MICHIGAN MEDICINE **UNIVERSITY OF MICHIGAN**

ASCO[®] 2025 Presentation ID: 11147, May 31, 2025

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Background

- Black women with hormone receptor-positive (HR+), HER2-negative (HER2-) early stage breast cancer (EBC) have a 38% higher mortality rate than White women, a disparity not fully explained by social determinants of disease
- research demonstrating unequal Previous performance of gene expression assays across racial groups has raised concerns that gene expression assays may underestimate risk of recurrence in Black patients^{2,3}
- Compared to other gene expression assays, the MammaPrint (MP) 70 signature gene consistently classifies a higher proportion of Black patients as High Risk compared with White patients⁴
- We real world survival data stratified by MP and self-reported race in patients with HR+HER2-EBC enrolled in FLEX

Methods

- The ongoing FLEX (NCT03053193) trial enrolls patients undergoing standard of care MammaPrint testing, classifying tumors as Low, High 1 (H1), or High 2 (H2) risk of recurrence
- BluePrint 80-gene subtyping signature defines molecular subtypes as Luminal, Basal, or HER2
- · Clinical differences were assessed with Chisquared or Fisher's exact tests
- Distant recurrence-free interval (DRFI), defined per STEEP criteria⁵, was compared by race and MP using Kaplan-Meier estimates and log rank tests

References: 1. Giaquinto et al., CA Cancer J Clin, 2024; 2. Gill et al. BMC Cancer, 2024; 3. Albain et al., JNCI 2021; 4. Reid et al., ESMO 2024; 5. Tolaney et al., JCO, 2024

