

Advisory Committee on Heritable Disorders and Genetic Diseases in Newborns and Children

Amy Brower, PhD
Committee Member
Chair, Laboratory Standards & Procedures Subcommittee

ACHDGDNC Update

- **ACHDGDNC Overview**
- **Subcommittees and Work Groups**
 - Education
 - Follow up and Treatment
 - Laboratory Standards and Procedures
 - Criteria Work Group
- **Laboratory Subcommittee Update**
 - Uniformity of Newborn Screening Services
- **Committee Update**

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ACHDGDNC Overview

- **Purpose**
 - Provides advice and guidance to the HHS Secretary on the most effective means to screen for heritable disorders.
 - Provides advice and recommendations concerning grants and projects.
 - Provides technical information to develop policies and priorities that will enhance the ability of the State and local health agencies to provide for newborn and child screening, counseling and health care services.
 - Advise and guide the Secretary regarding the most appropriate application of universal newborn screening tests, technologies, policies, guidelines and programs
- **Target Population**
 - State-based newborn screening programs
 - Public and private health care providers who serve newborns and children with heritable disorders
- **Membership**
 - 15 regular members including ex-officio members from HRSA, CDC, NIH, AHRG and SACGHS.
 - Chair, R. Rodney Howell, MD
 - Executive Secretary, Michele A. Lloyd-Puryear, MD, PhD

<http://mchb.hrsa.gov/programs/genetics/committee/>

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Subcommittees and Work Groups

- **Education**
 - Chair, William Becker, DO, MPH, Ohio Department of Health
- **Follow Up and Treatment**
 - Chair, Coleen Boyle, PhD, MS, CDC
- **Laboratory Standards and Procedures**
 - Chair, Amy Brower, PhD, Third Wave Technologies
- **Criteria Work Group**
 - Chair, Nancy Green, MD, March of Dimes

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Laboratory Subcommittee

- Duane Alexander, MD, NIH
- Amy Brower, PhD (chair), TWT
- Peter B. Coggins, PhD, Perkin Elmer
- Ethan Hausman, MD, FDA
- R. Rodney Howell, MD, University of Miami
- Marie Mann, MD (staff), HRSA
- Piero Rinaldo, MD PhD, Mayo Clinic
- Harry Hannon, PhD, CDC
- Don Chace, PhD (consultant), Pediatrix
- Jana Monaco, Organic Acidemia Association

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Subcommittee Charge

- **Define and implement a mechanism for the periodic review and assessment of**
 - **the conditions included in the uniform panel**
 - **infrastructure services needed for effective and efficient screening of the conditions included in the uniform panel**
 - **laboratory procedures utilized for effective and efficient testing of the conditions included in the uniform panel**

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Uniformity of Newborn Screening

- **Routine Second Screen Study**
 - 17% of babies born in the US receive a routine second screening
 - Scientific literature indicates that cases of CH and CAH that are missed on the initial screen are detected on the routine second screen
 - Most newborn screening programs do not support the operation of a routine second screen
 - To better understand the justification for a routine second screen we are initiating a study

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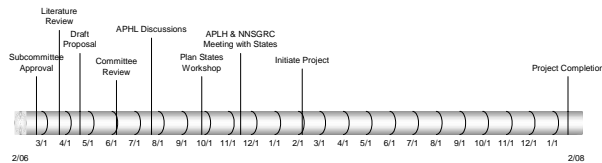
Routine Second Screen Study

- **Project Question**
 - Is a routine second screen required to ensure the complete capture of CH and CAH cases with newborn screening?
- **Objective**
 - Develop a complete evidence-based analysis for the necessity to require a routine second screen.
- **Components**
 - Compare all variables among the second-screen laboratories to identify any inconsistencies in the system operations that could contribute to the necessity for a routine second screen.
 - Compare medical and clinical parameters, including family history, of cases detected in the second screen to those detected in the initial screen.
 - Compare the collected data with algorithms used by states that do not use a routine second screen but use selected repeat screens to determine if the cases identified by the routine second screen would not have been captured by their selection algorithm.
 - Complete second tier testing for CAH positive samples.

