



# NEWSLETTER Spring 2010

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## 2009 ANNUAL MEETING AND QUALITY CONGRESS THE 20<sup>TH</sup> YEAR

The Vermont Oxford Network 2009 Annual Meeting and Quality Congress were held in Washington, DC on December 5 and 6, 2009. This was our 20<sup>th</sup> Annual Meeting and 10<sup>th</sup> Annual Quality Congress! Despite our concerns that a lagging economy would impact attendance, we were pleasantly surprised by the terrific turnout. Over 650 health professionals from around the world participated.

Jeffrey D. Horbar, MD, Chief Executive and Scientific Officer of the Network, opened the Annual Meeting with a review of the first 20 years of Vermont Oxford. He discussed the trends in outcomes and practices that have been documented in the Network database since 1990 including modest improvements in mortality and morbidity for very low birth weight infants as well as the persistence of marked variations among NICUs in both practices and outcomes. He concluded that we have major opportunities to improve the quality and safety of care for newborn infants and their families both through continuing research and quality improvement collaboratives.

Etienne Wenger, who coined the term Community of Practice, discussed how this concept applies in diverse fields of human endeavor including neonatal care. The potential for the emerging worldwide community of practice in neonatology to improve care through shared learning was highlighted.

Roger F. Soll, MD, Director of Clinical Trials, reviewed the Network's progress in the conduct of randomized trials and follow up projects. He outlined the opportunities for cluster randomized trials with hospital as the unit of randomization and described a novel new research strategy, VON Days, to harness the power of our large Network to answer practical questions quickly using minimal data collection (see below). Michael Dunn, MD, a member of the Delivery Room Trial Steering Committee, presented the preliminary results of that trial (see below).

Robert Pfister, MD, reviewed the results of the Network's Registry for Neonatal Encephalopathy. He

discussed the results from 2006 to 2008 regarding the diagnosis and treatment of infants with encephalopathy including the initial patterns of use for hypothermic therapy.

Linda Wright, MD, Scientific Director of the Global Network for Women's and Children's Health Research, discussed the preliminary findings of the First Breath Trial, a study of neonatal care training and perinatal mortality in developing countries (<http://content.nejm.org/cgi/content/full/362/7/614>).

In the afternoon the Network hosted a series of breakout sessions on a variety of neonatal topics including Communities of Practice (Etienne Wenger), Medication Safety (Patricia Ittmann), Global Neonatology (Steven Ringer, Bogale Worku, Phillip Platt, Georgis Kefale), Systematic Reviews of Hypothermia (Roger Soll), NICQpedia (James Handyside), and Electronic Health Record (Cedric Priebe, William Edwards, Chris Longhurst, Jon Palma, Joe Carpenter).

The 10<sup>th</sup> Annual Quality Congress, on December 6, 2009 in Washington, DC addressed a variety of important topics and trends in neonatal quality improvement. Jeffrey D. Horbar, MD began the Congress with a brief introduction to quality improvement in the NICU.

Peter K. Lindenauer, MD, presented an excellent review of the evidence for the effectiveness of multi-institutional quality improvement collaboratives in medicine.

Ronald S. Burt, PhD, addressed the importance of social networks in quality improvement. His presentation followed up on a theme introduced at previous Congresses regarding the applications of network science to improvement. He reviewed his extensive research on network structures and performance; explained how to measure connectedness among individuals in a social network; and argued strongly for the importance of network metrics in understanding how groups of connected individuals perform.

Eileen T. Lake, PhD, RN presented the research she is doing at over 100 Vermont Oxford Network hospitals concerning the associations of acuity adjusted nurse staffing, nurse work environment and patient outcomes.

Jochen Profit, MD, MPH, reported on the initial results of his research to develop composite measures of NICU performance using weighted scores composed of different measures of morbidity and mortality. His research has great promise for use in quality improvement.

