Supplemental materials for:

Papadakis S, Cole AG, Reid RD, et al. From good to great: the role of performance coaching in enhancing tobacco-dependence treatment rates. *Ann Fam Med*. **2018;16(6):498-506.**

Parameter	Response	OMSC Group	OMSC + Group	Overall
Supplemental Table 1: Practice and clinician characteristics according to study randomization group				
Practice-level		**k=7**	**k=8**	**k=15**
Geographic location	Urban	28.6	25.0	26.7
	Suburban	42.9	12.5	26.7
	Rural	28.6	62.5	46.7
Number of Clinicians	< 10 clinicians	28.6	25.0	26.7
	≥ 10 clinicians	71.4	75.0	73.3
Access to cost-free NRT	No	14.3	25.0	20.00
	Yes, post intervention only	14.3	25.0	20.0
	Yes, pre and post intervention	71.4	50.0	60.0
Clinician-level		**k=76**	**k=90**	**k=166**
Health discipline of provider	Physician	79.0	75.6	77.11
	Nurse Practitioner	5.3	6.7	6.02
	Nurse	0.0	1.1	0.60
	Medical Resident	6.6	0.0	3.01
	Not stated	9.2	16.7	13.25
Sex	Female	38.2	41.1	39.76
	Male	46.1	36.7	41.0
	Not stated	15.8	22.2	19.3
Age	< 30 years	7.9	2.2	4.82
	30-39 years	26.3	22.2	24.1
	40-49 years	11.8	22.2	17.5
	50-59 years	25.0	23.3	24.1
	60-69 years	13.2	6.7	9.6
	≥ 70 years	1.3	1.1	1.2
	Not stated	14.5	22.2	18.7
Previous smoking cessation training	No	54.0	51.1	52.1

Variable	Response	Pre-assessment (T1)		Post-assessment (T2)	
		OMSC n=541	OMSC + n=583	OMSC n=397	OMSC+ n=475
Age	18-24 years	8.3	6.4	6.1	5.1
	25-39 years	24.2	20.8	23.4	19.2
	40-54 years	31.4	39.3	37.5	41.9
	55-64 years	26.1	22.47	22.9	21.1
	≥65 years	10.0	11.2	10.1	12.8
Sex	% Male	43.4	42.1	42.3	38.5
Years of formal education	< High school	3.3	3.5	2.4	2.6
	High school	52.7	54.0	51.1	53.0
	University	38.2	39.2	41.2	40.6
	Graduate school	5.8	3.3	5.4	3.8
# Cigarettes/day	<15	416	34.5	44.3	37.3
	15-25	50.1	55.8	49.1	55.4
	>25	8.3	9.8	6.6	7.4
Time to first cigarette	>30 minutes	34.4	35.1	36.87	33.7
	<30 minutes	65.6	64.9	63.1	66.3
# Years smoked	0-2 years	1.5	2.06	2.5	2.1
	3-9 years	9.6	8.2	8.3	8.8
	10-19 years	19.4	16.3	16.9	16.6
	20+ years	69.5	73.4	72.3	72.4
Readiness to quit[a]	Ready to quit in the next 30 days	24.8	27.4	23.9	31.4
	Ready to quit in the next 6-months	46.4	41.9	44.6	37.9
	Not ready to quit in next 6-months	28.8	30.7	31.5	30.7
Self-efficacy[b]	Low	80.1	79.28	76.6	76.4
	High	19.9	20.7	23.5	23.6
Medical History	Smoking-related illness	24.8	26.9	22.9	24.0
	Anxiety/ Depression	44.9	50.6	42.1	51.0
Purpose of visit	Follow-up appointment	79.3	76.9	80.6	76.9
	Annual exam/ health review	20.7	23.2	19.5	23.1

Supplemental Table 2: Patient demographic characteristics according to study randomization for the pre-and post-assessment samples

[a]Which of the following best describes your feelings about smoking right now? (responses: 1=ready to quit in next 30 days, 0= ready to quit in next 6 months or not ready to quit)

