Pathways in Action: Turning Data into Better Decisions

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Supporting Evidenced Based Practices

Jon Maino, MSE
Rebecca Kasper, MSN
Brandon Ku, MD
Jane Lavelle, MD

February 9th, 2026

Children's Hospital of Philadelphia®

Center for Healthcare Quality & Analytics

Agenda

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Program - Data Partnership

- Timeline
- Investment

Analytics Support

Centralized Dashboard

Capturing Meaningful Insights

- Influenza
- Lipid Screening
- Kawasaki Disease
- Hyperbilirubinemia

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Pathways / Data Analytics Support Timeline

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Data and Analytics

- Only 10 Data Analysts working on projects for entire enterprise
  - Operational projects prioritized over QI work
- Duplicative work
- No asset life cycle

Clinical Pathways Program

- Local Healthcare Teams completed individual QI projects
  - Competition for resources based on Request for Proposals (RFP)
  - Time-limited project
  - Siloed work
  - Inconsistent cohorts and metrics

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Pathways / Data Analytics Support Timeline

Children's Hospital of Philadelphia
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Data and Analytics

- All Data Analytics teams combined into one department
- "Trusted Data Layer" created to make reusable business logic

Clinical Pathways Program

- More available analytics resources for project support
- Continued with RFP-based QI work
  - Requests distributed across data teams

2015 | 2019 | 2022 | 2024

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Pathways / Data Analytics Support Timeline

Children's Hospital of Philadelphia
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Data and Analytics

- *Safety & Quality* (SnQ) Product Team created with 8 Data Analysts, supporting Clinical Pathways as well as other programs
- Dedicated analytics FTE available for Clinical Pathways projects
- No limit to number of requests

Clinical Pathways Program

- Clinical Pathways Program maintains and prioritizes a backlog of requests with SnQ
- Begin to standardize requests and metrics

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Safety & Quality Data Team

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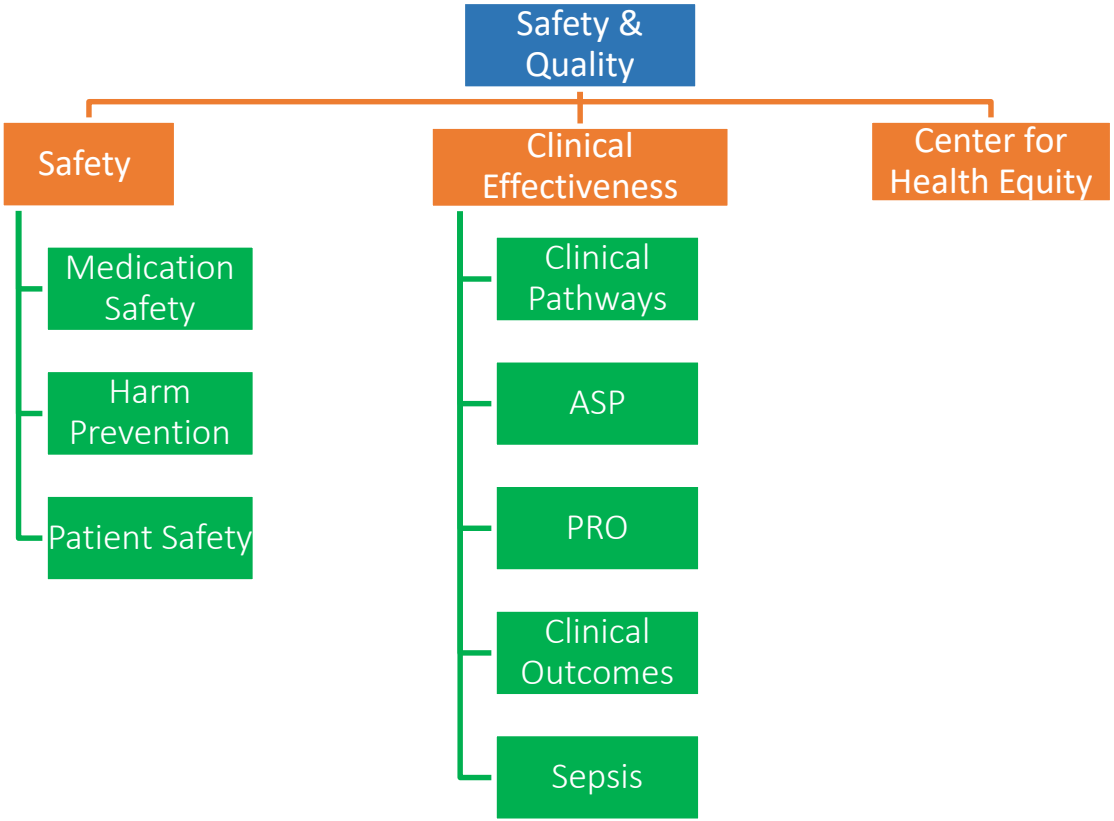

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Pathways / Data Analytics Support Timeline

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Data and Analytics

- Identified several unused pathways dashboards
  - Wanted to preserve metrics and data for the program
- SnQ proposes Centralized Pathway initiative

Clinical Pathways

- Adoption of Centralized Pathway model as baseline for many Clinical Pathways projects

2015 → 2019 → 2022 → 2024 - Present

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Centralized Dashboard

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Address multiple technical problems with a single solution

1. Many dashboards went unmonitored
2. Projects take 6+ months from start to finish
   - Oversaturation of metrics delayed project completion
3. PHI security complicates visibility

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Centralized Dashboard

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Proposed Solution

1. Summary slide with high-visibility metrics; Sustained and New Projects
2. Core Metrics + 3 pathway-specific metrics in a templated dashboard
    - Analyst-friendly; create dashboard in minutes instead of months
    - Halved project completion time
3. Created a de-sensitized dashboard to share information and streamline metrics and improvement opportunities

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Centralized Dashboard

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Campus

King of Prussia Campus

Philadelphia Campus

Fiscal Year

FY-2026

FY-2025

FY-2024

FY-2023

Metrics Stratified by Pathway Utilization

Care Location | Pathway | Values | Pathway Utilizati...

	Number of Visits		Average Length of Stay		72-Hour Revisit Rate		7-Day Readmission Rate	
	Pathway Used	Not Used	Pathway Used	Not Used	Pathway Used	Not Used	Pathway Used	Not Used
Emergency Department	**21827**	**21885**	**4.34**	**4.79**	**5.6%**	**5.2%**	**2.6%**	**3.2%**
Bronchiolitis	4193	8691	5.91	4.81	6.3%	7.8%	4.4%	5.3%
Constipation	4737	11700	5.40	4.96	4.3%	3.3%	2.3%	1.7%
Croup	12897	1494	3.44	3.42	5.8%	4.6%	2.2%	2.6%
Inpatient	**10658**	**6894**	**2.31**	**5.01**	**4.0%**	**2.7%**	**3.5%**	**3.6%**
Bronchiolitis	5407	627	2.09	2.98	3.7%	3.0%	3.2%	2.6%
Constipation	1249	3510	4.90	6.89	2.4%	2.1%	3.0%	3.6%
Croup	1164	113	1.20	1.15	6.7%	5.3%	4.9%	5.3%
Gastrodehydration	2482	2443	1.69	2.72	3.8%	3.4%	3.1%	3.8%
Infant Botulism	-	107	-	11.79	-	0.0%	-	3.7%
Kawasaki	356	94	4.46	4.78	7.9%	5.3%	7.9%	7.4%

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Centralized Dashboard - Constipation

