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Critical Congenital Heart Disease~ Failed Screening Report Summary

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Legislative Interim Committee on Health Care
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Nevada Critical Congenital Heart Disease Failed Screening Report Summary

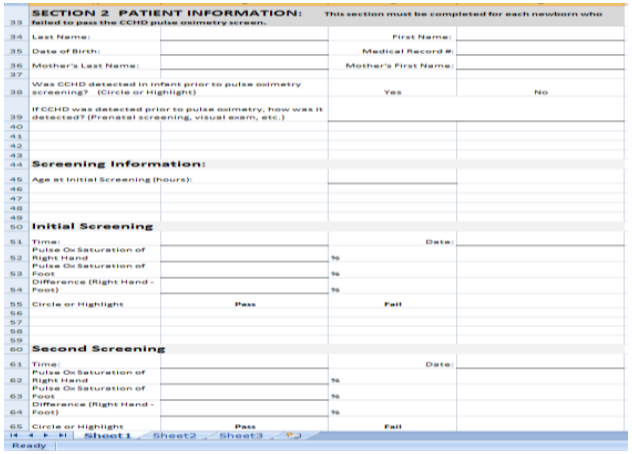
- SB 92 – July 1, 2013- March 1, 2014

  Birthing hospitals which currently screen for CCHD using Pulse Oximetry must report positive screening results to Nevada Division of Public and Behavioral Health

Courtesy of Children's National Medical Center 4-29-2014

Critical Congenital Heart Disease (CCHD)

- Information reported must include:
  - Existing knowledge of critical congenital heart disease prior to the pulse oximetry screening (in utero)
  - Measures taken by the hospital due to the positive Pulse O^2 result



33	**SECTION 2 PATIENT INFORMATION:** This section must be completed for each newborn who failed to pass the CCHD pulse oximetry screen.			
34	Last Name:		First Name:	
35	Date of Birth:		Medical Record #:	
36	Mother's Last Name:		Mother's First Name:	
37				
38	Was CCHD detected in infant prior to pulse oximetry screening? (Circle or Highlight)		Yes	No
39	IF CCHD was detected prior to pulse oximetry, how was it detected? (Prenatal screening, visual exam, etc.)			
40				
41				
42				
43				
44	**Screening Information:**			
45	Age at Initial Screening (hours):			
46				
47				
48				
49				
50	**Initial Screening**			
51	Time:		Date:	
52	Pulse Ox Saturation of Right Hand		%	
53	Pulse Ox Saturation of Foot		%	
54	Difference (Right Hand - Foot)		%	
55	Circle or Highlight	Pass	Fail	
56				
57				
58				
59				
60	**Second Screening**			
61	Time:		Date:	
62	Pulse Ox Saturation of Right Hand		%	
63	Pulse Ox Saturation of Foot		%	
64	Difference (Right Hand - Foot)		%	
65	Circle or Highlight	Pass	Fail	

Sheet1 Sheet2 Sheet3

Ready

CCHD Screening in Nevada

- 6 Hospitals in Nevada currently utilize Pulse Oximetry to screen for CCHD
- Participating Hospitals began submitting data in July of 2013:

  - Banner Churchill Community Hospital- Fallon, NV
  - Carson Tahoe Regional Medical Center- Carson City NV
  - Renown Regional Medical Center- Reno, NV
  - St. Rose Dominican, Siena Campus- Henderson, NV
  - Sunrise Children's Hospital –Las Vegas, NV
  - University Medical Center (UMC) – Las Vegas, NV

Pulse Oximetry Results

- Data was collected between July 1, 2013 – March 31, 2014
  - 5087 screens were reported from the 6 participating hospitals
  - 12 failed screens were reported in this time period
  - 2 of the failed screens resulted in a “normal” diagnosis
  - None of the failed screens were identified by other methods prior to the Pulse Oximetry screen

Confirmation of CCHD

- Infant referred to a Physician/Specialist ~
  83.3% (10/12 babies)
- Echocardiogram ~
  41.67% (5/12 babies)
- Infant transferred to a higher level of care ~
  33.3% (4/12 babies)
- Clinic or office follow up ~
  25% (3/12 babies)
- Infant place on oxygen ~
  8.33% (1/12 babies)

Critical Congenital Heart Disease Prevalence Rates in Nevada ~ 2008-2012

- 196 CCHD diagnosed over a 5 year period
- 10.37 per 10,000 live births

	Numbers	10,000 Live Births
1. Hypoplastic left heart syndrome (CCHD; ICD-9 =746.7)	40	2.12
2. Pulmonary atresia with intact septum (CCHD; ICD-9 =746.01)	22	1.16
3. Tetrogy of Fallot (CCHD; ICD-9 = 745.2)	72	3.81
4. Total anomalous pulmonary venous return TAPVAR(CCCHD; ICD-9=747.41	13	0.69
5. Transposition of the great arteries (CCHD; ICD-9=745.11)	19	1.00
6. Tricuspid valve atresia (only atresia without stenosis) ICD-9 746.1 * We only have atresia and stenosis combinded for this anomaly*	20	1.06
7. Truncus arteriosis (common truncus) (CCHD; ICD-9=745.0)	10	0.53
TOTAL	**196**	**10.37**

Source: Nevada Division of Public and Behavioral Health (2014). *Critical Congenital Heart Disease Prevalence Rates*. Carson city : Office of Public Health Informatics and Epidemiology.

Feedback from Participating Hospitals

- Time required to administer screenings is minimal and does not impact work-load adversely
- The number of failed screens that resulted in a normal finding was not excessive
- Cost-effective screening
- Most facilities have equipment available

Existing CCHD Screening Programs

- Kentucky
- Maryland
- Michigan
- Minnesota
- Missouri
- New Hampshire
- New Jersey
- New York
- Pennsylvania
- Tennessee

CCHD Pilot Programs

- Utah
- Colorado
- Washington
- Wyoming

CCHD Conclusion

- One quarter of the States in this Country have implemented CCHD screening or have begun the feasibility processes
- CCHD is the most commonly identified birth defect in the United States[1] (approximately 18 per 10,000 births)
- CCHD accounts for nearly 30% of infant deaths due to birth defects. It is estimated that about 300 infants with an unrecognized CCHD are discharged each year from newborn nurseries in the United States[1].

Source: Centers for Disease Control and Prevention, (2013, May 13). Screening for Critical Congenital Heart Defects. Atlanta, Georgia

Citations

1. Nevada Division of Public and Behavioral Health (2014). *Critical Congenital Heart Disease Prevalence Rates*. Carson city : Office of Public Health Informatics and Epidemiology.

2. Centers for Disease Control and Prevention, (2013, May 13). Screening for Critical Congenital Heart Defects. Atlanta, Georgia.

Thank You!

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This presentation was produced by the Newborn Screening Program of the Nevada Division of Public and Behavioral Health.