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CCHD Screening Interpretation and Data Sharing Between Providers and Public Health to Improve Outcomes



THE PIVOTAL ROLE OF DATA

[Click here for the Newborn CCHD Data Collection Map \(Beta\)](#)

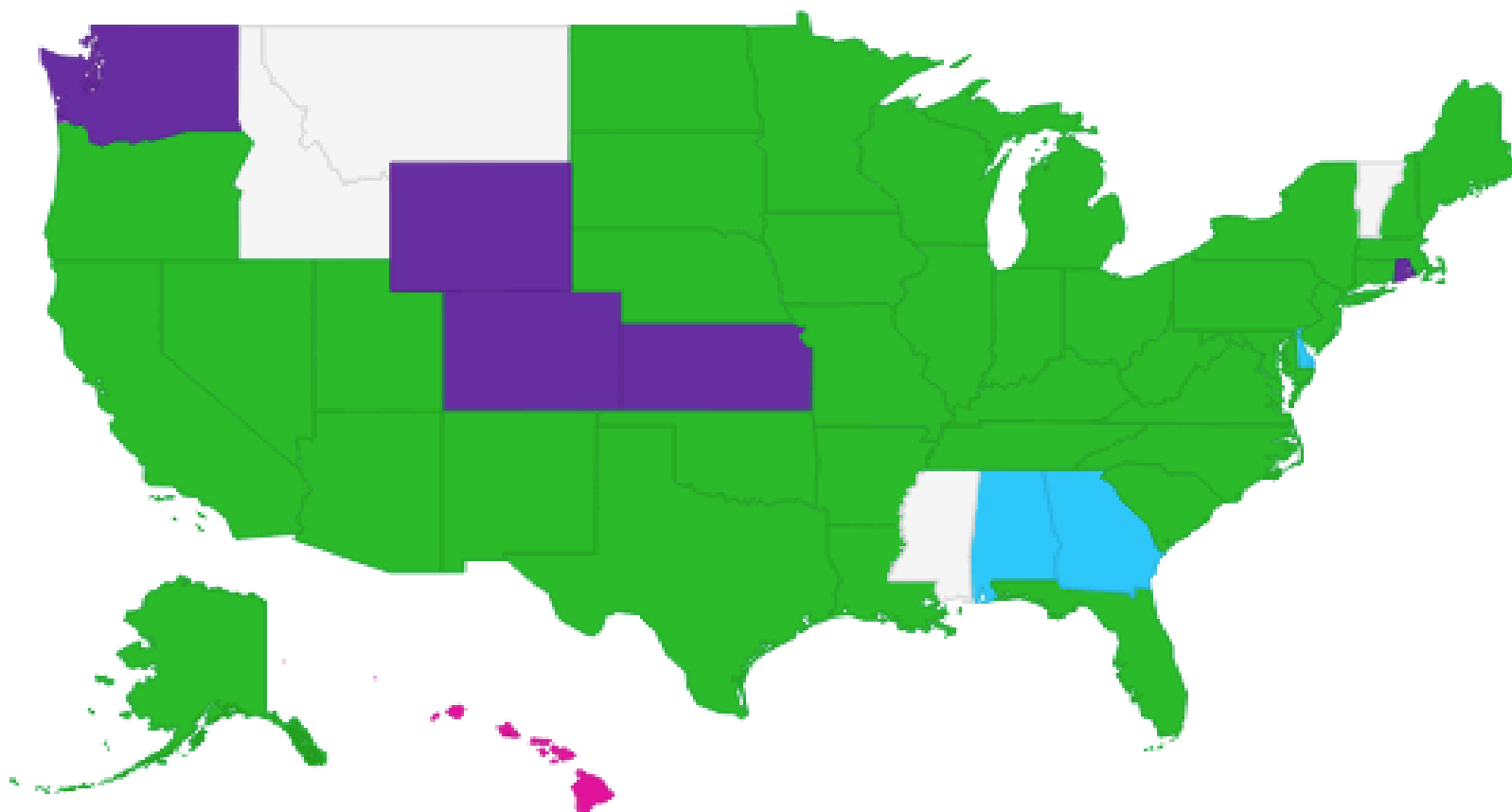
Click on a state for additional details.



