PediPERForm:

Can the Data Make a Difference

CHOP CARDIOLOGY 2025

DISNEY

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CHILDREN'S HOSPITAL OF PHILADELPHIA

The Children's Hospital of Philadelphia® CARDIAC CENTER

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Preview

- Purpose and use of a registry
- The value of a clinical data registry
- PediPERForm insight
- Is it worth my time
- Impact

Why Join a Registry?

- Specialty registries
  - Clinical registries focused on advancing care and outcomes across a medical specialty or subspecialty
- These registries aim to
  - Develop guidelines and decision support tools
  - Accelerate research
  - Advance care through collaborative quality improvement

https://www.arbormetrix.com/blog/clinical-data-registry-basics

The STS National Database

- 10 Million procedures
- 4,300 Surgeons

Origin Story

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PLN Leadership Team

Executive Co-Directors

Donald S. Likosky, PhD, University of Michigan
Brian Mejak, BS, CCP, FPP, Children's Hospital Colorado
Jim Reagor, MPS, CCP, FPP, Cincinnati Children's Hospital

Executive Committee

Renee Axdorff-Dickey, CCP, MBA, FPP, Seattle Children's
Chelsea Capone, CCP, FPP, Children's Hospital of Georgia
Vincent Olshove, CCP, FPP, Norton Children's Hospital

Project Manager

Vicki Gall, MS, Cincinnati Children's Hospital

Data Manager

Lauren Bush, University of Michigan

Scientific Review Committee

Rich Melchior – Chair
Isaac Chinnappan
Alexandra Hank
Jordan Brimhall
Greg Matte

Quality Improvement Committee

Molly Oldeen – Chair
Ed Harman
Tiffany Robb
Cindy Urbas
Justin Sleasman

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Vision and Aim

The mission of the PLN, in partnership with the American Society of Extracorporeal Technology (AmSECT) and CNU, is to establish, maintain, and leverage a pediatric and congenital perfusion registry and facilitate the use of complementary databases to ***support quality assurance and improvement processes, as well as research***, within the national and international pediatric and congenital perfusion community.

The global aim of PLN is to ***improve pediatric and congenital perfusion outcomes and value*** from the perspective of the patient, family, and medical team.

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Development

- Data Registry
  - Data Fields
  - Data Definitions
  - Vendor Partnerships
- Governance
  - Executive Committee
  - Scientific Research Committee
  - Quality Improvement Committee