There are an increasing number of state and regional improvement collaboratives emerging in the United States. At the Congress we had the privilege of hearing from three of these collaboratives in the forefront of neonatal improvement. Edward Donovan, MD representing the Ohio Perinatal Quality Collaborative, OPQC (<http://www.opqc.net/>), Martin McCaffrey, MD, representing the Perinatal Quality Collaborative of North Carolina, PQCNC (<http://www.pqcnc.org/>), and Paul Sharek, MD representing the California Perinatal Quality Care Collaborative, CPQCC (<http://www.cpqcc.org/>) described their organizations and the successes that they are having in improving the quality and safety for mothers and infants in their states.

William Edwards, MD, a Director of the Vermont Oxford Network, reviewed his research developing and implementing *How's Your Baby?*, an Internet based tool for assessing the family's experience in the NICU and helping to prepare them for discharge.

The final session at the Quality Congress was chaired by James Handyside, Quality Improvement Leader of the Network's NICQ Collaborative. He reviewed the NICQ collaborative approach and introduced three improvement stories from teams in the NICQ 2009 Collaborative. Barb Haney, RNC, CNS, described the success of the Children's Mercy Hospital Kansas City, in implementing non-sedated MRIs for infants in their unit. Kip Smith, MD discussed the success of the team at Woman's Hospital Baton Rouge, in reducing the rate of nosocomial infection. Sarah Taylor, MD, described the experience of the team from Medical University of South Carolina with the implementation of a comprehensive program for using human milk in their NICU.

Members with access to the Vermont Oxford Network web services can view the slide presentations and listen to the presentations from the 2009 Annual Meeting and Quality Congress at: <https://www.vtoxford.org/portal/CL/GenMeeting.aspx?PID=1092>

Please contact your local Vermont Oxford Web Administrator or Nancy Cloutier by email: ([nancy@vtoxford.org](mailto:nancy@vtoxford.org)) for information about access for members.

## NICU TUBE VIDEO FESTIVAL

The Vermont Oxford Network was pleased to present the 3rd Annual NICUTube Video Festival in conjunction with the Quality Congress on December 6, 2009. Teams from 9 NICUs entered their 3 minute NICUTube videos which were shown continuously during the Quality Congress Learning Fair. The participants were awarded a director's clapboard for use in future productions.

NICU Tube 2009 Video contributions:

*To Become a Man, Give Me a Hand*

NICU of Turin University, Italy

*Germbusters*

UMass Memorial Medical Center

*Special Care Nursery:: Workplace Safety*

Kaiser Permanente San Diego Medical Center

*Welcome to Miami*

Miami Children's Hospital

*Now I See You*

Memorial Children's Hospital, South Bend

*Wasie Neonatal Intensive Care Unit*

Joe DiMaggio Children's Hospital

*One Baby, One Bed :Trials and Tribulations*

St. Cloud Hospital

*CQI Education "It Takes a Village"*

Hackensack University Medical Center

*UPS Delivery (Unexpected Preterm Surprise)*

Barbara Bush Children's at Maine Medical Center

We thank all of the teams for their video contributions and look forward to an even larger selection at next year's Quality Congress.

## VERMONT OXFORD NETWORK ADDIS ABABA UNIVERSITY BLACK LION PROJECT

The Vermont Oxford Network is working in partnership with Dr. Bogale Worku, Chief of the Department of Pediatrics at Addis Ababa University, to train Ethiopian medical students, postgraduate physicians and nurses in neonatal-perinatal medicine. The program, which began in 2009, has already supported several teams of neonatologists and neonatal nurses from Network member hospitals visiting and working in the NICU at the Black Lion Hospital, the major teaching hospital at Addis Ababa University in Addis Ababa, Ethiopia. These teams have worked closely with our Ethiopian colleagues making daily rounds in the NICU, providing didactic sessions, and helping the NICU team to apply neonatal intensive care techniques in a way that is

consistent with the needs and resource constraints of the developing world.

The program will also develop research studies that address the unique needs of mothers and infants in Ethiopia. One example of this is the development of a core database to assess the practices and outcomes of the Black Lion NICU and to identify potential opportunities for improvement. The database has been approved by the Human Subjects Committees at Addis Ababa University and the University of Vermont and will now be implemented.

