

Newborn Screening Advisory Committee

Texas Department of State Health Services
1701 N. Congress Avenue, Austin, Texas
Travis Building, T6-128G
March 6, 2014 via Conference Call
Minutes

Conference Call

William Morris, LVN
Nancy Beck, MD
Alice Gong, MD
Charleta Guillory, MD

Staff

David R. Martinez, Department of State Health Services (DSHS), Newborn Screening Unit
Karen Hess, DSHS, Newborn Screening Genetics Branch Manager
Susan Tanksley, PhD, DSHS, Laboratory Operations Unit Manager
Brendan Reilly, Program Specialist, DSHS Laboratory, Biochemistry & Genetics Branch
Daisy Johnson, Nurse Manager Metabolics & SCID, DSHS Newborn Screening Unit
Rachel Lee, PhD, Branch Manager, DSHS Laboratory, Biochemistry & Genetics Branch
Debra Freedenberg, MD, PhD, Medical Director, DSHS Newborn Screening Unit
Judy Cleek, DSHS, Newborn Screening Unit
Sam Cooper, Director, DSHS, Specialized Health Services Section (SHSS)
Michael Chisum, DSHS Program Attorney

Guests

Carrie Knoll, Texas Hospital Association

Call to Order

Chairman Morris called to order the March 6, 2014 meeting of the Newborn Screening Advisory Committee at approximately 10:05 am.

Roll call of committee members, staff and guests

Introductions were made and it was determined that a quorum was not present. Members, staff and guests attending are listed at the beginning of these minutes.

Review and Approval of Minutes

Minutes for the December 20, 2013 meeting could not be approved due to a quorum not being present.

Newborn Screening Program Updates-Debra Freedenberg, Rachel Lee

Debra Freedenberg and Rachel Lee gave updates on the newborn screening programs.

- Goals of newborn screening
 - Two screening tests for each baby born in Texas
 - First test 24-48 hours of age
 - Second test 1-2 weeks of age
 - Infants testing positive receive prompt and appropriate confirmatory testing
 - Diagnosed infants are maintained on appropriate medical therapy
- Newborn Screening Panel
 - Currently screen for 29 disorders

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- Congenital Hypothyroidism
- Congenital Adrenal Hyperplasia
- 3 Hemoglobinopathies
- Galactosemia
- Biotinidase Deficiency
- 6 Amino Acid Disorders
- 5 Fatty Acid Oxidation Disorders
- 9 Organic Acid Disorders
- Cystic Fibrosis
- SCID
- Newborn Screening Workload
 - In 2013 received ~753,000 specimens (~386,700 newborns)
 - Specimens assayed and reported ~745,500
 - Test specimens Monday through Saturday
 - Average 2,450 specimens per day
 - ~7,400 unsatisfactory specimens (~0.98%)
 - In 2012 ~16,145 (~2%) specimens reported with presumptive positive results
 - ~800 cases diagnosed annually
- Quality Improvement Activities
 - Expedited submitter fax notification on unsatisfactory specimens
 - Revised submitter quality report cards-available online July, 2013
 - Monthly submitter calls to consult providers with highest unsatisfactory rates
 - Weekly recruitment/promotion of NBS Web Application (5 user contacts/week)
 - Complete redesign of NBS laboratory website
 - NBS transit time and courier services
 - Reconciliation of packing list
 - Server OS and SQL and Lab LIMS upgrades
 - NBS LEAN 6-Sigma projects
- Timeline of a specimen in the laboratory
 - Usually takes 5 days from day of receipt of specimen to the day results reported
- New College of American Pathologists (CAP) requirement on TAT
 - CBG.20140 Out-of-range/invalid results Phase II
 - Lab must report to the submitting location within 7 days of specimen receipt and within 3 days for specimens received for test requiring addition action (e.g. invalid or positive).
- Newborn Screening: Towards a Uniform Screening Panel and System
 - Section I – A uniform NBS panel
 - Section II – The System
 - Program evaluation
 - Cost-effectiveness analysis
 - Information gaps and a research agenda
 - Future needs

