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

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THE PIVOTAL ROLE OF DATA
Newborn CCHD Screening Data Collection Progress (Beta)

www.cchdscreeningmap.org
THE PIVOTAL ROLE OF DATA

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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
PATHWAYS TO DATA
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

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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?