We would like to acknowledge and thank the volunteers who have contributed their expertise and time to the Black Lion Project in its initial year of operation:

Misrak Tadesse, MD  
Steven Ringer, MD PhD  
Jonathan Spector, MD, MPH  
Phillip Platt, NNP  
Georgis Kefale, MD  
Terri Phillips, MD  
Linda Tutt, RN

We would also like to thank Dr. Bogale Worku and the physicians and nurses at the Black Lion Hospital for their hospitality, teaching, and support. We have all learned a tremendous amount from them.

If you are interested in volunteering for the Black Lion Project and spending at least one month in Addis Ababa, please contact Nancy Cloutier by email: [nancy@vtoxford.org](mailto:nancy@vtoxford.org) Travel and living expenses are provided by the Vermont Oxford Network. Addis Ababa University provides an apartment and transportation to and from the hospital. This is a wonderful and challenging opportunity to learn and contribute. Please consider joining us!

**2010 ANNUAL MEETING  
and  
QUALITY CONGRESS  
DECEMBER 4 & 5, 2010**

Please hold the dates for the 2010 Vermont Oxford Network Annual Meeting and Quality Congress. We have recruited an internationally known faculty to join us in Washington, DC on December 4 and 5, 2010. The meetings will include plenary presentations, interactive workshop, and a learning fair with videos, posters and small group presentations.

Topics will include:

- Vermont Oxford Network Data and Plans
- Necrotizing Enterocolitis
- Neonatal Neuro-intensive Care
- NICU Checklists for Safety
- Delivery Room Teamwork
- Cognitive diversity and team performance
- Family Centered Care
- Electronic Health Record
- NICU Nurse Staffing
- Global neonatology
- ...and much more

Faculty will include:

**Sonia Bonifacio, MD**, Co-Director Neonatal Neurointensive Care Unit, Assistant Adjunct Professor of Pediatrics, University of California San Francisco

**Eric C. Eichenwald, MD**, Associate Professor of Pediatrics, Baylor College of Medicine, Medical Director Texas Children's Hospital, Houston

**Nigel Hall, MRCCPH**, Department of Paediatric Surgery, University College London Institute of Child Health, London, England

**Susan Hintz, MD**, Associate Professor of Pediatrics Lucile Salter Packard Children's Hospital

**Terrie Inder, MD**, Associate Professor of Pediatrics, Co-Director Neonatal Development Research, Washington University St. Louis

**Tom Jaksic, MD, PhD**, W. Hardy Hendren Professor of Surgery, Vice Chairman, Pediatric General Surgery, Surgical Director, Center for Advanced Intestinal Rehabilitation, Harvard Medical School

**Bev Johnson**, President and CEO, Institute for Family Centered Care, Bethesda, MD

**Eileen Lake, PhD, RN, FAAN**, Associate Professor, University of Pennsylvania School of Nursing, Associate Director, Center for Healthcare Outcomes and Policy Research, University of Pennsylvania

**Scott E. Page, PhD**, Leonid Hurwicz Collegiate Professor of complex systems, political science, and economics, Associate Director, Center for the Study of Complex Systems University of Michigan, and author of *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools and Societies*

**Peter J. Pronovost, MD, PhD**, Professor, Department of Anesthesiology and Critical Care Medicine, Director, Quality and Safety Research Group Johns Hopkins University School of Medicine, MacArthur Genius grant recipient and author of *Safe Patients, Smart Hospitals: How One Doctor's Checklist Can Help Us Change Health Care from the Inside Out*

**Ann R. Stark, MD**, Professor of Pediatrics, Baylor College of Medicine, Chief of Neonatology, Texas Children's Hospital, Houston, Chairperson, Committee on the Fetus and Newborn American Academy of Pediatrics

**Eric J. Thomas, MD, MPH**, Professor of Medicine at the University of Texas Houston Medical School, Director of the UT Houston-Memorial Hermann Center for Healthcare Quality and Safety.