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- Turnaround Time Standards
 - Turnaround time in reporting screen-negative results should be improved
 - At a minimum, all results from the initial screening test (some states perform a second test later) should be available less than 5 days after the blood sampling for the first post-hospital discharge visit to be of use in this clinical visit and to facilitate awareness of lifelong screening. Most results should be available within two days of the specimen arriving in the laboratory, and specimens should arrive in the laboratories within three days of collection.
 - It is suggested that specimens be transported by courier services that allow for receipt at the testing laboratories within 24 hours.
 - Some conditions can be life threatening within a few days after birth, so it is desirable to initiate specimen processing within 24 hours of specimen receipt in the laboratory with a 5 days turnaround time between birth and the availability of the test results.
- Recommended Timeframes
 - Time of collection – 24-48 hours
 - Transit time – receive at lab within 24 hours of collection
 - Time to result for critical results – within 5 days of life
 - Time to result for all results – within 5 days of collection
- Second Tier Assay for CAH
 - Purpose – to dramatically cut false positive rate
 - Status
 - New LC/MS/MS installed
 - Method optimization is complete
 - Validation continues
 - 6 month pilot completed – analysis of results ongoing
 - Preliminary finding
 - Reduce false positive rate by ~50%
- Second Tier Assay for VLCAD
 - Purpose – to provide additional information to metabolic specialists
 - Status
 - Control materials – email sent out to metabolic specialists inquiring about genotypes for confirmed cases, and already receiving information back
 - Validation plan proposal is almost complete and then will need appropriate approvals
 - Optimizing current primers before beginning validation testing
- Electronic Data Transfer
 - Web-based demo entry and reporting
 - Available to any healthcare provider, username and password required
 - Users from 1,046 facilities submitting 75% of NBS specimens
 - ~2% of all demographics
 - ~12,000 results views per month
 - Monthly report cards available for all of 2013
 - HL7 file transfer functions for LIMS

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- Direct transfer of demographics and results between computer systems
- 3 large hospital systems fully implements (~10% of all specimens)
- Several facilities waiting to start implementation
- New facilities on hold pending system reevaluation
- Implementation of HB 411
 - HB 411 became laws in June, 2011 and made major changes to NBS specimen retention and residual use
 - Multiple internal processes, procedures and policies have been revised
 - Institutional Review Board policy has been revised
 - Opt-in for long term storage and possible research uses-effective June 1, 2012
 - Parent decision form and parent education form developed and distributed
 - ~49% of NBS have a parental decision form returned
 - 74% of those returned and valid give permission for public health research uses (36% of all newborns)
 - Survey of all submitters to identify challenges in returning parental decision forms
 - Worst performers tend to be large hospitals
 - Most common practice is to include Decision form in discharge packet with little or no explanation
 - Report card
 - Destruction process to start in May, 2014
- Texas Early Hearing Detection and Intervention (TEHDI)
 - CDC – 5 year grant \$162,000/year
 - Tracking and data integration electronic health records
 - HL7 Messaging IT Grants to offset facility implementation cost
 - On-going interoperability enhancement of management information system
 - Pilot Parent Support Group Project to reduce loss to follow-up/loss to documentation
 - HRSA – 3 year \$300,000/year
 - On-going interoperability enhancement of management information system
 - Development and updating of new and existing educational materials and training modules
 - Audiology engagement initiative to increase documentation and usage of the MIS
 - Pilot Parent Support Group Project to reduce loss to follow-up/loss to documentation
- Critical Congenital Heart Disease (CCHD)
 - US Health and Human Services (HHS) Secretary's Advisory Committee on Heritable Disorders in Newborns and Children (SACHDNC)
 - In 2010, recommended that CCHD be added to the newborn uniform screening panel
 - In 2011, endorsed by Secretary Sibelius
 - In 2013, Texas HB 740 added CCHD to core panel in 83rd regular session
 - Rules were submitted to DSHS Council on 2/27/2014
 - The seven defects classified as CCHD are:
 - Hypoplastic Left Heart Syndrome (HLHS)