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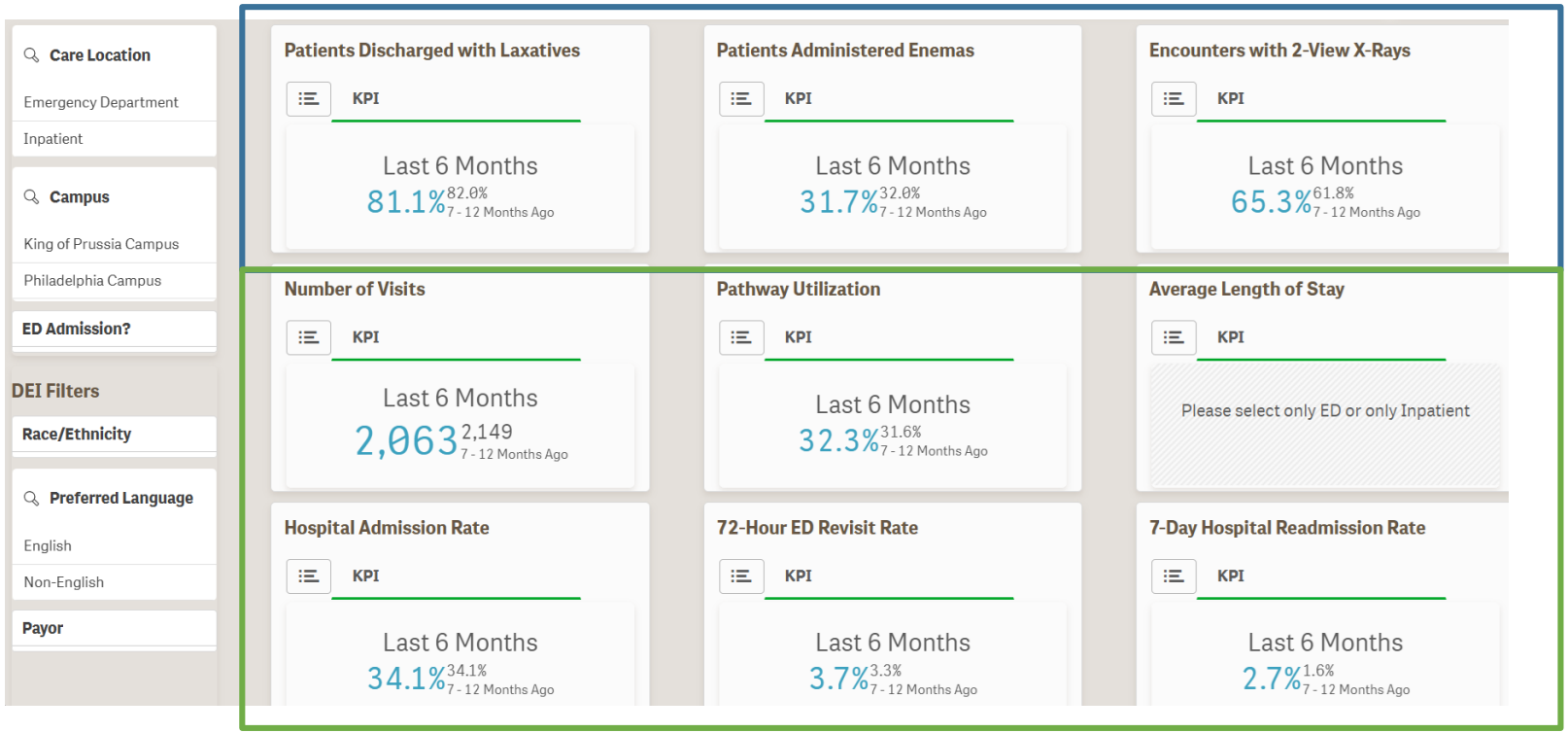

Pathway-specific metrics

Core metrics

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Pathway Data Development

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Collaboration between Data and Healthcare Teams

1. Cohort development
   - Broad approach - assigned to pathway *and* qualified patients
   - Validation iterative and collaborative
2. Metric Refinement
3. Dashboard for monitoring improvement
   - Statistical Process Control (SPC) charts
   - Metrics
   - Patient Details

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Influenza Pathway, ED

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ED Influenza Testing, Treatment Pathway

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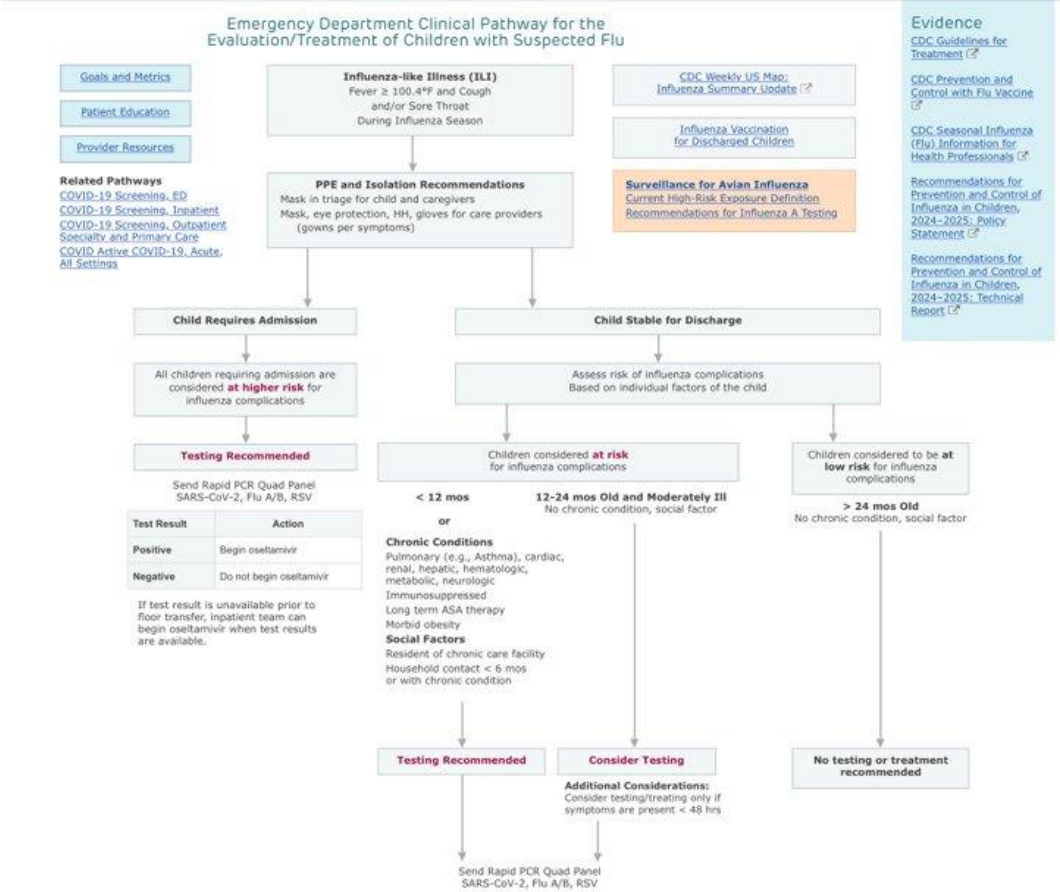

Reduce unnecessary testing

Published 2013
Updated annually

Data support 2023

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Respiratory Pathogen QUAD Testing at CHOP

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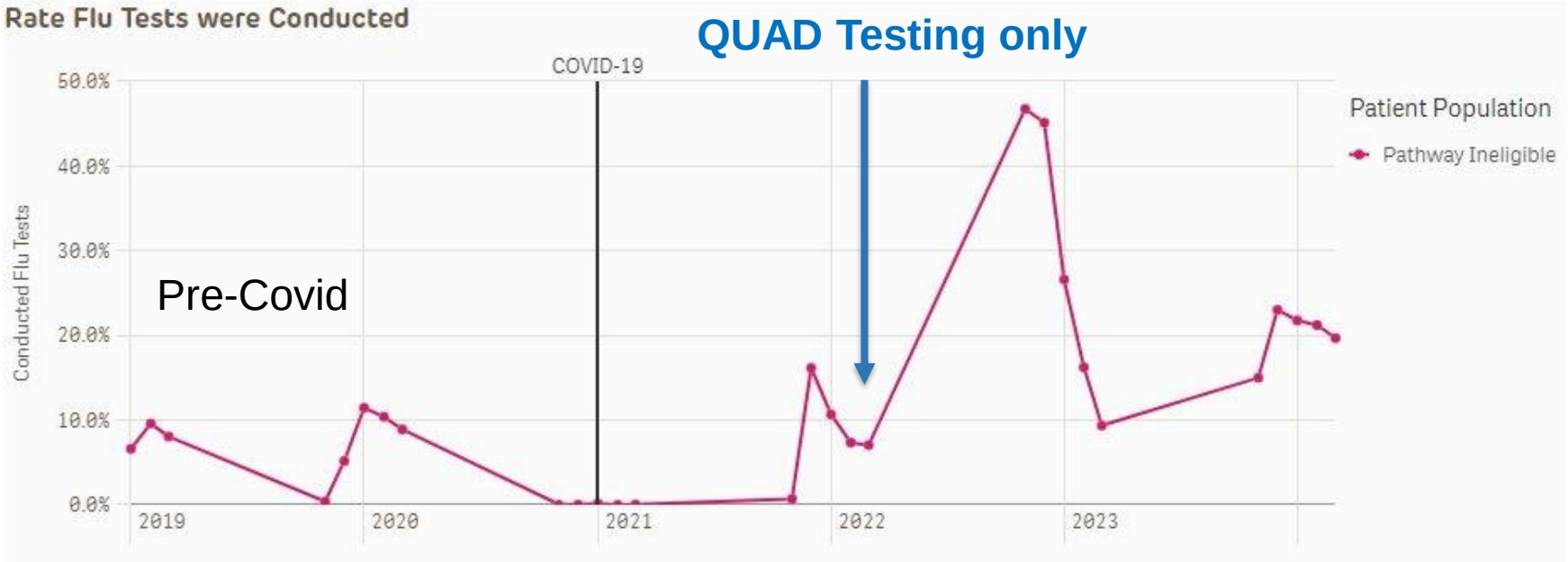
COVID Restrictions Lifted
QUAD Testing only



