

Table 1. Demographic Characteristics of Patients Completing Outpatient MRI Referrals

	Total Population* N=14,002	Days to Scheduling (Median (IQR))	Days to Completion (Median (IQR))
Race/Ethnicity			
Asian	1181 (8.4%)	4.9 (0.5, 27.0)	30.9 (15.0, 77.1)
Black/African American	630 (4.5%)	6.2 (0.9, 34.7)	34.1 (16.9, 83.7)
Hispanic	2693 (19.2%)	7.1 (0.9, 37.1)	38.8 (19.0, 87.8)
White	7872 (56.2%)	6.0 (0.8, 33.8)	35.0 (15.9, 84.2)
Two or More	795 (5.7%)	5.6 (0.7, 30.8)	33.9 (15.0, 81.9)
American Indian/Alaska Native	194 (1.4%)	7.9 (0.9, 36.0)	48.4 (19.1, 97.0)
Native Hawaiian/Pacific Islander	101 (0.7%)	6.3 (0.8, 35.9)	29.1 (14.1, 79.8)
Other	536 (3.8%)	6.1 (0.8, 35.0)	38.0 (17.3, 84.8)
Language			
English	12751 (91.1%)	6.0 (0.8, 33.8)	35.0 (16.0, 84.0)
Other	1251 (8.9%)	7.3 (0.9, 37.1)	40.2 (20.1, 88.2)
Gender			
Female	7185 (51.3%)	5.8 (0.8, 30.3)	32.9 (15.8, 78.7)
Male	6816 (48.7%)	6.8 (0.8, 37.1)	39.0 (17.2, 89.8)
Non-Binary	1 (0.0%)	0.0	4.8
Age in Years (Mean (SD))	10.6 (6.7)	-	-
PMCA			
Complex Chronic	5271 (37.6%)	10.1 (1.1, 48.1)	51.9 (20.1, 96.0)
Non-complex Chronic	1926 (13.8%)	7.2 (0.9, 41.7)	38.0 (19.1, 90.8)
Non-chronic	2776 (19.8%)	3.1 (0.2, 20.0)	25.9 (13.7, 56.9)
Not Categorized	4029 (28.8%)	4.1 (0.5, 23.9)	29.1 (15.6, 65.0)
Insurance			
Commercial	8199 (58.6%)	5.8 (0.8, 29.0)	32.6 (14.3, 81.8)
Medicaid/Healthy Options	5298 (37.8%)	7.0 (0.8, 41.0)	40.9 (20.1, 89.9)
Other Government	431 (3.1%)	6.9 (0.9, 31.8)	37.9 (16.0, 81.7)
Self-Pay	74 (0.5%)	3.5 (0.1, 19.8)	26.1 (12.0, 72.3)
Specialty			
Hematology-Oncology	2012 (14.4%)	18.3 (3.1, 72.1)	76.8 (28.0, 111.2)
Neurology	2535 (18.1%)	9.1 (1.2, 41.0)	42.2 (22.2, 84.8)
Neurosurgery	2846 (20.3%)	6.2 (0.8, 47.0)	44.9 (16.7, 92.8)
Orthopedics	1704 (12.2%)	0.9 (0.0, 6.9)	18.4 (8.7, 32.4)
Rheumatology	1043 (7.4%)	8.7 (1.1, 42.9)	40.2 (22.1, 104.9)
Other	3862 (27.6%)	4.1 (0.5, 20.2)	28.1 (14.0, 62.2)
Anesthesia Required			
Yes	3354 (24.0%)	10.0 (1.2, 45.8)	53.9 (27.8, 93.6)
No	10418 (74.4%)	5.8 (0.7, 30.8)	31.0 (15.0, 81.8)
Unknown	230 (1.6%)	0.3 (0.1, 2.7)	8.9 (6.0, 15.0)
STAT**	1496 (10.7%)	0.2 (0.0, 1.8)	4.1 (1.1, 10.0)

*Total N refers to number of referrals; population includes 9,714 unique patients
**Includes ASAP/Today

Association* of Race/Ethnicity with Time to Scheduling and Time to Completion of MRI From Referral Placement

Race/Ethnicity	Time to Completion	
	Unadjusted HR (95% CI)	Adjusted** HR (95% CI)
Asian	1.16 (1.07, 1.25)	1.04 (0.96, 1.12)
Black/African American	1.00 (0.89, 1.11)	0.96 (0.86, 1.07)
Hispanic	0.91 (0.87, 0.96)	1.04 (0.98, 1.10)
White	1.01 (0.99, 1.03)	0.98 (0.96, 1.01)
Two or More	1.03 (0.93, 1.13)	1.02 (0.92, 1.12)
American Indian/Alaska Native	0.92 (0.75, 1.12)	1.02 (0.80, 1.30)
Native Hawaiian/Pacific Islander	1.20 (0.92, 1.58)	1.12 (0.86, 1.47)
Other	1.00 (0.89, 1.13)	0.99 (0.88, 1.11)
PMCA		
Non-chronic	Ref	Ref
Non-complex chronic	0.64 (0.59, 0.69)	0.72 (0.67, 0.79)
Complex Chronic	0.51 (0.48, 0.55)	0.72 (0.67, 0.78)
Not Categorized	0.84 (0.79, 0.90)	0.88 (0.82, 0.94)
ADI		
Need for Anesthesia		
No	Ref	Ref
Yes	0.72 (0.68, 0.76)	0.75 (0.71, 0.79)
Unknown	4.64 (3.92, 5.50)	3.81 (3.17, 4.57)
Language		
English	Ref	Ref
Other	0.86 (0.79, 0.93)	0.90 (0.82, 0.99)
Insurance		
Commercial	Ref	Ref
Medicaid/Healthy Options	0.80 (0.76, 0.84)	0.92 (0.87, 0.98)
Other Government	0.90 (0.78, 1.03)	0.94 (0.81, 1.08)
Self-Pay/Financial Aid	1.05 (0.77, 1.42)	1.05 (0.77, 1.44)

