Supplemental Online Content

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

eTable 1. Be-Well Study Baseline Interview Smoking Questions

1. Have you ever smoked at least 100 cigarettes in your entire life?	1 ☐ Yes 0 ☐ No → **Go to Question 5** 8 ☐ Don't Know → **Go to Question 5** 9 ☐ Refused → **Go to Question 5**
2. How old were you when you first started smoking cigarettes on a regular basis (that is at least once/week for three months or more)?	|__|__| **Age started smoking cigarettes**

3. Do you currently smoke?	1 ☐ Yes, every day
	2 ☐ Yes, some days →
	  3a. On how many of the past 30 days did you smoke a cigarette?
	  |__|__| **Days**
	
	0 ☐ No, not at all →
	  3b. At what age did you last stop smoking cigarettes?
	  |__|__| **Age stopped smoking**
	
	  3c. Excluding all the times you may have quit, how long did you smoke cigarettes? (Years)
	  |__|__| **Years**
	
	  3d. Excluding all the times you may have quit, how long did you smoke cigarettes? (Months)
	  |__|__| **Months**

4. On average, how many cigarettes do/did you smoke each day? *(Note to interviewer: 1 pack=20 cigarettes)*	|__|__|__| **Cigarettes per day**
5. Now I am going to ask you some questions about the use of non-cigarette products.	

Product	Have you ever used…?	If yes…		
		Are you currently using…?	**For how long have you used…?**	**At what age did you begin using…?**
a. Pipe to smoke tobacco	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| **Years** |__|__| **Months**	|__|__|

Product	Have you ever used…?	If yes…		
		Are you currently using…?	For how long have you used…?	At what age did you begin using…?
b. Cigars	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| Years |__|__| Months	|__|__|
c. Chewing tobacco	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| Years |__|__| Months	|__|__|
d. Marijuana	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| Years |__|__| Months	|__|__|
e. Snuff	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| Years |__|__| Months	|__|__|

Product	Have you ever used…?	If yes…		
		Are you currently using…?	For how long have you used…?	At what age did you begin using…?
f. Other (e.g., e-cigarettes, snuse, or hookah) **f1. Specify other non-cigarette product_____**	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	1 ☐ Yes 0 ☐ No 8 ☐ DK 9 ☐ Ref	|__|__| Years |__|__| Months	|__|__|

eTable 2. Characteristics of Be-Well Study Participants by Marijuana Smoking Behavior

	Never Marijuana Use (n=1,107) n (%)	Ever Marijuana Use (n=363) n (%)	p-value[a]
Stage/Grade			
LG Ta	465 (42.0)	166 (45.7)	0.36
LG T1	26 (2.4)	17 (4.7)	
HG Ta	267 (24.1)	85 (23.4)	
HG T1	293 (26.5)	76 (20.9)	
Tis	48 (4.3)	15 (4.1)	
Other	8 (0.7)	4 (1.1)	
Concomitant CIS			0.99
No	1,000 (90.3)	329 (90.6)	
Yes with Ta disease	34 (3.1)	12 (3.3)	
Yes with T1 disease	51 (4.6)	17 (4.7)	
CIS only	22 (2.0)	5 (1.4)	
Chemotherapy (e.g., mitomycin)			
No	696 (62.9)	198 (54.6)	**0.01**
Yes	411 (37.1)	165 (45.5)	
Immunotherapy (e.g., BCG)			
No	522 (47.2)	181 (49.9)	0.69
Yes	585 (52.9)	182 (50.1)	
Sex			
Male	815 (73.6)	312 (86.0)	**<0.001**
Female	292 (26.4)	51 (14.0)	
Race/Ethnicity			
White	872 (78.8)	292 (80.4)	**0.012**
Black or African American	53 (4.8)	28 (7.7)	
Hispanic	95 (8.6)	32 (8.8)	
Asian	66 (6)	6 (1.7)	
Other (AIAN/PI)	21 (1.9)	5 (1.4)	
Age Group (y)			
<50	33 (3)	31 (8.5)	**<0.001**
50-64	209 (18.9)	146 (40.2)	
65-79	595 (53.8)	177 (48.8)	
≥80	270 (24.4)	9 (2.5)	
Mean (SD)	72.2 (10.4)	64.0 (9.7)	**<0.001**
Body Mass Index at Diagnosis			
Normal weight (≤24.9)	303 (27.4)	85 (23.4)	0.16
Overweight (25.0-29.9)	448 (40.5)	150 (41.3)	
Obese (≥30.0)	356 (32.2)	128 (35.3)	