QUAD: Flu A/B, COVID, RSV

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Respiratory Pathogen Testing at US Children's Hospitals

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Retrospective, cross-sectional study
38 Children's Hospitals 2016-2023

13.6% pre-pandemic to 62% in 2022
Not returned to pre-pandemic levels
Testing costs: 20.6 to 110 million
De-implementation strategies are needed

Molloy MJ, Hall, M, Markham J et al Trends in Respiratory Pathogen Testing at US Children's Hospitals. JAMA Network Open 2025;8(3):e250160.doi:10.1001/jamanetworkopen.2025.0160

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Low Risk Patients

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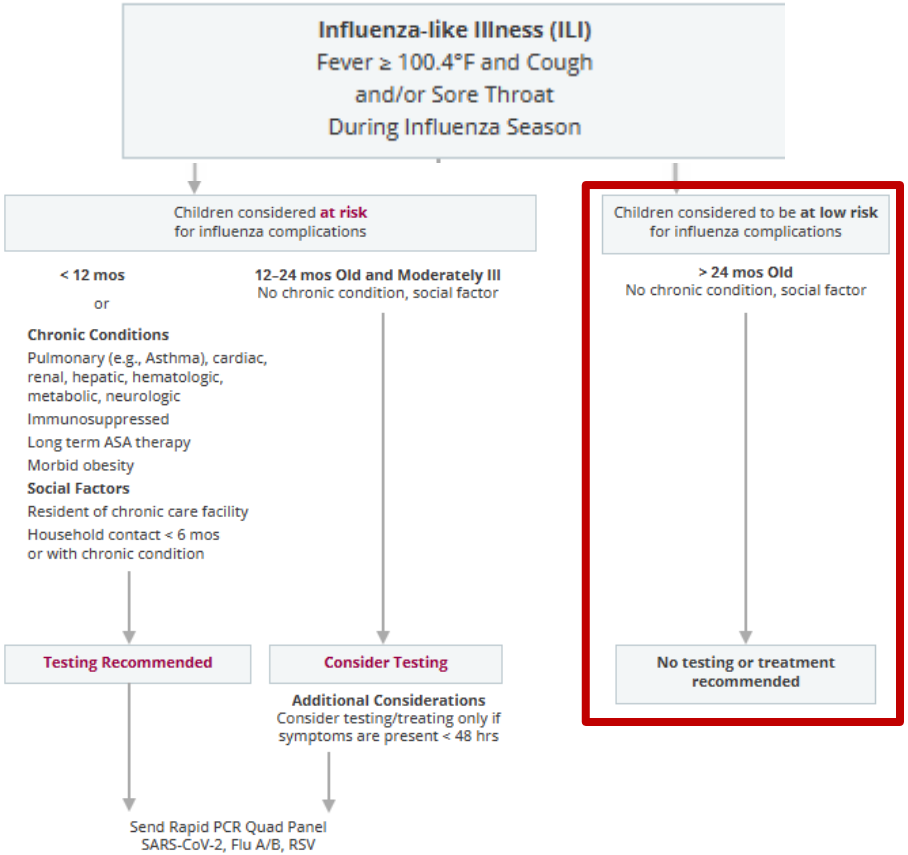

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Interventions

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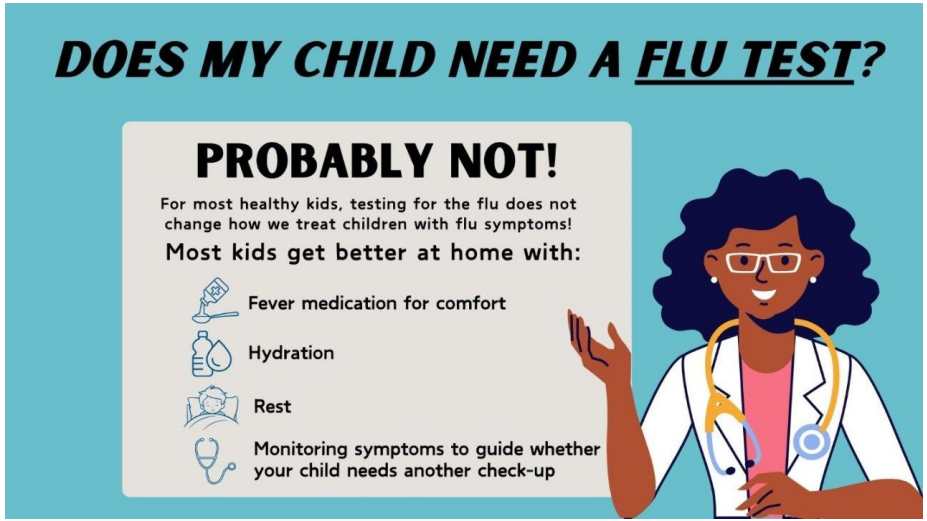
- Rounding Tip at Provider Hand-off
- Talking Points for Providers
- Restricted Criteria for QUAD Testing at Triage
- Updated School Note
- Patient Education, Screensavers
- Data Sharing Weekly



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Reducing Unnecessary Flu Testing in the ED

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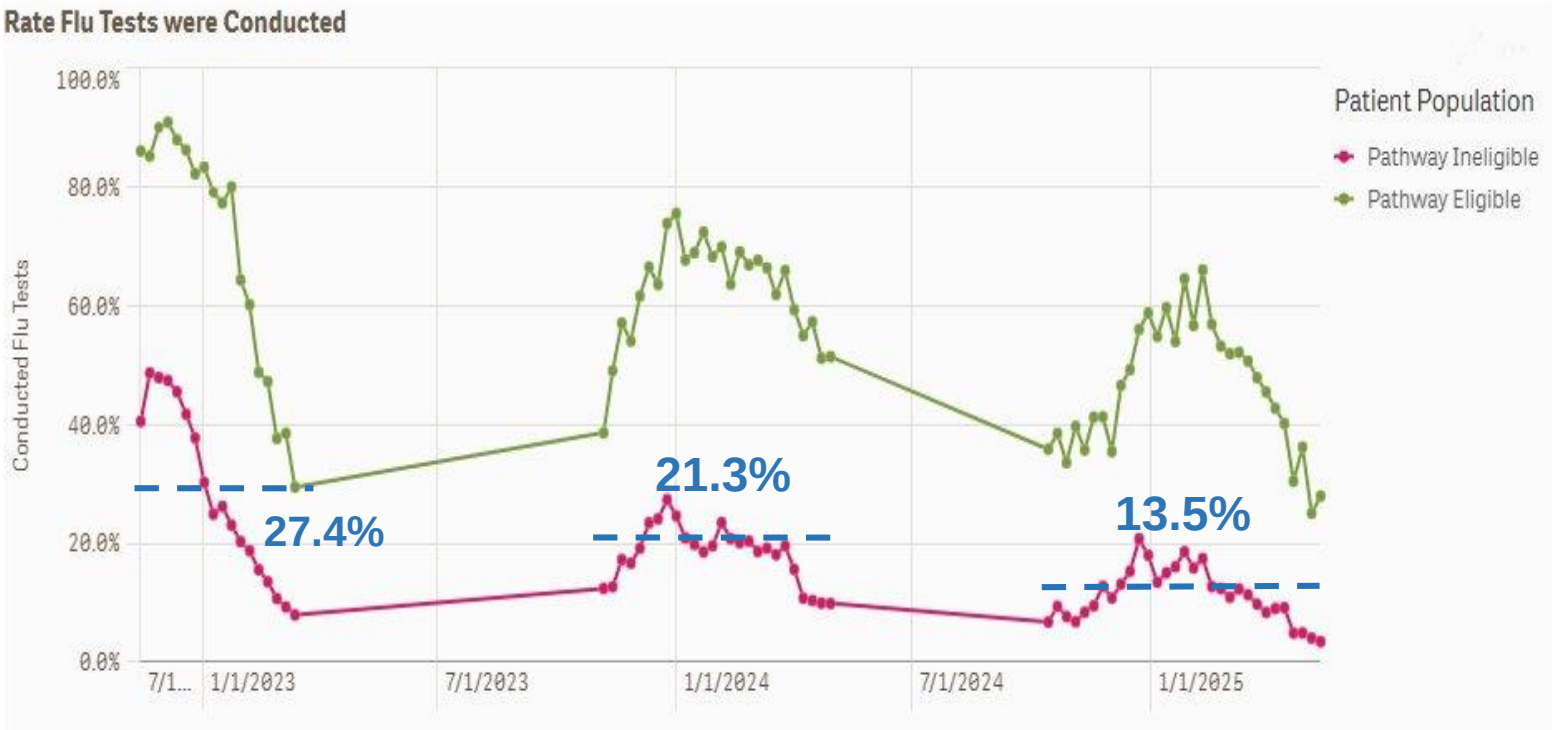