*Reference group is a weighted grand mean of the sample
**Fully adjusted model includes all predictors as well as adjustment for specialty

At our tertiary children's hospital, **patient race** did not affect time to outpatient MRI completion.

Time to completion was longer for patients with

Medicaid, primary language other than English, and need for anesthesia.

The effects of race, primary language, insurance and other factors in pediatric outpatient MRI scheduling: a retrospective cohort study

PURPOSE
Racial and ethnic disparities exist in access to medical care in the United States. Our purpose was to determine discrepancies in time to outpatient MRI scheduling and completion at our tertiary children's hospital by race, ethnicity, primary language, socioeconomic status, insurance and other factors. Wait times are longer for MRI than for other imaging modalities at our institution.

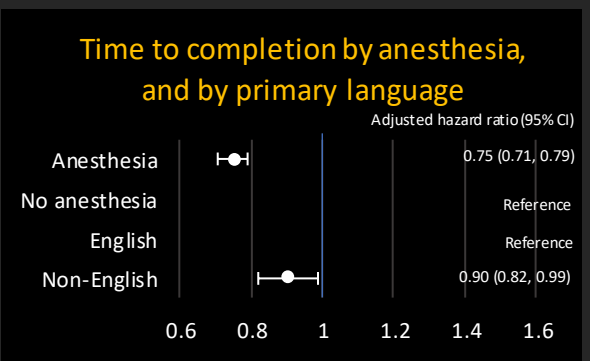
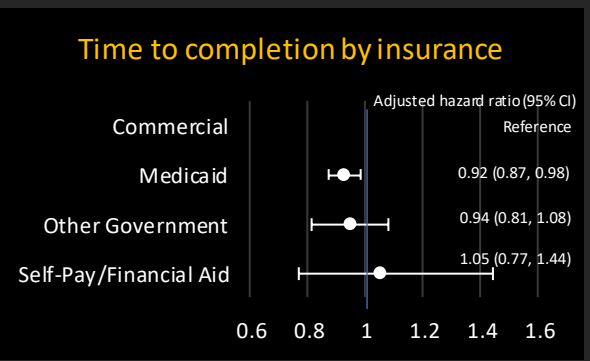
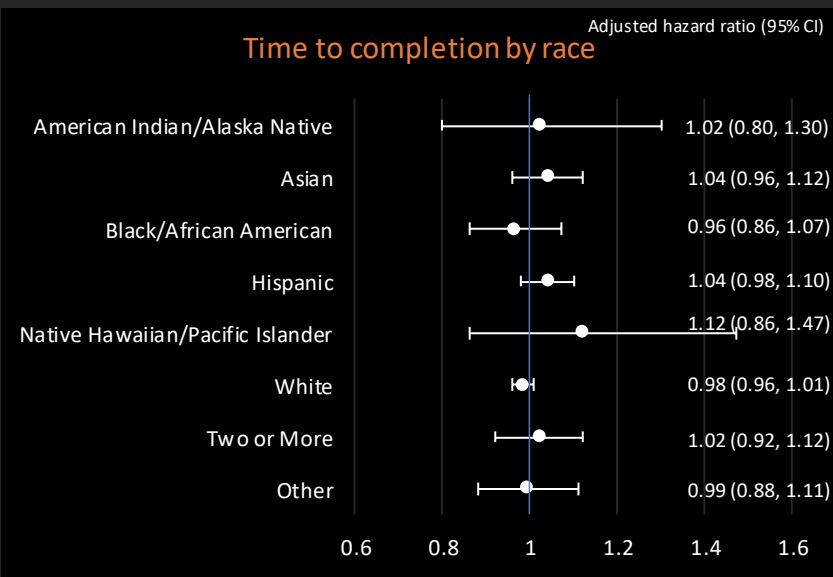
METHODS
Retrospective review of all outpatient MRI exams completed at our tertiary children's hospital between 10/5/2020 and 8/31/2022. We determined times to event (MRI order to MRI scheduling or completion) using mixed effects Cox regression models and determined associations between unadjusted and fully adjusted models.

LIMITATIONS
- Outpatient MRIs that were ordered and/or scheduled but not completed were not included.
- We did not know the timeframe in which routine studies (89% of our orders) were intended to be performed (next available versus anticipated follow-up exam in 6-12 months).
- Stat/ASAP/today subgroup was too small for meaningful analysis.



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NEXT STEPS may include surveying patients with Medicaid and primary language other than English about barriers to care, advocating for prompt Medicaid prior authorization approval, proactively contacting families who require an interpreter to schedule their appointments, and decreasing need for anesthesia with increased child life specialist support and utilization of mock MRI practice sessions.