Results

Table 1 Clinical Characteristics

			1151105			All Patients								Black P			
	Black (N=496)	White (N=4646)	Overall (N=5142)	P-Value	— Low	1.0 -	1.0					1.0-		_			
Age (Years)		, , , ,			High 1					-							
Mean (SD)	58 (± 12)	61 (± 12)	61 (± 12)	<0.001	High 2	0.9-					- A A A A A A A A A A A A A A A A A A A		0.9 -				
Menopausal Status					- Tign 2	0.8-						<u> </u>	0.8-				
Pre-/Peri-	120 (26.0%)	849 (19.4%)	969 (20.0%)	0.006		ш ^{0.0} Т				4-	/ear DR	<u>FI</u>	<u>ш</u> 0.0				
Post-	341 (74.0%)	3533 (80.6%)	3874 (80.0%)	0.000		К –	p <	0.0001			w [.] 98.8	%	۲ ۲ ۲				
Tumor Stage						L 0.7-	P			High	1.06.8	%	L 0.7 -	n	= 0.00	45	
T1	280 (60.0%)	2951 (67.8%)	3231 (67.0%)			Alter work				Liab	2.00.7	0/		٢	0.00	10	
Т2	158 (33.8%)	1213 (27.9%)	1371 (28.4%)	0 0355		0.6 -				пign	2.90.7	70	0.6 -				
Т3	24 (5.1%)	164 (3.8%)	188 (3.9%)	0.0000													
T4	5 (1.1%)	25 (0.6%)	30 (0.6%)			0.5 -							0.5 -				
Lymph Node Status							0	1	2	3	4	5	(34) 491 - 1952) 	0	1	2	
LN-	320 (69.6%)	3348 (78.1%)	3668 (77.2%)	<0.001			Numb	or at rick	111	ne (yea	rs)			Numk	or at ric	~k	
LN+	140 (30.4%)	941 (21.9%)	1081 (22.8%)	\0.001												N.	
Grade					Copies of this poster obtained	Low	2822	2788	2698	1956	1186	695	Low	191	189	182	
G1	125 (25.7%)	1466 (32.1%)	1591 (31.5%)		through the QR code are for	High1	1883	1857	1779	1272	687	364	High1	214	209	200	
G2	238 (49.0%)	2455 (53.8%)	2693 (53.3%)	<0.001	not be reproduced without	High2	437	431	404	283	151	88	Hiah2	91	88	83	
G3	123 (25.3%)	643 (14.1%)	766 (15.2%)		permission from ASCO® or	· · · · · · · · · · · ·							0	L <u>,</u>			
MammaPrint					the author of this poster.		0	1 -	2	3	4	5		0	1	2 Time (y	
Low	191 (38.5%)	2631 (56.6%)	2822 (54.9%)						ime (ye	ears)							
High1	214 (43.1%)	1669 (35.9%)	1883 (36.6%)	<0.001													
High2	91 (18.3%)	346 (7.4%)	437 (8.5%)		Among 5140 potion	= 0.60				10/ 10/00	a \N/bita		4				
BluePrint					 Among 5142 patien 	its, 9.0%	were	DIACK al	10 90.4	+% wer	e vvnite	e (Tap	le 1)				
Luminal A	184 (37.1%)	2511 (54.0%)	2695 (52.4%)		 LN+ (30.4% vs 21.5 	9%: p<0.	.001)	and Gra	de 3 d	disease	(25.3%	6 vs 1	4.1%: p	<0.00)1) wer	e more	
Luminal B	249 (50.2%)	1742 (37.5%)	1991 (38.7%)		common among Bla	ack comr	arod v	with M/h	ito nat	onte	(-			/		
Basal	46 (9.3%)	152 (3.3%)	198 (3.9%)	<0.001	common among bia		aleu	vvilii vvii	ne pai	iento							
HER2	0 (0%)	3 (0.1%)	3 (0.1%)		 Black patients had 	higher ir	nciden	ces of ⊦	11 (43.	1%), H	2 (18.3	5%), ai	nd Basa	I (9.3	%), and	d lower	
Not Requested	17 (3.4%)	238 (5.1%)	255 (5.0%)		rates of Low (38 5%	6) Risk tu	imors	(p < 0.00)	1) cor	npared	to Whit	te pati	ents	·	·		
Systemic Treatment					 Black patients had 	d higher	r rate	s of (n	neo)adi	iuvant	CT (5)	2.9%	vs 40.3	3%:	;00.0=q	3) and	
ET only	175 (42.6%)	1995 (51.8%)	2170 (50.9%)		significantly higher	r lied of	an	anthracy	vclina_1	avano	reaima	$n (\Lambda)$		\$ 35	4% n=	, =0 001)	
ET+CT	217 (52.8%)	1649 (42.8%)	1866 (43.8%)	0.023				anunacy		avand	regime	, T	J.U /U VC	, 00.	τ/υ. Ρ	0.001)	
ET,CT +/- TT	12 (2.9%)	129 (3.3%)	141 (3.3%)	0.020	compared with whi	te patien	ts										
Other	7 (1.7%)	79 (2.1%)	86 (2.0%)		 Despite a 61.4% in 	ncidence	of H1	/H2 risk	disea	se amo	ng Bla	ck pat	tients, o	nlv 4:	3.8% re	sceived	
Chemo Regimen					CT. White patients h	had a 43.	.3% H	1/H2 inc	cidence	e and 3	5.5% re	eceive	d CT				
тс	100 (44.8%)	862 (50.5%)	962 (49.8%)		Among all nationts	<u>4-vear</u> [Nas Inin	est (ar) 7%) fc	or H2 C	6 7%	for H1	and (78 8% t	or I ow	
AC-T	96 (43.0%)	604 (35.4%)	700 (36.3%)			, → yoar L				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	// // / / (/0.7/0			/0.0/01		
Chemo + Platinum	11 (4.9%)	60 (3.5%)	71 (3.7%)	0.226	RISK (p<0.001) (Fig	Jure 1)	Nre op	noarad	to hove			at 1 v	$n_{\rm ore} / 0^{\rm c}$	5 50/ \	oome	arad ta	
Other	16 (7.2%)	182 (10.7%)	198 (10.3%)		White patients (96.9	9%). Ger	ns ap nomica	ally Low	Risk p	e worse atients	had ex	ar 4 y cellen	t DRFI a	across	, compa s races		
Data presents n (% p<0.05 indicates s	6) unless indicat ignificance. Abb	ted otherwise. U reviations: LN, ly	nknowns not list /mph node; ET,	ed.	 Among CT treated 	patients	s, DR	FI was	compa	arable	for Bla	ck (n=	=186) a	nd W	/hite (n	=1130)	

p<0.05 indicates significance. Abbreviations: LN, lymph node; ET, endocrine therapy; CT, chemotherapy; TC, taxanes; AC-T, anthracyclinetaxane

Association of MammaPrint[®] and clinical outcomes by race among 5000 individuals with HR+HER2- early stage breast cancer enrolled in FLEX

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Figure 1. Black patients with High 1 cancers appeared to have worse DRFI at 4 years, compared to White patients

