



Summary: Report and Recommendations of the Pilot Studies Workgroup

The Advisory Committee on Heritable Disorders in Newborns and Children (ACHDNC) uses an evidence review process for making recommendations regarding the addition of conditions to the Recommended Uniform Screening Panel (RUSP). The evidence review process is dependent on quality data. Pilot studies are essential to yield evidence about several aspects of newborn screening systems, including the analytic validity of the proposed screening and follow-up diagnostic tests, the clinical utility of population-based screening, and the potential benefits and harms of screening. 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 a state newborn screening program.¹ The Public Health Service Act 42 U.S.C. 217a requires that the ACHDNC must vote on nominated condition no later than 9 months after having initiated the external evidence review.

The ACHDNC has adopted the following recommendations for the minimum pilot study data required to move a nominated condition into the evidence review process:

1. Data should be available on the analytical validation of one or more screening modalities proposed for use in population-based screening in newborns.
2. Data should be available on the net benefits of clinical interventions following early detection compared to clinical diagnosis.
3. Data should be available from pilot studies involving population-based screening of identifiable newborns.
 - a. The study should evaluate the newborn screening process from collection through diagnosis and identify at least one screen-positive newborn with confirmation of presence of the condition under consideration
 - b. The population included in the pilot study, and the screening protocol used, should be similar to the US population and to state newborn screening programs with respect to known prevalence of the condition, and the timing and approach to screening. The screening modality used in the pilot study should be comparable to the method proposed in the application.
4. Continued support should be provided for NIH initiative relevant to pilot studies in newborn screening including the Newborn Screening Translational Research Network (NBSTRN), Newborn Sequencing in Genomic Medicine and Public Health (NSIGHT), the Pilot Studies grants, Natural History grants, Innovative Therapies grants, and grants supported under the Parent Announcement.
5. Continued support should be provided to CDC for its activities relevant to pilot studies that address technical training and quality materials for state laboratories, assistance to state and other programs in obtaining laboratory equipment, creation and distribution of "Validation Test Packages," population surveillance, and fostering of "Laboratories of Excellence."
6. DHHS should support the development of a research network comprised of state-based public health programs, laboratories, and academic or other research centers that would provide a stable, experienced, compliant, efficient and quality infrastructure for the conduct of population-based pilot studies for newborn screening.

¹ Botkin, JR, Lewis MH, Watson MS, Swoboda KJ, Anderson R, Berry SA, Bonhomme N, Brosco JP, Comeau AM, Goldenberg A, Goldman E, Therrell B, Levy-Fisch J, Tarini B, Wilfond B. Parental permission for pilot newborn screening research: Guidelines from NBSTRN. *Pediatrics* 2014; 133:e410-e117.