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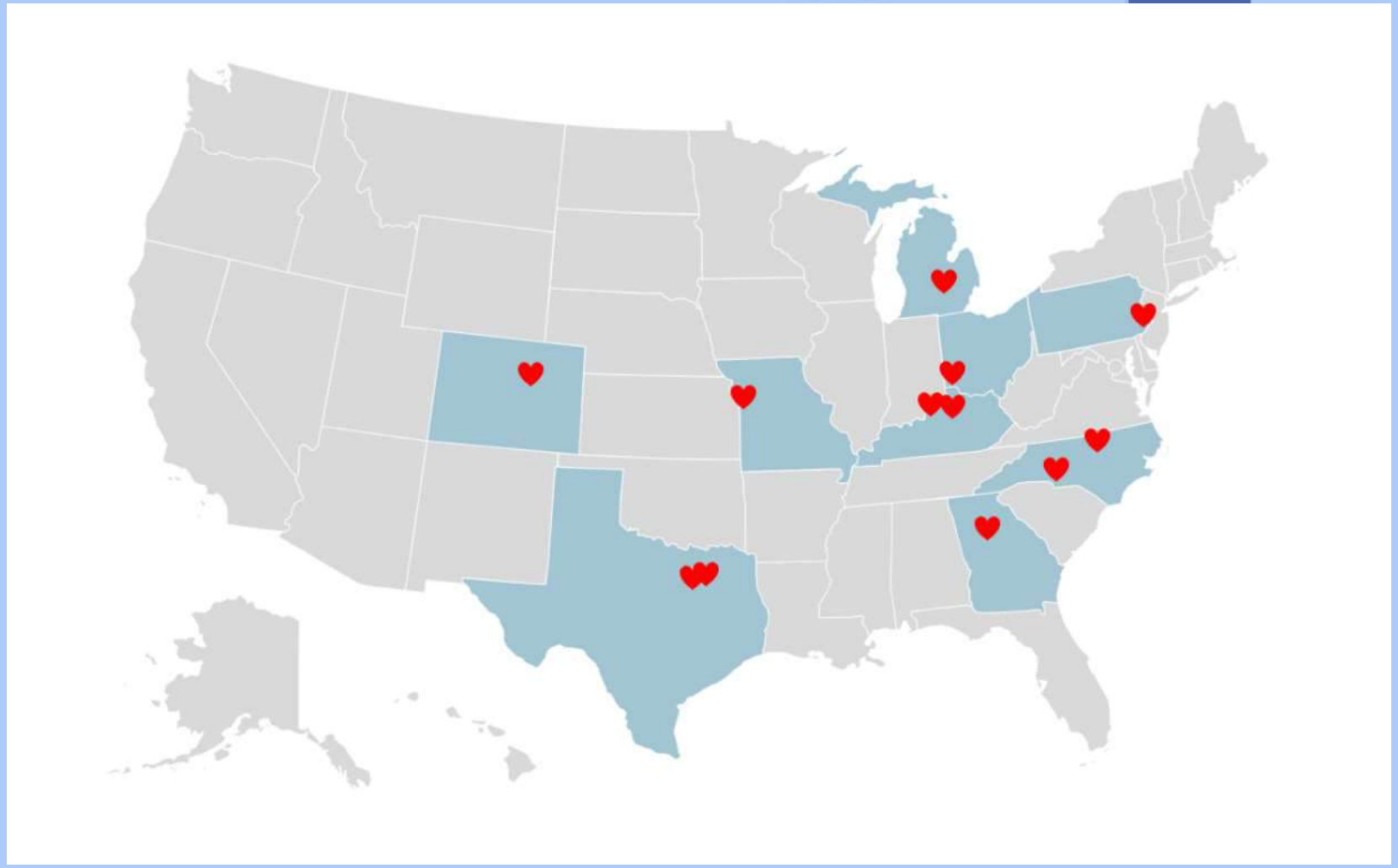
Participating Institutions

- Cincinnati Children's Hospital
- Norton Children's Hospital
- Children's Hospital Colorado
- Children's Hospital of Atlanta
- Children's Hospital of Philadelphia
- Children's Mercy in Kansas City
- Medical City Children's Dallas
- UT Southwestern Dallas
- Levine Children's in Charlotte
- Kentucky Children's Hospital
- C.S. Mott Children's U of Michigan
- Duke University