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Lipid Screening Pathway, Primary Care

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Lipid Screening in Primary Care

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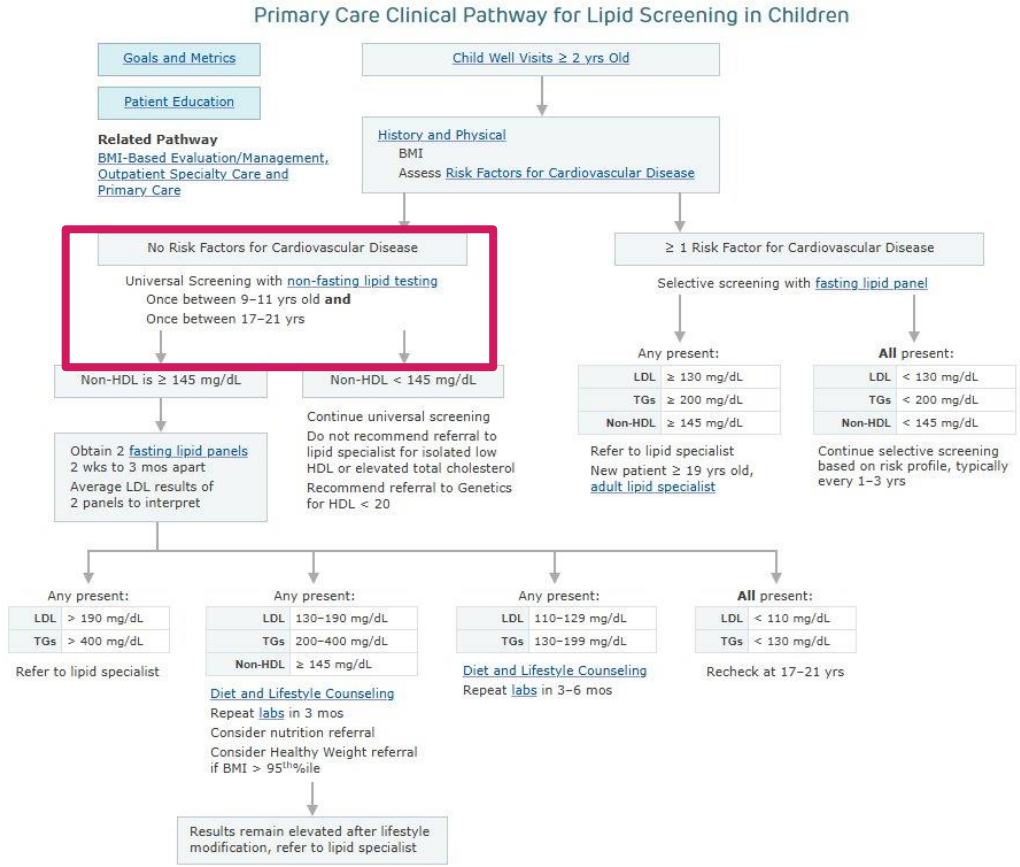

Standardize referrals to the lipid heart clinic for hypercholesteremia

Pathway published 2025

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Lipid Screening in Primary Care

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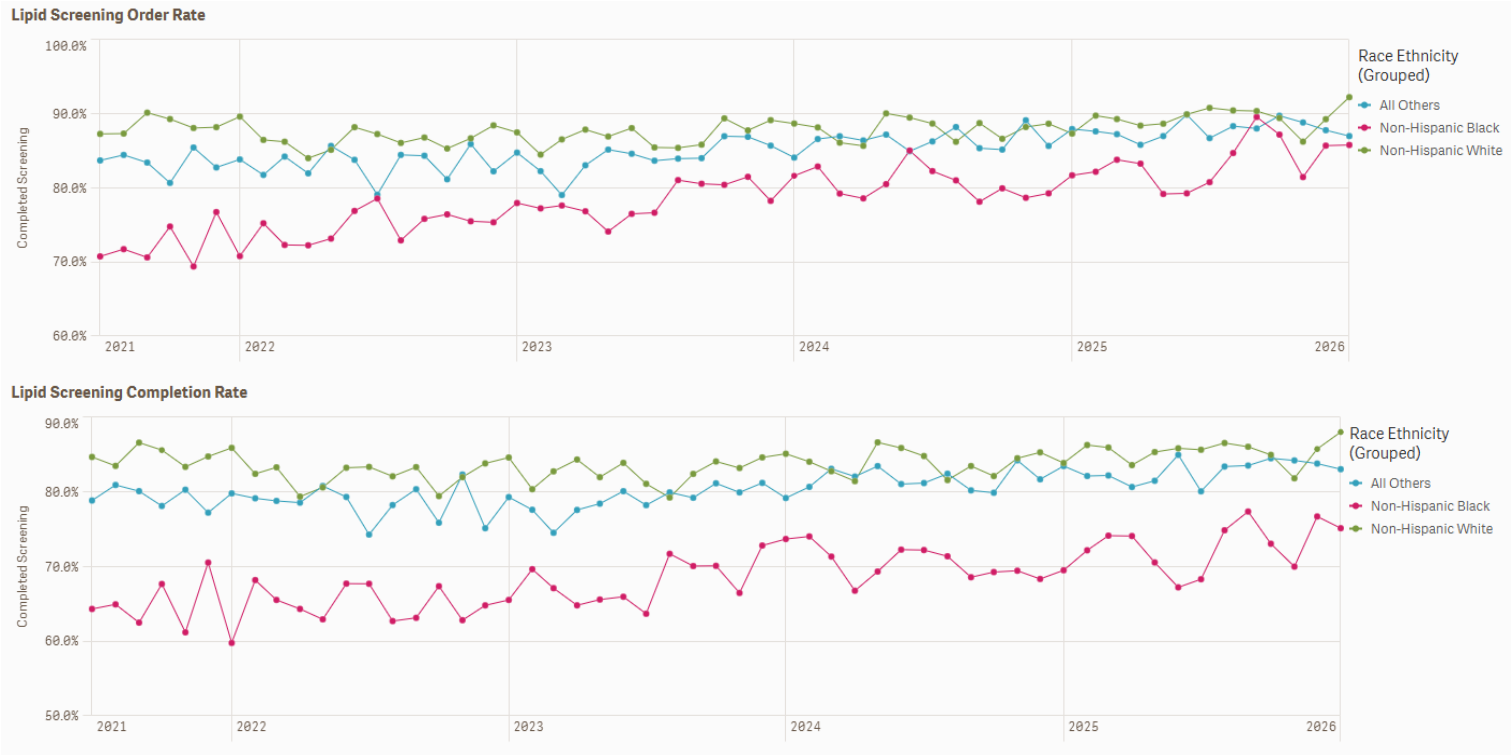
Lipid Screening in Non-Hispanic Black children compared to other Race/Ethnicities



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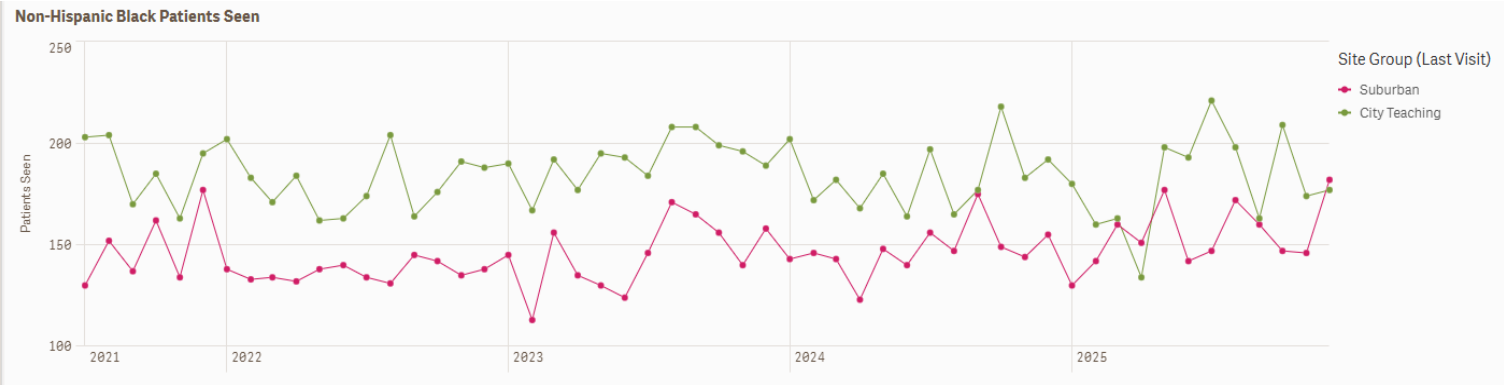

