

Supplemental Online Content

Blood AJ, Cannon CP, Gordon WJ, et al. Results of a remotely delivered hypertension and lipid program in more than 10 000 patients across a diverse health care network. *JAMA Cardiol*. Published online November 9, 2022. doi:10.1001/jamacardio.2022.4018

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This supplemental material has been provided by the authors to give readers additional information about their work.

eMethods

Patient Navigators

Patient Navigators are trained to obtain patient medical history, lab data, and blood pressure readings to help facilitate clinical treatment based on recommendations from providers. Patient Navigators use their motivational interviewing skills to enroll the patient in the hypertension and lipid management programs and help patients with blood pressure device setup and the proper technique on how to take an accurate blood pressure reading. Patient Navigators follow standard operating procedures and receive training by Cardiologists, Pharmacists, and team leads. Communication occurred through secure portal messages, telephone calls, or after consent is obtained, email or text messaging. In close conjunction with cardiologists, physician leads, pharmacists and program managers leading this effort, this individual plays an instrumental role implementing team objectives, developing materials, screening and evaluating at-risk patients, and enrolling and facilitating patient progress through the program.

eTable 1. Patient Demographics in the Hypertension and Cholesterol Programs

Hypertension Program								
	All Enrolled Patients n=3671		Still Active n=457		Exited Prematurely or Became Unreachable n=1697		Entered Maintenance n=1517	
Age								
<65	2188	59.6%	387	84.7%	986	58.1%	763	50.3%
>65	1483	40.4%	70	15.3%	711	41.9%	754	49.7%
Sex								
Male	1548	42.2%	207	45.3%	721	42.5%	620	40.9%
Female	2115	57.6%	249	54.5%	970	57.2%	896	59.1%
Unknown	8	0.2%	1	0.2%	6	0.4%	1	0.1%
Ethnicity								
Hispanic	575	15.7%	40	8.8%	334	19.7%	201	13.2%
Non-Hispanic	2798	76.2%	378	82.7%	1236	72.8%	1184	78.0%
Unknown	298	8.1%	39	8.5%	127	7.5%	132	8.7%
Race								
White	2211	60.2%	331	72.4%	874	51.5%	1006	66.3%
Black	718	19.6%	58	12.7%	431	25.4%	229	15.1%
Other	742	20.2%	68	14.9%	392	23.1%	282	18.6%
Language								
English	3260	88.8%	425	93.0%	1469	86.6%	1366	90.0%
Non-English	396	10.8%	31	6.8%	220	13.0%	145	9.6%
Unknown	15	0.4%	1	0.2%	8	0.5%	6	0.4%

Lipid Program								
	All Enrolled Patients n=8103		Still Active n=1464		Exited Prematurely or Became Unreachable n=3859		Entered Maintenance n=2780	
Age								
<65	4447	54.9%	1355	92.6%	2153	55.8%	1402	50.4%
>65	3656	45.1%	109	7.4%	1706	44.2%	1378	49.6%
Sex								
Male	3671	45.3%	652	44.5%	1714	44.4%	1305	46.3%
Female	4422	54.6%	809	55.3%	2139	54.4%	1474	52.5%
Unknown	10	0.1%	3	0.2%	6	0.2%	1	1.2%
Ethnicity								
Hispanic	703	8.7%	89	6.1%	319	8.3%	295	10.6%
Non-Hispanic	6689	82.5%	1248	85.2%	3182	82.5%	2259	81.3%
Unknown	711	8.8%	127	8.7%	358	9.3%	226	8.1%
Race								
White	6214	76.7%	1166	79.6%	2976	77.1%	2072	74.5%
Black	765	9.4%	111	7.6%	356	9.2%	298	10.7%
Other	1124	13.9%	187	12.8%	527	13.7%	410	14.7%
Language								
English	7518	92.8%	1381	94.3%	3599	93.3%	2538	91.3%
Non-English	508	6.3%	70	4.8%	218	5.6%	220	7.9%
Unknown	77	1.0%	13	0.9%	42	1.1%	22	0.8%
Indication for Treatment								
ASCVD	2798	34.5%	507	34.6%	1258	32.6%	1033	37.2%
Diabetes	2198	27.1%	425	29.0%	982	25.4%	791	28.5%
LDL>190	2533	31.3%	474	32.4%	1339	34.7%	720	25.9%
Primary Prevention	574	7.2%	58	4.0%	280	7.3%	236	8.5%

eTable 2. Number of activities for patients to reach Maintenance

Hypertension	
Total Activities*	19.3 (2.7)
Call Activities**	13.1 (2.9)
Post-Enrollment Calls***	11.0 (3.1)

Lipids	
Total Activities*	33.8 (3.3)
Call Activities**	19.8 (4.2)
Post-Enrollment Calls***	18.0 (3.9)

*Total activities include all calls, as well as internal navigator activities like collecting/averaging BP readings, screening and checking labs/reviewing with pharmacists.

