



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

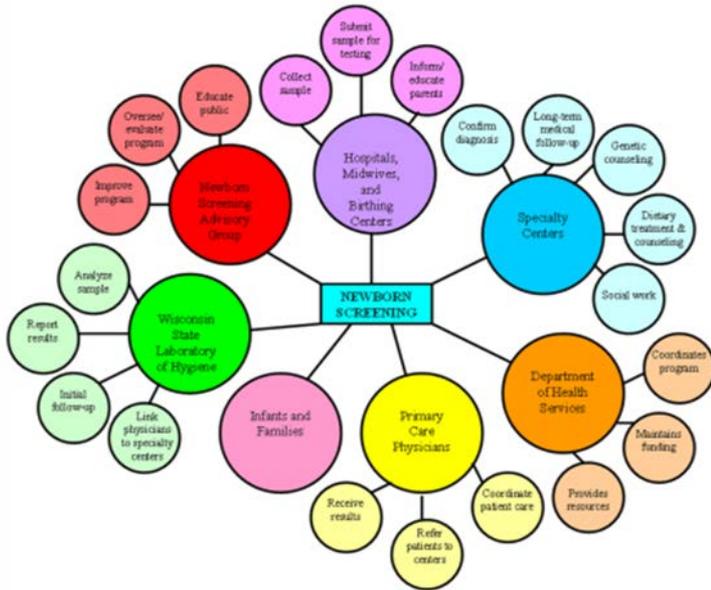
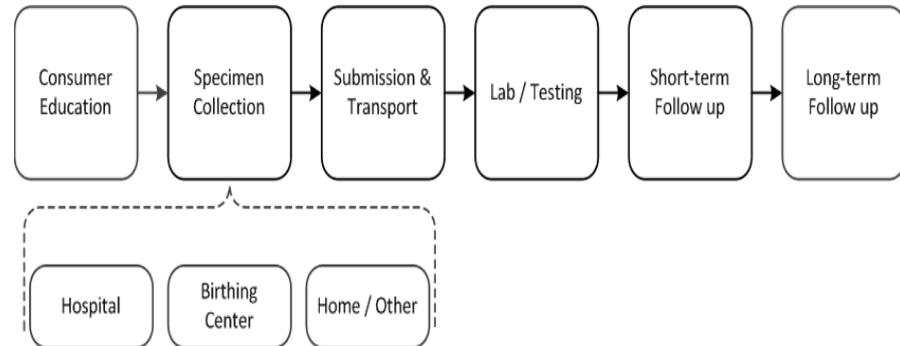
What: All eligible infants are screened, and all affected children identified and timely treated.