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www.cchdscreeningmap.org



Active Legislation

Legislation Enacted

Regulatory Addition to NBS Panel

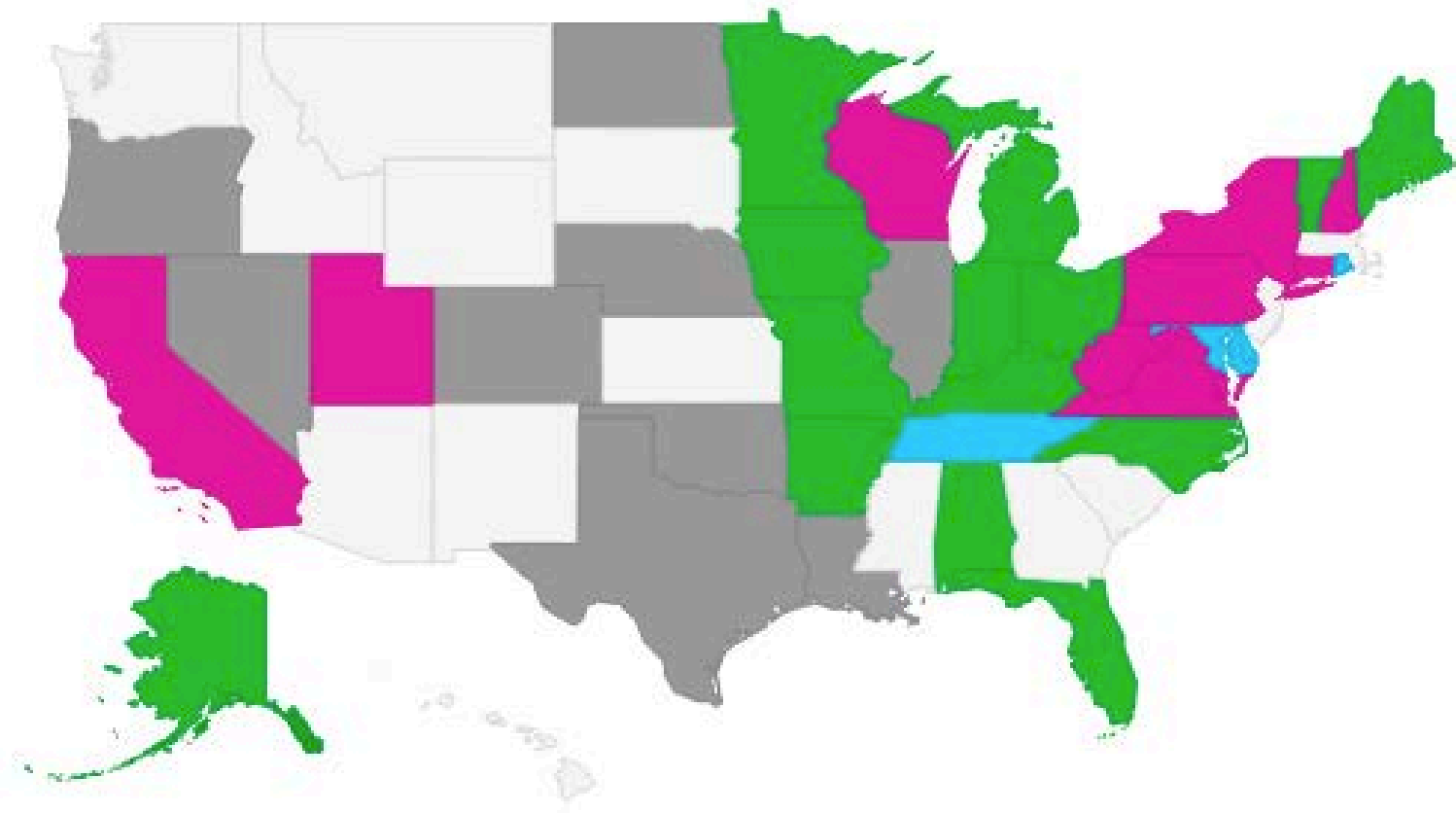
Multi-Center Screening or Pilot Project

Newborn CCHD Screening Data Collection Progress **(Beta)**