**Call activities only include navigator-patient interactions, i.e. device set up/reminder calls, lab reminder calls, enrollment calls, and program/trial review calls.

***Post-enrollment calls filters call activities to only include navigator-patient interactions after the patient's enrollment.

eTable 3. Rates of contact and enrollment stratified by Demographics of interest

	Contacted	Enrolled	Did not finish program				Total Exited	Maintenance	p-value
			Active	MD exit	Unreachable	Dropped out			
Race									
White	13189	7892	277 (3.5%)	501 (6.3%)	2241 (28.4%)	692 (8.8%)	3434 (43.5%)	2944 (37.3%)	0.88
Black	2295	1360	59 (4.3%)	120 (8.8%)	503 (37.0%)	102 (7.5%)	725 (53.3%)	499 (36.7%)	0.57
Other	2960	1551	61 (3.9%)	129 (8.3%)	632 (40.7%)	110 (7.1%)	871 (56.2%)	667 (43.0%)	0.75
Language									
Non-English	1642	861	34 (3.9%)	70 (8.1%)	284 (33.0%)	49 (5.7%)	403 (46.8%)	358 (41.6%)	0.68
English	16802	9942	363 (3.7%)	680 (6.8%)	3092 (31.1%)	855 (8.6%)	4627 (46.5%)	3752 (37.7%)	
Ethnicity									
Hispanic	2153	1204	43 (3.6%)	94 (7.8%)	459 (38.1%)	70 (5.8%)	623 (51.7%)	480 (39.9%)	0.98
Non-Hispanic	16291	9599	354 (3.7%)	656 (6.8%)	2917 (30.4%)	834 (8.7%)	4407 (45.9%)	3630 (37.8%)	
Sex									
Men	8320	4695	172 (3.7%)	311 (6.6%)	1498 (31.9%)	285 (6.1%)	2094 (44.6%)	1839 (39.2%)	0.65
Women	10124	6108	225 (3.7%)	439 (7.2%)	1878 (30.7%)	619 (10.1%)	2936 (48.1%)	2271 (37.2%)	
Total	18444	10803	397 (3.7%)	750 (6.9%)	3376 (31.3%)	904 (8.4%)	5030 (46.6%)	4110 (38.0%)	