[b]On a scale of 1 to 10 how confident are you that you would be able to quit smoking at this time? (1=not at all confident, 10=extremely confident)

Supplemental Table 3: Sensitivity analysis examining effect of exposure to the performance coaching intervention on rates of tobacco treatment delivery, quit rates and cessation outcomes at the post-intervention assessment

Parameter	% Not Exposed to Performance Coaching n=506	% Exposed to Performance Coaching n=366	% Delta	OR (95%CI)[a]	p-value[b]
Ask	57.5	66.4	+8.9	1.51 (1.01, 2.26)	0.04
Advise	47.0	56.6	+9.5	1.65 (1.10, 2.49)	0.02
Assist	43.9	55.74	+11.9	1.50 (1.03, 2.19)	0.04
Assist – Quit Plan Visit	19.4	27.1	+7.7	1.41 (0.96, 2.09)	0.08
Assist – Self-help Materials	12.5	20.0	+7.5	1.54 (0.93, 2.55)	0.09
Assist – Discuss Medications	28.1	38.5	+10.5	1.60 (1.10, 2.32)	0.02
Assist – Prescribe Medications	9.5	12.3	+2.8	1.27 (0.76, 2.13)	0.35
Arrange	25.9	37.2	+11.3	1.41 (0.99, 2.01)	0.06
Quit attempt	32.4	33.1	+0.7	1.08 (0.76, 1.52)	0.67
7-day Point prevalence Abstinence	8.1	7.1	-1.0	0.94 (0.53, 1.67)	0.82
Continuous abstinence	5.9	5.2	-0.7	0.94 (0.47, 1.91)	0.87

[a]Controlling for clinic level variance between clusters, patient gender, patient education, and self-reported anxiety/depression; based on inclusion of 15 clinics, unless otherwise indicated.
[b]p-value based on Wald statistic.
CI = confidence interval.

Supplemental Table 4: Final model for the multi-level analysis of clinic-, clinician-, and patient-level characteristics associated with rates of ask, advise, assist and arrange

Parameter	Response	AOR (95% CI)							
		Ask	Advise	Assist	Arrange	Quit Date	Materials	Medication	Prescribe
Intervention	OMSC	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
	OMSC+	1.42 (0.99, 2.02)	1.24 (0.68, 2.28)	1.62 (1.02, 2.56)**	1.92 (1.17, 3.15)*	1.57 (0.93, 2.66)	2.06 (1.35, 3.12)**	1.64 (1.04, 2.58)*	1.18 (0.72, 1.94)
Clinician characteristics									
Smoking cessation is an important part of my role as a clinician[a]	Disagree	1.00							
	Agree	4.36 (2.05, 9.29)***							
Patient characteristics									
Gender	Female	1.00					1.00	1.00	
	Male	2.09 (1.49, 2.92)*					1.54 (1.03, 2.29)*	1.46 (1.04, 2.04)*	

		1	2	3	4	5	6	7	8
		**							
# cigs/day	<15								1.00
	15-25								1.46 (0.87, 2.44)
	>25								3.26 (1.47, 7.26)**
# years smoked	20+ years		1.00	1.00				1.00	
	10-19 years		0.85 (0.55, 1.32)	0.78 (0.51, 1.18)				1.05 (0.68, 1.64)	
	3-9 years		0.49 (0.27, 0.88)*	0.44 (0.25, 0.79)**				0.53 (0.28, 1.01)	
	0-2 years		0.75 (0.23, 2.44)	0.58 (0.19, 1.73)				0.14 (0.03, 0.68)*	
Ready to quit smoking in the next 30 days[b]	No	1.00	1.00	1.0	1.00	1.00		1.00	1.00
	Yes	1.52 (1.04, 2.24)*	2.04 (1.40, 2.99)***	2.11 (1.47, 3.04)***	2.52 (1.69, 3.77)***	4.24 (2.83, 6.36)***		2.30 (1.58, 3.35)***	2.63 (1.60, 4.30)***
Self-efficacy to quit smoking[c]	Low		1.00	1.00	1.0		1.0	1.00	1.00
	High		1.69 (1.12, 2.55)*	1.59 (1.08, 2.35)*	1.87 (1.23, 2.86)**		1.86 (1.22, 2.85)**	1.54 (1.03, 2.29)*	2.54 (1.54, 4.20)***

