Improving a Newborn Screening Program: A Systematic Approach

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On Behalf of

Newborn Screening Quality Improvement Workgroup
Background and Objectives

NewSTEPs quality indicators;
Media attention on NBS timeliness

NBS Program Quality Assessment

1. Identify quality indicators across the NBS program, the appropriate partnerships, and responsibilities.
2. Identify high priority quality indicators where improvement can be made, and steps to attain the improvement.
Successful NBS Program

**What:** All eligible infants are screened, and all affected children identified and timely treated.

**Who:** Hospitals, NBS laboratory, Clinician-scientists, Advocate organizations, State public health department

**How:** All stakeholders must work together to establish a system-wide quality assurance structure
NBS Process Map
NBS Process Map—An Example

Lab Testing and Reporting

Key activities

WSLH receives incoming deliveries

Lab staff inspect specimens

Lab staff perform testing

Lab staff enters demographic data from specimen card

Analyses sample

Specimens brought to lab testing area (receiving area staff or lab technician may do this)

Lab staff inspect specimens

Lab prepare specimens for testing

Lab staff reviews results

Senior staff follow up on unsatisfactory specimens

Lab staff notifies PCP & Specialty providers for positive results
Results

Knowledge: The integrity of NBS depends on the entire continuum of components outlined by the process map, and can be monitored by quality indicators developed by NewSTEPs.

Action Items: (1) Reducing unsatisfactory specimen submissions, and (2) Reconciling every birth to the NBS process.
Lean Project:  
Reducing unsatisfactory specimen submission

- Review of WSLH process for inspecting cards
- Identification of issues
- Prioritization of issues
  - Issue has a big impact and occurs frequently
    - Lack of a consistent site-specific process
    - Lack of instructional materials
    - Lack of training
    - No visual inspection before shipping specimens
    - Using capillary tubes
    - Blood Clotting within circles on the specimen card
- Development of solutions

By courtesy of Paula Sherman and Patrice Held
# Reconciling birth to NBS process

To ensure timely reporting, please **PRINT** and **COMPLETE** the entire form.

<table>
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<tr>
<th>Field</th>
<th>Description</th>
<th>Options</th>
<th>Notes</th>
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<tbody>
<tr>
<td>Baby's Name</td>
<td>Last</td>
<td>First</td>
<td>Sex (F/M)</td>
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<tr>
<td>Baby's ID # (optional)</td>
<td>Last</td>
<td>First</td>
<td></td>
</tr>
<tr>
<td>Specimen Collection Date</td>
<td>Last</td>
<td>First</td>
<td>Time (Military)</td>
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<tr>
<td>Mother's Name</td>
<td>Last</td>
<td>First</td>
<td></td>
</tr>
<tr>
<td>Birthweight (grams)</td>
<td>g</td>
<td></td>
<td>Gestational age (wks)</td>
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<td>Baby in NICU?</td>
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<td></td>
<td>Repeat Specimen?</td>
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<tr>
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<td>Name</td>
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<td>Mothers Hep B Surface Antigen</td>
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<tr>
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<td>Circle Hearing Screen method</td>
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<td>□ Other</td>
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<td>specimen collection date</td>
<td>Right Ear</td>
</tr>
</tbody>
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Conclusions

- Collaboration by each discipline across the NBS process allowed identification of QI needs and priorities for the program.

- The shared and collaborative approach now forms a quality assurance system that allows us to identify needed improvements and relevant partnerships, and to monitor ongoing QI efforts.
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