

December 6, 2018

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balladhealth.org

John J. Dreyzehner, MD, MPH, FACEOM
Commissioner
Tennessee Department of Health
710 James Robertson Parkway
Nashville, TN 37243

Re: 3rd Letter Related to Ballad Health's Request to Coordinate Newborn Services

Dear Commissioner Dreyzehner,

Ballad Health ("Ballad") is writing to provide you with additional details related to the transportation and technology connectivity which support our proposed system-wide approach to newborn care. We hope this information will be helpful as you consider our November 12, 2018, request to better align our neonatal services in the region with the State's plan for regionalization of neonatology services.

Neonatal Transport Services

Neonatal transport services are a critical component of our plan to coordinate infant care services across the region. The Northeast Regional Perinatal Center was established pursuant to Tennessee's plan for regionalization of high-risk newborn care in 1987. This designation by the State requires that we coordinate and ensure the provision of perinatal care, inclusive of obstetrics and newborn care. A key part of the regional perinatal plan is the commitment to facilitate seamless transport service for newborns. In 2016, Johnson City Medical Center and Niswonger Children's Hospital elevated that commitment by achieving Perinatal Certification by the Joint Commission. Today, Ballad provides a coordinated system of transport which serves the entire region, and we are committed to maintaining transport coverage across the region for our most vulnerable patients.

Under our existing model, the Northeast Regional Perinatal Center team works in conjunction with the Niswonger Children's Hospital team to ensure transport services maintain a high standard of care. Both teams work together to meet the quality of care and provider educational requirements. The Northeast Regional Perinatal Center provides the following services:

- Education and training for registered nurses and respiratory therapists who desire to join the transport team;

- Oversight of the quality improvement efforts for transport and any process improvement projects;
- Coordination of transport team meetings;
- Maintenance of all regulatory requirements for both ground and air transport; and
- Data collection and dissemination.

The Niswonger Children's Hospital Transport Team consists of nine (9) registered nurses and ten (10) respiratory therapists. All of these providers assist with ground transportation. Six (6) of these nurses and six (6) of these respiratory therapists are dually qualified to support both ground and air transport of neonates. The respiratory therapists focus primarily on airway stabilization and assistance with resuscitation. The registered nurses on this team must be able to perform advanced skills specific to newborns, including intubation, umbilical arterial and venous catheter placement, thoracentesis, chest tube placement, and radial arterial punctures. Neonatologists and/or neonatal nurse practitioners accompany the Transport Team when necessary. Ground transportation care support is provided by Ballard EMTs or paramedics. The Transport Team provides 24/7 in-house and on-call coverage for transports in our region every day of the year.

Ballard contracts with Wings Air Rescue service for helicopter transports, and ground transports are provided by the Niswonger Children's Hospital dedicated ambulance which is located on, and deployed from, the hospital's campus. Ballard contracts with Washington County, Tennessee's Emergency Medical Services for transports within Washington County and as a backup for the Niswonger Children's Hospital ambulance team. Coordination of the transports is handled through the MDConnect communication system.

*A recent experience provides an example of how this transport system works. A pregnant mother presented at a rural hospital in our region which did not have obstetric services. The mother needed an emergency Cesarean Section, and was transferred to the closest hospital, which was outside the Ballard system. Niswonger Children's Hospital was contacted, and the transport team was deployed. In this particular case, **the transport team made it to the hospital before the mother even arrived.** This baby was delivered at a hospital more than one hour away, and was successfully transferred to the regional perinatal center at Niswonger Children's Hospital by ambulance shortly after birth. This is not a terribly unusual circumstance, as we have pointed out in a previous submission that more than 500 transfers have occurred from outside Washington County in the last 24 months, with some transfers coming from as far as two hours away.*

The proposed consolidation of NICU services will create two specific changes related to transport services. First, babies delivered at Holston Valley Medical Center that need high-level NICU services will now be transferred the short distance to Niswonger Children's Hospital. The new transport procedures we propose to use at Holston Valley Medical Center are the same transport procedures currently in place for babies born at Bristol Regional Medical Center who are transferred to Niswonger Children's Hospital. These transport and support protocols have been successfully used at Bristol Regional Medical Center for many years. In fact, over the last three

years, an increasing number of babies born at Bristol Regional Medical Center in need of NICU services have been transferred to Niswonger Children's Hospital directly.