Presence of a smoking-related illness	No	1.00							
	Yes	2.19 (1.47, 3.27) ***							
Other Factors									
Purpose of visit	Follow-up/ other	1.00	1.00	1.00				1.00	
	Annual exam /1st visit	2.28 (1.49, 3.48)**	2.02 (1.34, 3.04)***	1.89 (1.29, 2.79)**				2.03 (1.37, 3.01)***	
Random									
	Clinic	0.017 (0.042)	0.173 (0.132)	0.060 (0.072)	0.060 (0.082)	0.070 (0.099)	^	0.037 (0.069)	0.004 (0.074)
	Clinician	^	0.537 (0.215)	0.332 (0.157)	0.157 (0.180)	0.200 (0.198)	^	0.326 (0.200)	^

* p<0.05 ** p<0.01 *** p<0.001
AOR: Adjust Odds Ratio; 95%CI: 95% Confidence Interval
^ The estimated G matrix was not positive definite, so clinic- and/or provider-level variance was not included in this model
Final Model Ask: 15 clinics, 104 clinicians; 1=Asked about smoking (n=470), 0=Not asked about smoking (n=259)
Final Model Advise: 15 clinics, 132 clinicians; 1=Advised about smoking (n=408), 0=Not advised about smoking (n=392)
Final Model Assist: 15 clinics, 132 clinicians; 1=Assisted with quitting smoking (n=391), 0=Not assisted with quitting smoking (n=409)

Final Model Arrange: 15 clinics, 132 clinicians; 1=Arranged follow-up appointment (n=154), 0=Not arrange a follow-up appointment (n=650)
Final Model Quit Date: 15 clinics, 135 clinicians; 1=Set a quit date (n=137), 0=Did not set a quit date (n=735)
Final Model Materials: 15 clinics, 131 clinicians; 1=Provided self-help materials (n=124), 0=Did not provide self-help materials (n=672)
Final Model Medication: 15 clinics, 131 clinicians; 1=Discussed medications (n=259), 0=Did not discuss medications (n=533)
Final Model Prescribe: 15 clinics, 132 clinicians; 1=Prescribed medications (n=86), 0=Did not prescribe medications (n=718)
[a] Smoking cessation is an important part of my role as a clinician? (response: 5-point Likert scale where 5=strongly agree, 1=strongly disagree).
[b]Which of the following best describes your feelings about smoking right now? (responses: 1=ready to quit in next 30 days, 0= ready to quit in next 6 months or not ready to quit)
[c]On a scale of 1 to 10 how confident are you that you would be able to quit smoking at this time? (response 1=not at all confident, 10=extremely confident)

Supplemental Table 5: Final model for the multi-level analysis of clinic-, clinician-, and patient-level characteristics associated with cessation outcomes at the six-month follow-up				
Parameter	**Response**	**AOR (95% CI)**		
		Quit attempts	**7-day point prevalence**	**12-week continuous abstinence**
Time	Pre-assessment	1.00	1.00	1.00
	Post-assessment	1.19 (0.97, 1.46)	1.44 (0.97, 2.14)	1.35 (0.86, 2.13)
Intervention	OMSC	1.00	1.00	1.00
	OMSC+	1.00 (0.82, 1.23)	0.88 (0.53, 1.48)	0.77 (0.47, 1.28)
Patient characteristics				
Age	18-24 years		1.00	
	25-39 years		0.57 (0.27,	