**Bogale Worku, MD**, Director of Neonatology, Black Lion Hospital, Chairman of Department of Pediatrics, School of Medicine, Addis Ababa University  
...and many more

Registration will be required and is free for all Vermont Oxford Network members. The registration fee for non-members is \$750 (\$100 for trainees). Scholarships are available for trainees and health professionals in the developing world.

Online registration for the Network meetings and for hotel room reservations at the Omni will be available in early June, 2010. If you wish to make hotel reservations before that time, please call the Omni at 1-800-545-8700 and reference group code 12400609986 to receive our group room rate. For more information contact: Nancy Cloutier, Meeting Coordinator ([nancy@vtoxford.org](mailto:nancy@vtoxford.org))

### **MARK YOUR CALENDAR!**

**2010 NETWORK ANNUAL MEETING  
&**

**11<sup>th</sup> ANNUAL QUALITY CONGRESS**

**December 4 & 5, 2010**

**Omni Shoreham Hotel  
Washington, DC**

**Online Registration materials will be available  
in June.**

### **NURSING CONTINUING EDUCATION (CNE) CREDIT UPDATE**

Starting with the Annual Meeting and Quality Congress in December 2010, Vermont Oxford Network will no longer be able to offer nursing contact hours due to a policy change by the American Nurses' Credentialing Center. In order to be an "approved provider" by the Vermont State Nurses Association, VON would have to meet at least one of two criteria: hold the conferences in either New England or New York, or greater than 50% of our nursing participants must be from New

England or New York. VON does not meet either criteria.

However, both nurses and physicians are able to use CME credits in order to partially, if not completely, meet credentialing requirements. There is wide variation from state to state pertaining to nursing continuing education requirements to maintain licensure. Some states do not have any CNE requirements, while others are very specific about not only the number of credits, but also specify number credits in specific categories, i.e. pharmacology, ethics, physiology etc. You will need to check with your accrediting organization to find out specifically how you may use the CME credits we offer.

### **INICQ SERIES: CONTROVERSIES IN NEONATAL INTENSIVE CARE**

The Vermont Oxford Network is pleased to report that multidisciplinary teams from 86 neonatal intensive care units are participating in the current iNICQ Internet series, Controversies in Neonatal Intensive Care. Under the direction of Jeffrey D. Horbar, MD, William Edwards, MD, and Roger Soll, MD and with clinical expert Alison Leaf, MD, this collaborative is the eleventh in a series of Internet collaboratives that have addressed a variety of topics aimed at improving the quality and safety of medical care for newborn infants and their families.

This series will include six ninety minute web sessions designed to help the multidisciplinary team in your neonatal intensive care unit:

- Assess your own practice
- Review the evidence
- Translate the evidence into daily practice

The subjects we have chosen are controversial. The evidence in many cases will not provide a clear answer. Tradeoffs will need to be assessed and various points of view considered. However, the topics we have chosen all arise routinely in daily NICU care. We hope that this series will help teams address them, identify opportunities for improvement, and translate the available evidence into daily practice.

#### **Session 1**

#### **Oxygen Therapy: The Delivery Room & Beyond**

February 17, 2010

Neil Finer, MD

Professor of Pediatrics,

University of California, San Diego

## Session 2

### Management of PDA

March 24, 2010

Carl Bose, MD

Professor of Pediatrics,

University of North Carolina School of Medicine

Chair, Section on Perinatal Pediatrics American

Academy of Pediatrics

## Session 3

### Noninvasive Respiratory Support

May 12, 2010

Alan de Klerk, MBChB

Department of Neonatology/BirthCare Center,

Florida Hospital Memorial Medical Center

## Session 4

### Pre-and Probiotics: Is it time?

July 21, 2010

W. Allan Walker, MD

Conrad Taff Professor of Nutrition and Pediatrics

Chairman, Division of Nutrition,

Harvard Medical School;