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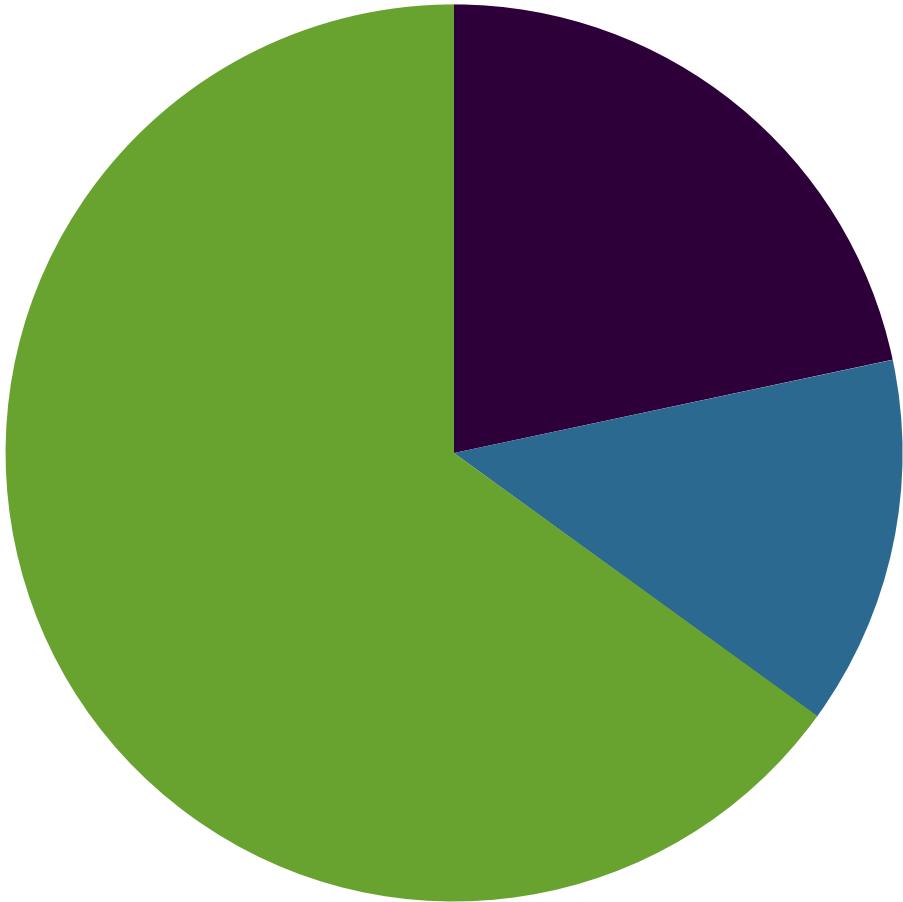
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Mandatory Data Reporting Reporting Not Mandatory Limited Reporting Screening but Not Reporting

