The National Academies of Sciences, Engineering, and Medicine convened a workshop to examine the use of DNA sequencing to supplement traditional newborn screening for conditions that are treatable but not clinically evident in the newborn phase. This infographic provides high-level takeaways from individual speakers on considerations for newborn genome sequencing.

What pathways exist for newborn genetic sequencing?

- **Clinical** (e.g., in the NICU) (Goldenberg).
- **Direct through health care providers** (e.g., providers ordering a test from an outside company or partner) (Goldenberg).
- **Direct to consumers** (Goldenberg).
- **Supplemental** to current public health newborn screening, but not a replacement (Bonhomme).

Each of these pathways has implications for consent, returning results, follow-up (Goldenberg), and cost (Veenstra).

What are some of the benefits and harms to consider?

- **Making sequencing more available** can increase early identification, provide families valuable information, and limit diagnostic odyssey (Hu).
- **Accessible follow-up care** is important for reducing burdens to families, increasing equity, and using improved health outcomes as measures of success (Hoo, Woolford).
- Sequencing could increase preexisting health system inequities; therefore, it is important to consider intersecting health disparities (Goldenberg).

What are some of the policy and regulatory implications to consider?

- Regulatory considerations include protecting privacy, addressing concerns about data security, and ensuring ethical data stewardship (Grant, Peay, Powell).
- Widespread sequencing raises concerns about improper use of DNA data, including possible misuse by law enforcement (Grant).

How does sequencing affect communities, and how can community members be involved?

- More voices are needed at the table for successful implementation of newborn DNA sequencing (Fletcher, Hu, Klein).
- Perspectives are needed from people living with genetic disorders (Woolford), their families (Hu), and groups who have been underrepresented in genomics research and minoritized in health care (Bonhomme, Fletcher, Goldenberg).

Statements, recommendations, and opinions expressed are those of the individual participants. They are not necessarily endorsed by the National Academies of Sciences, Engineering, and Medicine and should not be construed as reflecting any group consensus. SOURCE: NASEM. 2023. The Promise and Perils of Next-Generation DNA Sequencing at Birth: Proceedings of a Workshop—in Brief.