

Secretary's Advisory Committee on Heritable Disorders in Newborns and Children Response to the President's Council on Bioethics report: the changing moral focus of newborn screening

Tracy L. Trotter, MD

Alan R. Fleischman, MD

R. Rodney Howell, MD

Michele Lloyd-Puryear, MD, PhD

COB Members by Discipline

- ▶ 1 Economics
- ▶ 5 Ethics
- ▶ 3 Law
- ▶ 8 Medicine
- ▶ 1 Philosophy
- ▶ 2 Political Science
- ▶ 1 Psychology

Question and Conclusions

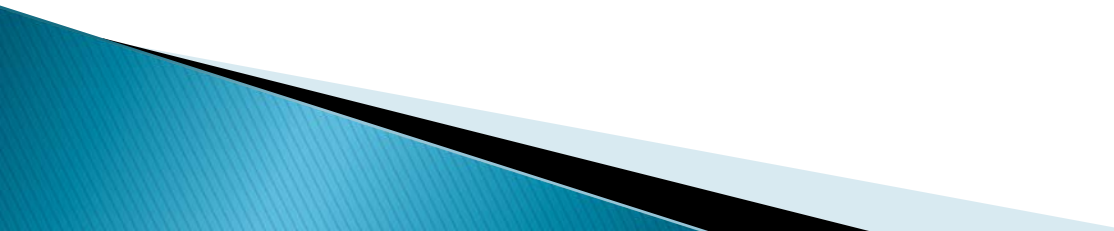
- ▶ *Question*

- ▶ “What ethical principles should guide the practice of newborn screening in the United States?”

- ▶ *Conclusions*

- ▶ Seven elements were discussed that should be part of “an ethically sound approach to public policy in newborn screening”.

Elements #1 and 2

- ▶ *Reaffirm the essential validity and continuing relevance of the classical Wilson–Jungner screening criteria [WHO – 1968]*
 - ▶ *Insist that mandatory NBS be recommended to states only for those disorders that clearly meet classical criteria.*
- 

Wilson–Jungner Criteria

WHO 1968

- ▶ 10 criteria for including a condition in a population screening program
- ▶ 3 prime criteria:
 - A specific and sensitive screening test
 - A sufficiently well understood natural history
 - An available and efficacious treatment
 - Direct medical therapy

NAS/NRC – 1975

National Research Council of the National Academy of Sciences [NAS/NRC]

- ▶ Generally aligned with the Wilson–Jungner criteria – specific to genetic screening

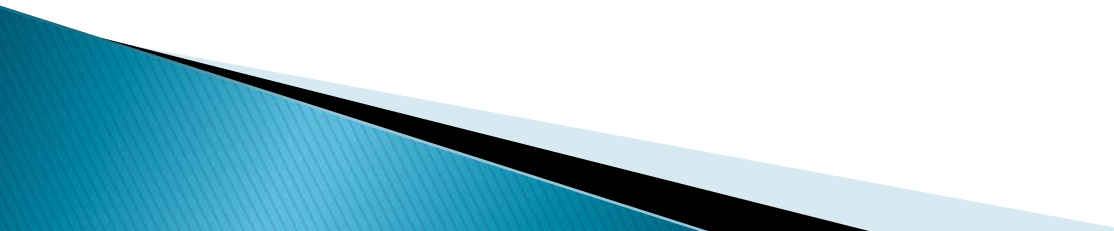
- ▶ Broadened the concept of “BENEFIT” in NBS:
 - 1. Direct medical treatment to the infant
 - 2. To facilitate management decisions
 - 3. Provide supportive treatment to the infant
 - 4. Inform subsequent reproductive decisions
 - 5. Provide knowledge regarding rare diseases

ACMG Expert Group 2005– Core Panel

- ▶ NBS policy should be driven by “what is best for the affected infant”.
- ▶ Both W–J and NAS/NRC considered:
 - Specific and sensitive screening test
 - Sufficiently well understood natural history
 - Available and efficacious treatment
 - Infant: management and support
 - Family: inform subsequent reproductive decisions
 - Society: Knowledge about condition [dec “odyssey”]
 - A benefit to RESEARCH studies was NOT a criteria
- ▶ STATES will make the final decisions

ACHDNC Workgroup Reports

2006–2010

- Nomination Review and Prioritization WG
 - Internal Review WG
 - External Evidence Review WG
 - Decision Criteria & Process WG
- 

Element #1 Response

- ▶ The ACMG criteria for inclusion to the recommended panel of core conditions were consistent with the Wilson–Jungner principles.

