

SUPPLEMENTARY FIG. S1. Retention from first year of appointment in index rank for CDP participants and nonparticipant women and men faculty comparisons by academic rank. (a) Assistant Professors (from first year of appointment as Assistant Professor), (b) Associate Professors (from first year of appointment as Associate Professor), and (c) Full Professors (from first year of appointment as Full Professor). CDP, career development program.



SUPPLEMENTARY FIG. S2. (a) Retention in academic medicine of Associate Professor ELAM participants was not significantly different from that of combined AAMC CDP participants at the same rank. (b) Retention in academic medicine of Full Professor ELAM participants was not significantly different from that of combined AAMC CDP participants at the same rank. AAMC, Association of American Medical Colleges; ELAM, Hedwig van Ameringen Executive Leadership in Academic Medicine.



SUPPLEMENTARY FIG. S3. Retention in academic medicine of CDP participants by number of CDP attended and academic rank at first CDP attended. (a) Retention in academic medicine of Assistant Professors attending more than one CDP was significantly longer than that for those attending only one CDP. (b) Retention in academic medicine of Associate Professors attending more than one CDP was not significantly longer than that for those attending more than one CDP. (c) Retention in academic medicine of Full Professors attending more than one CDP was not significantly longer than that for those attending only one CDP. (c) Retention in academic medicine of Full Professors attending more than one CDP was not significantly longer than that for those attending only one CDP.



SUPPLEMENTARY FIG. S4. HRs and their 95% CIs over time, where HRs indicate the likelihood of leaving academic medicine adjusted for tenure track status and department type for compared same career-stage groups by academic rank. (a) Assistant Professors: Compared to men, CDP participants were significantly less likely to leave academic medicine from first year in rank until year 9 and then after year 23. From years 9 to 23, CDP participants and men were equally likely to leave academic medicine as the 95% CI included 1.0, indicating lack of a statistically significant HR. (b) Assistant Professors: Compared to non-CDP women, CDP participants were significantly less likely to leave academic medicine from first year in rank until year 13 and after year 22. From years 13 to 22, CDP participants and non-CDP women were equally likely to leave academic medicine as the 95% CI included 1.0, indicating lack of a statistically significant HR. (c) Assistant Professors: Compared to non-CDP women, men were significantly less likely to leave academic medicine for 20 years since first appointment in rank. After that time, men and non-CDP women were equally likely to leave academic medicine as the 95% CI included 1.0, indicating lack of a statistically significant HR. (d) Associate Professors: Compared to men, CDP participants were significantly less likely to leave academic medicine for up to 9 years since first year of appointment in rank. After that time, men and non-CDP women were equally likely to leave academic medicine as the 95% CI included 1.0, indicating lack of a statistically significant HR. (e) Associate Professors: Compared to non-CDP women, CDP participants were significantly less likely to leave academic medicine for 10 years since first year of appointment in rank. After that time, men and non-CDP women were equally likely to leave academic medicine as the 95% CI included 1.0, indicating lack of a statistically significant HR. (f) Associate Professors: Compared to non-CDP women, men were significantly less likely to leave academic medicine from the sixth year since appointment in rank for 12 years until year 18. Before the sixth year in rank and after the 18th year, men and non-CDP women were equally likely to leave academic medicine. Shaded area indicates statistically significant HR. CI, confidence interval; HR, hazard ratio.

SUPPLEMENTARY	TABLE S1.	Number	OF	WOMEN	FACU	LTY BY	FIRST	CDP	ATTENDED
	AND A	ACADEMIC	C R/	ANK AT	Гіме о	of CDF)		

		C	CDP		
Academic rank	<i>WIM</i> $(n = 264)$	<i>EWIM</i> (n = 1389)	<i>MWIM</i> (n=1378)	<i>ELAM</i> ($n = 237$)	Total (N= 3268)
Assistant Professors Associate Professors Full Professors	201 54 9	1309 74 6	278 780 320	14 92 131	1802 1000 466

CDP, career development program; WIM, AAMC Women Faculty Professional Development programs; EWIM, AAMC Early Career Women Faculty Professional Development programs; MWIM, AAMC Mid-Career Women Faculty Professional Development programs; ELAM, Hedwig van Ameringen Executive Leadership in Academic Medicine.

