



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

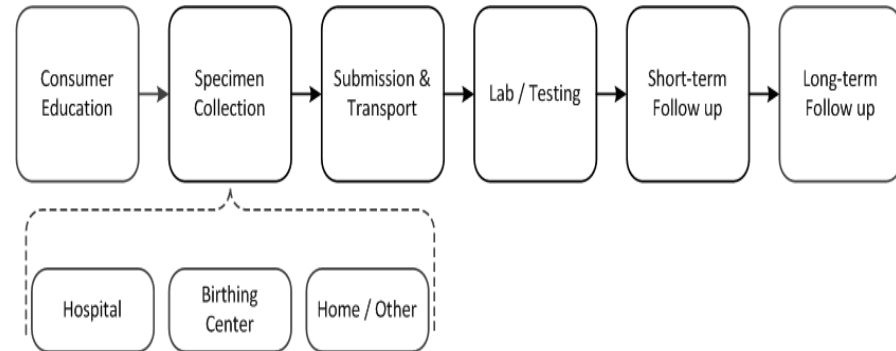
What: All eligible infants are screened, and all affected children identified and timely treated.

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



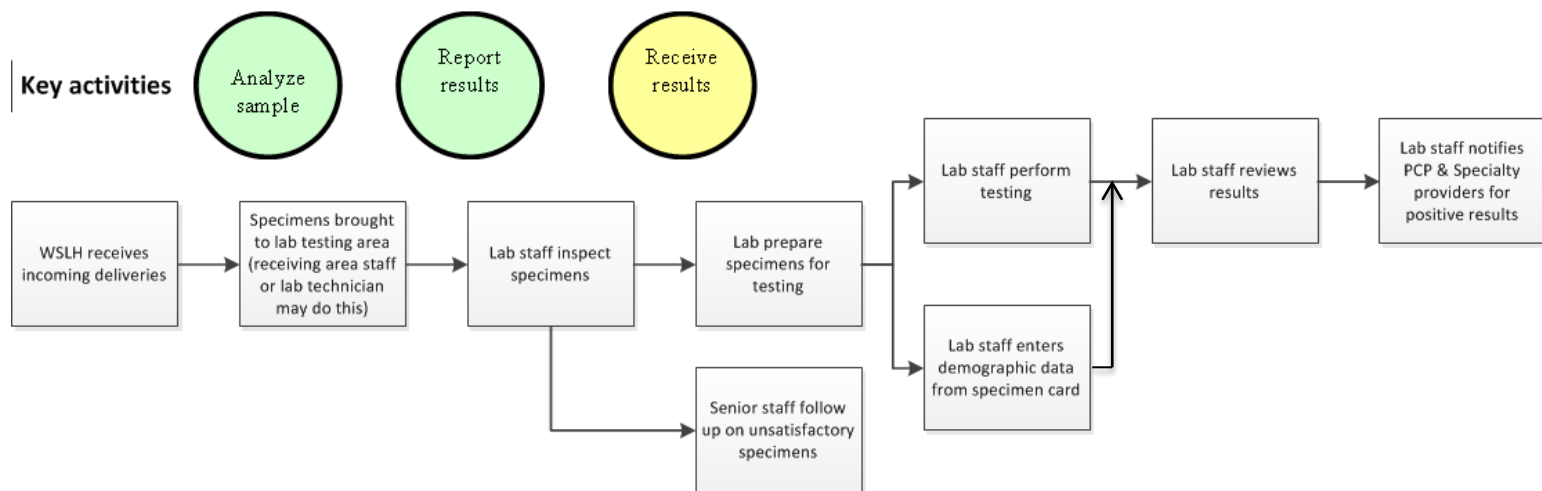
NBS Process Map





NBS Process Map—An Example

Lab Testing and Reporting





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

FORM EXPIRATION DATE: YYYY-MM

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

| | | | | | |
|---|--|---|---|---|--|
| Baby's Name LAST FIRST | | SEX F M | Baby's Birthdate Time (Military) MM / DD / YY : | | |
| Baby's ID # (optional) | | Baby's Physician LAST FIRST | | | |
| Specimen Collection Date Time (Military) MM / DD / YY : | | Physician's NPI (10 digits) | Physician's Phone # () | | |
| Mother's Name LAST FIRST | | Physician's Clinic NAME City | | | |
| Birthweight (grams) g | Gestational age wks | Baby's Race <input type="checkbox"/> Black <input type="checkbox"/> Native American <input type="checkbox"/> White <input type="checkbox"/> Asian/Pacific Isle | Hispanic? N Y | | |
| Baby in NICU? N Y | Repeat Specimen? N Y | Transfusion(s)? N Y Last Txn Date _____ | Baby on TPN now? N Y | | |
| Birth Facility NAME CITY | | | Mothers Hep B Surface Antigen Neg Pos | | |
| C.D. Brokopp, Director D. Kurtycz, Med Director WS 253.13 HYG 113 | Blood Not Screened (mark reason) <input type="checkbox"/> Refused <input type="checkbox"/> Transferred <input type="checkbox"/> Deceased <input type="checkbox"/> Other _____ | | Pulse Ox Screen Date Time (Military) MM / DD / YY : <input type="checkbox"/> Pass <input type="checkbox"/> Fail | | |
| | Circle Hearing Screen method ABR OAE BOTH | | Not Screened (mark reason) <input type="checkbox"/> Refused <input type="checkbox"/> Transferred <input type="checkbox"/> Deceased <input type="checkbox"/> Echo normal <input type="checkbox"/> Confirmed heart disease <input type="checkbox"/> Other _____ | | |
| | Hearing Not Screened (mark reason) <input type="checkbox"/> Refused <input type="checkbox"/> Transferred <input type="checkbox"/> NICU <input type="checkbox"/> Deceased <input type="checkbox"/> Other _____ | | Hearing Screen Date If different from specimen collection date | Right Ear <input type="checkbox"/> Pass <input type="checkbox"/> Refer Left Ear <input type="checkbox"/> Pass <input type="checkbox"/> Refer | |
| | <p>WI State Laboratory of Hygiene 465 Henry Mall Madison WI 53706</p> <p style="text-align: center;">This box for Newborn Screening Laboratory use only</p> | | | | |



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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Protecting and promoting the health and safety of the people of Wisconsin

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