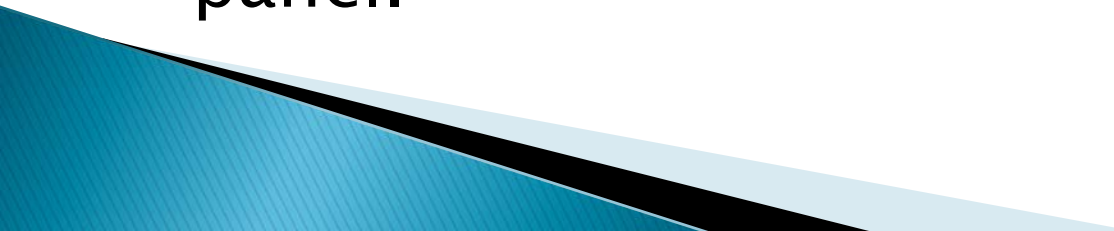
Element #2 Response

- ▶ “Secondary” conditions are laboratory findings incidental to the testing procedure or as a consequence of clarifying the differential diagnosis of a core condition.

Element #3

- ▶ *Endorse the view that screening for other conditions that fail to meet classical criteria may be offered by the states to parents on a voluntary basis under a research paradigm.*
 - *“Classical criteria” is limited to the original 10 Wilson–Jungner criteria*

Element #3 Response

- ▶ The “classical criteria” noted by the Council needs to evolve to include the work of the NAS/NRC, the ACMG expert group, and the Advisory Committee.
 - ▶ When conditions do not meet those expanded criteria, there is clearly a role for research within NBS programs to enhance screening techniques and study disorders that may be candidates to join the recommended core panel.
- 

Element #4

- ▶ *Affirm that when the differential diagnosis of some targeted disorders entails detection of other poorly understood conditions [that would not otherwise be suitable candidates for NBS, such results need NOT be transmitted to the child's physician or parents.*
- ▶ *Individual states may choose to:*
 - *Suppress the information*
 - *Obtain informed consent at the time of the NBS*

Element #4 – Response

- ▶ These are truly incidental and inevitable findings that are an integral part of the testing process for the core panel
- ▶ Why reveal incidental findings?
 - It is unfair/unreasonable to disregard these results
 - Avoid the “diagnostic odyssey”
 - Inform reproductive decision-making
 - Early supportive intervention for the child and family
 - Clinical research studies may be available to family
- ▶ Informed consent
 - Not appropriate for the core conditions
 - Required for research studies
 - Confusing for incidental findings – risk for NBS

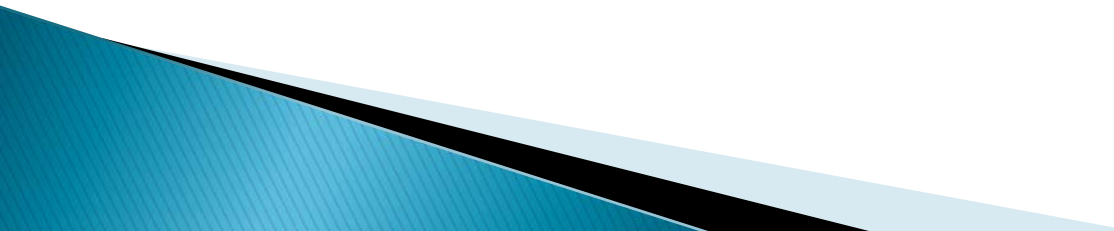
Element #5 / Response

- ▶ *Encourage the states to reach a consensus on a uniform panel of conditions clearly meriting mandatory screening.*
- ▶ The Secretary's Advisory Committee on Heritable Disorders in Newborns and Children is here for you.

Element #6

- ▶ *Urge a thorough and continuing re-evaluation of the disorders now recommended for inclusion in the mandatory screening panel, to ascertain whether they genuinely meet the classical criteria that would justify mandatory screening of all newborns, or whether they instead are suitable candidates for pilot screening studies.*


Element #6 – Response

- ▶ Continual evaluation of the national newborn screening program to assure clinical effectiveness of this public health effort is certainly warranted and ongoing by the Advisory Committee
- 

Element #7 / Response

- ▶ *Reject any simple application of the “technological imperative”, i.e., the view that screening for a disorder is justified by the mere fact that it is detectable via multiplex assay*
- ▶ If all other criteria are met, the review process looks at technology to answer 3 questions:
 - Is a suitable test available?
 - Can that test meet public health needs [national]?
 - Is the test economically feasible?

Conclusion

- ▶ NBS is a state-based established and effective public health program – a model for early diagnosis and treatment. The ACHDNC offers guidance through its recommendations to the Secretary.
 - ▶ The ACHDNC has moved well beyond the seven elements noted in the COB report. The Committee has created a system of structured, evidence-based assessment that supports a consistently rigorous, iterative, and transparent approach to making recommendations regarding broad population-based screening programs for rare conditions in infants and children.
- 

Agenda

- Lysosomal Storage Diseases—
Report on State Screening Practices**
- *Michael Watson, Ph.D., American College of Medical Genetics*