

Newborn Screening Sequencing Decision Matrix Summary

Consider adding second- or third-tier sequencing if the following are true for your program:

- Your current testing does not distinguish the condition you are trying to identify (screened condition) from other conditions or from related conditions that you are not screening for, and adding sequencing will reduce false positive results.
- The phenotypic spectrum of the condition is known and sequencing can help to determine the phenotype.
- The spectrum of variants for a condition is fairly well characterized, but there is no commercially available or lab-developed non-sequencing genotyping assay available.
- There are no other testing methods (molecular or biochemical) that are more appropriate and easier and less expensive to add that allow your program to achieve the same goals.
- Sequencing is not universally available, accessible, and affordable in the clinical setting with a turn-around time that is acceptable to your program.
- Sequencing will not introduce a level of ambiguity in results interpretation, delays in reporting, and other barriers and limitations that cannot be overcome or the potential disadvantages of adding sequencing are outweighed by the advantages.
- Your lab space is configured or can be configured to accommodate both the instrumentation and workflow for molecular testing in general and sequencing in particular.
- Your laboratory includes staff at the bench and in supervisory/leadership roles with expertise in molecular genetics, including sequencing test development and validation, workflow planning, bioinformatics and results interpretation.
- Your program includes staff with expertise to explain complex molecular results, follow these cases, and be involved in providing education to primary care physicians (PCPs).
- Your lab team has, or can obtain and adopt, or can develop a sequencing protocol.
- Your lab has sufficient staff to accommodate the added workload.
- Quality control materials for testing are available.
- Your program has the funding necessary to support the purchase of instruments, supplies, and reagents and to update the laboratory information management system (LIMS) for sequencing results tracking and reporting.
- Your LIMS can be updated or supplemented to accommodate tracking of sequencing information, and you have the capability to store, access, update sequencing data long-term.

More detailed information on each of these considerations can be found by moving through the [Sequencing Decision Matrix](#) online tool.