Report of the Pilot Studies Work Group

Jeffrey Botkin, MD, MPH

May, 2016

Members

- Andrea Atherton
- Don Bailey
- Joe Bocchini
- Jeff Botkin
- Anne Comeau
- Carla Cuthbert
- Kellie Kelm
- Dieter Matern
- Mark McCann
- Melissa Parisi
- Scott Shone
- Tiina Urv
- Mike Watson

And thanks to Debi Sarkar and Alaina Harris!

Background

- Evidence review process dependent on quality data
- Pilot studies are essential to yield evidence about several aspects of NBS systems
- The Public Health Service Act 42 U.S.C. 217a requires that ACHDNC must vote on nominated condition no later than 9 months after having initiated the external evidence review.

Charge to the Committee

- Recognize and support current efforts regarding pilot studies and evaluation
- Identify other resources that could support pilot studies and evaluation
- Identify the information required by the Committee to move a nominated condition into the evidence review process (i.e., define the minimum pilot study data required for a condition to be accepted for evidence review)

Focus

- The question is what data are the minimal necessary to move a nominated condition to the evidence review process.
- NOT what evidence is necessary to approve a condition for the RUSP

"Pilot Studies" Definition

- *For the purpose of this report, and consistent with previous definitions, NBS "pilot studies" are defined as systematic investigations or public health activities that are designed to evaluate the efficacy and safety of incorporating a new test or condition on a population-based level into state NBS programs.*

Charge 1

- *Identify the information required by the Committee to move a nominated condition into the evidence review process (i.e., define the minimum pilot study data required for a condition to be accepted for evidence review).*

Recommendation 1

- *Data should be available on the analytical validation of one or more screening modalities proposed for use in population-based screening in newborns. Data should include information on precision, accuracy, the reportable range, detection limits, interference, reference intervals, and cost. Pilot studies for analytical validation should include use of dried bloodspots from a population of newborns, including known positive and negative specimens, in addition to laboratory prepared target specimens.*

Recommendation 2

- *Data should be available on the net benefits of clinical interventions following early detection compared to clinical diagnosis. Early detection can be achieved through population screening pilot studies, through testing secondary to a family history of the condition, or through targeted screening of high-risk groups.*

Recommendation 3

- *Data should be available from pilot studies involving population-based screening of identifiable newborns.*
  - *3A) The study should be sufficiently large to identify at least one true positive newborn for the condition under consideration*
  - *3B) The population included in the pilot study, and the screening protocol used, should be similar to the US population and to state NBS programs with respect to known prevalence of the condition, the timing and approach to screening, and the screening modality used.*

Charge 2

- *To recognize and support current efforts regarding pilot studies and evaluation*

Recommendation 4

- *Sustained support should be provided by DHHS for the NIH initiatives that support pilot studies in newborn screening including the NBSTRN, NSIGHT, the Pilot Studies grants, Natural History grants, Innovative Therapies grants, and grants supported under the Parent Announcement.*

Recommendation 5

- *Sustained support should be provided by DHHS to the CDC for its activities relevant to the support of pilot studies that address technical training and quality materials for state laboratories, assistance to state programs in obtaining laboratory equipment, the creation and distribution of "Validation Test Packages," and the fostering of "Laboratories of Excellence."*

Charge 3

- *Identify other resources that could support pilot studies and evaluation.*

Recommendation 6

- *DHHS should support the development of a network of "Centers of Excellence for Newborn Screening Pilot Studies." This network should be comprised of state-based public health programs, laboratories, and research centers that would provide a stable, experienced, compliant, efficient, and quality infrastructure for the conduct of population-based pilot studies for newborn screening.*

Thank You!