Amendment 12 of the NBS Saves Lives Reauthorization Act of 2014: Landscape and Potential Implications

Michelle Huckaby Lewis, M.D., J.D.
Berman Institute of Bioethics
Johns Hopkins University
Co-Chair, Bioethics and Legal Issues Work Group
Newborn Screening Translational Research Network
May 11, 2015

JOHNS HOPKINS
BERMAN INSTITUTE
of BIOETHICS

Acknowledgements

- Denise Chrysler, J.D.,Network for Public Health Law
- Aaron Goldenberg, M.P.H., Ph.D., Case Western Reserve University
- Newborn Screening Translational Research Network (NBSTRN)
- Members of the NBSTRN Bioethics and Legal Issues Work Group
- Dave Orren, J.D., Minnesota Department of Health
- Kelly MacKinnon, J.D., Indiana Department of Health
- Jeffrey Botkin, M.D., M.P.H., University of Utah
- Robert Wood Johnson Public Health Law Research Program

JOHNS HOPKINS
BERMAN INSTITUTE of BIOETHICS

Outline

- NBS DBS litigation/controversy
- Potential Detrimental Effects on the Newborn Screening Translational Research Network Virtual Repository
- State laws pertaining to research use of DBS
- Potential implications of Amendment 12

Residual Dried Blood Samples (DBS)

- To ensure have enough blood, states collect more blood than is needed for screening.
- Usually, residual blood remains after nbs has been completed.
- Many states retain DBS for:
  - Retesting samples
  - Quality improvement for existing tests and other types of program operations, including development of new nbs tests
  - Forensic uses
  - Biomedical & public health research

DBS Controversy

- Parents poorly informed about retention/use
- Until recently, under Common Rule, research conducted using de-identified DBS was not considered human subjects research; consent not needed
- Privacy advocates have objected to research use and release of de-identified DBS to researchers w/o parental consent
- Litigation in 3 states: TX, MN, IN
  - Destruction of millions of retained DBS
  - New laws require consent in TX & MN for research use

Bearder v. Minnesota

- In 2009, Minnesota nbs statute required that parents be informed that DBS & results could be retained by the DOH and that parents had following options:
- To decline to have test
- To elect to have test but require that DBS and records of test results be destroyed
- Opt-out

Bearder v. Minnesota

- 9 families sued MDH in state court, claiming that the state practice of retaining DBS unless parents object violated the genetic privacy provisions of the Government Data Practices Act (Genetic Privacy Act)
- Argued that DBS and nbs results constitute genetic information as defined by the Genetic Privacy Act
- Practice of retaining DBS and results w/o explicit parental permission was a violation of the Genetic Privacy Act

Additional Concerns

- Did not distinguish between QA and research
- Included QA in list of activities that state had undertaken with DBS
- De-identification of DBS released for research did not ameliorate their concerns
- Argued that Genetic Privacy Act did not only apply to information and samples from identifiable samples

Resolution of *Bearder*

- District Court and Court of Appeals found in favor of the state
- Minnesota Supreme Court found in favor of plaintiffs
- Held that state nbs statute provided an express exception to the Genetic Privacy Act only to the extent that MDH was authorized to administer nbs by testing the samples , reporting the test results, maintaining a registry of positive test results and storing test results as required by law
- Written, informed consent was req'd for any other use (inclu QA)
- New law passed 2014: Opt out for retention and use of DBS and info for program operations, including studies used to develop new tests, but no other research or public health studies
- Explicit consent required for use for other types of research or release to 3d parties

Minnesota Program Operations

"Newborn screening program operations" means actions, testing, and procedures directly related to the operation of a state newborn screening program for conditions mandated for testing under the state's laws, rules, policies, or practices, which is limited to the following:

(1) confirmatory testing;

(2) laboratory quality control assurance and improvement;

(3) calibration of equipment;

(4) evaluating and improving the accuracy of newborn screening tests for conditions approved for screening in Minnesota;

(5) validation of equipment and screening methods;

(6) continuity of operations to ensure testing can continue as required by Minnesota law in the event of an emergency;

(7) follow-up services for the cases of heritable and congenital disorders identified by newborn screening; and

(8) utilization of blood samples and test results for studies related to newborn screening, including studies used to develop new tests or to determine the feasibility of testing for different conditions.

