



NEWSLETTER

DATABASE UPDATE

SUMMER 2007

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Overview of New Features in the 2006 QMR

The Vermont Oxford Network Database is pleased to announce a number of enhancements to the Network Quality Management Reports for infants born in 2006.

- 1. High Flow Nasal Cannula:** The proportions of infants treated with High Flow Nasal Cannula and with Nasal IMV/SIMV are now reported.
- 2. Admission Temperature:** The proportion of infants with Admission Temperature < 36.5 degrees Celsius is now reported.
- 3. Surgery:** The percent of infants who had various categories of surgery are reported, and a list of specific surgical procedures is provided for infants who had surgery.
- 4. Birth Defects:** The specific birth defects are reported for infants with lethal or life threatening birth defects.
- 5. Timing of Retinal Exams:** For infants 22 to 29 weeks gestation, data are provided regarding the proportion of infants still hospitalized at the postnatal age at which the AAP recommendations suggest that the first retinal exam be performed, and the proportion hospitalized at that age that had a retinal exam before discharge. A list of all infants and their retinal exam status is also included.
- 6. Growth Measures:** For infants 22 to 29 weeks gestation, growth velocity and rate of head growth are now reported. Lists with growth data for individual infants are provided and infants discharged at low percentiles of weight for age are identified.
- 7. Trends:** A new section in the Expanded Database QMR shows trends in key outcome measures from 2001 to 2006.

New Features in Nightingale

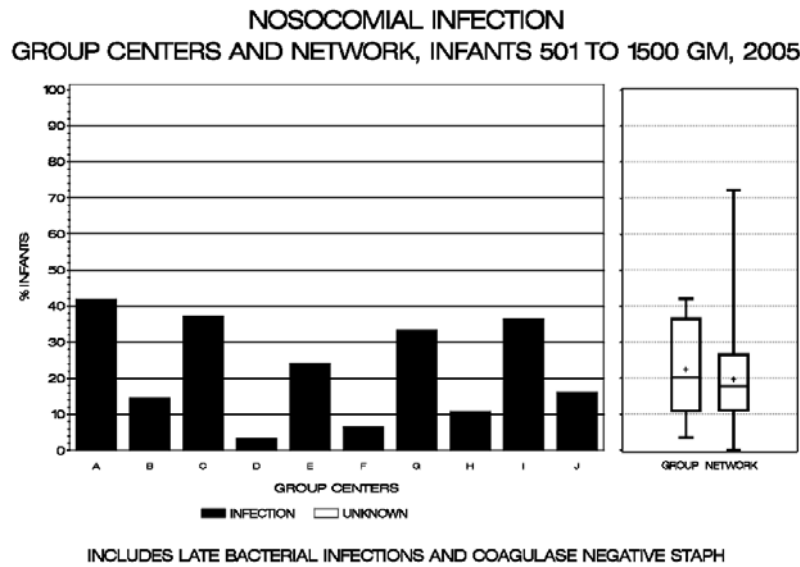
1. Nightingale users may now create reports within birth location. For example, infection measures may be reported by birth weight or gestational age category for inborn infants, outborn infants or all infants.
2. A new group comparison feature is now available in Nightingale by special arrangement to regional and administrative groups of NICUs (see below). This feature allows members of the group to compare their own NICUs performance with that of the aggregated data for their whole group.

New Group Reporting Features

There is an increasing trend for members to join together in geographically and administratively based groups for the purpose of collaborative learning and improvement. Several states in the US as well as a number of countries around the world have already organized such groups. Others are exploring the possibilities or are in the process of planning. The Vermont Oxford Network is pleased to announce new reporting services to support members of such multi-hospital groups. These include detailed group reports provided on CD ROM in which the hospitals in the group are compared to each other, to the aggregated data for the group, and to the Network, as well as a group comparison feature on Nightingale.

Group Report on CD ROM

Below is an example from the detailed group report of the data display for a 10 hospital group (labeled A to J). On the right of the figure, the Group and Network data are shown in box plots for comparison. Each hospital is identified by a code which is only provided to them.