Newborn Screening Advisory Committee

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Minutes**

- Pulmonary Atresia with intact septum (PA/IVS)
 - Tetralogy of Fallot (TOF)
 - Total Anomalous Pulmonary Venous Return (TAPVR)
 - Transposition of the Great Arteries (TGA)
 - Tricuspid Atresia (TA)
 - Truncus Arteriosus communis (TAC)
- CCHD is done by Pulse Oximetry Testing
- CCHD Activities
 - DSHS distributed survey to all birthing hospitals and birthing facilities to determine current readiness to implement CCHD screening
 - Preliminary data 60/96 (62.5%) perform CCHD screening
 - Preliminary data 48/60 (80%) of those performing CCHD screening use recommended algorithm
 - Funded TxPOP (Texas Pulse Oximetry Project), an educational initiative
 - Implementation planning has begun
 - Developed CCHD tool kit available on DSHS web site as well as Texas Pediatric Society web site
 - Contains multiple educational materials
 - DSHS funded TxPOP2 related to NICU protocols and rural hospitals
 - Educational initiative
 - Dr. Alice Gong and Dr. Charleta Guillory
- Potential New Conditions
 - Pompe
 - The Discretionary Advisory Committee on Heritable Disorders in Newborns and Children (DACHDNC) voted to add Pompe disease to the RUSP on May 17, 2013
 - HHS Secretary Sibelius requested the Interagency Coordination Council (ICC) to review with recommendations by July 31, 2014
 - Mucopolysaccharidosis Type 1 (MPS1)
 - DACHDNC sent to formal evidence review
 - X-Linked Adrenoleukodystrophy (X-ALD), Mucopolysaccharidosis Type (MPS 2)
- Other Program Updates
 - Grand Rounds continue
 - 2 speakers scheduled
 - Continued genetics activities
 - Committee members, Dr. Gong, Dr. Sutton and Dr. Stehl will be rotating off the committee in the next few months. These members are eligible to reapply.
 - David R. Martinez stated that they will quickly turnaround and solicit applications for the 3 members rotating off the committee. If the committee members are willing to, they can be considered for a new term.
 - Two new committee members as the result of HB 740 have been reviewed and two people have been recommended to Dr. Lakey for appointments to the committee, and he hopes to be able to announce them when he makes his recommendation and approval.

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- David R. Martinez informed the committee on some of the things going on with the Sunset Commission and wanted to point out some key dates.
 - March 6-7, will be visiting the valley and set up some visits with providers
 - May 21, Sunset Staff Report will be distributed to the Sunset Commission members and Legislative Membership Offices
 - May 22, DSHS will receive a copy of the report and the report will be released to the public on the 22nd as well
 - June 24-25, Sunset hearing related to DSHS, DADS, DARS, DFPS
 - August 16, Sunset Commission decision made

Transit Time for Bloodspots-Brendan Reilly

Brendan Reilly discussed with the committee the newborn screening transit times.

- Importance of Timely Specimen Delivery
 - Texas tests for 29 disorders
 - Some disorders may cause serious permanent damage within 5 days of life
 - Identifying and treating these disorders in the first few days of life can prevent
 - Serious physical issues
 - Developmental delays
 - Intellectual disabilities
 - Sudden or early death
 - Imperative to minimize the time from specimen collection to test result
- Specimen Collection Rules and Instructions
 - Texas Administrative Code (Rules)
 - Blood specimens must be mailed to the department within 24 hours after collection
 - Instructions
 - Must ship dried specimen within 24 hours
 - Do not hold specimens for bulk mailing. Send within 24 hours of collection
- Transit Time Education
 - In 2007, implemented original report card format that specifically targeted transit times
 - Online resources
 - Specimen shipping instructions
 - Specimen collection video
 - Guides to avoid delayed specimens
 - Yearly reminders prior to and during holidays
 - Quarterly quality improvement hints
- Quality Improvement Assistance for Healthcare Providers
 - Newborn screening email distribution list (>7,000 recipients)
 - Fax notifications
 - Educational inserts
 - Kit orders
 - Result reports
 - Submitter telephone consultation