Minnesota Statute 144.125 Sub.d. 5 (2014)

Beleno v. Texas Dept. of State Health Services, U.S. District Court for the Western District of Texas (2009)

- Families brought a class action lawsuit against state DOH on behalf of all infants born in state
- Claimed that the practice of retaining and using de-identified DBS w/o explicit parental consent violated constitutional right to privacy and right to be free from search and seizure
- When lawsuit was initiated, no consent req'd and parents not given option to refuse
- New law passed to implement opt out procedures

Beleno Settlement

- Parties settled-part of settlement agreement was to destroy 5 million DBS
- Then it was reported that DOH had given samples to U.S. Armed Forced Pathology Lab
- Plaintiffs claimed that this information had been withheld from them during settlement negotiations
- A second lawsuit was filed-held to be moot b/c law had changed (Higgins v. Texas Dept. of State Health Services)
- Tx law changed again, now requires consent
- Legal issues never adjudicated

Burns Ind. Code Ann. § 16-41-17-1 (2013)

16-41-17-1. "Waste blood specimen" defined.

As used in this chapter, "waste blood specimen" means a blood sample or a solid, liquid, or semiliquid blood product that:

(1) Has served the intended purpose under section 4 [IC 16-41-17-4] of this chapter; or

(2) Has served the natural, biological, medical, or intended purpose and has been discarded or accumulated for discard from a use other than as provided under section 10(a)(5) [IC 16-41-17-10(a)(5)] of this chapter.

Burns Ind. Code Ann. § 16-41-17-10 (2013)

16-41-17-10. Programs to be developed -- Fees -- Procedures -- Identifying characteristics.

(a) The state department shall develop the following:

(1) A registry for tracking and follow-up of all newborns and individuals for screening.

(3) A laboratory quality assurance program, including proficiency testing.

(5) A system for using, for epidemiological survey and research purposes, any waste blood specimen generated under this chapter.

(f) Waste blood specimens used for the purpose of implementing the system described under subsection (a)(5) may not include the name or other identifying characteristics that would identify the individual submitting the specimen.

TITLE 410. INDIANA STATE DEPARTMENT OF HEALTH
ARTICLE 3. MATERNAL AND CHILD HEALTH
RULE 3. EXAMINATION OF INFANTS FOR DISORDERS

410 IAC 3-3-6 Maintenance of screening logs; follow-up of missing results; monthly reports as submitted by hospitals, birthing centers, midwives, and physicians providing home birth services

Sec. 6. (a) Each hospital or birthing center, and midwife or physician submitting screening tests on newborns or infants born outside a hospital or birthing center shall maintain a newborn screening log that shall contain the following:

(1) Name of newborn or infant.

(2) Attending physician or midwife.

(3) Medical record number.

(4) Form number of sample sent.

(5) Date sample collected.

(6) Date sample sent.

(7) Date results received.

(8) What the results were.

(9) Name of person notified of positive results and date and time of notification.

All such information and records shall be confidential but shall be open to examination by the department personnel or its designated agents for any purpose directly connected with the administration of the newborn screening program.

410 IAC 3-3-7 Follow-up of positive results, recommendations

Sec. 7.

(h) The department shall maintain the following:

(1) A tracking system for follow-up of newborn screening results.

(2) A confidential registry of every newborn or infant born for whom the diagnosis of:

(A) phenylketonuria;

(B) hypothyroidism;

(C) galactosemia;

(D) maple syrup urine disease;

(E) homocystinuria;

(F) hemoglobinopathy;

(G) cystic fibrosis;

(H) hearing loss; or

(I) another metabolic or endocrine condition;

has been confirmed.

These records shall be utilized only for the purpose of service delivery and program administration and shall be managed in accordance with 410 IAC 21-3.