Nightingale Group Comparison

Below is a screen shot from Nightingale showing how your group would appear in the Comparison Group menu. When selected from the menu, your group data would appear in the three right hand columns replacing the network data.

Center 999 and Network Values
Infection - Infants 501 To 1500 Grams

Measure	Center (2007)		Network (2005)		
	N	%	N	%	(O1, O3) ?
Early Bacterial Sepsis ?	0		41,710	2.2%	(0.0%, 3.3%)
Late Bacterial Infection ?	0		39,773	11.9%	(5.5%, 15.4%)
Coagulase Negative Staph ?	0		39,744	12.8%	(4.8%, 16.6%)
Nosocomial Bacterial Infection ?	0		39,754	21.2%	(11.6%, 26.3%)
Fungal Infection ?	0		39,722	2.3%	(0.0%, 3.3%)
Any Late Infection ?	0		39,738	22.0%	(12.5%, 27.9%)

The Vermont Oxford Network is pleased to report that the following groups will be participating in the new Network group reporting features:

- California Perinatal Quality Care Collaborative, CPQCC
- Child Health Corporation of America, CHCA
- Italian Neonatal Network, INN
- Massachusetts
- Netcare, South Africa
- New York City
- Ohio Perinatal Quality Collaborative, OPQC
- Perinatal Quality Collaborative of North Carolina, PQCNC
- Sen 1500, Spain

Several other groups are in the process of forming. We look forward to working with our colleagues in many states, countries, and regions to provide support for these locally organized efforts. It will be exciting to see the unique models of regional collaboration that are rapidly emerging and to share ideas. For more information on the VON Group Reporting Services, please contact Nancy Cloutier, at 802-865-4814, ext 208 or email : nancy@vtoxford.org

New Reports on Timing of Retinal Exams

The Section on Ophthalmology of the American Academy of Pediatrics has published guidelines for screening premature infants for retinopathy of prematurity. The guidelines state (please note that the guidelines were corrected in a published Erratum):

"Infants with a birth weight of less than 1500 g or gestational age of 30 weeks or less (as defined by the attending neonatologist) and selected infants with a birth weight between 1500 and 2000 g or gestational age of more than 30 weeks with an unstable clinical course, including those requiring cardiorespiratory support and who are believed by their attending pediatrician or neonatologist to be at high risk, should have retinal screening examinations performed after pupillary dilation using binocular indirect ophthalmoscopy to detect ROP."

Erratum for Section on Ophthalmology et al., *Pediatrics* 117 (2) 572-576.

PEDIATRICS Vol. 118 No. 3 September 2006, pp. 1324 (doi:10.1542/peds.2006-2162)

The timing of the first eye exam is recommended based on gestational age at birth as indicated in the following table from the published guidelines:

Timing of First Eye Examination Based on Gestational Age at Birth

Gestational Age at Birth, wk	Age at Initial Examination, wk	
	Postmenstrual	Chronologic
22 ^a	31	9
23 ^a	31	8
24	31	7
25	31	6
26	31	5
27	31	4
28	32	4
29	33	4
30	34	4
31 ^b	35	4
32 ^b	36	4

Shown is a schedule for detecting prethreshold ROP with 99% confidence, usually well before any required treatment.

^a This guideline should be considered tentative rather than evidence-based for infants with a gestational age of 22 to 23 weeks because of the small number of survivors in these gestational-age categories.

^b If necessary.

Table from: Section on Ophthalmology, American Academy of Pediatrics, American Academy of Ophthalmology American Association for Pediatric Ophthalmology and Strabismus
Screening Examination of Premature Infants for Retinopathy of Prematurity
 Pediatrics, Feb 2006; 117: 572 - 576.

The Vermont Oxford Network Annual Quality Management Report now includes information about the proportion of infants 22 to 29 weeks gestational age who were still hospitalized in your center at the age recommended for the first eye exam and the proportion of those still hospitalized who had at least one eye exam. A list showing the eye exam status of all infants is also included.

