

CHRONOLOGY OF NEWBORN SCREENING IN IOWA

- ❖ 1965—State Legislature enacted a law which recommended testing infants for Phenylketonuria (PKU).
- ❖ 1966—The University Hygienic Laboratory (UHL) began providing PKU testing services to the Child Development Clinic-Department of Pediatrics at The University of Iowa. In addition to the testing, the University Hygienic Laboratory initiated a PKU performance evaluation program for clinical labs in Iowa utilizing both the Guthrie Assay and an automated quantitative fluorometric analysis.
- ❖ 1979—Analytical testing transferred in April 1979 from University Hygienic Laboratory's Consultation and Development Division in Iowa City to the Des Moines branch laboratory's biochemical services section. Testing is voluntary throughout Iowa.
- ❖ 1980—Pilot testing initiated at several large hospitals for four diseases: Galactosemia, PKU, MSUD, and Hypothyroidism. (Federal grant funding).
- ❖ 1981—Newborn Screening was made available to all infants.
- ❖ 1982—The UHL was designated "*Iowa's Central Screening Authority*". Federal funding ceased and the UHL began "fee for service". Private or hospital laboratories were still authorized to perform screening tests if they followed UHL *Central Authority* protocol and reported their results to the Birth Defects Institute of the Iowa State Department of Health.
- ❖ 1983—Amendment to 136A of Iowa Code - Authorized Birth Defects Institute (BDI) of The Iowa State Department of Health (ISDH) to establish policy for newborn screening in Iowa. UHL screened 56% of recorded births. Screening is now mandatory at either the central laboratory (UHL) or an approved laboratory.
- ❖ 1984—Last ½ of fiscal year the UHL won contract as the *Central Screening Laboratory*. All hospitals are now required to send specimens to UHL only.
 - Collection guidelines were changed from 72 hours after birth to 48 hours.
- ❖ 1985—Monthly editorials of laboratory Hotline utilized for presentation of statistical data and notices related to neonatal screening.
- ❖ 1987—Pilot program initiated for testing hemoglobin disorders (May 1987 - Dec. 1987) at high-risk urban areas.
- ❖ 1988—In February Hemoglobin screening is initiated statewide.
- ❖ 1989—Iowa participated in the blinded national survey of the prevalence of HIV infection in childbearing women.

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- ❖ 1990—Pilot testing began in March for Congenital Adrenal Hyperplasia (CAH) and lasted 13 months.
- ❖ 1991—CAH testing added to INMSP in April.
- ❖ 1992—July, North Dakota contracts with UHL to conduct screening of newborns. Screening done for all tests except Hemoglobins.
- ❖ 1993—The INMSP laboratory evaluated new microtiter assays for Hypothyroidism and Congenital Adrenal Hyperplasia. (DELFI A modular system)
- ❖ 1994—Pilot studies were conducted on automated procedures for Phenylalanine and Galactosemia. Information from the study was presented at the 10th National Neonatal Screening Symposium in Seattle, Washington.
- ❖ 1995—The INMSP laboratory introduces automated quantitative screening for PKU and GALT.
 - Maple Syrup Urine Disease was dropped from the INMSP test battery
 - Collection guidelines were changed from 48 hours after birth to 24 hours
- ❖ 1996—New DELFI A (modular system) technologies for Hypothyroidism and Congenital Adrenal Hyperplasia were introduced in the laboratory (TSH only as primary screen - dropped T₄). These procedures replaced radioactive techniques with an accurate and more rapid turn around time for our participants.
- ❖ 1997—The INMSP laboratory purchased a BioRad HPLC as an added screening method for Hemoglobinopathy testing.
- ❖ 1999—A new Y2K compliant Database was installed that also gave the follow-up staff access via the World Wide Web.
 - The laboratory purchased a Tandem Mass Spectrometer instrument to begin studying the efficacy of testing for MCAD (medium chain acyl-coA dehydrogenase) deficiency.
- ❖ 2000—Sept 1 Iowa and ND began pilot testing for MCADD.
- ❖ 2001—August 1, MCAD deficiency testing became routine (mandatory) for IA.
- ❖ 2001—October 1, IA began pilot testing the Expanded MS/MS Panel.
- ❖ 2002—March, IA began pilot testing Biotinidase.
- ❖ 2002—July 1, IA added Biotinidase testing and changed the method of testing PKU from Isolab fluorometric to MS/MS.

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- Nov. 15, ND started pilot testing for Expanded MS/MS.
- ❖ 2002—July, Nebraska contracts for MS/MS testing.
- ❖ 2003—April 1, Biotinidase, Hemoglobinopathies, and MCADD added to the ND screening panel.
 - Aug. 1, IA began reporting the Expanded MS/MS Panel.
- ❖ 2004—August 5, ND began reporting the Expanded MS/MS Panel.
 - June 3, 2004 IA & ND removed 5 OxoPro and 2,4 Dienoyl-CoA Reductase Deficiency from expanded panel.
- ❖ 2005
 - July 18, IRT/DNA testing was begun for the implementation phase of the Cystic Fibrosis pilot for Iowa (reported HET's and DFNT but not negatives).
 - September 8 began screening LA specimens due to Hurricane Katrina using a reduced MS/MS panel and no CAH.
 - Sept. 9, IA & ND removed Ornithine & Glycine from the MS/MS Panel.
- ❖ 2006
 - ND adds CF to screening panel Jan. 1
 - Feb 1, Iowa began using CDS Courier
 - August 1 added CAH panel to LA
 - Iowa began reporting for CF Sept. 1
- ❖ 2007
 - June 1, Iowa began screening for SD using same panel as Iowa/North Dakota and using ICS Courier
 - Began screening CF for LA July 1
 - July 1 – Changed IRT cut-off from highest 5% to ≤ 65 to reflex to CFTR (DNA)
 - November 10, last day received LA samples for full panel (continued CF until August 31, 2008)
- ❖ 2008
 - June 1 – ND began using ICS Courier
- ❖ 2009
 - April – TYR type I (SUAC) pilot began (MS/MS)
 - Dec 7 – no longer testing upper 5% for 17-OHP and TSH; Began new CAH kit (new ranges)

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- ❖ 2010
 - April – TYR type I (SUAC) officially part of NBS Panel
- ❖ 2011
 - March – Stopped requesting repeat screens for HB traits
- ❖ 2013
 - June – Pilot screening for SCID began (Iowa only)
- ❖ 2014
 - July 1 – SCID officially part of NBS panel (Iowa only)
- ❖ 2015
 - September 1-SCID officially part of NBS panel for SD