eTable 4. Demographics of Educated-only and Medication management cohorts

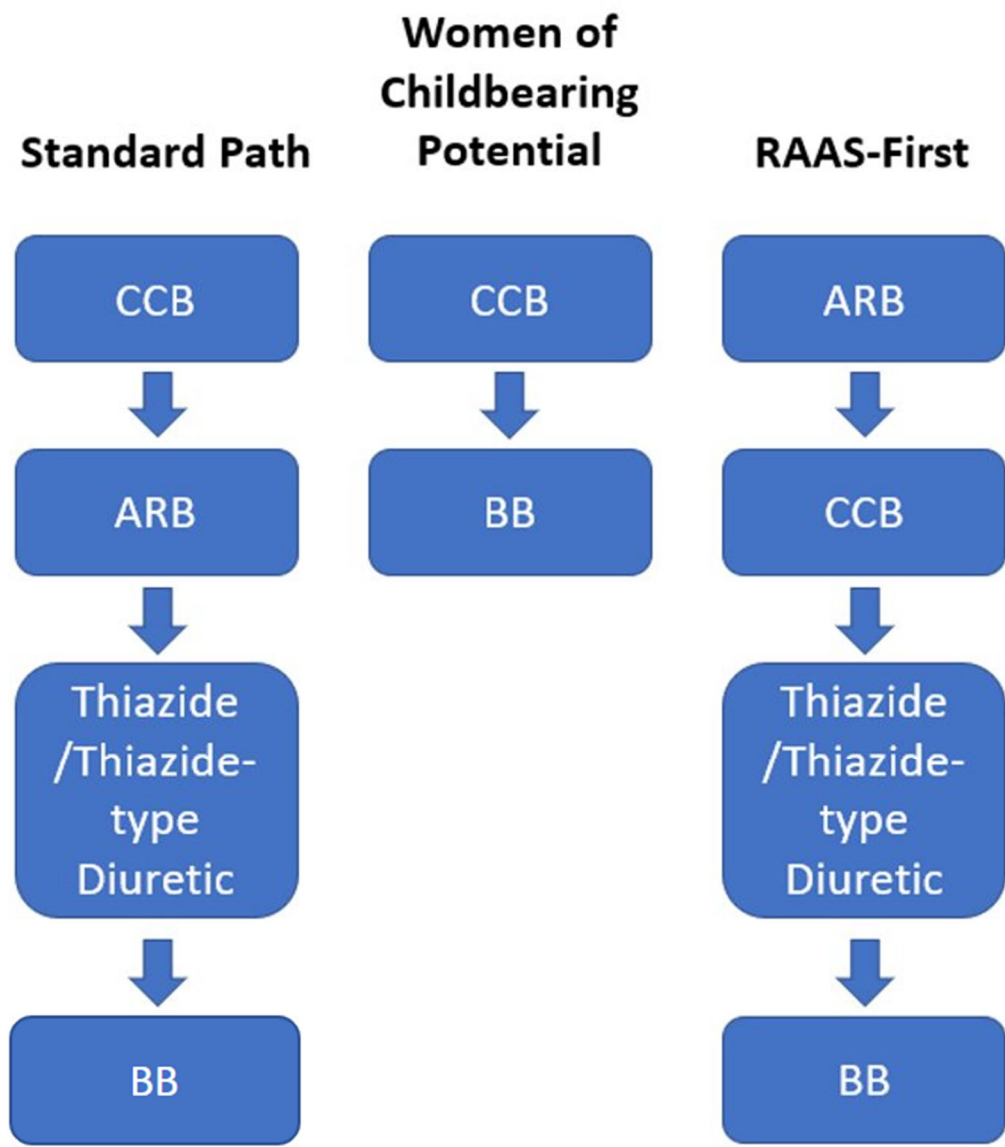
Hypertension Cohort			
	Medication Management	Education Only	
	3370	301	
	n (%)	n (%)	p-value
Age			
<65	1887 (56.0%)	301 (100.0%)	<0.0001
>65	1483 (44.0%)	0 (0.0%)	<0.0001
Sex			
Male	1409 (41.8%)	139 (46.2%)	0.13
Female	1953 (58.0%)	162 (53.8%)	0.16
Unknown	8 (0.02%)	0 (0.0%)	0.99
Ethnicity			
Hispanic	554 (16.4%)	21 (7.0%)	<0.0001
Non-Hispanic	2542 (75.4%)	256 (85.0%)	<0.0001
Unknown	274 (8.1%)	24 (8.0%)	
Race			
White	1976 (58.6%)	235 (78.1%)	<0.0001
Black	695 (20.6%)	23 (7.6%)	<0.0001
Other	699 (20.7%)	43 (14.3%)	
Language			
English	2974 (88.2%)	286 (95.0%)	<0.0001
Non-English	381 (11.3%)	15 (5.0%)	0.0002
Unknown	15 (0.4%)	0 (0.4%)	0.65

Lipid Cohort			
	Medication Management	Education Only	
	7138	965	
	n (%)	n (%)	p-value
Age			
≤65	3482 (48.8%)	965 (100%)	<0.0001
>65	3656 (51.2%)	0 (0%)	<0.0001
Sex			
Male	3242 (45.4%)	429 (44.5%)	0.56
Female	3886 (54.4%)	536 (55.5%)	0.5
Unknown	10 (0.1%)	0 (0.0%)	0.65
Ethnicity			
Hispanic	656 (9.2%)	47 (4.9%)	<0.0001
Non-Hispanic	5863 (82.1%)	826 (85.6%)	0.005
Unknown	619 (8.7%)	92 (9.5%)	0.33
Race			
White	5427 (76.0%)	787 (81.6%)	<0.0001
Black	703 (9.8%)	62 (6.4%)	0.0002
Other	1008 (14.1%)	116 (12.0%)	0.06
Language			
English	6602 (92.5%)	916 (94.9%)	0.003
Non-English	468 (6.6%)	40 (4.1%)	0.002
Unknown	68 (1.0%)	9 (0.9%)	0.99
Indication for Treatment			
ASCVD	2507 (35.1%)	291 (30.2%)	0.001
Diabetes	1906 (26.7%)	292 (30.3%)	0.01
LDL>190 mg/dL	2237 (31.3%)	296 (30.7%)	0.68
Primary Prevention	488 (6.8%)	86 (8.9%)	0.01