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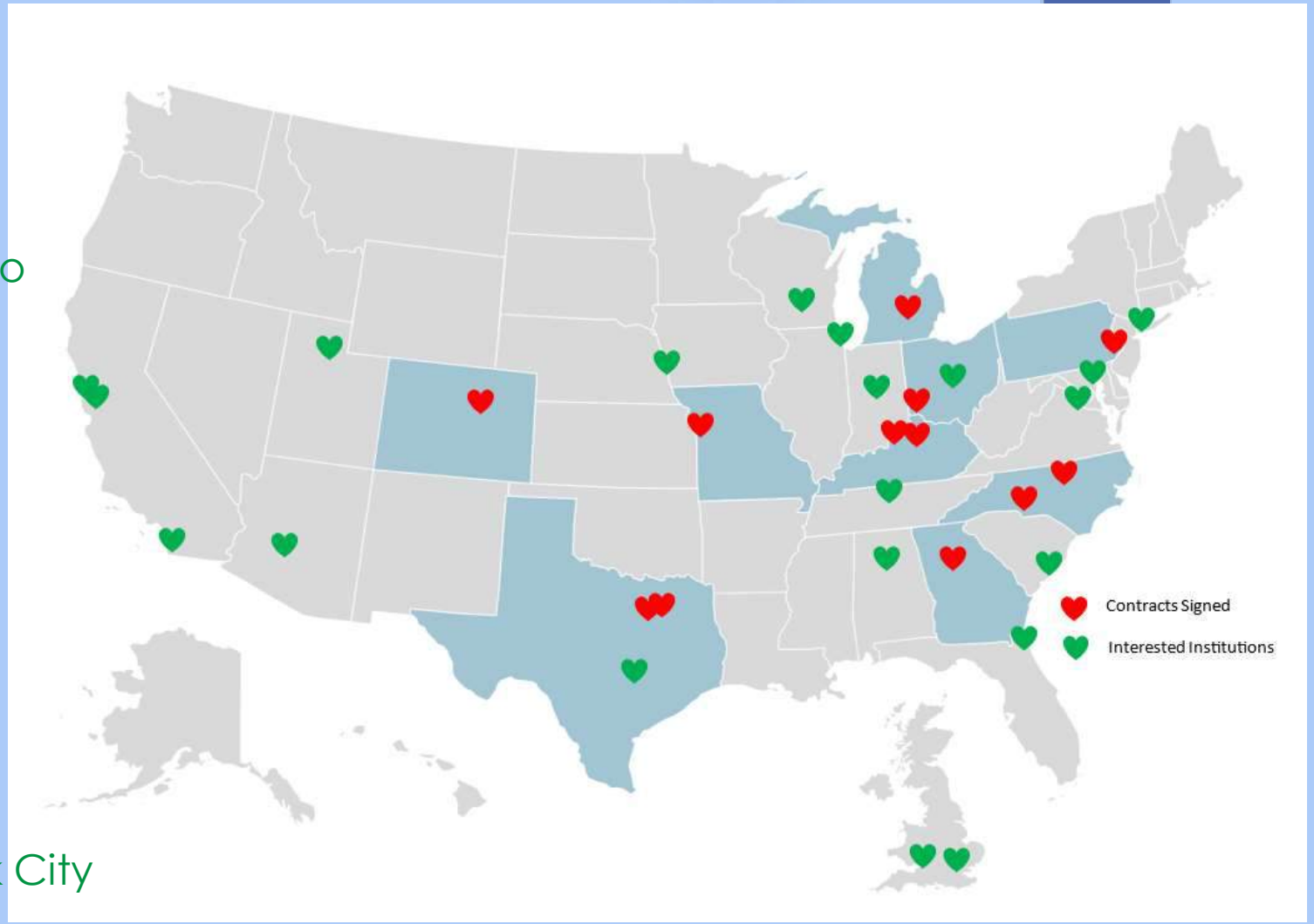
Interested Institutions

- Nationwide Children's
- Children's Omaha
- Dell Children's in Austin
- Primary Children's in Salt Lake City
- UCSF Benioff Children's in San Francisco
- Phoenix Children's Hospital
- Advocate Children's in Chicago
- Children's of Alabama
- Rady Children's
- MUSC Children's Health
- Wolfson Children's
- Monroe Carell Jr. Children's
- INOVA Children's
- American Family Children's
- Peyton Manning Children's
- Lucile Packard Children's in Palo Alto
- Morgan Stanley Children's in New York City
- John's Hopkins Children's Center in Baltimore



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Onboarding

- Complete
  - Children's Hospital of Colorado
  - Children's Mercy Kansas City
  - Children's Hospital of Philadelphia
  - Medical City Children's Hospital
  - Children's Healthcare of Atlanta
  - Cincinnati Children's Hospital
  - Norton Children's
  - UT Southwestern
- Awaiting Contracts
  - Nationwide Children's
  - University of Michigan
  - University of Kentucky
  - Levine Children's

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Participating Institutions

Institution	Data collection start date/ anticipated start date	Approximate annual CPB case number
Children's Healthcare of Atlanta	November 1, 2022	500
Children's Hospital Colorado	October 1, 2021	400
Children's Hospital of Philadelphia	July 1, 2022	600
Children's Medical Center at UT Southwestern	November 1, 2023	300
Children's Mercy Kansas City	June 1, 2022	325
Cincinnati Children's Hospital Medical Center	February 1, 2022	300
Medical City Children's Hospital	January 1, 2022	180
Nationwide Children's Hospital	TBD	275
Norton Children's Hospital	October 1, 2021	170
University of Michigan CS Mott Children's Hospital	TBD	500
Levine Children's	TBD	250
University of Kentucky	TBD	100

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Impact…Already!