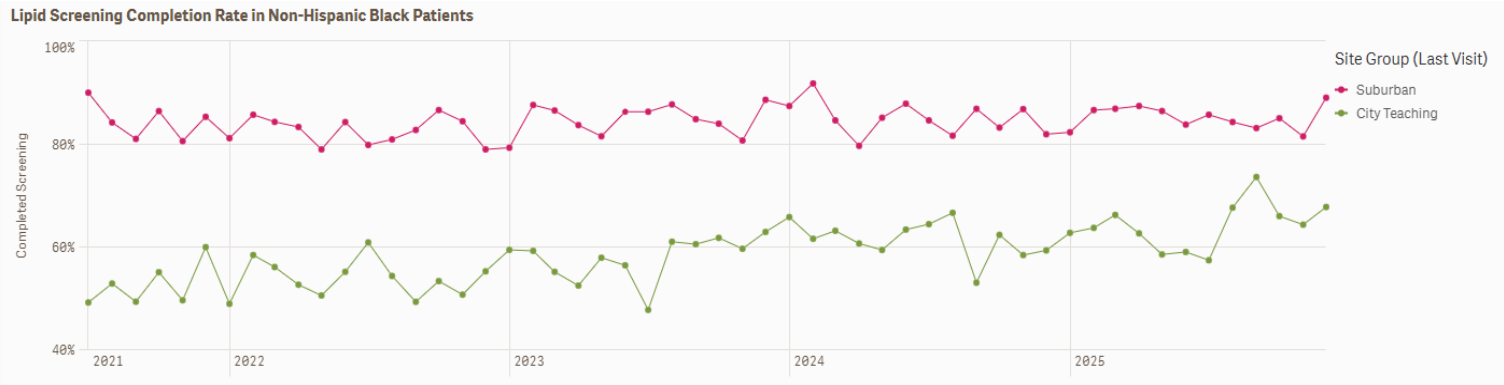

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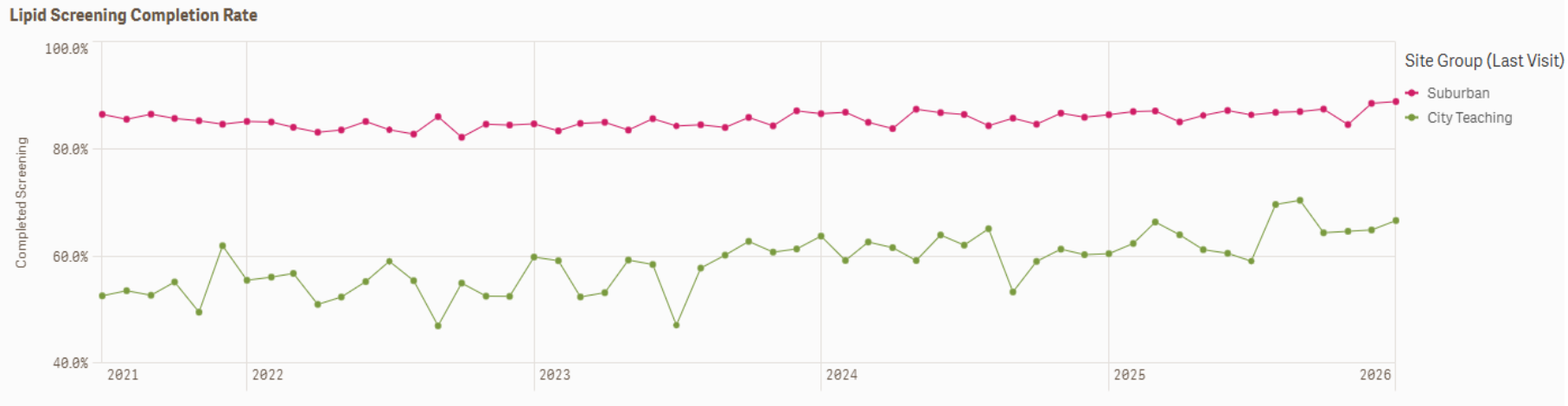

Suburban: Point-of-care (POC) testing

City: Phlebotomy, additional visit

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Suburban site test ordering declined during POC supply shortage

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Lipid Screening in Primary Care

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- The convenience of POC testing helps implement pathway recommendations for universal lipid screening
- Data shared with Primary Care leadership to explore other causes of screening differences and to standardize practice across 30+ sites

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Kawasaki Disease Pathway, ED and Inpatient

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Kawasaki Disease Pathway

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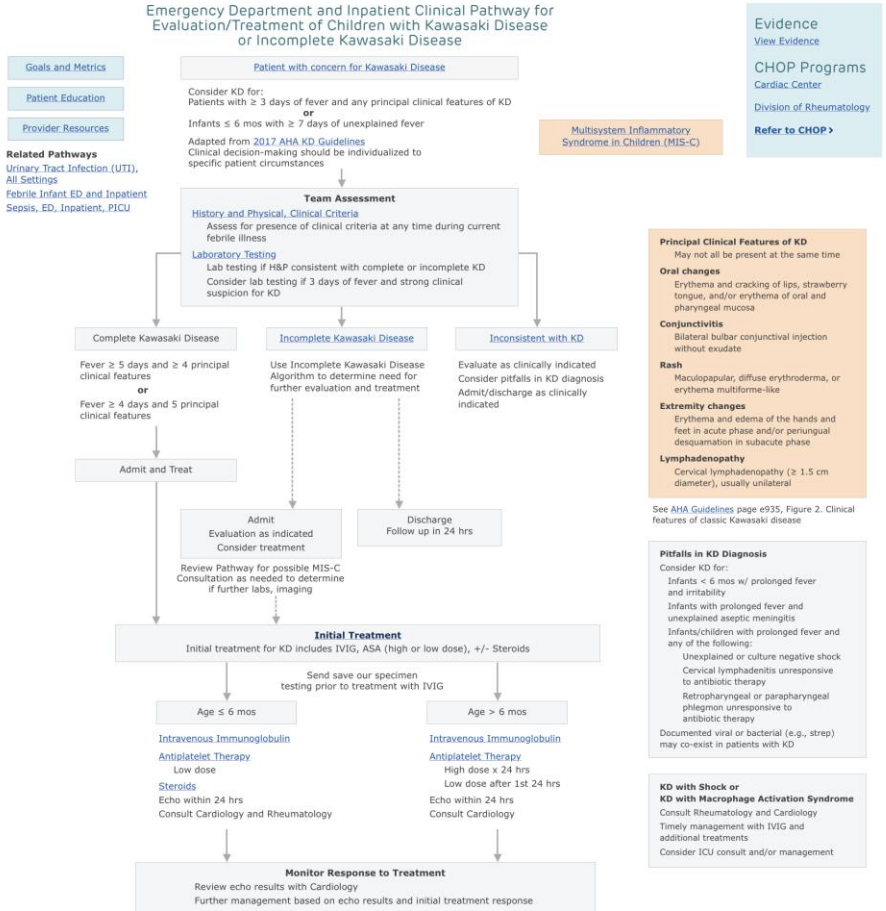

Normal Echocardiogram Subsequent Treatment

Guidelines for assessment and management for patients of all ages with **normal echocardiogram results (Z-scores of coronary arteries all < 2.5)**

For all patients, monitor and manage as indicated based on response to initial treatment.

Response to Initial Treatment	Management and/or Treatment
Resistant Fever > 38.0 **OR** Lingering clinical symptoms > 24-36 hours after completion of IVIG	Re-check labs (CBC, CRP, LFTs) before escalating therapy Start PO prednisolone 2 mg/kg divided BID x 5 days then taper Consult Rheumatology to guide infliximab therapy Infliximab 10 mg/kg Repeat labs (as above) 24 hours after completing infliximab treatment Discuss timing of repeat echo with Cardiology

Pathway Updated Fall 2022

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Kawasaki Disease Pathway – CAA Rates