Chief, Mucosal Immunology Lab.,

Massachusetts General Hospital

## Session 5

### Promoting Growth

September 15, 2010

Richard Ehrenkranz, MD

Professor of Pediatrics,

Yale University School of Medicine

## Session 6

### Anemia of Prematurity

November 10, 2010

Haresh Kirpalani, MD

Professor of Pediatrics,

University of Pennsylvania

## Moderators:

William Edwards, MD

Professor of Pediatrics, Dartmouth Medical School

Jeffrey D. Horbar, MD

Professor of Pediatrics, University of Vermont

Roger F. Soll, MD

Professor of Pediatric, University of Vermont

Alison Leaf, MD

Consultant Neonatologist at Southmead Hospital,

Bristol, UK. Alison will serve as the clinical expert for

the series presenting and debriefing the cases used

on the sessions.

### PUBLICATIONS RELATED TO VERMONT OXFORD NETWORK

To view an updated list of abstracts and articles  
related to the Vermont Oxford Network, go to:

[VON References](#)

## NICQ 2009 QI COLLABORATIVE UPDATE

NICQ 2009, the two year quality improvement collaborative for multidisciplinary NICU teams that began in January 2009 is the 6<sup>th</sup> in a series of intensive NICQ collaboratives sponsored by the Vermont Oxford Network. NICQ 2009 is comprised of multidisciplinary teams from 52 NICUs and leadership teams from eight state groups working together under the guidance of an expert faculty.

Teams participating in NICQ 2009 are currently preparing for their third face-to-face meeting to be held in Austin, Texas from April 29 through May 2, 2010. Plenary sessions at the first two meetings explored the Community of Practice concept, as well as Experience-Based Co-Design, and the use of Video as an improvement tool. The semi-annual NICQ meetings include interactive plenary sessions, concurrent sessions, a poster learning fair, and blocks of time for teams to work intensively together with experts on specific improvement topics. The participating teams have chosen to work on one or more of the following nine topics:

- NICU Design
- Resuscitation and Stabilization
- Medication Safety
- Nutrition, Electronic Medical Record
- Infection
- Respiratory Care
- Discharge Management
- Encephalopathy

Each Topic Group of 4-8 NICUs has a faculty trio including an expert, a quality improvement facilitator or coach, and a member of a participating team serving as a clinical leader. Topic specific Quality Improvement Starter Kits identifying Potentially Better Practices have been given to the Topic Groups to provide a foundation for their improvement work. These QI Kits are being reviewed and refined by the topic groups over the course of the collaborative. Between meetings, Topic Group participants communicate through conference calls, interactive web conferences, and dedicated email discussion lists. The teams of NICQ 2009 have been involved with developing and testing a new VON website, NICQpedia. (Please see related article on page 14.)

In partnership with the Cambridge Leadership Associates, we are conducting a series of four special half day workshops, *Leading for Improvement*. This optional series is designed to help leaders from participating NICUs and state

groups develop the individual and team leadership skills necessary to create a culture of improvement in their units and organizations.

## NICQ 7 SOLVING THE VALUE EQUATION FOR NEONATAL INTENSIVE CARE

We are pleased to announce NICQ 7, the seventh in a series of intensive improvement collaboratives sponsored by the Vermont Oxford Network.

During this two year collaborative, interdisciplinary NICU teams, including families, will receive guidance from faculty with expertise in clinical and improvement domains. Each team will develop their own portfolio of clinical improvement aims and make measurable improvements in the quality, safety and value of the care they provide. NICQpedia, an ever evolving web-based quality improvement resource repository developed by VON and populated during the NICQ 2009 QI Collaborative, will continue to support on-going improvement work in NICQ 7.

Teams will work collaboratively in multihospital breakout groups to develop and apply new strategies for improving value related to hospital stay, workload, respiratory support, imaging, laboratory, parenteral nutrition, transfusion, surgery, pharmacy, and other ancillary services. These strategies will be applied by each team to their unique improvement portfolio.

It is important to recognize that this collaborative is about Value (Quality/Cost), not just financial expense. By eliminating waste and working more efficiently, we expose our patients and families to fewer unnecessary and inappropriate procedures, interventions, and days in hospital; while improving the care experience for patients, families, and staff.