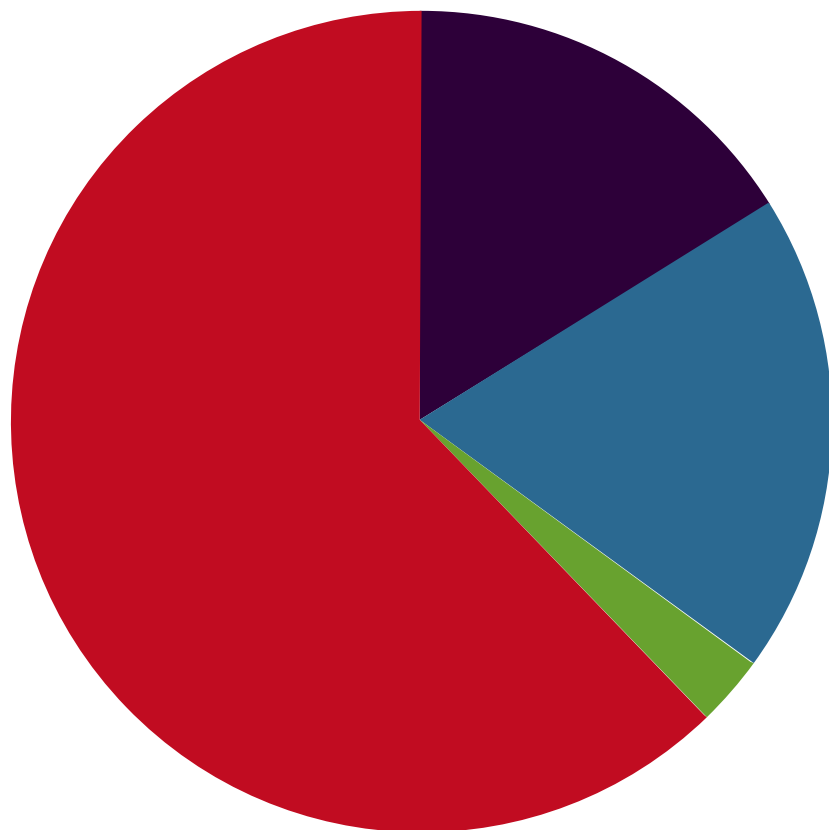


Method of Data Reporting





Data Type Required





THE PIVOTAL ROLE OF DATA

The Pivotal Role of Data: What if there isn't any?

- Newly added screenings = tougher implementation
- No collective data or comparatives = No mechanism for quality improvement
- No way to ensure every baby is screened
- No way to measure effectiveness and impact
- Harder to combat disparities





The Pivotal Role of Data: Minnesota CCHD Screening Pilot Retrospective

Recent retrospective review of more than 7,500 newborns screened for CCHD in MN

- Highlighted implementation challenges for a new point of care screening
- Complexity of algorithm interpretation and follow up
- Feasibility of data reporting



The Pivotal Role of Data: Minnesota CCHD Screening Pilot Retrospective

- Misinterpretation of pulse oximetry screening results in more than 30 cases
- All cases should have been referred for further evaluation
- 2 cases confirmed later as CHD, one severely delayed diagnosis
- 7 of 30 discrepancy cases were “critical fails” (below 90% sats)



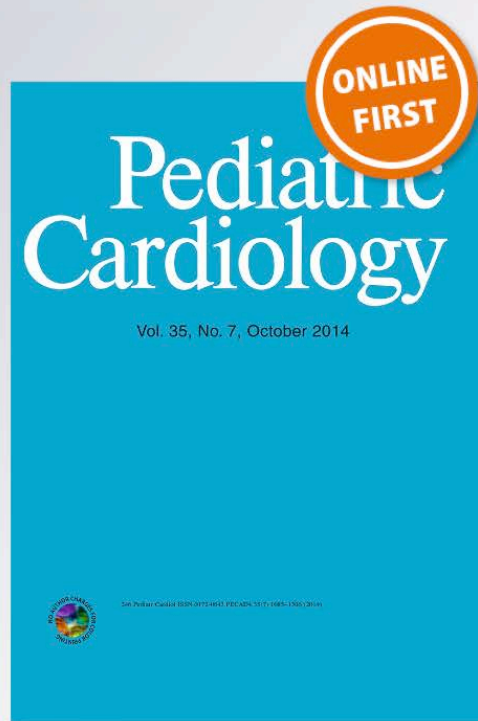
*A Comparison of Retesting Rates Using
Alternative Testing Algorithms in the Pilot
Implementation of Critical Congenital
Heart Disease Screening in Minnesota*