- Prime volume standardization
- Fluid management

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Data Collection - Variables

- Personnel
  - Perfusionist
  - Surgeon
- Equipment
  - Cannula/Tubing sizes
  - ATS
  - Coating
  - Oxygenator
  - Hemoconcentrator
- Temperatures
- Cardioplegia
  - Solution
  - Amount
- Blood Gas Management
- Lab Values
  - ACT/HPT/HDR
  - Creatine
  - Hct
  - Lactate

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Data Collection - Variables

- Fluid Management
  - Prime Volume
  - MUF/CUF/DUF/ZBUF
  - Residual Prime Volume
    - Processing Techniques
  - Urine Output
  - Wasted Volume
  - ATS Volumes
  - Blood Products
- Other Techniques
  - RAP/VAP
  - ANH
  - VAVD
- Post-op
  - Hct
  - Lactate
  - Creatinine
  - Chest tube output
- Procedures and Diagnosis

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Data Collection - Definitions

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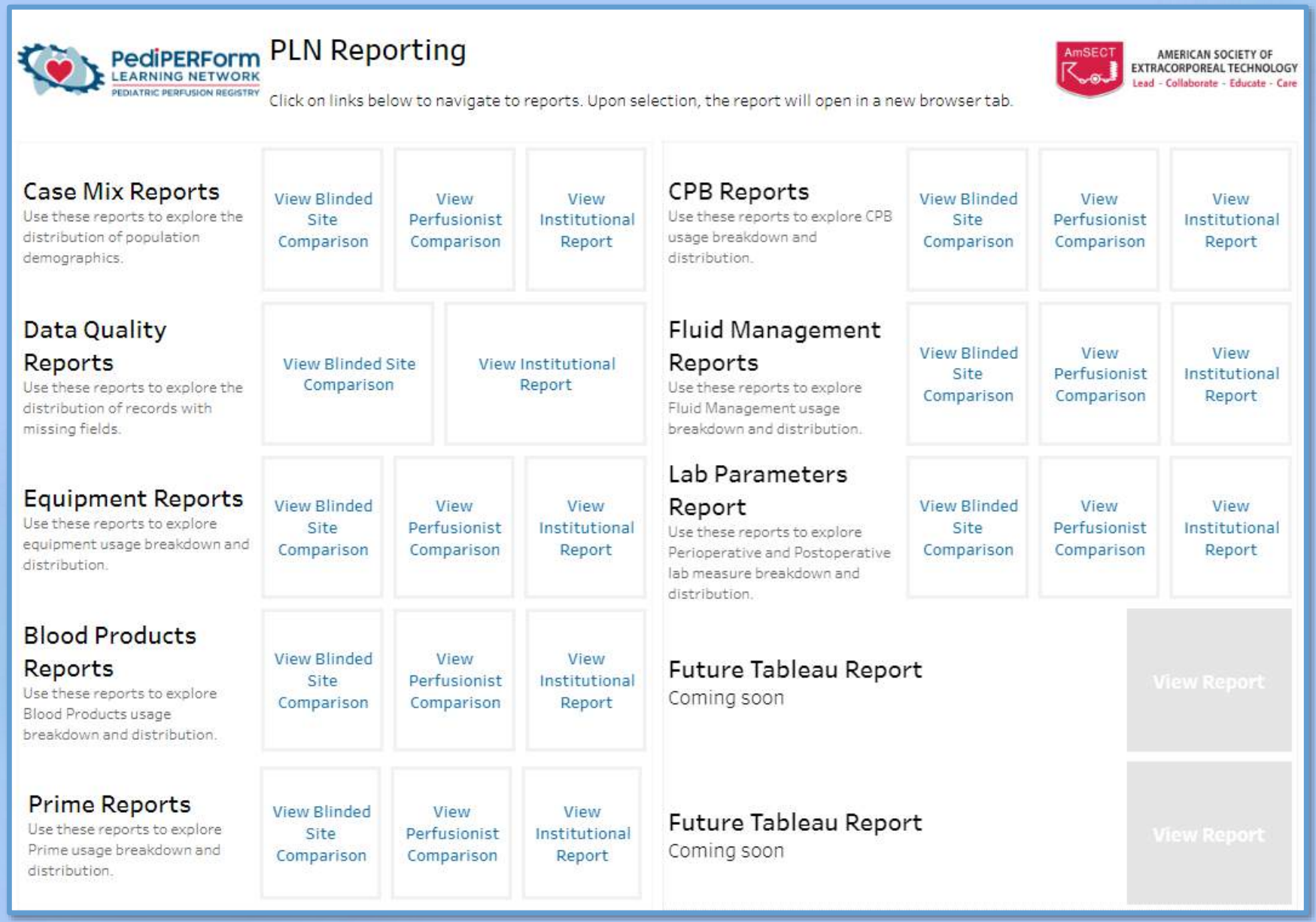