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Minutes**

- Onsite presentations
- Texas Newborn Screening Performance Measures Project (TNSPMP)
 - September, 2007 – May, 2011
 - Identify and develop evidence based performance measures to improve patient care for newborns identified with disorders through the newborn screening program
 - Phase 1 – evaluate the program
 - Phase 2 – develop these evidence based performance measures
 - Lead to new report card
 - Annual reporting of the measures
 - Phase 3 – interventions
 - TNSPMP Phase 2 – Performance Measures
 - Measure / Goal
 - Specimens unsuitable for testing / 100% satisfactory specimens
 - Timing on initial NBS specimen collection / 100% collected 24 and 48 hours
 - Specimen transit time from collection to state laboratory / 100% received within 72 hours from collection
 - Specimen missing key demographic information / 100% submission of all key demographic information
- Courier
 - Pilot project started April, 2010
 - Expanded November, 2012
 - Routes statewide
 - Annual cost ~\$2.5 million
 - Deliver all different types of laboratory specimens not just newborn screening
 - 432 NBS submitter accounts
 - Of the 432, it was determined that 269 were NBS birthing facility accounts
 - Covers 67% of newborn screening specimens, so 2/3 of our specimens are delivered through our courier system
- Courier Affect on Delayed Specimens
 - Specimens received ≥ 5 days after collection
 - Before ~33%
 - After ~14%
 - Big improvement
 - Not 0%
 - LEAN 6-Sigma Project to improve courier efficiency
- New Report Cards
 - Produced monthly
 - Facility-specific data compared to state average
 - Available online since July, 2013
 - Reports available for January, 2013 forward
- Nationwide Attention

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- Baby that died with MCAD at 4 days of age in Colorado in 2009 and the mother of that baby has become a very active advocate regarding transit times
- Last November, 2013, Milwaukee Journal Sentinel article “Deadly Delays” came out
 - Series of articles that primarily criticized the hospitals for delaying transit of specimens, and critical of testing laboratories as well for lack of weekend and holiday testing and lack of transparency
- Subsequent media
 - Minnesota Post
 - NPR
 - WOAI San Antonio
 - Arizona Republic
- NBS Program Transit Time Improvement Initiative
 - Reassess issue / redouble efforts
 - Develop strategy for improvement
 - Implement transit time workgroup
 - Continue to pursue courier improvements
- Issue Re-Assessment
 - 2013
 - 392,358 first screens
 - ~400 birthing facilities and healthcare providers
 - 14.7% of all first screens received ≥ 5 days after collection
 - More than 200 birthing facilities had $> 5\%$ first screens delayed
 - Issue not isolated to any part of state
 - 25 facilities responsible for 50% of delayed specimens
- Strategy for Improvement
 - Target top 25 sites
 - Expand issue awareness / gather information
 - Identify submitter barriers and issues
 - Review and revise submitter education
 - Implement new and ongoing outreach initiatives
 - Pursue system improvements
 - Enhance monitoring
 - Expand scope to include other key quality measures
- 25 Target Sites
 - Courier status
 - 8 already using courier
 - 17 added between November, 2013 and January, 2014
 - All sites consulted regarding internal workflows
 - 2013 average – 1,950 delayed per month
 - February, 2014 – 413
- Expand Issue Awareness / Gather Information
 - Sent listserv notices

