

Supplemental Table 1. Comparison of children included vs. excluded in the secondary analysis

Variable	Patients included (n=592)	Patients excluded (n=150)	P
Age at diagnosis in years			
Median (range)	5 (1-19)	6 (1-17)	0.003
Age at study enrollment in years			
Median (range)	6 (2-21)	8 (2-20)	0.002
Length of follow-up in years			
Median (range)	7.9 (0.1-13.0)	7.6 (0.1-10.6)	0.6
Sex, n (%)			
Male	405 (68.4)	101 (67.3)	0.8
Race/ethnicity, n (%)			
African-American or Black	108 (18.2)	28 (18.7)	0.7
Asian	85 (14.4)	26 (17.3)	
Hispanic	207 (35.0)	47 (31.3)	
Non-Hispanic White	192 (32.4)	49 (32.7)	
Parental education, n (%)			
≤High school	205 (34.6)	50 (33.3)	0.5
Household structure			
Number of household members			
Median (range)	4 (2-12)	4 (2-10)	0.5
Total children <18y			
Median (range)	2 (1-10)	2 (1-8)	0.3
ALL¹ sub-type, n (%)			
B-lymphoblastic leukemia	521 (88.0)	132 (88.0)	0.6
T-lymphoblastic leukemia	63 (10.6)	15 (10.0)	0.8
NCI² Risk Group, n (%)			
Standard Risk	345 (58.7)	77 (52.0)	0.1
Cytogenetics, n (%)			
Favorable	227 (38.3)	66 (44.0)	0.1
Neutral	298 (50.3)	64 (42.7)	
Unfavorable	30 (5.1)	12 (0.8)	
6MP dose intensity³			
Median (range)	0.88 (0.03-2.97)	0.73 (0.06-2.05)	<0.001
Methotrexate dose intensity			
Median (range)	0.88 (0.2-2.74)	0.78 (0.1-1.41)	<0.001

Reasons for exclusion included: residence outside the US, did not report annual income or *TPMT* deficiency/ *NUDT15* mutants

¹ALL denotes acute lymphoblastic leukemia; ²NCI denotes National Cancer Institute; ³6MP denotes 6-mercaptopurine. Favorable cytogenetics included t(12;21); hyperdiploidy; trisomy 4 and 10; or trisomy 4, 10, and 17. Unfavorable cytogenetics included t(9;22), t(4;11), hypodiploidy, or extreme hypodiploidy. Neutral cytogenetics implied absence of favorable or unfavorable cytogenetics.

Supplemental Table 2. Sociodemographic and disease characteristics of patients with ALL in MEMS sub-cohort, overall and by poverty group

Variable	Entire cohort (n=389)	Not in extreme poverty (n=347)	In Extreme Poverty (n=42)	P
Age at diagnosis in years				
Median (range)	4 (1-19)	4 (1-19)	4 (2-18)	0.7
Age at study enrollment in years				
Median (range)	6 (2,20)	6 (2,20)	6 (3,20)	0.8
Length of follow-up in years				
Median (range)	7.9 (0.2-10.6)	7.9 (0.2-10.1)	7.9 (0.4-10.6)	0.4
Sex, n (%)				
Male	260 (66.8)	234 (67.4)	26 (61.9)	0.4
Race/ethnicity, n (%)				
African-American or Black	60 (15.4)	53 (15.3)	7 (16.7)	<0.001
Asian	56 (14.4)	53 (15.3)	3 (7.1)	
Hispanic	148 (38.1)	117 (33.7)	31 (73.8)	
Non-Hispanic white	125 (32.1)	124 (35.7)	1 (2.4)	
Parental education, n (%)				
≤High school	128 (33.0)	101 (29.1)	27 (65.9)	<0.001
Household structure				
Number of household members				
median (range)	4 (2-12)	4 (2-11)	6 (4-12)	<0.001
Number of children <18y				
median (range)	2 (1-9)	2 (1-9)	3 (1-6)	0.0003
ALL¹ sub-type, n (%)				
B-lymphoblastic leukemia	347 (89.2)	306 (88.2)	41 (97.6)	0.06
T-lymphoblastic leukemia	39 (10.0)	38 (11.0)	1 (2.4)	0.08
NCI² Risk Group, n (%)				
Standard Risk	233 (60.1)	206 (59.5)	27 (64.3)	0.6
Cytogenetics, n (%)				
Favorable	156 (40.1)	136 (39.2)	20 (47.6)	0.2
Neutral	194 (49.8)	179 (51.6)	15 (35.7)	
Unfavorable	18 (4.6)	15 (4.3)	3 (7.1)	
6MP dose intensity³				
Median (range)	0.88 (0.24-2.97)	0.88 (0.24-2.97)	0.88 (0.41-1.53)	0.3
Methotrexate dose intensity				
Median (range)	0.89 (0.2-2.74)	0.89 (0.2-2.74)	0.87 (0.26-1.46)	0.7