Calendar Year	Babies Born at Bristol Regional Medical Center transferred for NICU Services	Percent of these Babies Transferred to Holston Valley Medical Center NICU	Percent of these Babies Transferred to Niswonger Children's Hospital
2016	38	68%	32%
2017	62	50%	50%
2018 (YTD)	64	33%	67%

After the proposed consolidation of NICU services, both Bristol Regional Medical Center and Holston Valley Medical Center will have Level I nurseries. If a baby born at either facility requires high-level NICU services, the infant will be transported the 24 miles from Holston Valley Medical Center, or the 24 miles from Bristol Regional Medical Center, to Niswonger Children's Hospital. Our successful history of transport between Bristol Regional Medical Center and Niswonger Children's Hospital, and the fact that the distance from either facility to Niswonger Children's Hospital is nearly the same, gives Ballad confidence that the proposed transport changes at Holston Valley Medical Center will work as successfully as they have for many years at Bristol Regional Medical Center.

Secondly, the consolidation will create the need for another perinatal transport team. In addition to the existing Niswonger Children's Hospital Transport Team that supports both helicopter and ambulance transports, Ballad will establish a second perinatal transport team dedicated to supporting ground transportation. Currently, all Holston Valley Medical Center NICU nurses are required to be ground-transport-competent due to the small number of staff members in Holston Valley Medical Center's NICU. Ballad is currently reviewing the transport competencies of all fifteen (15) Holston Valley Medical Center NICU nurses and will offer updated transport courses to any of these NICU nurses who desire to be a part of the new ground transport team. We have started work to integrate transport services in an effort to have the second transport team in place by March, 2019. We recognize having a seamless transfer process for all rural facilities is foundation to this consolidation.

Our geographic region occasionally faces weather conditions that may complicate transportation plans. To address transport needs during inclement weather, Ballad is reviewing its inclement weather policies for the perinatal transport teams to ensure that they are consistent with industry standards. The Mayo Clinic inclement weather decision model, which is used at Monroe Carell Jr. Children's Hospital at Vanderbilt, is being used as the basis for the updated Ballad inclement weather guidelines. We have attached the Mayo Clinic inclement weather decision diagram for reference. Ballad's inclement weather policy will be finalized by January, 2019.

While the ideal care model for high-risk deliveries is the timely transfer of mothers prior to the neonate being born, we know this is not always feasible. Under our new transport services plan, we will have nearly twice as many providers available for perinatal ground transport in addition to our existing air and ground transport team. Going forward, transport teams will be immediately deployed to a Ballard facility in anticipation of a high-risk delivery outside of Johnson City. The addition of a new transport team, and the improved coordination of all transport professionals and logistics, will allow Ballard to initiate high-level care for newborns across our region as soon as possible.

Telemedicine Services

The utilization of telemedicine services is a second critical component of our plan to coordinate infant care services. As described in our November 12th letter, Ballard will continue to offer Level I nursery services in the following locations:

- Kingsport, Tennessee;
- Bristol, Tennessee;
- Johnson City, Tennessee;
- Wise County, Virginia;
- Greeneville, Tennessee; and
- Abingdon, Virginia.

Niswonger Children's Hospital in Johnson City, Tennessee, will serve as the region's Level III NICU. The expanded use of telemedicine will allow the neonatologists and other perinatal specialists resident at Niswonger Children's Hospital to be available at a baby's bedside regardless of the Ballard hospital where that baby is born.

It is important to note that the current physician staffing patterns at Holston Valley Medical Center's NICU resemble a typical daily shift, with the neonatologists departing the facility in the afternoon. There is a neonatologist on-call 24/7, but a neonatologist may not physically be in-house during significant blocks of time when an emergency delivery may occur. As cited below, the use of telemedicine has been shown to reduce newborn transfers significantly.