The new data can be used in several ways. First, the proportion of infants still hospitalized at the age recommended for first eye exam may help your team understand how transfer and discharge policies influence eye exam practices at your unit. If a substantial number of infants are being discharged or transferred before the age at which a first exam is recommended, you may want to explore how to assess the adequacy of exams for these infants.

The proportion of infants still hospitalized who received an exam may help your team assess whether there are infants who were eligible but did not get examined prior to discharge. Of course, it is possible that some of these infants were examined within a few days at another institution. They may even have been transferred for that purpose.

Importantly, the proportion of hospitalized infants examined does not address whether the first exam was at the appropriate time or whether follow up exams were conducted on the recommended schedule. The Vermont Oxford Network Database only includes information about whether a retinal exam was performed. It does not include the dates of the exams or information about the number or timing of the exams. Therefore the proportion of hospitalized infants who were examined is only a first high level look at the issue. If there are hospitalized infants who were not examined you may choose to investigate the reasons why. However, even if all hospitalized infants were examined this does not mean that the exams were done on the recommended schedule. Further exploration will be needed to determine that. The patient lists we provide may help in that task.

Given the above caveats we believe that the new eye exam reporting can help your team begin to assess ROP screening practices at your unit.

New Growth Measures

For infants born in 2006, we are pleased to provide enhanced reporting on growth. Birth weight and discharge weight have always been data items in the Vermont Oxford Network Database. We are now using these items to calculate several new measures of growth for infants 22 to 29 weeks gestation.

Growth velocity in gm/kg/day is calculated using an exponential model reported by Patel et al (Pediatrics 2005;116:1466-1473). The mean growth velocity for the unit is reported and compared to the mean growth velocity for all units in the Network. The growth velocities for individual infants are reported in a patient list.

The discharge percentile of weight for postmenstrual age for each infant is calculated based on growth charts reported by Fenton (BMC Pediatr. 2003; 3:13. Published online 2003 December 16. doi: 10.1186/1471-2431-3-13.). A patient list is included identifying infants discharged below the 10th and 3rd percentiles.

In 2006, the Vermont Oxford Network began collecting data on the head circumference at birth and at discharge. These items are used to calculate the rate of head growth in cm/week. The mean rate of head growth for the unit is reported and compared to the Network. Head growth rates for individual infants are shown in a patient list.

We hope that these new measures of growth will assist your team in assessing the growth of infants in your unit. The patient lists can be used to identify specific infants with low rates of growth for individual review.

Comments and Suggestions

We hope that your team finds the new reporting features and measures useful. We look forward to hearing your comments and suggestions as well as examples of how you used these measures to identify opportunities for improvement.

Thank You!

Your VON Account Managers would like to extend a warm Thank You to all the Data and Report Contacts who work closely with us throughout the year. Your commitment to Vermont Oxford Network helps us to achieve our mission of improving the quality and safety of medical care for newborn infants and their families.

While the end of the year closeout process can be challenging at times, we sincerely appreciate your patience and humor in the countless number of correspondences this process requires.

Sincerely, Joan, Annie, Kathy, Ellen, Marilyn, Paula, Mary and Pat

Seeking Participants for a VON-led study entitled “Acuity-adjusted Staffing, Nurse Practice Environments and NICU Outcomes”.

Drs. Jeffrey Horbar, Jeannette Rogowski from the University of Medicine and Dentistry of New Jersey, Douglas Staiger from Dartmouth, and Eileen Lake from the School of Nursing at the University of Pennsylvania are conducting a study of the effect of nurse staffing and the organization of nursing on NICU patient outcomes.

This study seeks to understand the connections between nurse staffing, the patient care environment (as rated by the NICU nursing staff), and NICU patient outcomes.

NICUs that participate will receive a report providing information on the levels of acuity-adjusted staffing and the nurse work environment in their unit and how it compares to the other hospitals in the study.

NICUs that care for any VLBW infants are eligible to participate.