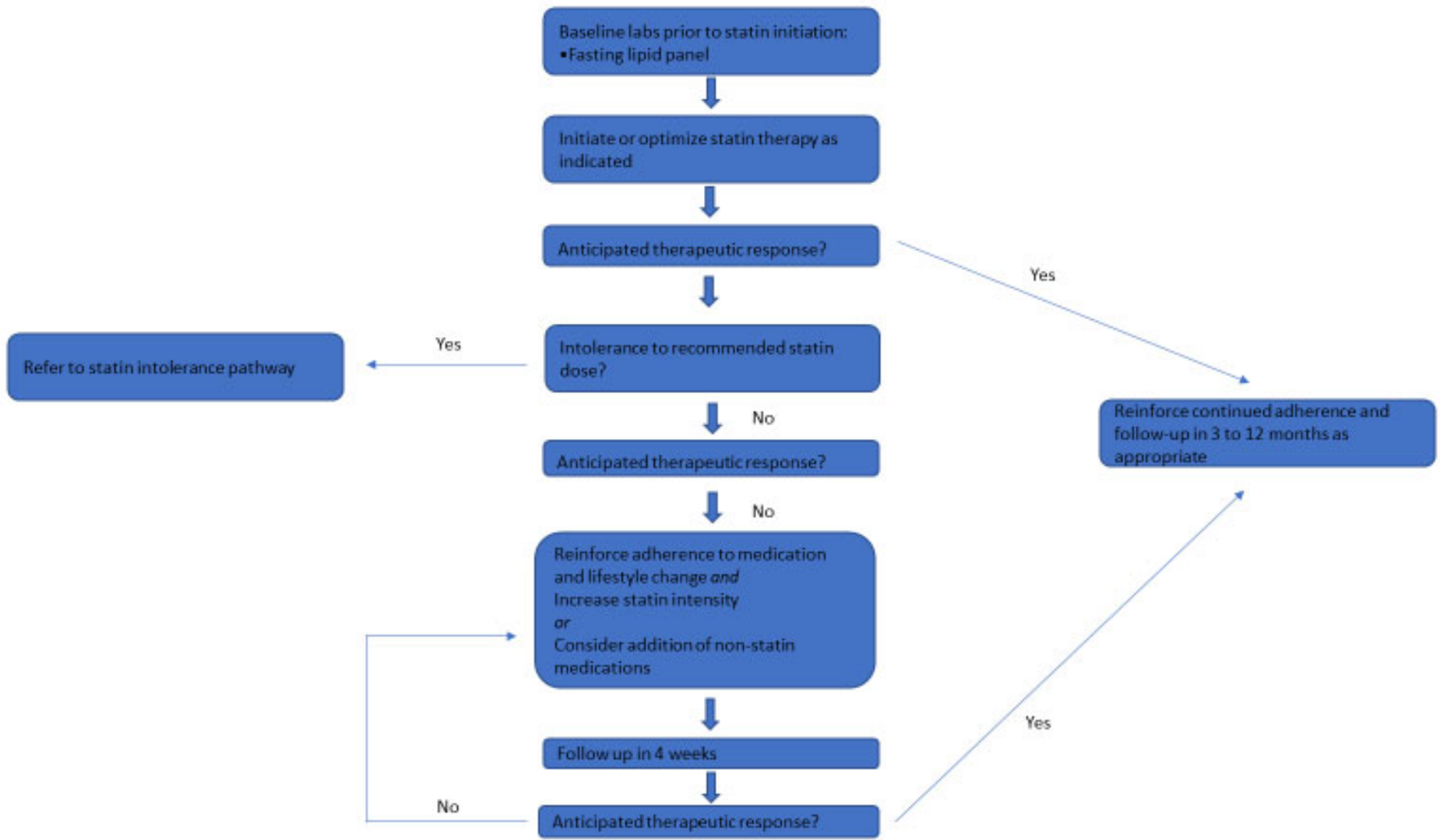
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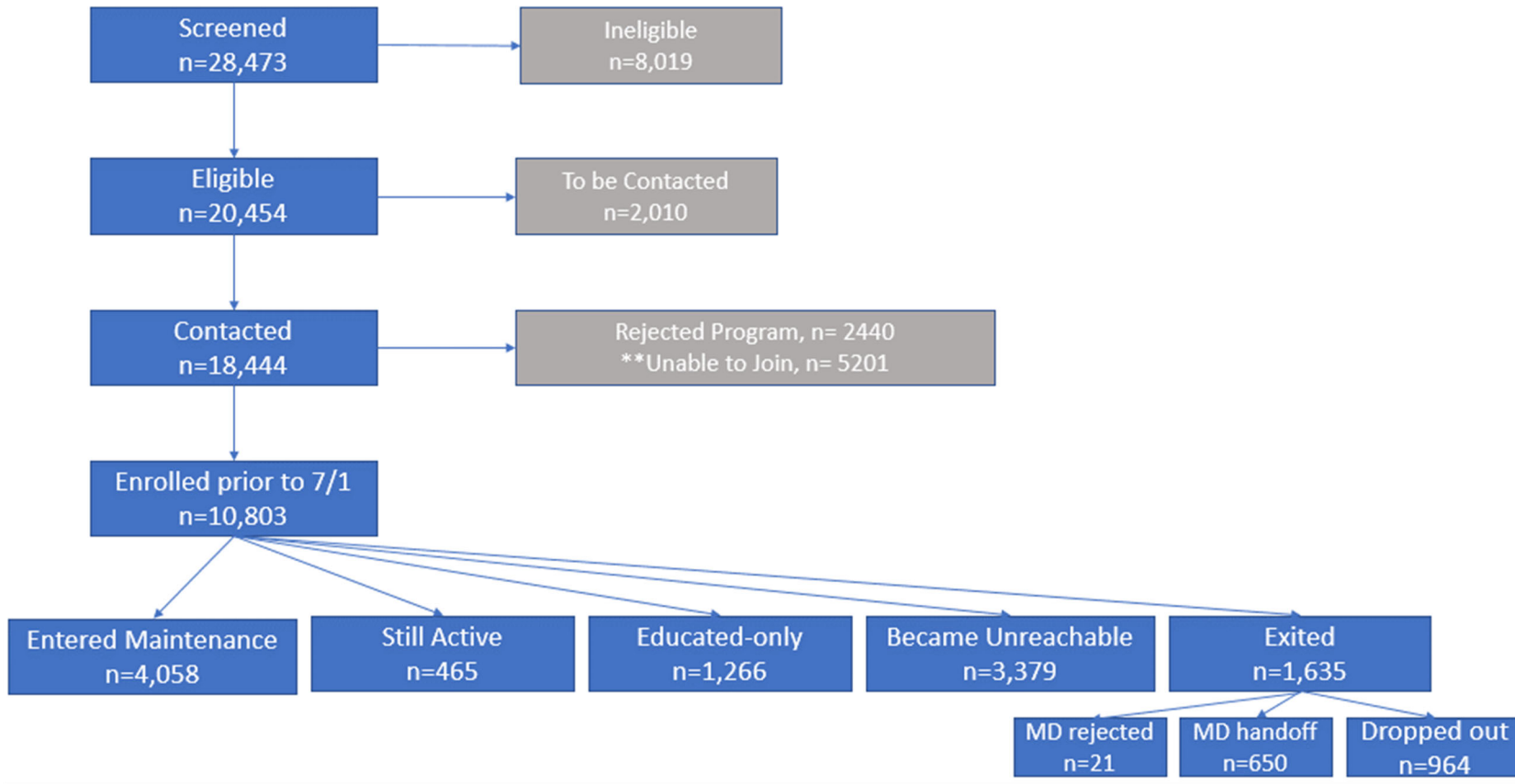
eFigure 1. Hypertension Flow diagram: Broad overview (*CCB – calcium-channel blocker, ARB – angiotensin receptor blocker, BB – beta-blocker*)