Topics Addressed

- Retention of information
- Use of information
- Retention of DBS – “waste specimens”
- Use of DBS

Indiana Genomics and NBS Website

- As of June 2013, parents/guardians of newborns indicate whether or not to allow their child's DBS to be made available for medical research purposes.
- If a parent/guardian chooses to have their child's DBS saved, it will be stored and made available for medical research purposes for a period of three years and then destroyed.
- Although saved DBS, as of June 2013, will be available for medical research, no identifiable information about your baby will ever be released.
- If a parent/guardian indicates they do not want a baby's DBS used for medical research, then the DBS is kept for 6 months to ensure additional screening is not necessary and then destroyed.

Indiana Genomics and NBS Website

- If your baby was born before June 1, 2013, your baby's DBS has not been made available for medical research.
- You may request that your baby's DBS be destroyed, regardless of when your baby was born, by completing and sending this form to the Newborn Screening Program.
- You can also request that your child's DBS be stored and saved for medical research purposes by completing and sending this form to the Newborn Screening Program.
- www.in.gov/isdh/20215.htm.

JOHNS HOPKINS
BERMAN INSTITUTE
of BIOETHICS

Indiana News June 2014

- WTHR news: "Indiana storing blood and DNA of 2 million children without parents' consent"
- "Your child's DNA: Who has it?"
- DBS being stored at an "undisclosed location"

Doe v. Vanness, Marion County Superior Ct., 9/25/2014

- Child born in 2006 and other similarly situated
- Proposed class action
- Allegations:
- Indiana law mandates nbs
- For babies born b/f 6/1/2013 , DBS stored at an undisclosed location
- ISDH never informed parents of intent to save DBS for research
- ISDH continues to implement policy to store samples of 2.25- 2.5 million people without consent at an undisclosed location

Allegations

- DBS or information derived from DBS from plaintiff was shared with unauthorized 3d parties
- Neither plaintiff nor parents were informed that blood may be used for medical research
- Never informed blood might be provided to 3d parties
- Never informed that cont to store blood

Legal Claims

- Dept violated 4th amendment to U.S. Constitution and committed an unreasonable search and seizure through the above-described actions
- Violated 5th amendment prohibition against the taking of private property for public use
- Violated 14th amendment prohibition against state actor depriving any person of life, liberty, or property w/o due process of law
- Violation of Indiana constitution

Current Status

- Seek order that storage of DBS violates 4th, 5th, and 14th Amendments of U.S. Constitution
- Order enjoining defendants from disclosing information derived from DBS to any and all 3d parties
  - Including state and fedl law enforcement or other unauthorized parties
- Order requiring state to destroy all stored blood samples taken pursuant to NBS statute that are more than 6 months old
- Court granted Motion to Dismiss, 5/2015
- Awaiting appeal

Lawsuit Overview

- Lawsuits had different legal “hooks”
- Based on privacy, but addressed autonomy
- Additional practices were objectionable
- Financial transactions viewed as attempts to sell DBS
- Some secondary uses may be viewed by nbs community as standard practice but may be objectionable to some members of the public (Minnesota decision precluded retention of DBS & TEST RESULTS for QA w/o parental consent)
- Need further clarification re definitions of research, public health practice, and program operations- defining these boundaries is critical

Informed Consent for DBS Research Amendment 12

- Federally-funded research conducted w/ DBS
  - Human subjects research
  - Common Rule provisions that permit waiver or modification of consent reqts do not apply
  - Until updates to Common Rule promulgated
  - Applies to DBS collected starting 3/15
- Sec. HHS must promulgate proposed regulations to update the Common Rule by 6/15
- Final regs no later than 12/2016

Newborn Screening Translational Research Network (NBSTRN)

- The NBSTRN is an NICHD funded contract awarded to ACMG (September 2013 - September 2018)
- Mike Watson, PhD, MS – Principle Investigator

- The NBSTRN will develop, maintain, administer and enhance resources to support investigators with projects related to newborn screening for:
  - New technologies
  - New Conditions
  - New treatments and management approaches

JOHNS HOPKINS
BERMAN INSTITUTE of BIOETHICS

NBSTRN Tools

VRDS

- **The Virtual Repository of Dried Blood Spots (VRDBS) is an open-source, web-based tool that enables NBS researchers to search over 2.9 million DBS from participating states.**

LPDR

- The **Longitudinal Pediatric Data Resource (LPDR)** is a secure informatics system designed to enable enhanced data collection, sharing, management and analysis for conditions identified as part of newborn screening or for conditions that may benefit from newborn screening.