¹ALL denotes acute lymphoblastic leukemia; ²NCI denotes National Cancer Institute; ³6MP denotes 6-mercaptopurine. Favorable cytogenetics included t(12;21); hyperdiploidy; trisomy 4 and 10; or trisomy 4, 10, and 17. Unfavorable cytogenetics included t(9;22), t(4;11), hypodiploidy, or extreme hypodiploidy. Neutral cytogenetics implied absence of favorable or unfavorable cytogenetics.

Supplemental Table 3. Comparison of children who participated in MEMS sub-cohort vs those that did not

Variable	MEMS ¹ participants (n=389)	MEMS non-participants (n=203)	P
Age at diagnosis in years			
Median (range)	4 (1-19)	5 (1-19)	0.9
Age at study enrollment in years			
Median (range)	6 (2-20)	6 (2-21)	0.2
Length of follow-up in years			
Median (range)	7.9 (0.2-10.6)	7.7 (0.1-13.0)	0.1
Sex, n (%)			
Male	260 (66.8)	145 (71.4)	0.3
Race/ethnicity, n (%)			
African-American or Black	60 (15.4)	48 (23.7)	0.04
Asian	56 (14.4)	29 (14.3)	
Hispanic	148 (38.1)	59 (29.1)	
Non-Hispanic White	125 (32.1)	67 (33.0)	
Parental education, n (%)			
≤High school	128 (33.0)	77 (38.1)	0.2
Household structure			
<i>Number of household members</i>			
Median (range)	4 (2-12)	5 (2-12)	0.8
<i>Total children <18y</i>			
Median (range)	2 (1-9)	2 (1-10)	0.4
ALL² sub-type, n (%)			
B-lymphoblastic leukemia	347 (89.2)	174 (87.0)	0.4
T-lymphoblastic leukemia	39 (10.0)	24 (12.0)	0.5
NCI³ Risk Group, n (%)			
Standard Risk	233 (60.1)	112 (56.0)	0.3
Cytogenetics, n (%)			
Favorable	156 (40.1)	71 (35.0)	0.4
Neutral	194 (49.9)	104 (51.2)	
Unfavorable	18 (4.6)	12 (5.9)	
6MP dose intensity⁴			
Median (range)	0.88 (0.24-2.97)	0.88 (0.03-2.13)	0.7
Methotrexate dose intensity			
Median (range)	0.89 (0.2-2.74)	0.88 (0.2-2.03)	0.4

¹MEMS denotes medication event monitoring systems; ²ALL denotes acute lymphoblastic leukemia; ³NCI denotes National Cancer Institute; ⁴6MP denotes 6-mercaptopurine. Favorable cytogenetics included t(12;21); hyperdiploidy; trisomy 4 and 10; or trisomy 4, 10, and 17. Unfavorable cytogenetics included t(9;22), t(4;11), hypodiploidy, or extreme hypodiploidy. Neutral cytogenetics implied absence of favorable or unfavorable cytogenetics.

Supplementary Figure 1. Study Schema for AALL03N1

Used with permission from report by Landier et al, Blood. 2017;129(14):1919-1926

	← 6 months →						
	Day 1	Day 29	Day 57	Day 85/1	Day 113/29	Day 141/57	Day 169/85
Assent / consent	X						
Demographic questionnaire		X					
Self-report of 6MP intake		X	X		X	X	
MEMS monitoring of 6MP	→						
MEMS data download							X
<i>TPMT</i> genotype	X						
Red cell TGN levels		X	X	X	X	X	X

Abbreviations: 6MP, 6-mercaptopurine; MEMS, Medication Event Monitoring System; *TPMT*, thiopurine methyltransferase; TGN, erythrocyte thioguanine nucleotide concentrations