6)
≥10	7 520 (29.9)	13 021 (28.2)	21 000 (32.7)	26 377 (30.4)	21 832 (19.2)	19 409 (12.6)	10 713 (6.0)	668 (0.3)	120 540 (13.2)
Number of drugs, median [IQR]	6.0 [4.0; 9.0]	7.0 [4.0; 10.0]	7.0 [5.0; 10.0]	7.0 [4.0; 10.0]	6.0 [4.0; 9.0]	6.0 [3.0; 8.0]	5.0 [3.0; 7.0]	2.0 [0.0; 4.0]	5.0 [2.0;8.0]
Number of drugs (categories)									
0	1 988 (7.9)	2 733 (5.9)	3 420 (5.3)	4 605 (5.3)	6 936 (6.1)	8 160 (5.3)	13 098 (7.3)	72 427 (29.3)	113 368 (12.4)
1	965 (3.8)	1 256 (2.7)	1 268 (2.0)	1 913 (2.2)	3 633 (3.2)	6 072 (3.9)	11 575 (6.5)	30 400 (12.3)	57 082 (6.2)
[2, 5)	5 330 (21.2)	8 526 (18.5)	9 835 (15.3)	15 332 (17.7)	26 965 (23.7)	43 522 (28.2)	59 374 (33.3)	89 782 (36.3)	258 667 (28.2)
[5,10)	11 033 (43.9)	21 308 (46.2)	30 250 (47.0)	42 078 (48.5)	56 341 (49.5)	75 147 (48.7)	76 377 (42.8)	50 148 (20.3)	362 681 (39.6)
≥10	5 826 (23.2)	12 321 (26.7)	19 525 (30.4)	22 891 (26.4)	20 036 (17.6)	21 510 (13.9)	18 086 (10.1)	4 625 (1.9)	124 821 (13.6)
Number of visits 2012, median [IQR]	13.0 [7.0; 23.0]	13.0 [7.0; 21.0]	15.0 [8.0; 26.0]	14.0 [7.0; 24.0]	11.0 [6.0; 18.0]	11.0 [7.0; 17.0]	10.0 [6.0; 15.0]	5.0 [2.0; 9.0]	9.0 [5.0;16.0]
Number of visits 2012 (categories), n (%)									
0	667 (2.7)	983 (2.1)	1 212 (1.9)	1 727 (2.0)	2 563 (2.3)	2 459 (1.6)	3 916 (2.2)	34 418 (13.9)	47 945 (5.2)
1	550 (2.2)	887 (1.9)	1 070 (1.7)	1 536 (1.8)	2 342 (2.1)	2 282 (1.5)	4 671 (2.6)	20 546 (8.3)	33 884 (3.7)
[2, 5)	2 389 (9.5)	4 242 (9.2)	5 030 (7.8)	7 700 (8.9)	12 166 (10.7)	14 734 (9.5)	24 789 (13.9)	59 389 (24.0)	130 439 (14.2)
[5, 10)	5 390 (21.4)	10 384 (22.5)	12 356 (19.2)	18 483 (21.3)	29 941 (26.3)	43 668 (28.3)	55 517 (31.1)	73 610 (29.8)	249 349 (27.2)
≥10	16 146 (64.2)	29 647 (64.3)	44 631 (69.4)	57 373 (66.1)	66 898 (58.7)	91 267 (59.1)	89 618 (50.2)	59 420 (24.0)	455 002 (49.6)

For the sake of simplicity, all numbers in the table were rounded to its closest natural number

Table 2. Variables characterizing each cluster in baseline study for no prevalence cut-off point (N= 916 619)