To minimize participant travel, we plan to increase the use of interactive web technologies and combine one of the two face to face NICQ meetings each year with the Vermont Oxford Network Annual Meeting and Quality Congress.

Questions? Please contact Kathy Leahy by email: [Kathy@vtoxford.org](mailto:Kathy@vtoxford.org)

### COMING SOON: **NICQ 2007: IMPROVEMENT IN ACTION, A VERMONT OXFORD NETWORK eBook**

The Vermont Oxford Network is pleased to announce the upcoming release of an eBook, *NICQ 2007: Improvement in Action*, edited by Jeffrey D.

Horbar, Kathy Leahy, and James Handyside. The eBook will be available free of charge on the Vermont Oxford Network website, [www.vtoxford.org](http://www.vtoxford.org), and on Google Books.

This book will highlight the lessons learned by forty-six teams participating in NICQ 2007, the fifth in a series of improvement collaboratives sponsored by the Vermont Oxford Network. The improvement work in NICQ 2007 was guided by the six domains identified in *Crossing the Quality Chasm*, the landmark report from the Institute of Medicine.



These six domains include: patient and family-centered, safe, effective, timely, efficient, and equitable. In addition, the Vermont Oxford Network added a seventh domain, social and environmental responsibility, one that we believe must be integrated into the daily work of all health professionals.

The chapters in the ebook were written by experts invited to provide background about the domain and to guide its application to improvement in NICU care. Chapters are illustrated with several improvement stories from teams that participated in the NICQ 2007 collaborative. We hope that their stories will guide and inspire other NICU teams to make dramatic improvements for the patients and families they serve.

You will be able to read the book online, and download the entire book or individual chapters. In order to make this material widely available we are pleased to provide it under a **Creative Commons Attribution, Non-Commercial, Share Alike** license located at: [Creative Commons](http://creativecommons.org/licenses/by-nc-sa/3.0/)

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*NICQ 2007: Improvement in Action* is the most recent in a series of publications sponsored by the Vermont Oxford Network to highlight the improvement work of NICU teams. Previous publications in the series include the following online supplements to *Pediatrics*:

Horbar JD, Plsek PE, Leahy K, Schriefer J. Evidence-Based Quality Improvement in Neonatal and Perinatal Medicine: The NIC/Q 2002 Experience. *Pediatrics* 2006 118:S57-202. Supplement [http://pediatrics.aappublications.org/content/vol118/Supplement\\_2/](http://pediatrics.aappublications.org/content/vol118/Supplement_2/)

Horbar JD, Plsek PE, Leahy K, Schriefer J. Evidence-Based Quality Improvement in Neonatal and Perinatal Medicine: The NIC/Q 2000 Experience. *Pediatrics* 2003;111:e395-e547 . Supplement <http://pediatrics.aappublications.org/content/vol111/issue4/>

Horbar, JD, Gould JB editors. Evidence-Based Quality Improvement in Neonatal and Perinatal Medicine. *Pediatrics* 1999; 103 January 1999. Supplement. <http://pediatrics.aappublications.org/content/vol103/issue1/>

A complete list of references for articles by or about the Vermont Oxford Network's efforts in quality improvement go to: [VON References](#)

## VERMONT OXFORD NETWORK REGISTRY FOR NEONATAL ENCEPHALOPATHY UPDATE AND INVITATION TO PARTICIPATE

The Vermont Oxford Network Registry for Neonatal Encephalopathy began in 2006. At the end of 2010, the Registry will have been in operation for 5 years. During this time participating organizations have enrolled all infants in their NICUs over 36 weeks gestation with encephalopathy and all infants regardless of gestational age treated with hypothermic therapy. To date, 84 organizations have enrolled over 2500 infants of whom nearly 900 received hypothermic therapy.