	Women attending	Women attending m	nore than one CDP in o	rder of CDP attended, n (%)
Type of CDP	attended, n (%)	1st CDP attended	2nd CDP attended	3rd and 4th CDP attended
EWIM	1408 (48)	182 (51)	15 (4)	1 (3)
MWIM	1267 (44)	174 (48)	187 (52)	9 (26)
ELAM	234 (8)	3 (1)	157 (44)	24 (71)

SUPPLEMENTARY TABLE S2. CDP PARTICIPANTS BY NUMBER OF CDPS ATTENDED AND TYPE OF CDP

Supplementary Table S3. Hazard Ratios and their 95% Confidence Intervals by Academic Rank and Each Year in Rank, for Which HRs Adjusted for Tenure Track Status and Department Type Indicated the Likelihood of Leaving Academic Medicine of Compared Same Career-Stage Groups

Years in academic rank as Assistant Professor	Hazard ratio	95% Confidence interval	12 13
(a) Assistant Professors: C	CDP particip	ants compared to	14 15
men from first year of	appointment	in rank	16
0	0.49^{a}	0.42-0.56	17
1	$0.54^{\rm a}$	0.48 - 0.60	18
2	0.59^{a}	0.53-0.65	19
3	0.64^{a}	0.59–0.69	20
4	0.69^{a}	0.65-0.74	21
5	0.74^{a}	0.70-0.78	22
6	0.79 ^a	0.75–0.83	23
7	0.84"	0.79–0.88	24
8	0.88	0.83-0.93	25
9	0.92	0.86-0.97	26
10	0.95	0.89 - 1.01	27
11	0.98	0.92 - 1.05	28
12	1.00	0.94 - 1.07	29
13	1.02	0.95 - 1.09	30
14	1.03	0.90 - 1.10	51
15	1.03	0.90 - 1.11 0.05 1.11	32 33
10	1.05	0.93 - 1.11 0.03 1.11	55 24
17	1.01	0.93 - 1.11 0.00 1.10	54 25
10	0.97	0.90-1.10	36
20	0.94	0.83-1.07	30
20	0.94	0.78-1.06	38
22	0.91	$0.70^{-1.00}$ 0.72 - 1.04	30
23	0.82	$0.72 \ 1.01$ 0.67 - 1.01	40
24	0.77^{a}	0.61-0.98	(a) Assistant Bushana
25	0.73^{a}	0.55-0.95	(c) Assistant Professors:
26	0.67^{a}	0.49-0.92	women from first yee
27	$0.62^{\rm a}$	0.44-0.89	0
28	0.57^{a}	0.38-0.85	1
29	$0.52^{\rm a}$	0.33-0.81	2
30	0.47^{a}	0.29-0.77	5
31	0.42^{a}	0.25-0.73	5
32	0.38^{a}	0.21-0.69	6
33	0.33^{a}	0.17-0.65	7
34	$0.29^{\rm a}$	0.14-0.60	8
35	0.26^{a}	0.12-0.56	9
36	0.22^{a}	0.10-0.52	10
37	0.19^{a}	0.08 - 0.48	11
38	0.17 ^a	0.06-0.44	12
39	0.14^{a}	0.05-0.41	13
40	0.12ª	0.04–0.37	14
(b) Assistant Professors: C to non-CDP women fro	CDP participe om first year	ants compared of appointment	15 16
in rank	5 5	J 11	17
0	$0.20^{\rm a}$	0.15-0.27	18
1	$0.24^{\rm a}$	0.19-0.31	19
2	$0.29^{\rm a}$	0.24-0.35	20
3	0.34 ^a	0.29-0.40	21
4	0.39 ^a	0.34-0.45	22
5	0.45 ^a	0.40-0.51	23
6	0.51^{a}	0.45-0.57	24
7	0.57^{a}_{-}	0.51-0.64	25
8	$0.63^{\rm a}$	0.56-0.71	26

SUPPLEMENTARY TABLE S3. (CONTINUED)