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Project Status and Timeline

- ACHDGDNC Review and Support (completed)
- Key Stakeholder Meeting (Dec 2006)



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Criteria Work Group

- **Work Group**
 - Nancy Green, MD MOD, Chair
 - Coleen Boyle, PhD CDC
 - Amy Brower, PhD TWT
 - Peter Coggins, PhD PerkinElmer
 - Denise Dougherty, PhD AHRQ
 - Piero Rinaldo, MD PhD Mayo
 - Michele Puryear, MD PhD MCHB
 - Marie Mann, MD MCHB
- **Steps**
 - #1 The Nomination Form
 - #2 Federal administrative review
 - #3 Review by ACHDGDNC
 - A) External evidence-based review
 - B) Committee review

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Concepts

- **Broad access to the nomination process**
- **Considered review**
- **Streamlined processes**
- **Transparency**
- **Consistent criteria throughout the nomination process**
- **3 broad areas identified:**
 - Condition
 - Test
 - Treatment

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| HRSA/ACMG UNIFORM PANEL (DRAFT 5/06) | | | | |
|--------------------------------------|--|------|-------|------|
| NOMINATION OF CONDITION - Fact Sheet | | | | |
| Name of proponent | | | | Date |
| Condition | | | | |
| Type of disorder | | | | |
| Screening method | | | | |
| Treatment strategy | | | | |
| CONDITION | Comment | Gene | Locus | OMIM |
| Incidence | (Reference required. By pilot screening or clinical identification?) | | | |
| Timing of clinical onset | (Relevance of the timing of newborn screening to onset of clinical manifestations) | | | |
| Severity of disease | (Morbidity, disability, mortality) | | | |

| TEST | Comment |
|-----------------------------------|---|
| Screening test(s) to be used | (High volume method, platform) |
| Modality of screening | (Dried blood spot, physical or physiologic assessment, other) |
| Clinical validation | (Location, duration, size, preliminary results of past/ongoing pilot study for clinical validation) |
| Laboratory performance metrics | (Sensitivity, specificity, detection rate, positive predictive value, false positive rate) |
| Confirmatory (diagnostic) testing | (Reliability, availability) |
| Risks | (False positives, carrier detection, invasiveness of method, other) |

| Nomination of condition (page 2) | |
|----------------------------------|--|
| TREATMENT | Comment |
| Modality | (Drug(s), diet, replacement therapy, transplant, other) |
| Urgency | (How soon after birth treatment needs to be initiated to be effective) |
| Efficacy | (Extent of prevention of mortality, morbidity, disability) |
| Availability | (Any limits of availability) |
| Risks | (Potential medical or other ill effects from treatment) |

| KEY REFERENCES (Specific citations - limit to 15) | Submit nomination to: |
|---|--|
| 1 | Michelle A. Loyd-Puyser, MD, Ph.D. Chief, Genetic Services Branch Division of Services for Children with Special Health Needs Maternal and Child Health Bureau 5600 Fishers Lane, 8th 18-A-19 Rockville, MD 20857 301-443-9504 fax 301-443-1080 phone |
| 2 | Submission check list |
| 3 | Cover letter by proponent |
| 4 | Nomination form |
| 5 | Copy of references listed on this form |
| 6 | Contact information (proponent) |
| 7 | |
| 8 | REFERENCES (continued) |
| 9 | 12 |
| 10 | 13 |
| 11 | 14 |
| | 15 |

Project Status and Timeline

- Nomination Form
 - Pilot of Nomination Form (completed)
 - ACHDGDNC Review and Approval (completed)
- Federal Administrative Step
 - Define Process (in progress)
- Evidence Based Review
 - Define Process (October 2006)

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Thank You!

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