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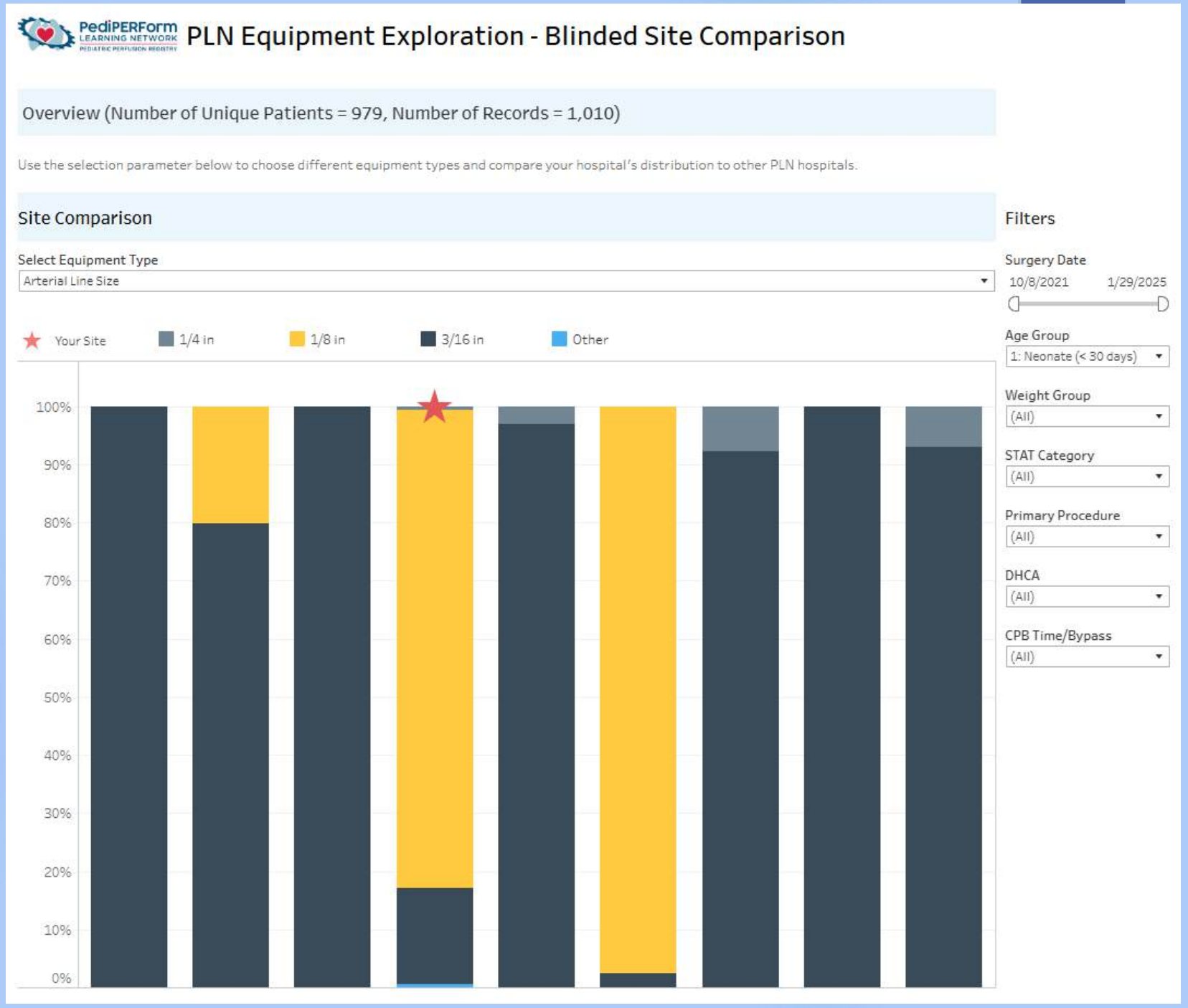
Equipment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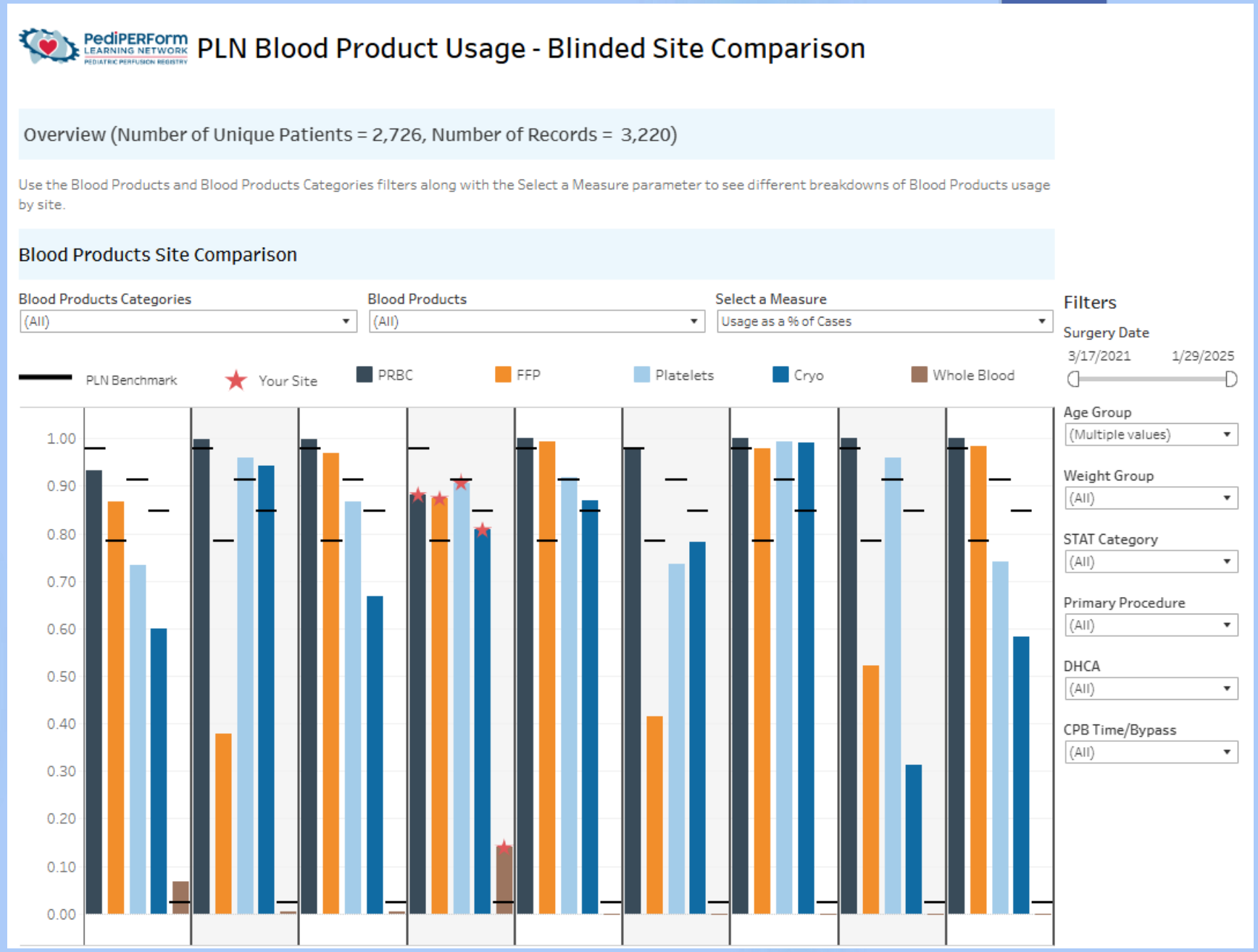
PLN Equipment Exploration - Blinded Site Comparison
Overview (Number of Unique Patients = 979, Number of Records = 1,010)
Use the selection parameter below to choose different equipment types and compare your hospital's distribution to other PLN hospitals.
Site Comparison
Select Equipment Type
Arterial Line Size
Your Site
1/4 in
1/8 in
3/16 in
Other
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Filters
Surgery Date
10/8/2021
1/29/2025
Age Group
1: Neonate (< 30 days)
Weight Group
(All)
STAT Category
(All)
Primary Procedure
(All)
DHCA
(All)
CPB Time/Bypass
(All)