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



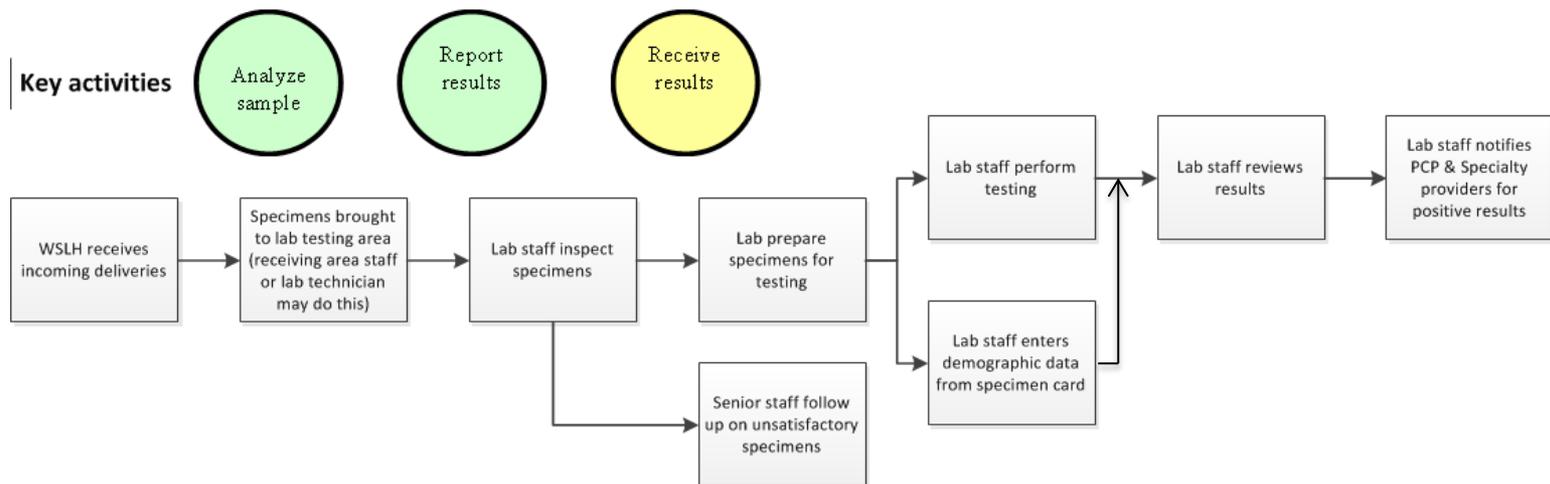
NBS Process Map





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



Interactive Training Webinar

NBS blood specimen collection and submission

- Illustrate proper blood specimen collection.
- Outline the precise steps to take after blood collection.
- Explain the necessary steps for specimen recollection in the event of an unsatisfactory specimen.
- Describe quality assurance activities a submitter must utilize to ensure the collection process is performed correctly and consistently on all babies.

Visit Poster P-19 for the details



Reconciling birth to NBS process

FORM EXPIRATION DATE: 2017-12

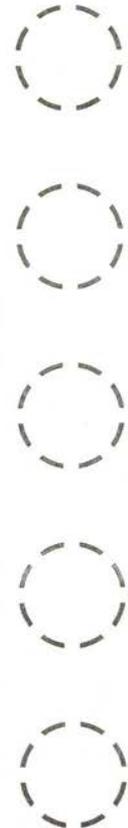
To ensure timely reporting, please **PRINT** and **COMPLETE** the entire form SN U000100

Baby's Name LAST FIRST		SEX F M	Baby's Birthdate MM/DD/YY Time (Military)		
Baby's ID # (optional)		Baby's Physician LAST FIRST			
Specimen Collection Date MM/DD/YY Time (Military)		Physician's NPI (10 digits)			
Mother's Name LAST FIRST		Physician's Phone # ()			
Birthweight (grams) g	Gestational age wks	Baby's Race Black White Native American Asian/Pacific Isle		Hispanic? N Y	
Baby in NICU? N Y	Repeat Specimen? N Y	Transfusion(s)? Last Txn Date:	N Y	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 WSS 253.13 HYG:213	Hearing Screen Date <small>If different from specimen collection date</small> MM/DD/YY		Right Ear <input type="checkbox"/> Pass <input type="checkbox"/> Refer	Circle Hearing Screen Method ABR OAE BOTH	
			Left Ear <input type="checkbox"/> Pass <input type="checkbox"/> Refer		
	Pulse Ox Screen Date MM/DD/YY Time (Military)		<input type="checkbox"/> Pass <input type="checkbox"/> Fail		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
	Not Screened (mark reason) <input type="checkbox"/> Echo normal <input type="checkbox"/> Confirmed heart disease <input type="checkbox"/> Other		<input type="checkbox"/> Refused <input type="checkbox"/> Transferred <input type="checkbox"/> Deceased		Blood Not Screened (mark reason) <input type="checkbox"/> Refused <input type="checkbox"/> Transferred <input type="checkbox"/> Deceased <input type="checkbox"/> Other
WI State Laboratory of Hygiene 465 Henry Mall Madison WI 53706					

This box for Newborn Screening Laboratory use only

PARENTS COPY

COMPLETELY FILL ONE CIRCLE AT A TIME



FILL ALL FIVE CIRCLES APPLY TO ONE SIDE ONLY



Blood Not Screened

March 1 –April 30, 2015

Category	Number
Transferred with NBS done in state later	49
Transferred with NBS done out-of-state later	12
Other with NBS done in state later	3
Refused	14
Deceased	6
Unresolved case	0
Total	84



Real-time NBS Status Assessment

- **Rationale**
 - ✓ No infant left behind for NBS
- **Possible Methods**
 - ✓ NBS and Birth certificate matching
 - ✓ NBS Birth facilities notify birth to WSLH directly
- **Additional benefits**
 - ✓ Electronic submission and tracking
 - ✓ Electronic reporting
- **Potential funding resource for the establishment and evaluation**



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.



Acknowledgements

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

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