Years in academic rank	Hazard	95% Confidence
as Assistant Professor	ratio	interval
0	0.608	0 (0, 0, 79
9	0.68°	0.60-0.78
10	0.74	0.03-0.84
11	0.78	0.09-0.90
12	0.82	0.72 - 0.94
15	0.85	0.74 - 0.98
14	0.87	0.76 - 1.01
13	0.89	0.70 - 1.03 0.75 1.04
10	0.88	0.73 - 1.04 0.72 1.05
17	0.87	0.73 - 1.03
18	0.85	0.09 - 1.03
19	0.82	0.04 - 1.04
20	0.78	0.39 - 1.04
21	0.75	0.32 - 1.02
22	0.00	0.40 - 1.00
23	0.02 0.56 ^a	0.40 - 0.98
24	0.50	0.55 - 0.95
25	0.30	0.20-0.91
20	0.44°	0.23 - 0.87
∠/ 28	0.39 0.22 ^a	0.10 - 0.83 0.14 0.79
28	0.33	0.14 - 0.78 0.11 0.72
29	0.28	0.11 - 0.73
30 21	0.24	0.08 - 0.08
20	0.20 0.16 ^a	0.00-0.03
32 33	0.10 0.12 ^a	0.04 - 0.38 0.02 0.52
55 24	0.15 0.10 ^a	0.03 - 0.33
25	0.10	0.02 - 0.48
35	0.08	0.02 - 0.44 0.01 0.30
37	0.00^{a}	0.01 - 0.39
38	0.03	0.01-0.33
30	0.04^{a}	0.00-0.27
40	0.03^{a}	0.00-0.23
(a) Assistant Duofassons, A	Ion company	d to non CDP
(c) Assistant Frojessors. W	of appointme	i io non-CDF
0	0.85^{a}	
1	0.85 ^a	0.79-0.95
$\frac{1}{2}$	0.85 ^a	0.80-0.89
3	0.85 ^a	0.81_0.88
4	0.03^{a}	0.81-0.88
5	0.84^{a}	0.81-0.88
6	$0.84^{\rm a}$	0.81-0.88
7	0.84^{a}	0.80-0.88
8	$0.84^{\rm a}$	0.80-0.88
9	$0.84^{\rm a}$	0.80-0.89
10	$0.84^{\rm a}$	0.79-0.89
11	0.84 ^a	0.79-0.89
12	$0.84^{\rm a}$	0.79-0.89
13	$0.84^{\rm a}$	0.79-0.90
14	$0.84^{\rm a}$	0.79-0.90
15	0.85^{a}	0.78-0.91
16	0.85^{a}	0.78 - 0.92
17	0.85^{a}	0.77-0.93
18	0.85^{a}	0.76-0.95
19	0.85^{a}	0.75-0.97
20	0.86^{a}	0.74-0.99
21	0.86	0.73-1.02
22	0.87	0.71-1.05
23	0.87	0.70-1.09
24	0.87	0.68-1.13
25	0.88	0.66-1.17
26	0.88	0.64-1.22

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SUPPLEMENTARY TABLE S3. (CONTINUED)