**Lazaros K. Kochilas, Jeremiah S. Menk,
Annamarie Saarinen, Amy Gaviglio &
Jamie L. Lohr**

Pediatric Cardiology

ISSN 0172-0643

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PATHWAYS TO DATA



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Pathways to Data

- Legislative or Statutory Requirements, Funding
- Institutional Initiative
- Research
- Technology Innovation Platforms
 - Direct Device Reporting at Point of Care

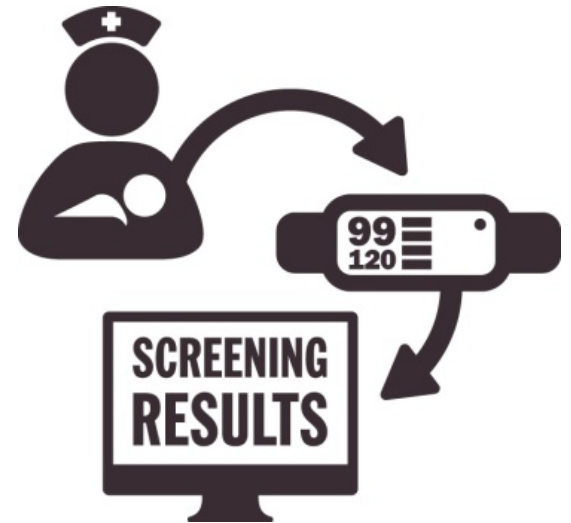




PATHWAYS TO DATA: DIRECT RESULTS REPORTING FOR BIRTH FACILITIES IN MINNESOTA

Pathways to Data: Direct Results Reporting for Birth Facilities in Minnesota

- By communicating directly with the device and the public health reporting system data is submitted securely and with minimal manual entry
- Auto-collects:
 - Oxygen saturation values
 - Heart Rate
 - Perfusion Index
 - Date and Time of Screening





Pathways to Data: Direct Results Reporting and Auto-Calculation of Algorithms

- Kemper/Granelli: Greater than or equal to 95% in hand **OR** foot
- Minnesota: Greater than or equal to 95% in hand **AND** foot
- Details: Differences in how the numbers are listed, but mean the same thing:
 - Kemper: less than 90%
 - MN: less than or equal to 89%



Pathways to Data: Direct Results Reporting and Auto-Calculation of Algorithms

Front Line Benefits

- Reduces in notable mistakes in algorithm interpretation at the point of care
- Direct reporting auto calculates the difference in pre and post-ductal saturations – and provides a suggested outcome (pass, fail, rescreen)
- Improves overall interpretation of screening results (reduces unneeded rescreens, follow-up testing or prompts them when needed)



Pathways to Data: Direct Results Reporting and Auto-Calculation of Algorithms

A More Complete Picture

- Instead of just pass/fail, actual oxygen saturation values are collected
- Heart Rate and Perfusion Index are available
- Better assessment of accuracy of CCHD screening protocol



Pathways to Data: Direct Results Reporting and Auto-Calculation of Algorithms

Timing of CCHD Results

- Critical to data collection for CCHD
- Direct reporting can help streamline data
- Improves and eases reporting to public health

Pathways to Data: Benefits of Direct Results Reporting

- Reduces manual entry
- Protects from data changes/ errors
- Provides more complete data
- Authenticates results
- Improves Timeliness of reporting



Pathways to Data: Challenges of Direct Results Reporting

- Only some devices stream data
- Hospitals may not have proper cables needed to transmit data
- Identifying IT/Biomed staff to assist with software installation and integration
- Identifying computers
- Learning curve with new POC screening + determining and adapting workflow changes for nursery staff





Pathways to Data: CCHD Direct Results Reporting in Minnesota

Minnesota will:

- Gather results directly from devices
- Receive more accurate screening outcomes
- Gain ability to provide support for all hospitals, particularly rural, underserved
- Have timely information needed for follow-up
- Have comprehensive data to use in testing and modifying the algorithm



QUESTIONS?



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