Mean (SD)	28.5 (5.7)	28.9 (5.7)	0.17
Marital Status			
Never married	45 (4.1)	28 (7.7)	**<0.001**
Married or living as married	777 (70.2)	247 (68.0)	
Separated/Divorced	133 (12)	68 (18.7)	
Widowed	143 (12.9)	19 (5.2)	
Unknown	9 (0.8)	1 (0.3)	
Educational Attainment			
High school or less	185 (16.7)	65 (17.9)	0.30
Some college	365 (33)	139 (38.3)	
College graduate	303 (27.4)	90 (24.8)	
Post-graduate	241 (21.8)	63 (17.4)	
Unknown	13 (1.2)	6 (1.7)	
Household Income			
<$60K	353 (31.9)	104 (28.7)	0.10
$60K-99K	264 (23.9)	82 (22.6)	
≥$100K	349 (31.5)	144 (39.7)	
Unknown	141 (12.7)	33 (9.1)	
Alcohol Consumption			
None	269 (24.3)	66 (18.2)	**0.06**
Rare (a few times per year, once per month)	187 (16.9)	49 (13.5)	
Occasional (2-3 times per month, once per week, twice per week)	180 (16.3)	55 (15.2)	
Regular (3-4 times per week, 5-6 times per week, every day)	266 (24)	107 (29.5)	
Unknown (No FFQ available)	205 (18.5)	86 (23.7)	
Dietary Folate (mcg)			
Mean (SD)	294.50 (143.21)	325.2 (163.4)	**0.003**
Overall Exposure to Chemical or Environmental Exposures[b]			
Never	384 (34.7)	88 (24.2)	**<0.001**
Ever	723 (65.3)	275 (75.8)	
Occupation Involving Chemical or Environmental Exposures[c]			
Never	760 (68.7)	197 (54.3)	**<0.001**
Ever	347 (31.4)	166 (45.7)	
Tobacco Smoking Status			
Non-tobacco smokers	358 (32.3)	71 (19.6)	**<0.001**
Tobacco Smokers	209 (18.9)	89 (24.5)	
Cigarette Smokers Only	540 (48.8)	203 (55.9)	
Duration in Years			
<10 years	n/a	165 (45.5)	n/a
10-19 years	n/a	65 (17.9)	

20-29 years	n/a	29 (8.0)	
30-39 years	n/a	37 (10.2)	
>40 years	n/a	62 (17.1)	
Unknown	n/a	5 (1.4)	
Mean (SD, min-max)	n/a	17.0 (16.9, 0-73.0)	

n/a = not applicable

[a] From Pearson chi-square test to compare smoking exposure categories with categorical variables or Fisher exact test for continuous variables

[b] Includes asbestos, chemicals/acids/solvents, coal/stone dusts, coal tar/pitch/asphalt, diesel engine exhaust, dyes, formaldehyde, gasoline exhaust, pesticides/herbicides, textile fibers/dusts, wood dust, x-rays/radioactive materials, smoke other than from cigarettes

[c] Includes coal miner, furniture maker, hairdresser, nail salon worker, machinist, painter, printer, truck/taxi/bus driver, leather industry worker, rubber industry worker, paint industry worker, textile industry worker

eTable 3. Associations Between Smoking Behaviors and Risk of Progression in the Be-Well Study