Years in academic rank as Assistant Professor	Hazard ratio	95% Confidence interval	Years in academic rank as Assistant Professor	Hazard ratio	95% Confidence interval
27	0.89	0.62-1.28	2	0.38 ^a	0.27-0.54
28	0.90	0.60-1.34	3	0.43 ^a	0.32-0.58
29	0.90	0.58 - 1.41	4	$0.49^{\rm a}$	0.38-0.63
30	0.91	0.56-1.49	5	$0.54^{\rm a}$	0.44-0.68
31	0.92	0.53 - 1.57	6	0.60^{a}	0.49-0.73
32	0.92	0.51-1.66	7	0.66^{a}	0.54-0.80
33	0.93	0.49 - 1.77	8	0.71^{a}	0.58-0.86
34	0.94	0.47 - 1.88	9	0.76ª	0.62-0.93
35	0.95	0.45-2.01	10	0.81	0.66-1.00
36	0.96	0.42-2.16		0.85	0.69–1.06
37	0.97	0.40-2.32	12	0.89	0.71 - 1.11
38	0.98	0.38-2.50	13	0.92	0./3 - 1.15
39	0.99	0.36-2.69	14	0.94	0.75 - 1.18
40	1.00	0.54-2.92	15	0.95	0.75 - 1.20 0.75 1.21
(d) Associate Professors:	CDP particip	ants compared	10	0.95	0.75 - 1.21 0.74 1.22
to men from first year o	of appointmen	t in rank	1/	0.93	0.74 - 1.22 0.71 1.22
0	0.58 ^a	0.46-0.71	10	0.95	0.71 - 1.23 0.67 1.24
1	0.62^{a}	0.51-0.74	20	0.91	0.07 - 1.24 0.62 1.25
2	0.66"	0.56-0.77	20	0.88	0.02 - 1.23 0.56 - 1.27
3	0.70^{a}	0.61-0.79	21	0.80	0.50-1.27
4	0.73^{-1}	0.66-0.82	22	0.00	$0.30^{-1.29}$ 0.43 - 1.30
5	0.77^{-1}	0.70-0.85	25	0.70	0.37-1.32
0 7	0.81°	0.74 - 0.89	25	0.64	0.31-1.34
/ 0	0.85 0.99a	0.78-0.92	26	0.59	0.25-1.36
8 0	0.88	0.81 - 0.90	27	0.53	0.20-1.38
9	0.92	0.84 - 1.00 0.87 1.03	28	0.47	0.16-1.40
10	0.95	0.87 - 1.03 0.89 - 1.07	29	0.42	0.12-1.41
12	1.00	0.00 - 1.07 0.91 - 1.10	30	0.37	0.10-1.43
13	1.00	0.93-1.13	31	0.32	0.07 - 1.44
14	1.04	0.95 - 1.15	32	0.28	0.05 - 1.46
15	1.06	0.96-1.17	33	0.24	0.04 - 1.47
16	1.07	0.97 - 1.18	34	0.20	0.03-1.47
17	1.08	0.97-1.19	35	0.17	0.02 - 1.48
18	1.08	0.97-1.21	36	0.14	0.01–1.49
19	1.08	0.96-1.21	37	0.11	0.01-1.49
20	1.08	0.95-1.22	38	0.09	0.01-1.49
21	1.07	0.93-1.23	39	0.07	0.00 - 1.49
22	1.06	0.90-1.24	40	0.00	0.00-1.48
23	1.04	0.87-1.25	(f) Associate Professors: 1	Men compare	d to non-CDP
24	1.02	0.83-1.26	women from first year	of appointme	nt in rank
25	1.00	0.79–1.27	0	0.99	0.79–1.24
26	0.97	0.74 - 1.28		0.97	0.81 - 1.17
27	0.94	0.69 - 1.29	2	0.95	0.82 - 1.11
28	0.91	0.04 - 1.29 0.50 1.20	5	0.94	0.83 - 1.00
29	0.88	0.39 - 1.30 0.55 1.21	4 5	0.92	0.83 - 1.03 0.82 1.01
30	0.84	0.55 - 1.51 0.50 1.32	5	0.91 0.80 ^a	0.82 - 1.01 0.80 0.00
32	0.31	0.30 - 1.32 0.45 - 1.32	07	0.89^{a}	0.30-0.99
32	0.73	0.40 - 1.32	8	0.80^{a}	0.77-0.98
34	0.75	0.40 1.52	9	0.86^{a}	0.77 0.90
35	0.65	0.32 - 1.33	10	0.85^{a}	075-097
36	0.61	0.28-1.33	11	0.84^{a}	0.74-0.97
37	0.57	0.25-1.33	12	$0.84^{\rm a}$	0.73-0.96
38	0.53	0.21-1.33	13	0.83 ^a	0.72-0.96
39	0.49	0.18-1.33	14	$0.83^{\rm a}$	0.72-0.96
40	0.46	0.16-1.32	15	0.83 ^a	0.71-0.96
(e) Associate Professors	CDP narticin	ants compared	16	$0.82^{\rm a}$	0.70-0.97
to non-CDP women fr	om first vear	of appointment	17	0.82^{a}	0.69-0.98
in rank	just year	-, appointinon	18	0.82	0.68 - 1.00
0	$0.29^{\rm a}$	0.17-0.48	19	0.82	0.66-1.03
1	0.33 ^a	0.22-0.51	20	0.83	0.64 - 1.07
		(continued)			(continued)

Years in academic rank as Assistant Professor	Hazard ratio	95% Confidence interval
21	0.83	0.61-1.12
22	0.83	0.59-1.18
23	0.84	0.56-1.25
24	0.84	0.53-1.34
25	0.85	0.50-1.44
26	0.86	0.47 - 1.56
27	0.87	0.44 - 1.70
28	0.88	0.41-1.86
29	0.89	0.39-2.06
30	0.90	0.36-2.28
31	0.92	0.33-2.55
32	0.93	0.30-2.87
33	0.95	0.28 - 3.24
34	0.97	0.25-3.69
35	0.99	0.23-4.23
36	1.01	0.21-4.87
37	1.03	0.19-5.64
38	1.06	0.17-6.58
39	1.09	0.15-7.72
40	1.12	0.14-9.11

SUPPLEMENTARY TABLE S3. (CONTINUED)

^aStatistically significant hazard ratio.