eFigure 2. Statin Management Overview



eFigure 3. Patient Disposition in the combined Hypertension and Lipids Programs

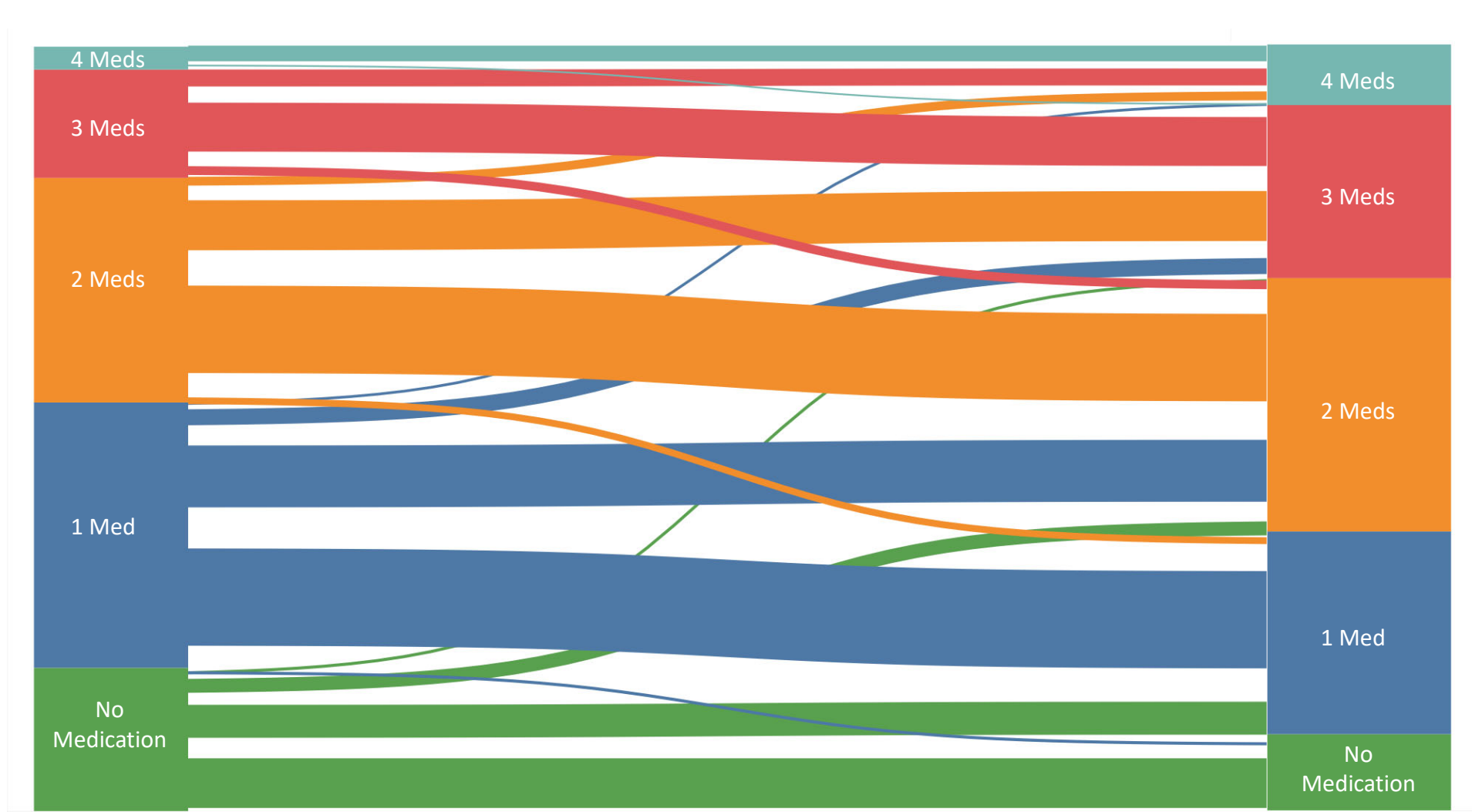


*Patients to be contacted included patients who were screened in, PCPs contacted, however no outreach attempt had yet been made to the patient

**Unable to join included patients who did not qualify for the program after interview, were moving out of state, pregnant or planning to become pregnant, did not manage their own medications, or were terminally ill

***Education-only patients received dietary and lifestyle counseling and resources to assist in BP and/or LDL-c lowering however declined to participate in program medication management

eFigure 4. Changes in Medications During Management in patients who reach maintenance
Panel A: Hypertension Sankey diagram (column and line thickness represent degree of change)



Panel B: Cholesterol (n) Sankey diagram (column and line thickness represent degree of change)