	1.Nervous and digestive	2. Respiratory, circulator and nervous	3. Circulatory and digestive	4. Mental, nervous and digestive, female dominant	5. Mental, digestive and blood, female oldest-old dominant	6. Nervous, musculoskeletal and circulatory, female dominant	7. Genitourinary, mental and musculoskeletal, male dominant	8. Non-specified, youngest-old dominant	All
Number of people, n	34 609	56 724	70 178	87 885	108 469	155 860	170 170	232 723	916 619
Multimorbidity, n (%)	34 446 (99.5)	56 618 (99.8)	70 069 (99.8)	87 773 (99.9)	108 415 (100.0)	155 823 (100.0)	168 285 (98.9)	171 654 (73.8)	853 085 (93.1)
Polypharmacy, n (%)	24 747 (71.5)	42 025 (74.1)	52 458 (74.8)	62 327 (70.9)	72 520 (66.9)	95 673 (61.4)	87 676 (51.5)	52 074 (22.4)	487 502 (53.1)
Women, n (%)	17 458 (50.4)	31 444 (55.4)	42 390 (60.4)	66 619 (75.8)	91 266 (84.1)	129 678 (83.2)	6 227 (3.7)	144 047 (61.9)	529 131 (57.7)
Men, n (%)	17 151 (49.6)	25 280 (44.6)	27 788 (39.6)	21 266 (24.2)	17 203 (15.9)	26 182 (16.8)	163 943 (96.3)	88 676 (38.1)	387 488 (42.3)
Age (categories), n (%)									
[65,70)	6 968 (20.1)	9 731 (17.2)	10 239 (14.6)	17 869 (20.3)	25 715 (23.7)	36 946 (23.7)	51 412 (30.2)	92 307 (39.7)	252 178 (27.5)
[70,80)	15 290 (44.2)	23 241 (41.0)	26 372 (37.6)	33 246 (37.8)	44 982 (41.5)	72 562 (46.6)	81 920 (48.1)	96 693 (41.5)	394 586 (43.0)
[80,90)	10 875 (31.4)	20 373 (35.9)	27 952 (39.8)	30 488 (34.7)	32 319 (29.8)	41 430 (26.6)	33 959 (20.0)	38 357 (16.5)	234 744 (25.6)
[90,99]	1 476 (4.3)	3 379 (6.0)	5 615 (8.0)	6 282 (7.1)	5 454 (5.0)	4 922 (3.2)	2 878 (1.7)	5 367 (2.3)	35 111 (3.8)
MEDEA* index									
R	7 199 (20.8)	12 283 (21.7)	16 063 (22.9)	19 200 (21.8)	21 807 (20.1)	32 218 (20.7)	36 483 (21.4)	50 996 (21.9)	182249 (21.4)
U1	5 502 (15.9)	9 073 (16.0)	11 462 (16.3)	15 001 (17.1)	17 925 (16.5)	22 513 (14.4)	27 114 (15.9)	47 040 (20.2)	144791 (17.0)
U2	5 445 (15.7)	8 862 (15.6)	10 921 (15.6)	14 028 (16.0)	17 500 (16.1)	24 185 (15.5)	27 171 (16.0)	38 667 (16.6)	136431 (16.0)
U3	5 642 (16.3)	9 051 (16.0)	11 105 (15.8)	14 065 (16.0)	17 848 (16.5)	26 174 (16.8)	28 023 (16.5)	36 842 (15.8)	138222 (16.2)
U4	5 550 (16.0)	8 930 (15.7)	10 702 (15.2)	13 452 (15.3)	17 525 (16.2)	26 424 (17.0)	27 581 (16.2)	33 017 (14.2)	132988 (15.6)
U5	5 272 (15.2)	8 525 (15.0)	9 926 (14.1)	12 139 (13.8)	15 864 (14.6)	24 346 (15.6)	23 798 (14.0)	26 161 (11.2)	116883 (13.7)
Number of chronic diseases, median [IQR]	8.0 [6.0; 10.0]	8.0 [6.0; 10.0]	8.0 [6.0; 10.0]	7.0 [6.0; 10.0]	7.0 [6.0; 9.0]	6.0 [5.0; 8.0]	5.0 [4.0; 7.0]	3.0 [1.0; 4.0]	6.0 [4.0;8.0]
Number of chronic diseases (categories), n (%)									
0	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	340 (0.2)	24 718 (10.6)	25 380 (2.8)
1	150 (0.4)	140 (0.2)	144 (0.2)	104 (0.1)	46 (0.0)	61 (0.0)	1 747 (1.0)	35 302 (15.2)	38 154 (4.2)
[2, 5)	4 022 (11.6)	5 351 (9.4)	7 343 (10.5)	9 477 (10.8)	10 628 (9.8)	27 127 (17.4)	58 129 (34.2)	144 766 (62.2)	268 836 (29.3)