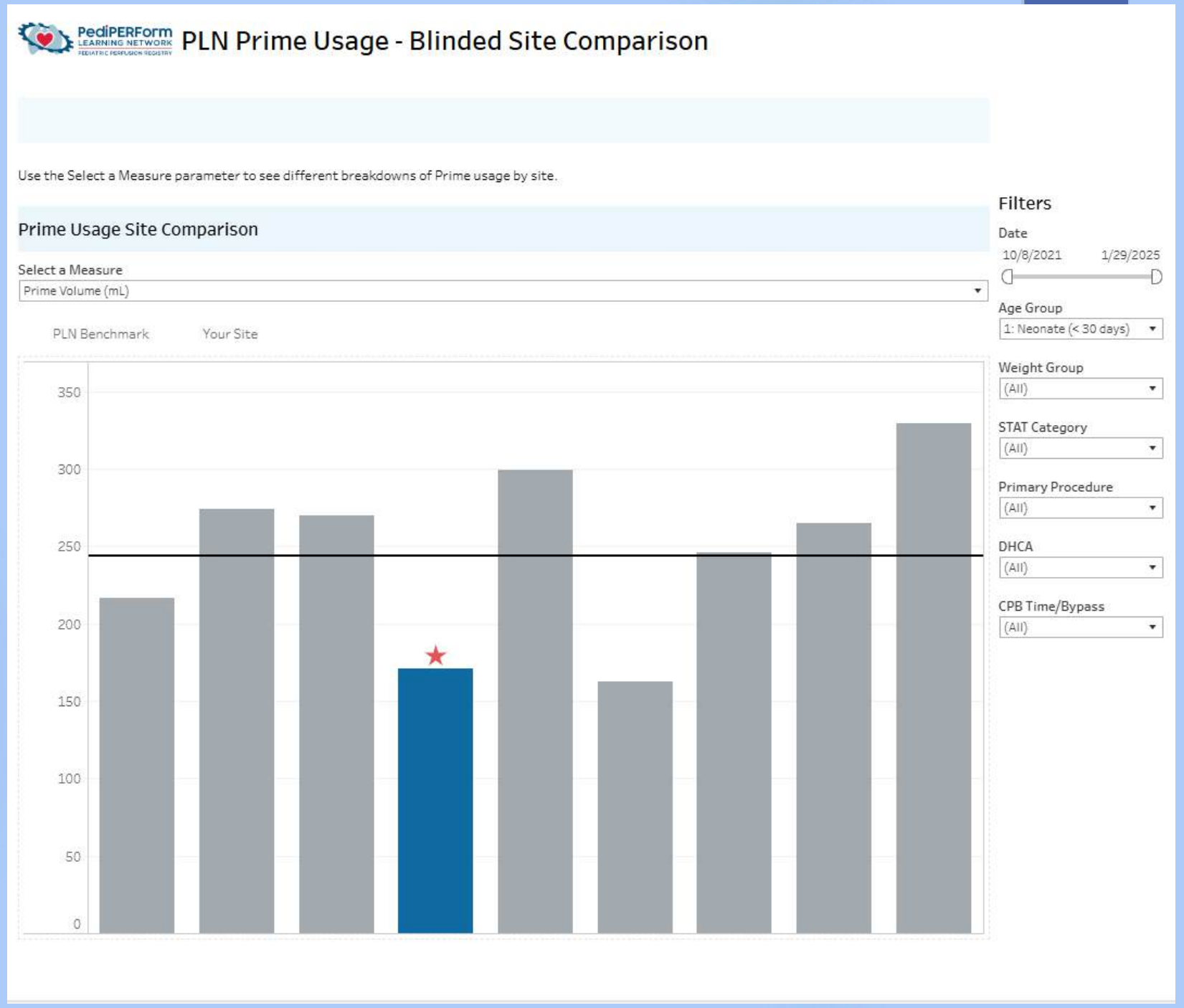
All Blood products

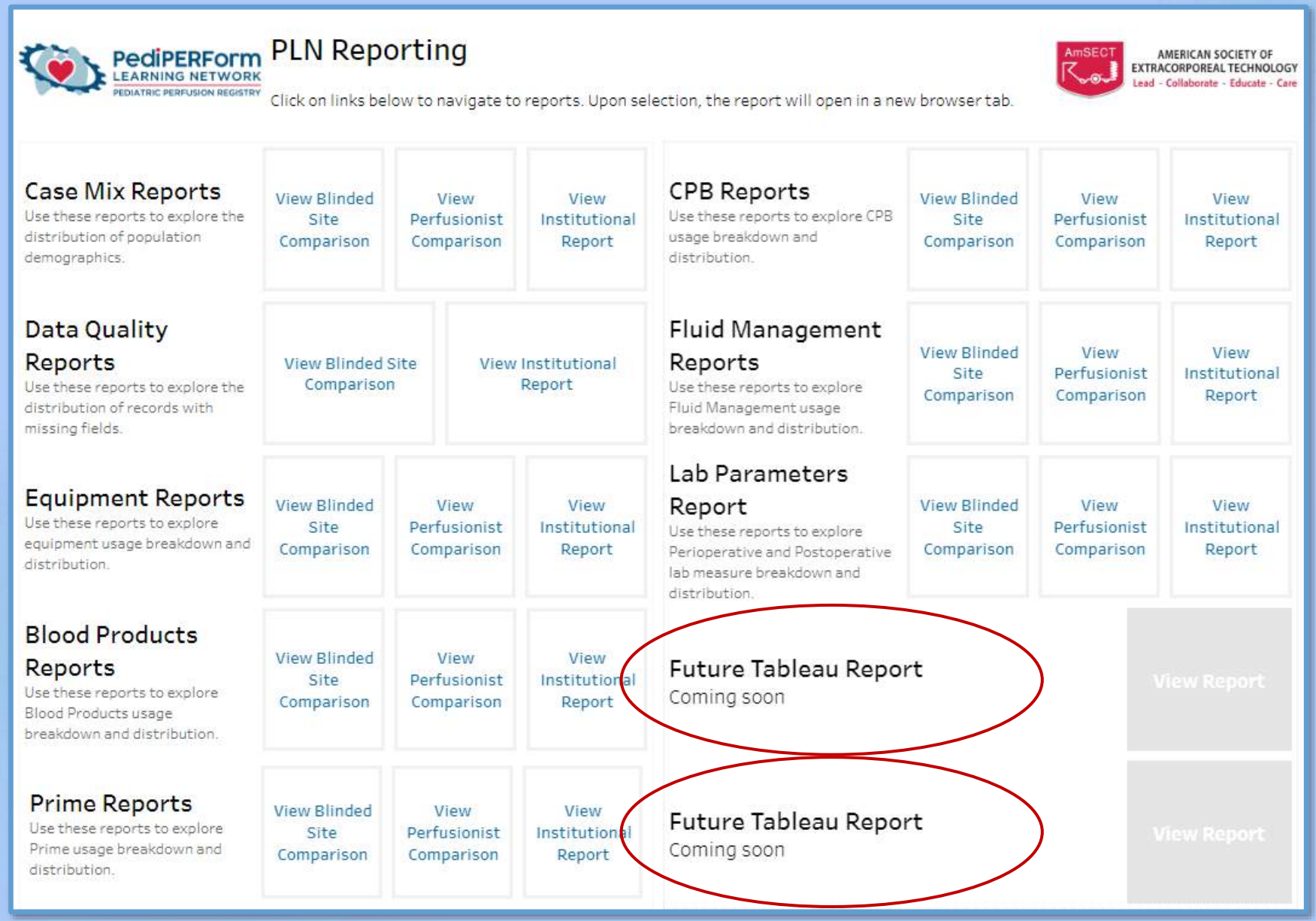
- Neonate <30 days
- Infant =>30 days to 365days



Prime Volume

- Neonate <30 days





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Future Opportunity

Prime Report

- Prime Treatment
- Calcium gluconate use in prime
- Calcium chloride use in prime
- Heparin use in prime

Conduct of CPB Report

- Highest Arterial Line Temperature
- MUF Use
- CUF Use

Fluid Management Report

- MUF Volume removed
- CUF/DUF/ZBUF Volume removed
- CUF Volume removed
- CUF/DUF/ZBUF Volume removed

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In Summary

- Great value in being a part of a Perfusion registry
- Its not easy to get started
- There will be bumps in the road along the way (Audits!)
- Improve quality of care
- Improve outcomes
- Advance research

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You can make a difference!