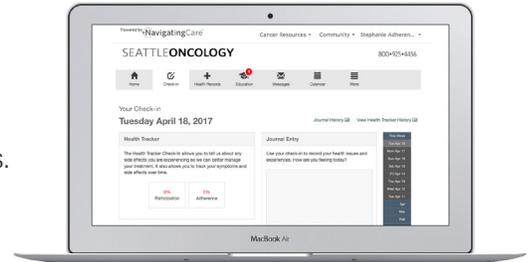


Increasing the duration and efficacy of intravenous chemotherapy using a patient-centered digital education program:

Navigating Cancer’s program for patients receiving pemetrexed for lung cancer.

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Background: Adherence to therapy improves survival in cancer patients. Patient education interventions have effectively improved adherence to oral drugs, but have not been studied for intravenous drugs.



Methods: We assessed impact of a pemetrexed educational program for lung cancer patients from 58 oncology practices delivered from 2014-2016 via the Navigating Cancer (www.navigatingcancer.com) patient portal. After online registration, the program provided sequential messages about pemetrexed therapy and management of side effects. Access to each component of the education program was tracked and de-identified data provided to the study team for analysis.

Results: Of 944 patients, 441 (47%) accessed pemetrexed-specific educational materials, and were more likely to be Caucasian ($p=0.01$) and to have never smoked ($p=0.05$). Patients who accessed educational materials received a mean of 286 days of pemetrexed versus 236 days ($p<0.01$); their one-year survival was 66% (SE 2.8%) versus 53% (SE 2.9%) ($p<0.01$). In multivariable analysis, survival was predicted by accessing education ($p<0.01$), but not race or smoking status ($p>0.1$). Conclusions: Drug-specific patient education delivered via a patient portal and email reached 47% of registered patients and was associated increased duration of therapy and improved survival.

Table 1. Patient characteristics of those who did and did not access pemetrexed-specific educational content

Characteristics		Accessed education	Did not access education	All patients	P-value
Sex	Female	225 (47%)	253 (53%)	478	0.82
	Male	216 (46%)	250 (54%)	466	
Race category	Caucasian	385 (49%)	405 (51%)	790	0.01
	African American	21 (32%)	45 (68%)	66	
	Others	35 (40%)	53 (60%)	88	
Age category, years	25 to 54	42 (40%)	62 (60%)	104	0.58
	55 to 64	123 (47%)	139 (53%)	262	
	65 to 74	179 (48%)	193 (52%)	372	
	75 or older	97 (47%)	109 (53%)	206	
Smoking category	Never smoker	62 (57%)	47 (43%)	109	0.05
	Current smoker	71 (41%)	103 (59%)	174	
	Former smoker	290 (46%)	338 (54%)	628	
	Unknown	18 (55%)	15 (45%)	33	
Pemetrexed therapy duration	\geq 180 days	299 (53%)	264 (47%)	563	<0.01
	$<$ 180 days	142 (37%)	240 (63%)	382	
Total		441 (47%)	503 (53%)	944	

Conclusions: Drug-specific patient education delivered via a patient portal and email reached 47% of registered patients and was associated increased duration of therapy and improved survival.