[5,10)	20 440 (59.1)	32 996 (58.2)	41 917 (59.7)	56 331 (64.1)	74 196 (68.4)	112 073 (71.9)	100 295 (58.9)	26 838 (11.5)	463 709 (50.6)
≥10	9 997 (28.9)	18 237 (32.2)	20 774 (29.6)	21 973 (25.0)	23 599 (21.8)	16 600 (10.7)	9 659 (5.7)	1 099 (0.5)	120 540 (13.2)
Number of drugs, median [IQR]	7.0 [4.0; 10.0]	7.0 [4.0; 10.0]	7.0 [4.0; 10.0]	7.0 [4.0; 9.0]	6.0 [4.0; 9.0]	5.0 [3.0; 8.0]	5.0 [3.0; 7.0]	2.0 [0.0; 4.0]	5.0 [2.0;8.0]
Number of drugs (categories)									
0	2 174 (6.3)	3 310 (5.8)	4 049 (5.8)	5 328 (6.1)	6 377 (5.9)	8 768 (5.6)	13 693 (8.0)	68 920 (29.6)	113 368 (12.4)
1	1 052 (3.0)	1 508 (2.7)	1 665 (2.4)	2 406 (2.7)	3 600 (3.3)	6 433 (4.1)	11 557 (6.8)	28 489 (12.2)	57 082 (6.2)
[2, 5)	6 636 (19.2)	9 880 (17.4)	12 006 (17.1)	17 824 (20.3)	25 972 (23.9)	44 986 (28.9)	57 244 (33.6)	83 239 (35.8)	258 667 (28.2)
[5,10)	15 840 (45.8)	26 051 (45.9)	32 957 (47.0)	42 480 (48.3)	52 995 (48.9)	74 918 (48.1)	71 115 (41.8)	47 190 (20.3)	362 681 (39.6)
≥10	8 908 (25.7)	15 974 (28.2)	19 502 (27.8)	19 847 (22.6)	19 525 (18.0)	20 755 (13.3)	16 561 (9.7)	4 885 (2.1)	124 821 (13.6)
Number of visits 2012, median [IQR]	13.0 [7.0; 22.0]	14.0 [8.0; 25.0]	14.0 [8.0; 25.0]	12.0 [7.0; 21.0]	11.0 [7.0; 18.0]	11.0 [7.0; 17.0]	9.0 [5.0; 15.0]	5.0 [2.0; 9.0]	9.0 [5.0;16.0]
Number of visits 2012 (categories), n (%)									
0	766 (2.2)	1 122 (2.0)	1 435 (2.0)	2 027 (2.3)	2 274 (2.1)	2 771 (1.8)	4 278 (2.5)	32 903 (14.1)	47 945 (5.2)
1	675 (1.9)	959 (1.7)	1 302 (1.9)	1 871 (2.1)	2 089 (1.9)	2 572 (1.7)	4 798 (2.8)	19 408 (8.3)	33 884 (3.7)
[2, 5)	3 171 (9.2)	4 578 (8.1)	6 024 (8.6)	8 987 (10.2)	11 289 (10.4)	15 678 (10.1)	24 339 (14.3)	55 804 (24.0)	130 439 (14.2)
[5, 10)	7 708 (22.3)	11 373 (20.1)	14 299 (20.4)	20 681 (23.5)	28 386 (26.2)	44 934 (28.8)	52 979 (31.1)	68 497 (29.4)	249 349 (27.2)
≥10	22 289 (64.4)	38 692 (68.2)	47 118 (67.1)	54 320 (61.8)	64 431 (59.4)	89 904 (57.7)	83 776 (49.2)	56 110 (24.1)	455 002 (49.6)

For the sake of simplicity, all numbers in the table were rounded to its closest natural number