In the event that an unexpected high-risk delivery occurs at a location outside of Johnson City, Ballard will use telemedicine to facilitate real-time neonatology consults with that Level I nursery. Today, Ballard currently uses an Avizia telemedicine system for pediatric emergency department consults between Niswonger Children's Hospital and ten (10) other facilities. This system allows for visual support as well as accessories such as a stethoscope, otoscope, and dermal camera to achieve an adequate assessment. Ballard will make Avizia telemedicine equipment, which consists of a rolling cart with accessories, available at all of Ballard's Level I nurseries. The telemedicine link will allow the consulting Niswonger Children's Hospital provider to connect with the Level I nursery and will provide both visual and auditory connections between the sites.

The Avizia system will also allow multiple providers to participate in the telemedicine consultation from different locations. For example, a neonatal nurse practitioner and physician may connect with the Level I nursery from inside Niswonger Children's Hospital and a specialist may join the call from his or her home computer through an encrypted connection.

Telemedicine neonatology consultations are most commonly requested when a baby is born at a Level I nursery without an identified high-risk condition but experiences respiratory depression. In these cases, a telemedicine connection would allow the providers at the Level I nursery to connect with the specialists at Niswonger Children's Hospital to stabilize and resuscitate the infant – services that are well within the scope of a Level I nursery and a core competency of the staff. The use of telemedicine with an on-site resuscitation team has shown to improve team efficiency and augment the performance and effectiveness of resuscitation efforts.¹ The telemedicine consultations may also help reduce unnecessary transports to Niswonger Children's Hospital if a newborn can be stabilized on-site. In a study from the Mayo Clinic, the use of telemedicine links to NICU specialists reduced transports from small hospitals by thirty percent.²

The Avizia technology is already in use at ten (10) of Ballad's facilities for Emergency Department assistance. As part of our regional newborn care strategy, we will expand the telemedicine technology to all of Ballad's Level I nurseries by the end of 2019. The Holston Valley Medical Center NICU will implement this technology before the NICU consolidation occurs at Niswonger Children's Hospital. We are confident that this technology will allow us to expand access to the Niswonger Children's Hospital specialists by bringing NICU consultations directly to a newborn's bed.

The implementation of a regional approach to newborn care is designed to expand access to care and help patients receive specialized attention in the shortest amount of time possible. The transport strategy and telemedicine plans described above will help us achieve these goals across the Ballad system.

We appreciate the opportunity to share additional details about our plans with your office. Please let us know if you need any additional information.

Sincerely,



Alan Levine

¹ Scheans, P. (2014). Telemedicine for neonatal resuscitation: an innovative use for technology. Neonatal Network 33(5); 283-287.

² Wicklund (2016). Telemedicine helps small hospitals reduce NICU transports.

<https://mhealthintelligence.com/news/study-telemedicine-helps-small-hospitals-reduce-nicu-transports>

cc: M. Norman Oliver, MD, MA
Commissioner
Virginia Department of Health

Herbert H. Slatery III
Tennessee Attorney General

Janet M. Kleinfelter
Deputy Attorney General

Jeff Ockerman, Director, Division of Health Planning
Tennessee Department of Health

Larry Fitzgerald
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Erik Bodin, Director, Office of Licensure and Certification
Virginia Department of Health

the use of night vision
portion of the trip.
road type.

the familiarity with
equals at least three times
ns. **Ground** – Use the
etermine visibility:
html. Click on
arts”.

nine if you are in
r if you have any
ent. **Ground** – Indicate

the medical crew members
12 hours. **Ground** –
or operators if both
be used.

Ground – Indicate rest in
t for all crew members.

FORMATION

is on the non-patient
a second crew member
of the ambulance to
n situation awareness.

be equipped with
includes, but is not
ving items: cell phone/
gency triangles, and
maps of the region.
always have at least

have oxygen sufficient
ent transport or a plan
r replace oxygen.

drivers if the mission
f greater than 100 miles.

of red lights and siren
Very few transports
on bad roads. Opt for
conditions.

RISK REDUCTION

If the Risk Assessment Tool scores the risk as greater than 30 or the crew decision is no transport with a risk score less than 30, the following persons will be contacted to discuss methods to reduce risk or to make a no transport decision:

- For a Mayo One flight, the crew must call the Aviation Site Manager or the Manager on Call.
- For a Gold Cross interfacility transport, the crew must call the Supervisor.
- For Flight Team by ground transport, the crew must call the ground site supervisor.