For more information please contact the study project manager Dr. Robyn Cheung at: cheungr@nursing.upenn.edu

Multi-Disciplinary Advisory Committee

The MDAC continues to work on several VON projects. A small sub-committee of the MDAC has been working on putting together a mission statement for the committee. That same group is developing a “job description” for membership on the MDAC. Once those two things have been completed, the committee hopes to fill several of the vacancies on the committee. In effort to keep with the name “multi-disciplinary”, the committee is especially looking for a Social Worker, Nutritionist, Pharmacist, another RT and PT and/or OT. It would also be great to have 1 or 2 *bedside* RNs. If you know of anyone who may be interested in participating, please have them forward their CV to cathy.sawtell@atlantichhealth.org or maureen.reilly@sunnybrook.ca.

The MDAC is still trying to establish an e-mail mailing list that would send out both general VON and MDAC information to membership that do not get all the regular e-mails. If you know of anyone who would like to be included in this mailing list, please forward their contact information to Maureen or Cathy at the addresses above.

Finally, the MDAC hopes to be of assistance to Eileen Lake and Thelma Patrick who are doing a research study together with VON on nursing staffing and the relationship to quality and outcomes in the NICU.

For more information on the MDAC activities, please contact Maureen Reilly or Cathy Sawtell at the email addresses noted above.

Annual Meeting and 8th Annual Quality Congress

Come discuss Network projects and plans at the **Annual Meeting**, and hear from internationally respected experts in health care quality and safety at the **Quality Congress** and learn from other multidisciplinary NICU teams' improvement experiences at the **Quality Learning Fair**.

Annual Meeting Agenda December 1, 2007

Annual Network Update	J Horbar
Vermont Oxford Network: It's a Small World	
Neonatal Surgery	T Jaksic
New in Trials and Follow-Up	R Soll
NICU Nurse Staffing: Is there a magic number?	E Lake
Epidemiology of Social Disruption	L Roberts
Mothers and Infants in the War Zone	
Breakout Sessions	
New Network Internet Tools	Carpenter
Cochrane Update	Soll
Encephalopathy Registry	Horbar
Nurse Staffing in the NICU	Lake/Multidisciplinary Advisory Committee
Global Neonatology	Ringer
Plenary Discussion	Database Advisory Committee

Don't miss the 1st NICU Video Festival (see below for more details)

8th Annual Quality Congress Agenda December 2, 2007

Eliminating Nosocomial Infections:	
The Michigan ICU Experience	C Goeschel/S Berenholtz
The NICU Experience	W Edwards
RCTs and Quality Improvement Science	D Neuhauser
Organizational Culture and NICU Quality	A Tucker
Measuring and Improving Quality of Care	P Miles
Introduction to the Learning Fair	J Horbar
Learning Fair: Interactive Learning Stations, Posters, Case Studies, and more!	

More details & registration: <http://www.vtoxford.org/home.aspx?p=/meetings/AMQC/annualmeeting.htm>

AVOID REGISTRATION LINES!!!! The Vermont Oxford Network Meeting Registration Desk at the Omni Hotel in Washington, DC will be open from **1:00 pm - 7:00 pm on Friday, November 30, 2007**. If you are arriving in DC on November 29th or 30th, please help us decrease the number of people at the VON Meeting Registration Desk on Saturday, December 1st, by checking in on Friday.



Vermont Oxford Network NICU Video Festival "NICU Tube"

The Vermont Oxford Network is pleased to announce the first NICU Video Festival to be presented at the 2007 Network Annual Meeting and Quality Congress on December 1 and 2, 2007 in Washington, DC. You are invited to submit a 3 minute video which shows something interesting about your NICU, the staff, the infants, or their families. The subject is totally up to you. The only requirement on content is that the video should have something to do with the NICU. Please interpret this requirement broadly!

Click here for more information: <http://www.vtoxford.org/meetings/AMQC/NICUTuberegform2007.pdf>

We hope to see you at the Annual Meeting and Quality Congress!