	40-54 years		0.29 (0.14, 0.63)**	
	55-64 years		0.66 (0.31, 1.39)	
	>65 years		0.85 (0.38, 1.90)	
# cigs/day	<15	1.00	1.00	1.00
	15-25	0.88 (0.71, 1.10)	0.69 (0.46, 1.03)	0.60 (0.38, 0.95)*
	>25	0.59 (0.38, 0.92)*	0.34 (0.12, 0.99)*	0.32 (0.09, 1.07)
Time to first cigarette	>30 minutes	1.00		
	<30 minutes	0.69 (0.55, 0.86)***		
# years smoked	20+ years	1.00		1.00
	10-19 years	1.12 (0.85, 1.48)		0.83 (0.45, 1.55)
	3-9 years	1.74 (1.23, 2.46)**		1.01 (0.46, 2.21)
	0-2 years	1.00 (0.50, 2.02)		2.87 (1.07, 7.72)*
Ready to quit smoking in the next 30 days	No	1.00	1.00	1.00
	Yes	2.52 (2.02, 3.13)***	2.31 (1.52, 3.51)***	2.07 (1.29, 3.35)**
Self-efficacy to quit smoking	Low		1.00	1.00
	High		2.22 (1.47, 3.36)***	2.54 (1.58, 4.11)***
Presence of a smoking-related	No	1.00		
	Yes	1.32 (1.04,		

illness		1.67)*		
Presence of anxiety/depression	No	1.00	1.00	1.00
	Yes	1.25 (1.01, 1.55)*	0.55 (0.36, 0.83)**	0.43 (0.25, 0.75)**
Presence of mental illness	No	1.00		1.00
	Yes	0.62 (0.44, 0.85)**		2.26 (1.12, 4.54)*
Clinician created a quit plan with the patient	No	1.00	1.00	1.00
	Yes	2.02 (1.59, 2.56)***	2.33 (1.53, 3.56)***	2.39 (1.48, 3.85)***
Random				
	Clinic	^	0.096 (0.092)	0.049 (0.095)
	Clinician	^	^	^

* p<0.05 ** p<0.01 *** p<0.001
AOR: Adjust Odds Ratio; 95%CI: 95% Confidence Interval
^ The estimated G matrix was not positive definite, so clinic- and/or provider-level variance was not included in this model
Final Model Quit Attempt: 15 clinics, 166 clinicians; 1=Made a quit attempt (n=602), 0=Did not make a quit attempt (n=1387)
Final Model 7-day point prevalence: 15 clinics, 166 clinicians; 1=Did not smoke over the last 7 days (n=121), 0=Smoked in the last 7 days (n=1761)
Final Model 12-week continuous abstinence: 15 clinics, 166 clinicians; 1=Did not smoke over the last 12 weeks (n=90), 0=Smoked in the last 12 weeks (n=1792)

Supplemental Figure 1: CONSORT Flow Diagram

OMSC Group
7 practices, 76 clinicians

OMSC+ Group
8 practices, 85 clinicians

Pre-Intervention Assessment
Patients Screened (n=8078), Tobacco Users (n=1398)
Ineligible (n=6834)
 Non-smoker (n=6680)
 Less than 18 years of age (n=10)
 Non-daily tobacco user (n=68)

Patients Completed Pre-Intervention Exit Survey
(n=540, 43.4% of eligible patients)

Eligible patients (n=1244)

Pre-Intervention 6-month telephone follow-up
Completed Follow-up (n=413/540, 76.5%)
Loss to Follow-up, >10 calls (n=80)
Loss to Follow-up, contact information (n=35)
Withdrawal (n=12), Deceased (n=0)
Other (n=125)
Survey not returned (n=40)

Allocated to intervention: k=7 practices, l=74 clinicians
(survey complete 69/74, 93%)