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Minutes**

- Quality improvement hint – delayed specimens around holiday closures (11/22/13)
 - Transit time – MJS article (12/13/13)
- Advised and consulted stakeholders
 - DSHS executive management
 - Newborn Screening Advisory Committee
 - DACHDNC
 - MSGRC
 - TMA, THA, TPS, MOD
- Contact 25 target sites
- Consulted 52 additional facilities with high percentage of delayed specimens
- Logged 115 inbound and outbound calls regarding transit times
- Onsite consultations by NBS Medical Director
- Submitter Barriers to Meeting the Timeframe
 - Cost of using an overnight courier for shipment of specimens
 - Limitations of DSHS courier
 - Use of hub hospitals as intermediary shipment points before sending to the laboratory
 - Batching of samples taken over multiple days before shipment due to cost concerns
 - Flawed systems and communications among departments within hospitals (i.e. nursery, lab and shipping)
 - Misinterpretation or miscommunication about the timeline for specimen collection, drying and shipment
- Survey of NBS Providers
 - Extended March 15
 - 283 completed
 - 50% hospital
 - 21% multi-physician office
 - 15% single physician office/clinic
 - 3% midwife
 - 2% birthing center
 - 9% other
 - Collections per day
 - 64% of respondents say their facility collects < 5 specimens/day
 - 20% of respondents say their facility collections 5-9 specimens/day
 - 16% of respondents say their facility collects 10+ specimens/day
 - 46 people would like to be contacted about transit times
 - Barriers to meeting recommended timeframe
 - Courier does not pick up on weekend – 67%
 - Ship specimens to an intermediary facility – 30%
- Revised Submitter Education-Specimen Transport
 - All newborn screening specimens should be received in the laboratory no later than 3 days after collection
 - Ship dried specimens within 24 hours preferably via overnight courier

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- Do not delay shipment of newborn screening specimens
- Do not batch or hold dried specimens for shipping
- Ship dried specimens directly from the collection facility to the newborn screening laboratory
- Model Birthing Facility Workflow
 - Developed in consultation with sites with excellent transit time performance
 - Distributed to NBS submitters via
 - NBS Listserv
 - Kit order inserts
 - Mailed result reports insert
 - Texas Hospital Association Newsletter
 - Upcoming NBS Program Newsletter
 - Added to NBS Program educational materials
 - Web resources
 - Online CE module
- Revised Submitter Education – Report Cards
 - Monitor/review your facility’s transit times on the monthly newborn screening report card
 - Identify possible process improvements at your facility to minimize transit time
 - Contact the newborn screening laboratory for assistance if needed
- New Outreach Initiatives
 - Monthly assessment of 10 facilities with highest volume of delayed specimens in previous month
 - Assess ability to add to courier
 - Consult facility on transit time issues
 - Follow up the subsequent month to discuss progress
 - Live webinar outlining transit time issues and recommendations
 - Letter from Dr. Lakey and Texas Hospital Association to hospital executives
 - Quarterly assessment and consult of lower volume sites with high delayed transit percentage
 - Onsite newborn screening presentations including information on transit times
 - NBS Newsletter
- Upcoming Outreach Initiatives – Spotlight Recognition
 - Monthly recognition
 - Facility with best overall adherence to performance measures
 - Top performing sites for transit time
 - Future versions will include top performers for specimen collection timing
- Courier System Limitations
 - Initiated as a pilot project with limited funding
 - Does not cover all facilities
 - Does not include pickups on weekends or major holidays
 - Set up as a single tier service that included special handling for all shipments
 - Includes all types of DSHS laboratory specimens
 - Cost is not reduced for shipments that do not require special handling (e.g. NBS only)
 - NBS Specimens collected on Fridays after the courier pickup or during a holiday

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March 6, 2014 via Conference Call
Minutes