Potential options to consider include:

- Different, fresh crew.
- Different route, consider using main roads.
- Considering taking the trip after a rest period.
- Turn down the transport if weather conditions are unsafe and take the trip when weather and roads are safe. Rescore the tool in 30 minute increments if weather is the key risk factor.

MAYO CLINIC | mayoclinic.org
200 First Street SW | Rochester, MN 55905

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MC1578-16rev0812



RISK ASSESSMENT TOOL

AIR + GROUND



This Risk Assessment

be used prior to each inter-
by ground and at the start
Selected elements of the
for other transports. The
assessment is to:

- Evaluate the safety of e
ground transport
- Provide collaborative con
all parties participating i
- Increase safety awarene
members when transpo
- Have transport crews di
make a trip safer when
are present

A phone or in person disc
between all team membe
transport and the Risk Ass
be completed.

INSTRUCTIONS

- **Box 1: Air** – Pilot exper
to for current shift. **Gro**
experience with Gold C
- **Box 2: Air** – Determin
Ground – Assess road
following websites:
 - Minnesota: www.511
 - Wisconsin: www.511
 - Iowa: www.511ia.org
 - Other sources of info
state highway patrol,
transportation or loc
- **Box 3: Air** – Indicate i
the trip will occur fro
Ground – Use the NC
www.noaa.gov/wx.ht
“Active Weather Alert

Time _____



GROUND • GOLD CROSS

Date _____
 Run # _____ Time _____
 Crew members _____

 Pickup location _____
 Destination _____



_____ +10
 _____ +5
 _____ +2
 _____ +0
 Total

3 sm _____ +5
 Total

500 _____ +1

_____ +7
 _____ +5
 Total

_____ +4
 _____ +6
 Total

U A/C _____ +3
 etc) _____
 Total

7. CREW FATIGUE

Medical crew #1: On a shift greater than 12 hours +2
 Medical crew #2: On a shift greater than 12 hours +2
 Total

8. REST IN 8 HOURS PRIOR TO START OF SHIFT

Less than 6 hours +2
 Greater than 6 hours +1
 8 hours +0

Medical Crew #1 _____
 Medical Crew #2 _____
 Orientee _____
 Specialty Team Crew #1 _____
 Specialty Team Crew #2 _____
 Total

TOTAL

APPROVAL LEVEL

CREW DECISION 0 to 30

**REVIEW WITH AVIATION SITE MANAGER
 OR MANAGER ON CALL PRIOR
 TO TRANSPORT** 30+

1. VEHICLE OPERATOR EXPERIENCE WITH MCMT

Less than 1 year or casual +5
 1 to 2 years full time or part time +2
 2 to 5 years full time or part time +1
 Greater than 5 years full time or part time +0
 Total

2. ROAD CONDITIONS

Difficult/ice covered/impassible/no travel advised +15
 Fair/slippery stretches/snow covered +10
 Normal/good +0
 Total

3. SEVERE WEATHER (All Seasons)

Warnings +10
 Watches +5
 Advisories +5
 None +0
 Total

4. ROAD TYPE

2 lane +4
 Mix of 2 lane and 4 lane +3
 4 lane +0
 Total

5. VISIBILITY

DAY
 Impaired +5
 Not impaired +0
NIGHT (any portion of transport during hours of darkness)
 Impaired +5
 Not impaired +3
 Total

6. DISTANCE

Greater than 500 miles +3
 Greater than 250 & less than 500 miles +2
 Greater than 100 & less than 250 miles +1
 Less than 100 miles +0
 Total

7. CREW FATIGUE (vehicle operator)

Trip extending beyond 16 hour shift
 2 or more trips this shift
 Trip extending beyond 16 hour shift
 less than 2 other trips this shift
 Trip extending beyond 12 hour shift
 less than 2 other trips this shift
 Trip extending beyond 8 hour shift
 less than 2 other trips this shift
 Well-rested, 1st 8 hours of shift

8. REST IN 8 HOURS PRIOR TO START OF SHIFT

Less than 6 hours
 Greater than 6 hours
 8 hours

APPROVAL LEVEL

APPROVAL LEVEL

CREW DECISION

**REVIEW WITH SUPERVISOR
 PRIOR TO TRANSPORT**