The Registry allows us to evaluate variations in current practice, monitor the introduction and dissemination of new neuro-protective therapies such as hypothermia, and assess selection criteria for neuro-protective therapy. Participating organizations receive confidential detailed reports comparing their own practices and performance with those of the overall Registry. This allows teams to

identify opportunities for improvement in the quality and safety of care for infants with encephalopathy. All participating teams will continue to receive these detailed reports going forward.

Starting in 2011 we will change the eligibility criteria for the Registry by limiting enrollment to infants treated with hypothermic therapy. This will substantially reduce the time and effort required to participate. We are inviting NICU teams from all member hospitals to consider participating beginning in 2011.

The Registry is also valuable for research. The Steering Committee for the Registry, Terrie Inder, Karin Nelson, and Peter Bingham, has worked with investigators at the Vermont Oxford Network to analyze the Registry data and prepare a series of reports on perinatal antecedents to encephalopathy, neuro-imaging in encephalopathy, neonatal seizures, and hypothermic therapy practices that will be presented at the Pediatric Academic Societies Annual Meeting in Vancouver, Canada in May 2010.

We believe that the Registry has been a success and that it offers tremendous opportunities for the future. However, we also understand that the current Registry data items are quite extensive and that identifying all infants with encephalopathy and collecting detailed data on all of them is time consuming. Thus improvements in the Registry are possible and warranted.

Based on consultations with the Steering Committee and input from the membership we have made the following plans:

1. The current eligibility criteria, data items and forms will be used by current participants for infants born in 2010. At the end of 2010 we will have 5 full years of data on all infants with encephalopathy collected using these criteria and items.
2. In 2011, we will **limit eligibility to those infants treated with hypothermic therapy**. This will substantially reduce the time required to participate in the Registry and will allow us to focus on the patients of the highest interest. We view 2011 as a transition year in which we will increase the number of centers participating and complete the software development necessary to introduce revised and simplified Registry data forms for 2012.
3. In 2012, we will introduce simpler more streamlined data forms for the Registry. **The**

**Registry will be limited to those infants who receive hypothermic therapy.**

4. Currently all organizations participating in the Registry have the option of submitting standardized 2-year neuro-developmental outcome data on infants treated with hypothermia. We will continue to offer this option and work to increase the number of centers participating in follow-up.

We believe that with your help the Registry will continue to be a valuable resource for quality improvement and research. It will position us to address new neuro-protective therapies as they are introduced. We look forward to working closely with you in the years to come to realize this potential. Please consider joining the Registry in 2011. Please don't hesitate to contact us with ideas, suggestions and questions.

For more information and registration, please contact Nancy Cloutier, Registry Coordinator, by email: [nancy@vtoxford.org](mailto:nancy@vtoxford.org)

## **DATABASE ADVISORY COMMITTEE RECOMMENDS CHANGES FOR 2011**

The Vermont Oxford Network Database Advisory Committee has completed a detailed review of the items in the database and has made recommendations to the Directors of the Network regarding changes for infants born starting in 2011. Based on comments from the membership and on formal internal review the Committee has made the following recommendations for additions and revisions:

1. Modify the definition of Patent Ductus Arteriosus to make it clearer.
2. Add a new item to capture CPAP delivered as part of the initial resuscitation.
3. Add a new item that captures the level of respiratory support at 36 weeks.
4. Review the gestational age categories used in Network reports (no change in data collection required).

The Committee reviewed the following items and recommended against adding them to the Database:

1. Medications at discharge and 36 weeks
2. Apnea
3. Rule out sepsis or suspected sepsis
4. Plastic wrap in the delivery room
5. Language interpreter

## 6. Surgical site infection

The Committee also reviewed the current definition of location of birth (inborn/outborn). Although it was recognized that this item is problematic for some centers and may be difficult to apply uniformly in all situations, it was recommended that further study was needed before recommending changes.

The Committee carefully balanced the benefit of any changes against the increased workload that new items represent for members. In several cases potentially useful items were rejected because of the increased workload. This concern for workload is an important one that the Committee takes very seriously in its deliberations.

We would like to express our thanks to the members of the Vermont Oxford Network Database Advisory Committee for their service.