- Picked up on Monday
- Delivered Tuesday
- Cannot meet 72 hour goal
- Requires provider to arrange separate overnight courier to handle weekends and holidays
- Courier System Improvements
 - Added pickups on many major holidays
 - Received approval for additional funding to add weekend pickups for existing courier sites
 - Awaiting final approval
 - Target start date – Sunday, March 16
 - Planning to extend current courier contract 4 months
 - Developing new 2 tiered request for proposal
 - Tier 1 – facilities that ship all types of laboratory specimens
 - Tier 2 – facilities that ship NBS specimens only
 - Initiating new pilot project for overnight delivery of shipments with NBS Only
 - Goal is to cover delivery of 100% NBS specimen submissions under new DSHS courier RFP
- Status as of February, 2014
 - 14.6% delayed time down to 6.5%
- Next Steps
 - Expand courier
 - Maintain outreach activities
 - Refocus on transit time goal of delivery within 72 hours (≥ 4 days)
 - Expand submitter tracking and education to include specimen collection timing

Secondary Panel-David R. Martinez

David R. Martinez wanted to give the committee a brief update and recognize this very important agenda item that the committee has been talking about for quite some time. Mr. Martinez stated that information is being prepared for executive committee. The laboratory and Clinical Care Coordination has provided information for consideration by Dr. Lakey. If funds can possibly be used that are existing, secondary panel could go forward. Mr. Martinez said that he was unable to tell the committee exactly where we hope it is going to fall, but we know that Dr. Lakey has been very successful in the past looking internally to see if there if funding is available to do something like this. Mr. Martinez acknowledged that the committee is very passionate about this issue and wants it to go forward, but he wanted to assure them things are looking positive and we are hoping that we will be able to give them some news.

Recommended Uniform Screening Panel-Conditions Under Consideration-Susan Tanksley, Debra Freedenberg

Dr. Tanksley wanted to add a little more information to the brief update by Dr. Freedenberg on the Newborn Screening Updates.

- Pompe
 - Recommended for addition to the Recommended Uniform Panel by the Discretionary Advisory Committee in May, 2013
 - Recommendation sent to the Secretary of HHS

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- She recently referred that recommendation to the ICC for them to review and gave them a deadline of July 31, 2014 to make their recommendation to her
- Expect sometime in August, we will get a recommendation from the HHS Secretary as to whether to add Pompe to the Recommended Uniform Panel or not
- MPS1 vote will be delayed until the September, 2014 meeting
- At the January, 2014 meeting of the Discretionary Committee, the committee voted to move XALD to the condition review process

Health Information Technology/HL7 and Quantitative Reporting-Brendan Reilly

Brendan Reilly gave the committee a report on HL7 and NBS reporting models as opposed to just quantitative reporting. Mr. Reilly has three main discussion items.

- Status of HL7 Messaging in Texas NBS Program
- Plan Forward
- Review Possible Reporting Models
- HL7
 - Health Level 7
 - Seventh layer of the ISO OSI Reference model
 - Focuses on application layer protocols for the health care domain
 - Specifies standards by which various healthcare systems can communicate with each other
 - Defines a standard syntax or grammar for formulating the messages that carry the healthcare information
 - Allow information to be shared in a uniform and consistent manner
 - Allow healthcare organizations to easily share clinical information
 - Standard Envelope
- HL7 Interfacing and NBS
 - Order Results Interface
 - Healthcare provider information systems sends test orders to lab
 - NBS Lab information system sends results to submitting facility information system
 - NBS labs send data to Health Information Exchanges or State / National Databases
- Benefits of HL7 in NBS
 - Healthcare Provider Benefit
 - Eliminate hand entry of demographic information
 - Requires critical fields reducing delays and un-sats
 - Meet meaningful use requirements
 - NBS Lab Benefit
 - Automates data entry
 - Eliminates handwriting interpretation
 - Improves the quality of data received by the laboratory
 - NBS Community Benefit
 - Improve screening methods
 - Better clinical research, treatments and outcomes
- History of HL7 in Texas NBS

