Meeting Minutes: Advisory Committee on Heritable and Congenital Disorders (Newborn Screening Advisory Committee) Spring 2024 Meeting

April 23, 2024

Minutes prepared by: Sam Colston, McKayla Gourneau, and Amy Dahle
Location: Minnesota Humanities Center, The Commons
987 Ivy Ave E, St. Paul, MN 55106

Attendance

- Rae Blaylark (chair)
- Katie Pfister (vice-chair)
- Jennifer Arveson
- Susan Berry
- Alex Boucher
- Christen Ebens
- Tricia Hall
- Bob Jacobson
- Courtney Jarboe
- Dieter Matern
- Brooke Moore
- Randal Richardson
- Emelia Rogers
- Annamarie Saarinen
- Kali Schreiner
- Kathy Stagni
- Renee Temme

Absent: Queenie Tan

Decisions Made

- Decision: Create a workgroup to review condition nomination process
- Decision: Metachromatic leukodystrophy (MLD) will move to evidence review workgroup

Meeting Notes

- Roll Call – Rae Blaylark
- Welcome – Carrie Wolf
    - Screening for Krabbe disease started on February 26, 2024.
    - Implementation of Commissioner approved changes to the panel: Duchenne muscular dystrophy (DMD) and guanidinoacetate methyltransferase (GAMT) deficiency will be moving ahead to implementation groups this fall. Mucopolysaccharidosis type II (MPS II) implementation efforts will be delayed into next year.
- Review Condition Nomination Process – Amy Dahle & McKayla Gourneau
    - Formal process created in 2019 with work between NSAC and MDH. As this process has been used for multiple conditions now (cCMV, Krabbe, GAMT, MPS II, and DMD), opportunities for clarification and improvements have been identified. Committee coordinators requested a work group be formed to evaluate the process and present recommended changes to the committee.
    - Motion by Sue Berry to convene a workgroup, second by Bob Jacobson.
    - DECISION: Convene a workgroup to review the condition nomination process
    - Volunteers were recruited, advisors can reach out to committee coordinators if interested.

- Looking Back: cCMV screening – Trenna Lapacinski-Ludens, Tory Kaye, Amanda Pavan, & Lexie Barber
    - MDH staff presented on current outcomes related to screening for congenital cytomegalovirus (cCMV). Trenna reviewed difficulties encountered with the screening kit. Tory and Amanda shared available data from the first year of screening with 184 infants that screened positive, and their outcomes related to symptomatic/asymptomatic status and treatments and interventions. Lexie presented on resources and the longitudinal surveillance plan. See slides for specific data and information.
    - Discussion:
        - Dieter asked about the extraction method being able to extract enough DNA from the two punches taken initially and be able to use that for repeats as well. Trenna responded that we are getting just enough with the two punches we use for the initial testing and there isn't much left.
        - Dieter asked about known reduced sensitivity and if we have seen false negative results. In the outcomes portion of the presentation, false negatives were addressed and are currently being identified from hospital systems that do voluntary electronic lab reporting since CMV is not a part of the communicable disease rule.
        - Annamarie asked about at what point the PCR flags does the result get called out to get confirmatory testing. Trenna clarified the current process is to conservatively call out a result if CMV is also detected in the repeats.
        - Courtney asked about the retest rate for CMV which is about 1% of specimens with our detected rate resulting in an abnormal call out being about 0.3-0.4%.
        - Sue commented about the real estate of the blood spot needed to perform repeat testing for CMV since two spots are needed for each test and the sample must be run at least three times before being called out as CMV detected. What does this mean for blood spot availability for future conditions? Carrie Wolf shared the logic behind the choice to increase from five spots to six during the implementation process before we started screening for CMV was in anticipation of the amount of punches that may be needed for testing for CMV as well as future conditions.
        - Emelia asked about the experience of the nurse specialists involved with longitudinal follow-up and their thoughts on barriers. Gina Liverseed responded that through a partnership with local public health, a nurse makes contact with families and reports back to MDH but they have not had time to look into that data yet. Emelia also asked about the consideration of including social workers from the local medical clinics. Sondra and Jennifer, follow up supervisors, both said it has not been a partnership considered up to this point but should be explored further.
        - Sue cautioned that hearing loss can be caused by many other things, not just a congenital CMV infection. Proposed a thought related to how might a cCMV diagnosis falsely cover up other causes of hearing loss such as genetic factors. Tory mentioned there is a plan to collect other co-occurring conditions but recognized that does not impact if providers will be looking for other causes or not.
        - Bob asked about the process for prescribing antiviral therapy since the data was reassuring that antivirals aren't being as overly prescribed as thought before. Sondra clarified the recommendation is to have the primary care provider consult with pediatric

infectious disease who will provide guidance on treatment which has theoretically minimized overtreatment.
        - Rae asked about how the preliminary analysis about mother's level of education was done. Tory described the analysis and clarified that level of education was based off of birth certificate information and not an indicator of health literacy.
- Public Comment – parent stories from Philip Barnes & Shanna Quimby
    - Philip and Shanna shared their families' experience with Chloe's and Gavin's MLD journey touching on their experience with health care providers and limited treatment options that were available at the time of their diagnosis and the impact it had on their lives.
- Background on Metachromatic Leukodystrophy (MLD) – Nishitha Pillai, MD and Paul Orchard, MD
    - Dr. Nishitha Pillai – Shared the etiology, clinical manifestations, management, and newborn screening approaches available for MLD. Dr. Pillai shared the multiple types of MLD and how they present in an individual with late infantile MLD being the most common and severe. Uncertainty in management of cases with variants of uncertain significance and later onset phenotypes was acknowledged.
    - Dr. Paul Orchard – Shared status of therapeutic approaches for MLD. Reviewed past and present approaches including stem cell transplant and lentiviral ex-vivo genetic engineering.
- Discussion and Vote on Call for Work Group
    - Discussion:
        - Sue commented on the cost of treatment and impact that may have on accessibility. The gene therapy that has become recently available costs $4.2 million for cells alone, not including cost of the transplant or hospital stay. Discussion on the impacts of private versus state insurance and how much of a burden this might have on hospital systems and access was brought up and warrants further discussion to ensure equitable access for any screen positive infant in need of treatment.
        - Christen asked about the ability to distinguish trajectories of cases identified through screening and which cases may or may not be eligible for treatment. Dr. Orchard commented that gene therapy is currently only available for two forms of MLD and is not available for the late-juvenile or adult-onset forms. Dr. Pillai mentioned the enzyme levels seen at birth might be able to distinguish between forms, but it is unclear and will depend on cutoffs. Concern about how to manage later onset cases was also brought up.
        - Randal asked about timing to treatment and if that is a concern for MLD. Dr. Orchard clarified that no, timing would not be a concern since the earliest form presents by 30 months of age, and not expected to show any signs in the first month of life.
        - Randal asked about the potential for kids to be overtreated. There isn't evidence available to suggest that is the case.
    - Christen Ebens made a motion to move MLD forward to evidence review workgroup. Motion was seconded by Alex Boucher. Majority in favor. Motion passes.

Next Meeting

Date: Tuesday, October 8, 2024
Time: 1:00 – 4:00 PM
Location: Wilder Foundation, 451 Lexington Pkwy N, St Paul, MN 55104