SUPPLEMENTARY TABLE S4. RETENTION OF CDP PARTICIPANTS, MEN AND WOMEN COMPARISONS BY RANK AND GENDER: SENSITIVITY ANALYSIS USING PROPENSITY SCORE MATCHED DATA

Academic rank	Comparison analysis	<i>CDP</i> , N ^a	Parameter estimate (standard error)	Chi-square	р	Hazard ratio	95% Confidence intervals
Assistant Professors	CDP vs. men	1786	-0.77 (0.07)	111.34	< 0.001	0.47	0.40-0.54
	CDP vs. women	1786	-0.81 (0.07)	121.31	< 0.001	0.44	0.38-0.51
Associate Professors	CDP vs. men	996	-0.34(0.12)	8.50	0.004	0.71	0.57 - 0.90
	CDP vs. women	989	-0.43(0.12)	12.60	0.001	0.65	0.52-0.83
Full Professors	CDP vs. men	460	-0.26 (0.19)	1.95	0.16	0.77	0.53-1.11
	CDP vs. women	332	-0.50 (0.23)	4.78	0.03	0.61	0.39-0.95

^aTo create one-to-one matched data sets, we used the closest propensity score within a caliper width of 0.2 of the propensity score of a given CDP participant of an individual man or woman faculty to identify each man and woman faculty comparison. We had equal numbers of CDP participants and same career-stage men and non-CDP women (n = 1786) for analysis of Assistant Professors. Among Associate Professors, we had 996 CDP participants for comparison with 996 men and 989 CDP participants for comparison with 989 women. Among Full Professors for analysis, we had 460 CDP participants for comparison with 460 men and 332 CDP participants for comparison with 332 women.

		Fa	sculty in acad	emic medicine	with 10-year	r follow-up, '	% (N = 26,251,	(
	Faculty	v retained in a	cademic med	icine after 10	years $(n=19,$	415)						d			
	Rei instit	mained at sam ution (n=15,4:	е (28)	instit	Switched utions (n=35	(286	Departed J after	from academic 10 years (n=6	medicine (836)	Retaine medicine v acadev	d in acader >s. departed nic medicin	nic from ve	Rem in switci	ained at sa stitution vs. 'red instituti	me ions
Rank	Men	Non-CDP women	CDP	Men	Non-CDP women	CDP	Men	Non-CDP women	CDP	Men vs. CDP	Non-CDP women vs. CDP	Men vs. non-CDP women	Nen vs. w CDP	lon-CDP omen vs. 1 CDP	Men vs. 10n-CDP women
All ranks Assistant	58.75 (11,079) 53.22 (6802)	(55.82 (3359) 52.68 (2614)	71.95 (990) 65.44 (479)	15.61 (2943) 16.37 (2092)	14.37 (865) 14.79 (734)	13.01 (179) 14.21 (104)	25.64 (4835) 30.42 (3888)	29.81 (1794) 32.53 (1614)	15.04 (207) 20.36 (149)	<0.001 <0.001	<0.001 <0.001	<0.001 0.006	<0.001 0.002	<0.001 0.03	0.47 0.06
Professors Associate	68.63 (3025)	70.36 (622)	78.55 (337)	15.06 (664)	12.56 (111)	11.89 (51)	16.31 (719)	17.08 (151)	9.56 (41)	<0.001	<0.001	0.57	0.02	0.37	0.06
Protessors Full Professors	: 75.10 (1252)	71.51 (123)	80.93 (174)	11.22 (187)	11.63 (20)	11.16 (24)	13.68 (228)	16.86 (29)	7.91 (17)	0.02	0.007	0.25	0.73	0.61	0.74

SUPPLEMENTARY TABLE S5. NUMBERS OF CDP PARTICIPANTS AND NON-CDP PEER COMPARISONS FROM 1989 TO 1999 AND PROPORTIONS AFTER 10 YEARS FOR THOSE REMAINING AT THE SAME INSTITUTION, SWITCHING TO A DIFFERENT INSTITUTION, AND DEPARTING FROM ACADEMIC MEDICINE BY ACADEMIC RANK