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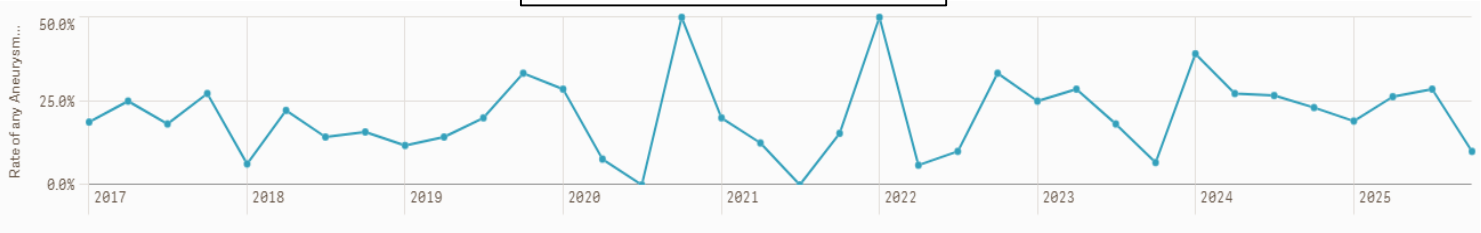
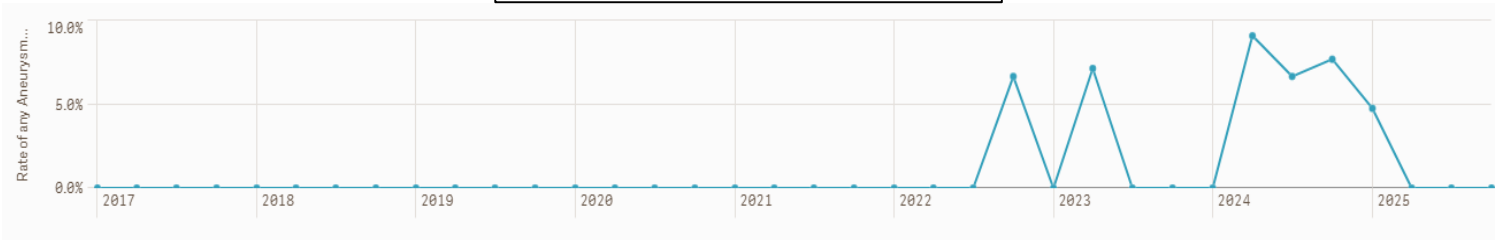
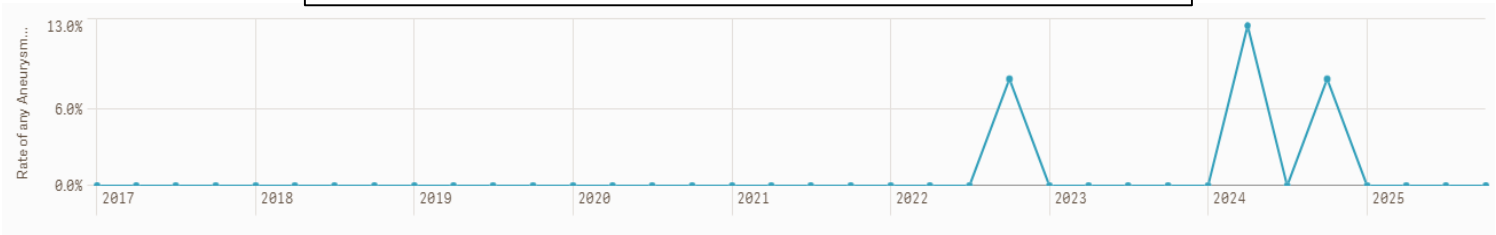
Rates of CAA (z ≥ 2.5)



Rates of giant CAA (z ≥ 10)



Rates of giant CAA (z ≥ 10) with normal initial echo



Slide provided by
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Sandy Burnham, MD,
Jonathan Yu, MD

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Kawasaki Disease Pathway Data

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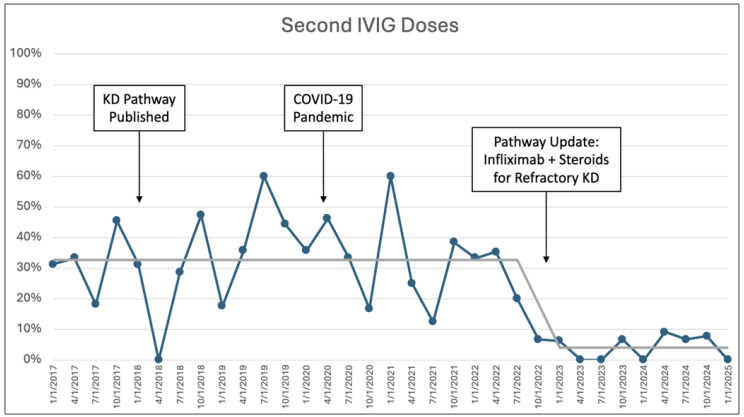
A



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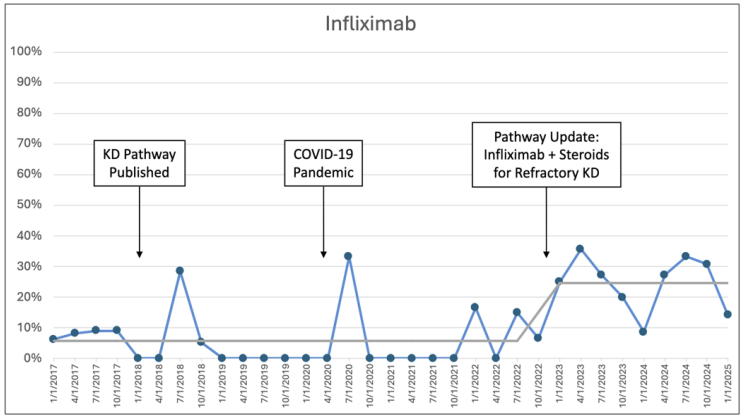

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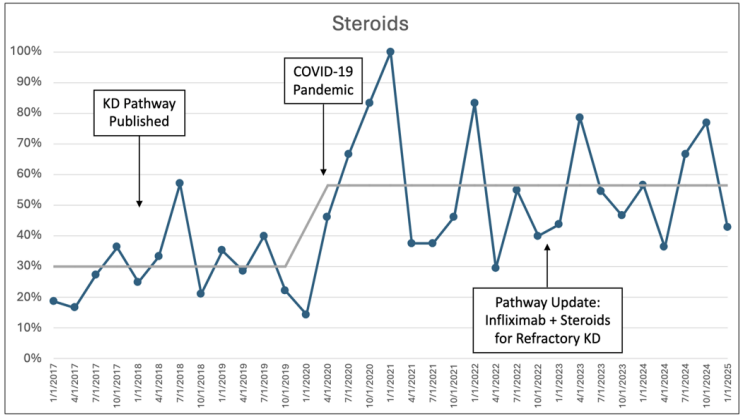

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Kawasaki Disease Pathway QI

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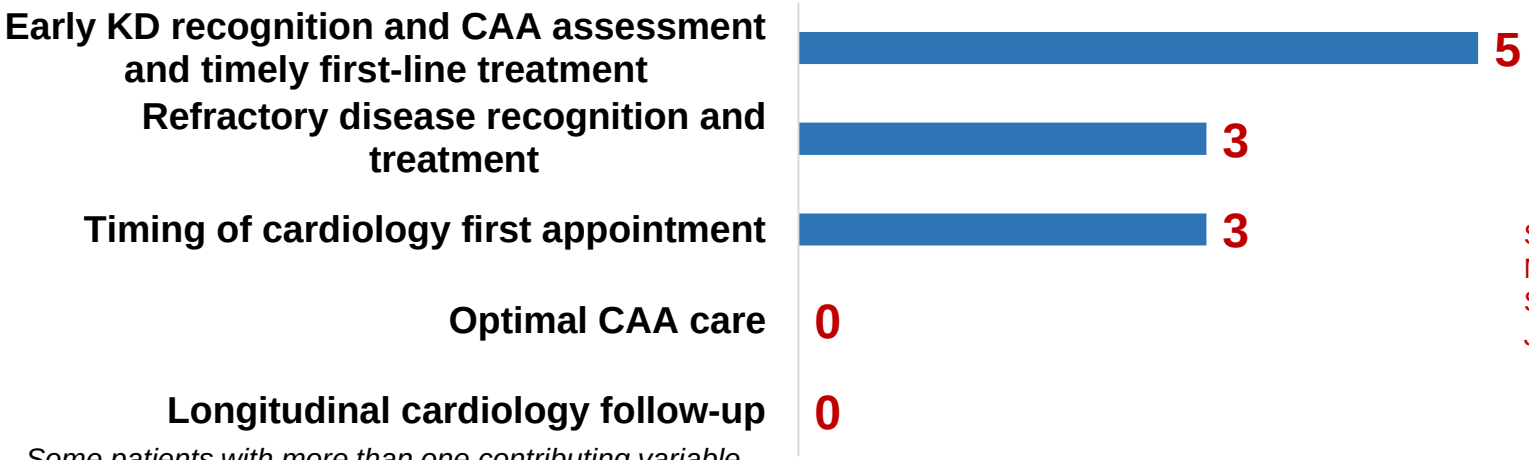
Team reviewed medical records of 17 patients with KD and medium or large CAA

Analysis to identify potential contributing variables for the development of CAA



Some patients with more than one contributing variable.

