

Association of Model of Care for Kawasaki Disease with Utilization and Patient Outcomes

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Background

- Kawasaki Disease (KD) is a condition associated with substantial morbidity and hospital cost.
- Model of care, or admitting service and consultant role designation, varies between institutions for patients with many conditions, including KD.
- While adult variation in models of care has been explored,¹ optimal model of care for pediatric conditions may be unclear and vary between institutions.²
- There is a paucity of evidence on patient outcomes based on primary service designation and consultation practice, which may impact hospital resource utilization and patient outcomes.

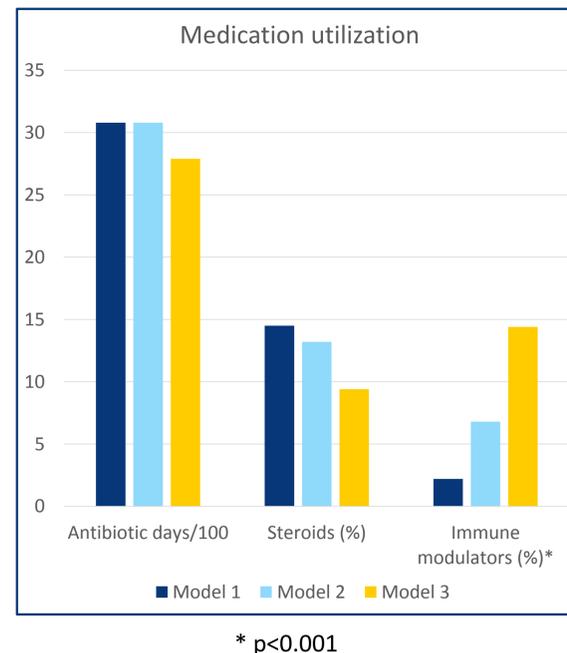
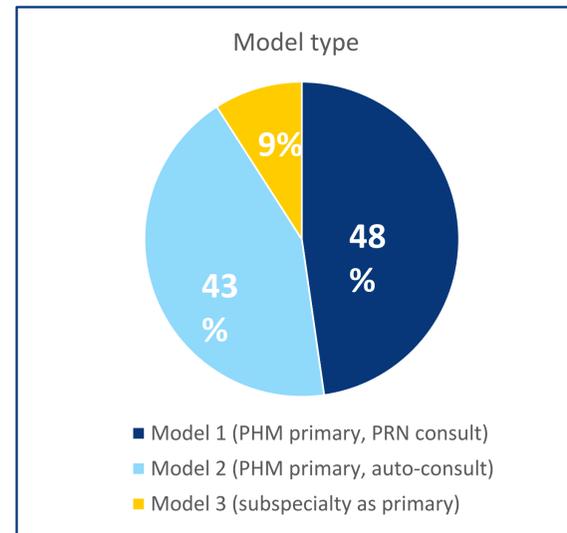
Objective

- Describe model of care variation in children with KD and explore how model of care affects utilization and patient outcomes

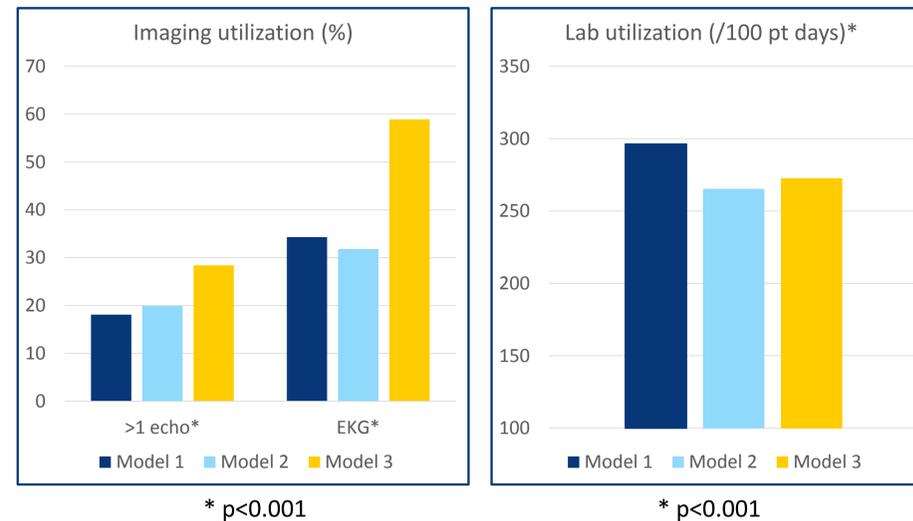
Methods

- Retrospective cohort study of children ≤18 years old hospitalized with KD at US children's hospitals from 2017-2019.
- The model of care was assessed by survey of Pediatric Research in Inpatient Settings (PRIS) site leads.
- Hospitals were grouped accordingly: Model 1 (hospitalist primary with as needed subspecialty consultation), Model 2 (hospitalist primary with automatic subspecialty consultation), and Model 3 (subspecialist primary).
- Next, the Pediatric Health Information System® (PHIS) database was used to identify children with KD and compare utilization and outcomes based on model types.
- Utilization indices included laboratory tests, imaging, medication use, length of stay, 7-day readmission and total cost of hospitalization.
- Patient outcomes included coronary artery aneurysms, adverse cardiac outcomes, and need for long-term anticoagulation.

Results – Model of care and resource utilization



General	Model 1	Model 2	Model 3	p-value
Length of stay (days - median)	3 [3, 4]	3 [3, 4]	3 [3, 4]	0.573
Hospital cost (USD – median)	11033	12434.2	12727.4	<.001
ED revisits (7 days all cause)	24 (2.3)	18 (2.4)	3 (1)	0.326
Readmissions (7 days all cause)	66 (6.4)	46 (6.2)	21 (7)	0.879
Readmissions (7 days same cause)	50 (4.8)	35 (4.7)	18 (6)	0.650



Results – Patient-centered outcomes

Utilization Indices #(%)	Model 1	Model 2	Model 3	p value
Coronary artery aneurysms	80 (7.7)	69 (9.3)	28 (9.4)	0.439
Adverse cardiac outcome	9 (0.9)	14 (1.9)	1 (0.3)	0.051
Need for long-term anticoagulation	54 (5.2)	28 (3.8)	10 (3.3)	0.209

Discussion

- Model of care for Kawasaki Disease varies widely among institutions.
- Subspecialty involvement in KD impacts utilization of lab tests, medications, and imaging, but not uniformly.
- Subspecialty involvement may impact hospital costs but did not significantly affect length of stay or readmission rates for KD.
- Patients with complicated KD may benefit from early subspecialty involvement to avoid adverse cardiac outcomes.
- PHM providers should be judicious in seeking consultation in lieu of subspecialty impact on patient care.

Conclusions

- Model of care varies for patients admitted with KD and may contribute to variations in resource utilization.
- Among hospitalized children with KD, admission to a subspecialist team was generally associated with higher resource utilization but potentially better cardiac outcomes.

Future Directions

- Chart review to further delineate outcomes including aneurysm severity and progression, adjunct medication usage, and repeat echo indications.
- Explore models of care for other pediatric conditions and how consultation practices may further impact patient care.

Sources

1. Oh H. Hospital consultations and jurisdiction over patients: consequences for the medical profession. *Social Health Illn.* 2014;36(4):580-595.
2. Krikorian ML, Growdon AS, Chien AT. Assessment of Hospitalist-Subspecialist Agreement About Who Should Be in Charge and Comparison With Actual Assignment Practices. *Hosp Pediatr.* 2018;8(8):479-485.