LABORATORY STANDARDS AND PROCEDURES WORKGROUP

November 9, 2017

Co-chairs: Kellie Kelm, PhD & Susan Tanksley, PhD

Agenda

- Intro and roll call Workgroup Membership: Call for Nominations
- Best Practices for State NBS Programs on Cutoffs: Update on APHL QA/QC Subcommittee Document
  - Joe Orsini
- Working toward NBS Timeliness Goals: Follow up discussion on NewSTEPs Presentation to the ACHDNC
- Workgroup Priorities Moving
- Wrap-up and adjourn

Workgroup Roster

- **Mei Baker**
- Stanton Berberich
- **Carla Cuthbert**
- Patricia Hall
- Koon Lai
- Michael Watson
- Holly Winslow
- Joann Bodurtha
- George Dizikes
- Harry Hannon
- Jelili Ojodu
- Roberto Zori
- **Dieter Matern**
- Michele Caggana
- Rebecca Goodwin
- Travis Henry
- **Scott Shone**

- Chair: **Kellie Kelm**
- Co-chair: Susan Tanksley
- HRSA staff: Ann Ferrero

Analysis. Answers. Action.

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NBS QA/QC Subcommittee: Guidelines for Determining Cutoffs

Presentation to ACHDNC Laboratory Standards and Procedures Workgroup

November 8, 2017

Joseph Orsini, Ph.D.

Patricia Hunt

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Background

- Following discussion of cutoffs at the national level, the APHL NBS QA/QC Subcommittee has been tasked with developing a guidance document on how to determine cutoffs used in newborn screening.
- The draft was reviewed by the APHL Newborn Screening and Genetics in Public Health (NBSGPH) Committee in October.
- To follow is a progress update and next steps.

Outline

1. Purpose

This document provides an overview of general considerations and approaches laboratories have historically used to determine cutoffs to distinguish between normal and out-of-range test results. Considerations for specific categories of newborn screening disorders are outlined to help laboratories select the appropriate approach to determine cutoff values for each analyte.

Outline (Contd.)

2. Overview of Cutoff Determination

3. Cutoff Considerations for Specific Newborn Screening Disorders

4. Monitoring and Evaluating the Cutoff

5. References

Workgroup Feedback

- If this is more about history, do we need another document that’s a guideline?
- Perhaps no, if there’s more information included about other methods to calculate cut-offs (e.g. MoMs and CLIR), including pros and cons
- Incorporate CAP checklist on cutoff determination

Workgroup feedback

Discussion of sensitivity and specificity as a goal for choosing cutoffs via the assessment of the impact on false positive and false negatives

Factors that impact cutoff determination:

- Second tier testing
- What conditions you're screening for
- One screen vs. two screens

Next Steps and Estimated Timeline

- The APHL Hemoglobinopathies Workgroup will address cutoffs for Hemoglobinopathies (Early Nov)
- Solicit Feedback from NBS Community (Late Nov/Early Dec)
- Incorporate feedback from community into final draft (Dec 2017)
- *Present to SACHDNC February 2018*

Timeliness discussion

- Switch from 24 hours to 2 days in NewSTEPs data collection
- Reporting time critical vs. non-time critical presumptive positive results
- Look outside NBS programs to assess the whole system
- Standards for other timeliness pieces
- Determine what the system is set up for
- Committee could consider recommendations for other parts of the system outside of the laboratory
- Link timeliness → outcomes (the big picture), can we do it?

Discussion of future projects

Workgroup Charge

Define and implement a mechanism for the periodic review and assessment of

1. The conditions included in the uniform panel
2. Laboratory procedures utilized for effective and efficient testing of the conditions included in the uniform panel.
3. Infrastructure and services needed for effective and efficient screening of the conditions included in the uniform panel

Project 1 - 2016 to now

- Laboratory procedures: Explore the role of next generation sequencing in newborn screening
- How do we accumulate the data to identify correlation between phenotypic & genotypic data?
- Are there conditions for which sequencing is the only screening method?
- What do you gain/lose from NGS?
- Issues with results reporting (e.g. VUS, carriers)
- What new infrastructure needs to be built for NGS?

Project 1 – 2018 on

- Laboratory procedures: Explore the role of molecular tests in newborn screening
- How do we accumulate the data to identify correlation between phenotypic & genotypic data?
- Are there conditions for which sequencing is the only screening method?
- What do you gain/lose from NGS?
- Issues with results reporting (e.g. VUS, carriers)
- What new infrastructure needs to be built for NGS?

- Updates/new research:
- detection of hearing loss using a molecular first line test
- NSIGHT projects

Project 2 - 2016 to now

Infrastructure and services: A portion of the timeliness initiatives fits here:

- Review data related to testing (Timeliness 1.0)
- What are the implications of earlier specimen collection (<24 hrs)?
- What are the unforeseen consequences and costs of timeliness?

Project 2 – 2018 on

Infrastructure and services: A portion of the timeliness initiatives fits here:

- Review/monitor data related to testing (Timeliness 1.0)
- What are the implications of earlier specimen collection (<24 hrs)?
- What are the unforeseen consequences and costs of timeliness?

Other ideas:

- States bringing on new conditions – barriers, etc.
- Do we have a role?
- Pilots

Workgroup proposal

- Continue with Project 1 and Project 2
- Monitor molecular first and second tier testing
- Monitor timeliness

Thanks!