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Discharge Planning and Follow Up

- Follow up in the discharge period is important to ensure resolution of systemic inflammation and monitoring of coronary artery status
- Obtain CBC and CRP within 24 hours prior to discharge for high-risk patients
  - ≤ 6 months old
  - Z-score ≥ 2.5
  - Received anti-inflammatory therapy (steroids, infliximab) in addition to IVIG

Kawasaki Disease – Pathway Updates

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	High-Risk Patients ≤ 6 months old, z-score ≥ 2.5, OR received anti-inflammatory therapy in addition to IVIG (ex: steroids, infliximab)	Standard Risk Patients >6 months old, normal coronary arteries, AND responsive to 1st dose of IVIG
Medication		
Aspirin	Low-dose ASA should be continued until directed by cardiology. Patients with coronary abnormalities may require prolonged use of ASA, at the discretion of cardiology. Avoid NSAIDS while on ASA.	
Steroids	2-3 week oral prednisolone/prednisone taper after initial treatment. Suggested taper: 2 mg/kg/day div BID x 5 days, 1 mg/kg/day div BID x 5 days, 0.5 mg/kg/day DAILY x 5 days.	N/A
Laboratory studies	Weekly CBC and CRP until CRP is in normal range AND patient has been off steroids for approximately 2 weeks	If any further fever or recurrence of symptoms, return to ED
Follow Up		
Cardiology follow up appointment and echo: Schedule prior to discharge	Within 1 week (or sooner, depending on coronary artery involvement)	Within 2 weeks
Rheumatology follow up: Schedule prior to discharge	Within 2-3 weeks of discharge	As needed
PCP follow up	Within 2-3 days	

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Hyperbilirubinemia Pathway, All Settings

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Hyperbilirubinemia Pathway

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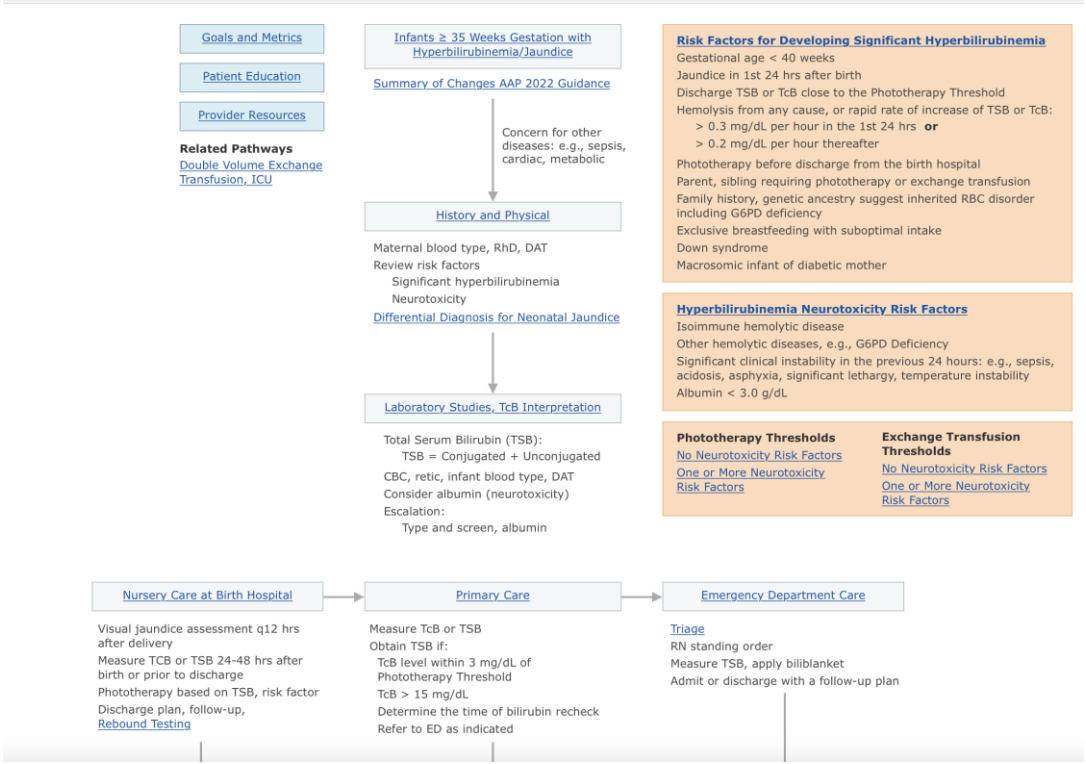

CLINICAL PRACTICE GUIDELINE Guidance for the Clinician in Rendering Pediatric Care

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

Clinical Practice Guideline Revision: Management of Hyperbilirubinemia in the Newborn Infant 35 or More Weeks of Gestation

Alex R. Kemper, MD, MPH, MS, FAAP,[a] Thomas B. Newman, MD, MPH, FAAP,[b] Jonathan L. Slaughter, MD, MPH, FAAP,[c] M. Jeffrey Maisels, MB BCh, DSc, FAAP,[d] Jon F. Watchko, MD, FAAP,[e] Stephen M. Downs, MD, MS,[f] Randall W. Grout, MD, MS, FAAP,[g] David G. Bundy, MD, MPH, FAAP,[h] Ann R. Stark, MD, FAAP,[i] Debra L. Bogen, MD, FAAP,[j] Alison Volpe Holmes, MD, MPH, FAAP,[k] Lori B. Feldman-Winter, MD, MPH, FAAP,[l] Vinod K. Bhutani, MD,[m] Steven R. Brown, MD, FAAFP,[n] Gabriela M. Maradiaga Panayotti, MD, FAAP,[o] Kymika Okechukwu, MPA,[p] Peter D. Rappo, MD, FAAP,[q] Terri L. Russell, DNP, APN, NNP-BC[r]

September, 2022 Update:

25 Key Action Statements, 27 pages

Pediatrics. 2022;150(3):e2022058859

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Hyperbilirubinemia Pathway

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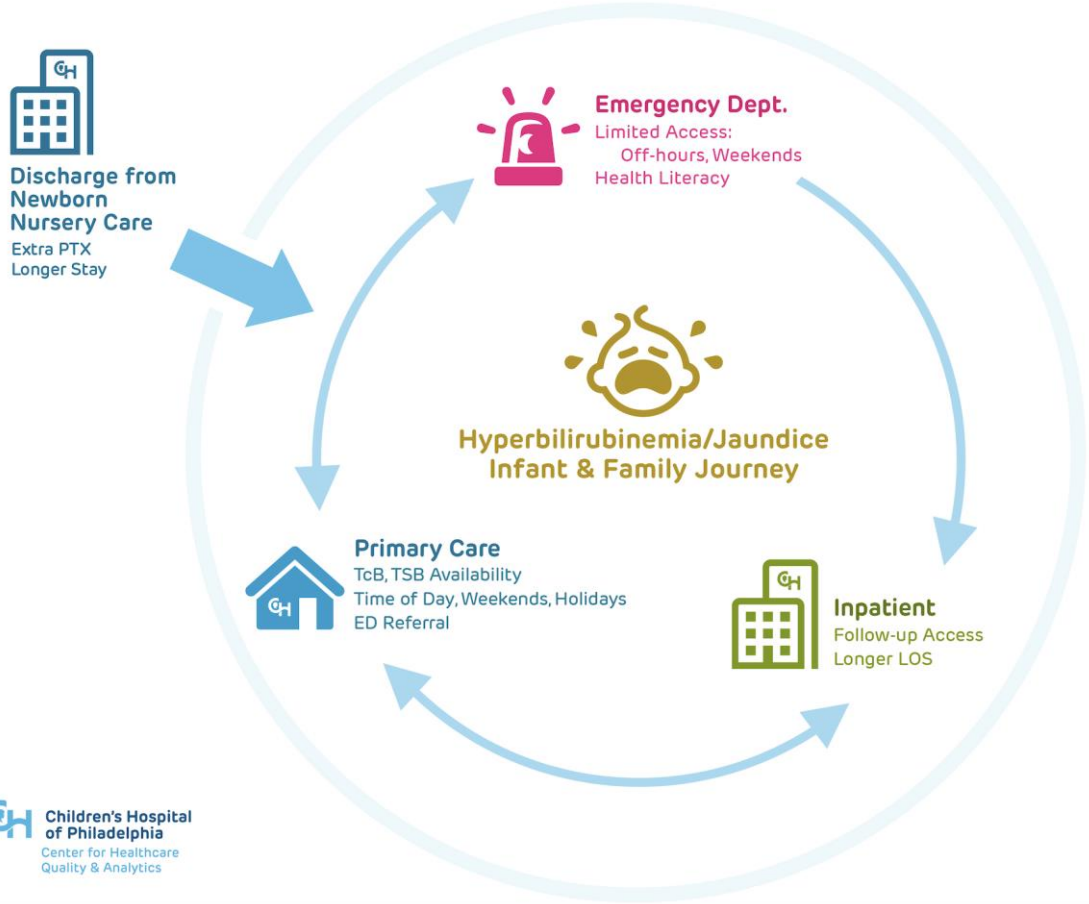