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- 2008 – laboratory worked with a vendor to develop a custom newborn screening HL7 message
- 2009 – started implementing individual interfaces with different hospital systems
 - First one was with Texas Hospital Resources that included 10 different submitting facilities
- 2011 – two additional implementations
 - Parkland Hospital System – 11 facilities
 - Christus Hospital System – 15 facilities
 - NOTE: Since that time, additional facilities have been added on
- End of 2011 – the Public Health Informative Institute (PHII) and the National Library of Medicine (NLM) in conjunction with HRSA released the guidelines for the content of this HL7 message
- After we had our own custom version that looked very different from the guidelines given at the end of 2011, so at that time additional set ups were put on hold allowing us to reassess the system and learn about the new guidelines
- **Current Status**
 - Overall ~10% of NBS specimens statewide
 - 3 hospital systems
 - Total of 39 hospital facilities
 - 7 representatives interface systems – 1 hospital system is split into 5 distinct regions
 - In contact with interest representative of 17 healthcare systems/hospitals
 - Separate format message sent to other DSHS programs
- **Proposed Plan Forward**
 - Do not add new interfaces under current system
 - Develop new message format allowing PHII/NLM/HRSA guidelines
 - Incorporate HL7 messaging with upcoming request for proposal for Newborn Screening Laboratory Reagents, Analytical Testing Equipment and Information Management System
- **Benefits of Following Guidelines**
 - Standardizes message layout
 - Incorporates standardized LOINC coding
 - Streamlines interoperability with
 - Healthcare providers
 - Health information exchanges
 - HER/HIS vendors
 - Other NBS Programs (COOP)
- **Gather Information/Develop Specifications**
 - Assess reporting models (qualitative/quantitative)
 - Map LOINC codes
 - Identify appropriate codes for Texas results
 - Request new codes as needed
 - Develop specifications
 - Compose implementation tools

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- Potential partner assessments
- Development guides
- Reporting Models
 - Gathered examples from other state NBS programs
 - 3 models currently in use
 - 1 model not in use, but planned by at least 2 states
 - Consulted with other state programs and national experts
 - Requested input from Texas NBS consultants
 - Request guidance from NBS Advisory Committee
- Reporting Models Notes
 - Intended that if the reporting model changes, screening result notes and guidance would continue to be included
 - The following models are examples only
 - If reporting model changed, actual report format will be proposed at a later date
- Model 1 – Qualitative for all Test Results
 - Current Texas NBS reporting model
 - Only model that would allow us to maintain current HL7 system alongside new system
 - Analytes and analyte results are only displayed if used to determine an out of range result
 - Any analyte results displayed are qualitative interpretations such as “Elevated”, “Borderline” or “Low”
- Model 2 – Partial Quantitative for All Test Results
 - Analytes and analyte results are displayed only if used to determine an out of range result
 - Any analyte results displayed are quantitative as numeric values (the concentration of each analyte)
 - Reference ranges are also displayed
- Model 3 – Quantitative/Partial Quantitative
 - Quantitative for non-MS/MS
 - Quantitative analyte values and reference ranges are always displayed regardless of result
 - Partial quantitative for Ms/MS test results
 - Analytes, quantitative analyte values and reference ranges are displayed only if used to determine an out of range disorder result
- Model 4 – Quantitative For All Test Results
 - Analytes, quantitative analyte values and reference ranges are displayed regardless of result for disorders
- Consultant Survey Response
 - 5 respondents
 - 4 hematologists
 - 3 prefer model 1
 - 1 prefers model 2
 - 1 endocrinologist – prefers model 3

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Fifty Years of Newborn Screening-William Morris

Chairman Morris asked that this agenda item be tabled until the next meeting when a quorum is present.

Public Comments

None

Adjournment

The next meeting will be held on Friday, June 20, 2014 at 10:00 a.m. via conference call in the DSHS conference room M2-204 located on the second floor of the Moreton Bldg., 1100 W. 49th Street. There being no further business, the meeting was adjourned at approximately 2:00 p.m.