CIGARETTE SMOKING	Total N	Events N	Progression (n=89)				
			Model 1[a]			Model 2[b c]	
			HR	95% CI		HR	95% CI
Cigarette Smoking							
Never	487	34	Ref			Ref	
Ever	985	55	0.75	0.46-1.23		0.85	0.51-1.43
Cigarette Smoking							
Never	487	34	Ref			Ref	
Former	874	50	0.76	0.46-1.24		0.84	0.50-1.42
Current	111	5	0.72	0.26-1.99		0.95	0.34-2.65
Cigarette Smoking Duration (among smokers)							
1-19 years	353	14	Ref			Ref	
20-39 years	396	26	1.42	0.71-2.83		1.29	0.61-2.70
≥40 years	235	14	1.33	0.59-2.99		1.36	0.57-3.24
p for trend				0.45			0.47
Cigarette Smoking Intensity (among smokers)							
1-19 cigarettes	440	21	Ref			Ref	
20-29 cigarettes	344	20	1.02	0.54-1.94		0.97	0.49-1.91
≥30 cigarettes	193	13	1.10	0.52-2.34		1.021	0.45-2.28
p for trend				0.58			0.72
Pack-Years (among smokers)							
<20	462	19	Ref			Ref	
20-39	286	21	1.49	0.76-2.93		1.53	0.75-3.12
≥40	229	14	1.15	0.54-2.44		1.11	0.49-2.48
p for trend				0.65			0.73
Years Since Quit Smoking Relative to NMIBC Diagnosis (among former smokers)							
Stopped ≥20 years ago	583	30	Ref			Ref	
Stopped 10-19 years ago	121	8	1.20	0.50-2.84		1.16	0.45-2.98
Stopped 1-9 years ago	116	8	1.85	0.79-4.33		1.82	0.73-4.55
Stopped < 1 year ago	50	2	0.71	0.15-3.30		1.04	0.19-5.56
OTHER TOBACCO USE AND E-CIGARETTE USE	Total N	Events N	Progression (n=89)				
			Model 1[a]			Model 2[b c]	
			HR	95% CI		HR	95% CI
Tobacco Smoking (cigarettes, pipes, and/or cigars)							
Never	429	138	Ref			Ref	
Ever	1,043	335	0.75	0.46-1.23		0.85	0.51-1.43

	Total N	Events N	Model 1[a] HR	Model 1[a] 95% CI		Model 2[b c] HR	Model 2[b c] 95% CI
Pipe Smoking							
Never	1,255	80	Ref			Ref	
Ever	217	9	0.54	0.26-1.15		0.50	0.22-1.11
Cigar Smoking							
Never	1,328	80	Ref			Ref	
Ever	144	9	0.88	0.40-1.92		0.91	0.39-2.13
E-cigarette Smoking							
Never	1,407	86	Ref			Ref	
Ever	65	3	1.10	0.33-3.71		1.05	0.24-4.60

MARIJUANA USE	Total N	Events N	Progression (n=89)				
			Model 1[a]			Model 2[b c]	
			HR	95% CI		HR	95% CI
Marijuana‡							
Never	1,107	72	Ref			Ref	
Former	242	12	1.12	0.58-2.15		1.03	0.51-2.08
Current	121	5	0.84	0.33-2.14		0.71	0.24-2.07
Marijuana and Any Tobacco							
No tobacco/marijuana use	358	29	Ref			Ref	
Tobacco use only	749	43	**0.56**	**0.33-0.95**		0.65	0.37-1.15
Marijuana use only	71	1	0.22	0.03-1.65		0.28	0.04-2.11
Tobacco and marijuana use	292	16	0.70	0.36-1.36		0.71	0.34-1.47

[a] Model 1: Adjusted for age at diagnosis, sex, race/ethnicity, BMI at diagnosis, stage/grade, chemotherapy, immunotherapy, AUA risk stratification category, educational attainment, and household income

[b] Model 2: Adjusted for covariates in Model 1 + alcohol intake, dietary folate, overall chemical or environmental exposures, occupation involving chemical or environmental exposures

[c] For cigarette smoking, Models 1 and 2 also adjusted for ever/never cigar and pipe, marijuana, and e-cigarettes. For pipe, cigar, and e-cigarette, Models 1 and 2 also adjusted for ever/never cigarette, pipe (if applicable), cigar (if applicable), and e-cigarettes (if applicable). For marijuana, Models 1 and 2 also adjusted for ever/never cigarette, pipe, cigar, and e-cigarettes as appropriate.