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Hyperbilirubinemia Pathway

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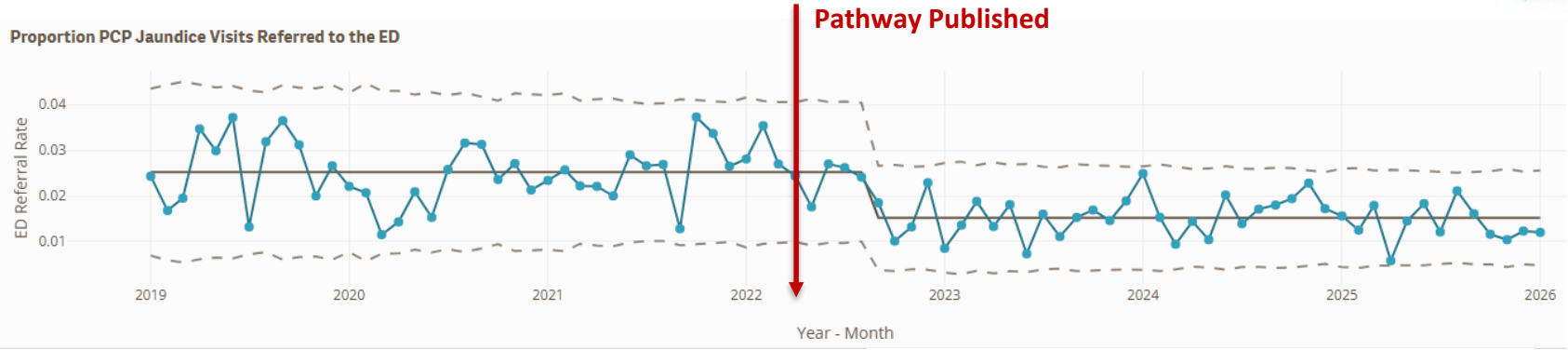
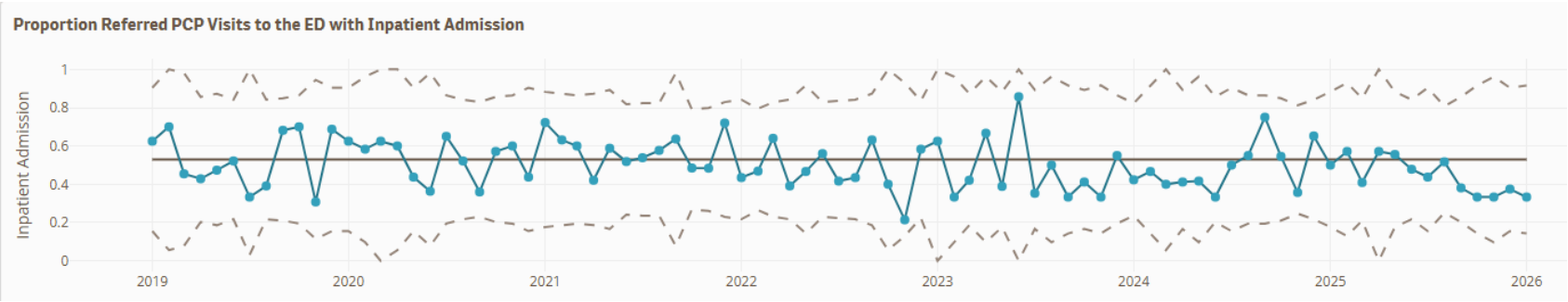


Decreased referral rates from 2.8% to 1.5%



No increase in inpatient admissions (53%)

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Hyperbilirubinemia Pathway - COI

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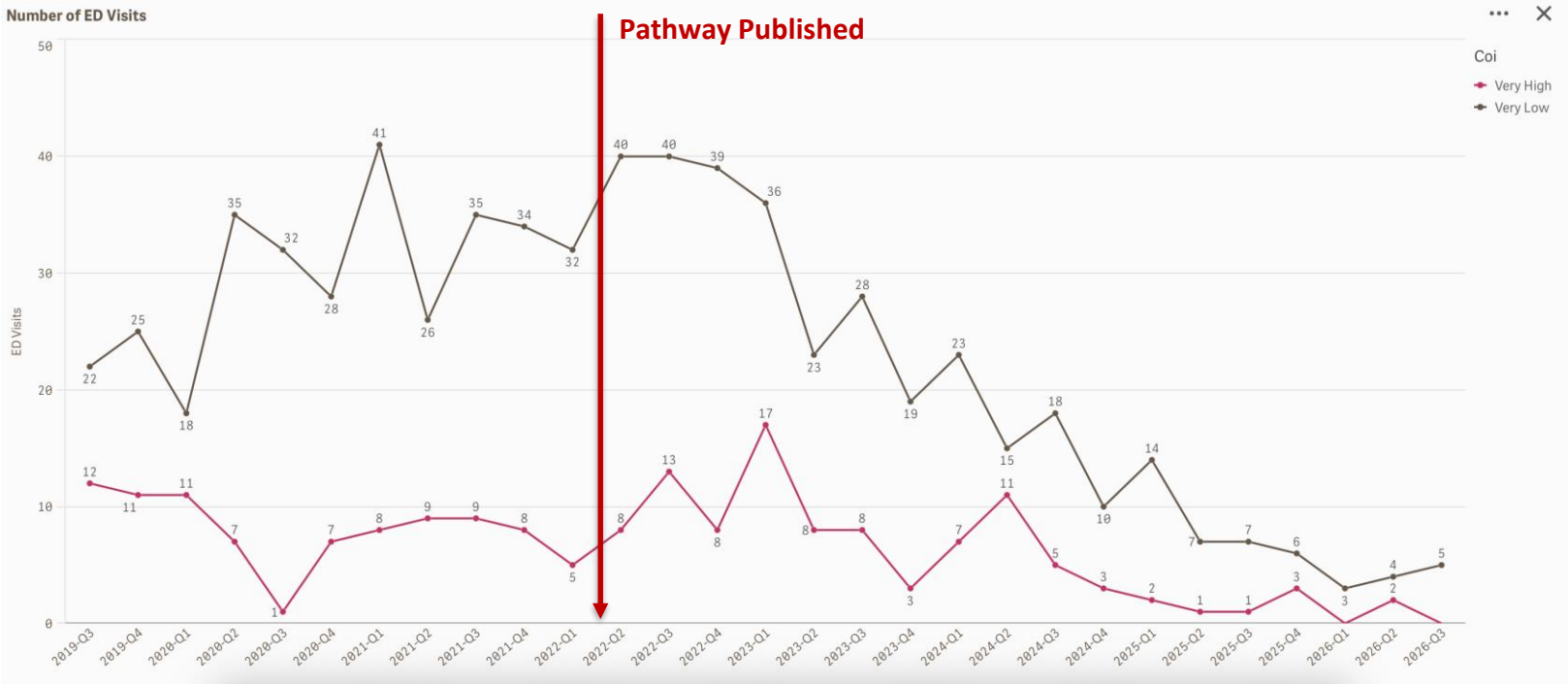

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Thank You

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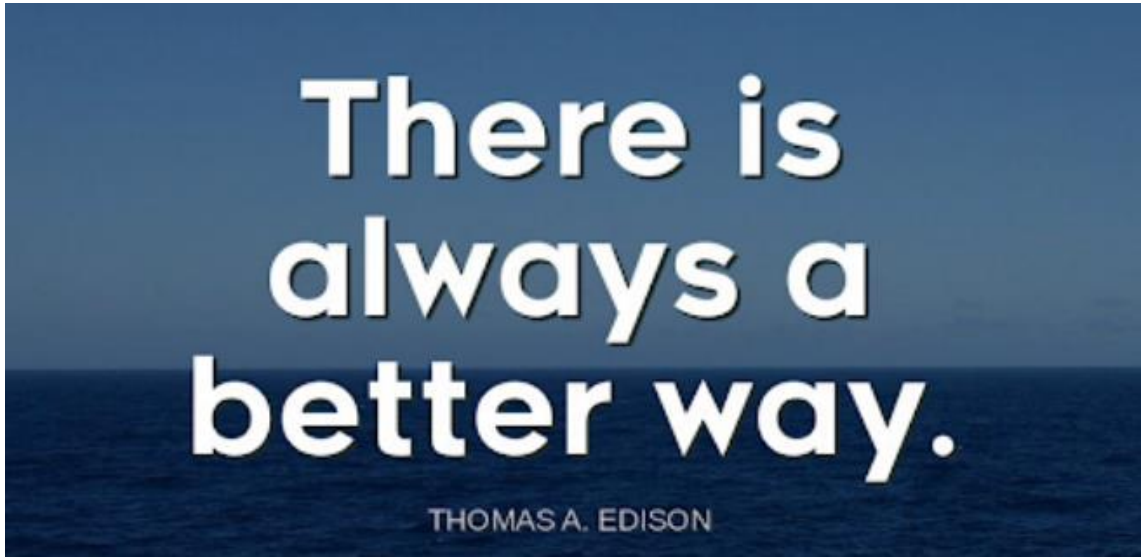

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