R4S

- The **Region 4 Stork** tool is a web-based application for the collection and reporting of analytical results. It has been widely adopted into the routine practice of newborn screening laboratories worldwide.

Virtual Repository Of Dried Blood Spots (VRDBS)

- De-identified DBS data available from participating states-2.8 million DBS
- Researchers can search VRDBS to ascertain availability of certain types of DBS for research
- Facilitates communication with the State NBS Programs
- Allows states to manage DBS/Questions/ Requests in a centralized fashion

VRDBS-Participating States

- **Iowa-Prior to 3/2015: no consent req'd to release de-identified DBS**
- **California: Ca. Dept. of Public Health, Genetic Disease Screening Program**
  - **1 of largest screening programs in world**
  - **500,000 newborns each year**
  - **California Biobank Program**
  - **No consent prior to 3/2015**
- ***Michigan-BioTrust for Health, blanket consent obtained (by state policy, not required by state law)***
- **New York-no consent prior to 3/2015**

Implications for VRDBS of Amendment 12

- None of the 4 states currently plans to contribute information about DBS collected after 3/2015
- May be willing/able to continue to make available DBS collected prior to 3/2015
- May be impossible to obtain representative sample of population at current point in time
- May be difficult/impossible to obtain sufficient samples for studies related to rare diseases
- <u>If no DBS added after 3/2015, conditions added to RUSP after that date will not have DBS annotated in VRDBS</u>

Is Informed Consent the Solution to the Challenges Associated with the Retention and Use of DBS and Related Information? (Lewis, PI)

- Study funded by Robert Wood Johnson Public Health Law Research Network
- Team: Denise Chrysler, Aaron Goldenberg, Michigan Dept. Community Health
- Specific Aim 2: Create a legal toolkit to provide information for state policy makers re state statutes and regulations related to the retention and use of DBS and related information

Aim 2: Analysis of State Laws

- State statutes and regulations were accessed online between 1/13 and 12/14.
- Included statutes and regulations because both are binding upon state departments of health.
- To conduct the analysis, we developed a coding system based upon an initial set of categories identified by the research team. Categories included topics such as state control over DBS, information provided to parents, and whether parents were permitted to opt-out of research.

Wide Variability

- States have wide variability in their policies re the retention and secondary use of DBS and related information.
- Vary with respect to:
- Which party, the parent or the state, has authority to determine the disposition of DBS and related information;
- Under what circumstances DBS and/or information may be used and for what purposes
- How much information parents are provided about the retention and use of DBS and related information
- Few states have developed comprehensive policies re these issues

Notification & Consent

Provision	Number of States with Laws that Address Topic
Parents must be provided w/ info regarding the retention of DBS	8
Parent must be informed of the benefits of storage of DBS	2
Information must be provided to parents abut the retention/release of information	5
Parents must be informed of the scope of information to be released	6
Parental consent required under certain circumstances to release DBS (does not mean consent req'd to use de-identified DBS)	8
Opt-out permitted	7

Implications of Amendment 12

- Potential implications for newborn screening research and other research conducted using DBS are unclear
- How “research” is defined in this context will have profound implications on activities that can be conducted with these samples
- Whether blanket consent to future research is permissible may determine the future utility of a resource such as the NBSTRN Virtual Repository
- May limit research on rare conditions

Implications (cont.)

- Important that new law not have a detrimental effect on the operation of state newborn screening programs
- Need to consider implications for DBS AND information derived from them
- Unclear to what extent informed consent is truly meaningful in newborn period
- Seeking informed consent is not the only way that research participants and their families should be protected
- Governance is equally important
- Need robust policies re who has access to samples and related information and for what purposes
- Will build trust in newborn screening programs and the research enterprise
- Transparency is key

Thank you.