Post-Intervention Assessment
Patients Screened (n=5721), Tobacco Users (n=860)
Ineligible (n=4967)
 Non-smoker (n=4861)
 Less than 18 years old (n=9)
 Non-daily smoker (n=62)
 Not able to read/write English/French (n=2)
 Non MD/NP visit (n=7)
 Unable to assess (n=20)
 Already completed survey this round (n=6)
Eligible patients (n=754)
Declined to participate (n=318)
 Not Interested (n=145)
 No Time (n=40)
 Appointment ran late (n=18)
 Reason not provided (n=18)
 Not feeling well (n=17)
 Left without seeing research assistant (n=30)
 Other (n=50)
Survey not returned (n=37)

Patients Completed Post-Intervention Exit Survey
(n=399, 52.9% of eligible patients, analyzed n=394)

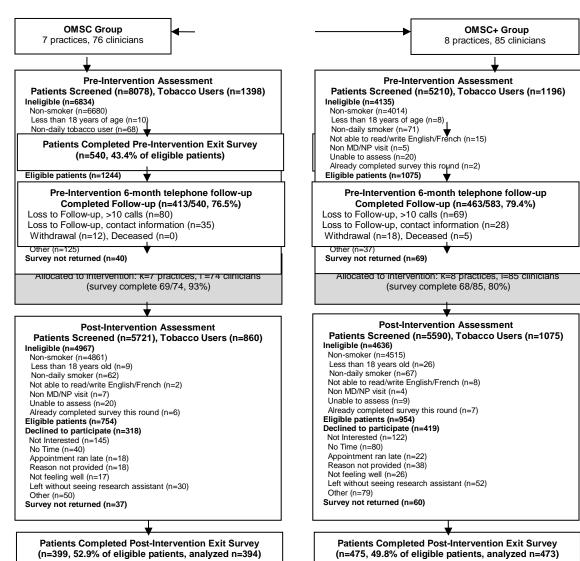**Post-Intervention 6-month telephone follow-up**
Completed Follow-up (n=304/399, 76.2%)
Loss to Follow-up, >10 calls (n=49)
Loss to Follow-up, contact information (n=34)
Withdrawal (n=10), Deceased (n=2)

Pre-Intervention Assessment
Patients Screened (n=5210), Tobacco Users (n=1196)
Ineligible (n=4135)
 Non-smoker (n=4014)
 Less than 18 years of age (n=8)
 Non-daily smoker (n=71)
 Not able to read/write English/French (n=15)
 Non MD/NP visit (n=5)
 Unable to assess (n=20)
 Already completed survey this round (n=2)
Eligible patients (n=1075)

Pre-Intervention 6-month telephone follow-up
Completed Follow-up (n=463/583, 79.4%)
Loss to Follow-up, >10 calls (n=69)
Loss to Follow-up, contact information (n=28)
Withdrawal (n=18), Deceased (n=5)
Other (n=37)
Survey not returned (n=69)

Allocated to intervention: k=8 practices, l=85 clinicians
(survey complete 68/85, 80%)

Post-Intervention Assessment
Patients Screened (n=5590), Tobacco Users (n=1075)
Ineligible (n=4636)
 Non-smoker (n=4515)
 Less than 18 years old (n=26)
 Non-daily smoker (n=67)
 Not able to read/write English/French (n=8)
 Non MD/NP visit (n=4)
 Unable to assess (n=9)
 Already completed survey this round (n=7)
Eligible patients (n=954)
Declined to participate (n=419)
 Not Interested (n=122)
 No Time (n=80)
 Appointment ran late (n=22)
 Reason not provided (n=38)
 Not feeling well (n=26)
 Left without seeing research assistant (n=52)
 Other (n=79)
Survey not returned (n=60)

Patients Completed Post-Intervention Exit Survey
(n=475, 49.8% of eligible patients, analyzed n=473)

Post-Intervention 6-month telephone follow-up
Completed Follow-up (n=366/475, 77.1%)
Loss to Follow-up, >10 calls (n=38)
Loss to Follow-up, contact information (n=46)
Withdrawal (n=23), Deceased (n=2)