Ira Bernstein, MD  
Carl Bose, MD  
Howard Cohen, MD  
Jeffrey Gould, MD  
Rosemary Higgins, MD  
Sheldon Korones, MD  
Catherine Sawtell, MSN, CRNP  
Robert Ursprung, MD  
Andrew Wilkinson, MD

The Committee will begin reviewing changes for infants born in 2012 at their next meeting in December 2010. Please send us your comments and suggestions for forwarding to the Committee for consideration. Send Comments to Nancy Cloutier by email: [nancy@vtoxford.org](mailto:nancy@vtoxford.org)

## **DATABASE ADVISORY COMMITTEE MEMBER CHANGES**

Vermont Oxford Network extends its sincerest thanks to Meena LaCorte, MD and Jerry Ferlauto, MD, for their years of service on the Database Advisory Committee. Their many contributions to the Committee have been invaluable. Thank you, Meena and Jerry!



We are very pleased to welcome Howard Cohen, MD and Robert Ursprung, MD, as new members of the Database Advisory Committee. Both Robert and Howard bring years of experience working with VON

data and on VON quality improvement initiatives. Welcome Howard and Robert!



Howard has been a practicing neonatologist for over thirty years. He began participating in the first VON collaborative project in 1994 along with his NICU from Children's Hospital of Illinois and

has continued since then including after moving to Salem Hospital in Oregon. This last year, Howard also became a member of the VON NIC/Q Advisory Committee. Howard has also served in leadership positions and faculty for quality improvement work outside the NICU including at OSF Healthcare, IHI and CMS.

Howard has had a lifelong professional interest in developmental follow up and care of our NICU graduates and has served as a member of the steering committee for VON's Extremely Low Birth Weight Follow Up Project. He also has a passionate interest in patient safety and is the patient safety officer at Salem Hospital.



Robert received his medical degree and pediatric training from the University of Texas, Southwestern Medical School. His neonatology training occurred in the division of Newborn Medicine at Harvard

Medical School. He also completed a two-year NIH funded Masters in Medical Science translational research program at Harvard Medical School.

Robert's research focus has been quality improvement, including the use of random auditing to facilitate improvements in quality and patient safety. Robert has collaborated with the Vermont Oxford Network in various capacities since 2002, including work with the NICQ & iNICQ quality improvement collaboratives. Robert currently serves as the Associate Director of Continuous Quality Improvement for Pediatrix Medical Group & practices clinical neonatology at Cook Children's Medical Center in Fort Worth, Texas.

### **MULTIDISCIPLINARY ADVISORY COMMITTEE (MDAC)**

The Vermont Oxford Network Multidisciplinary Advisory Committee's mission is to represent the multiple disciplines practicing in member neonatal intensive care units as well as advise VON regarding potential educational needs, research, practice implementation, and benchmarking.

We welcomed two new members to our group this year: Jessie Charpentier, RN, NICU Director at Overland Park Regional Medical Center in Overland Park, Kansas and Nancy A. Eschbach, LCSW Director, Perinatal Family Support Center North Shore University Health System in Evanston, Illinois. Welcome Jessie and Nancy! We are very pleased to have you join our team.

One of the goals of the MDAC is to facilitate the sharing of general information about the Network itself, and keep all interested VON members aware of the ongoing clinical trials and other activities of VON. To help us facilitate communication, we will be creating a general listserve. We hope this will share ongoing VON activities to all disciplines and make it easy for members to learn about how to participate in any of VON's many projects. If you would like to be included on the listserve, please contact Cathy Sawtell ([cathy.sawtell@atleanticealth.org](mailto:cathy.sawtell@atleanticealth.org)) or Maureen Reilly ([Maureen.reilly@sunnybrook.ca](mailto:Maureen.reilly@sunnybrook.ca)) This listserve will only give out general VON information.

The MDAC continues to advise VON on other exciting VON projects and we welcome any feedback from VON members on how we can better meet your needs.

#### **Chairpersons:**

Maureen Reilly, RRT, RRCPC  
Catherine Sawtell, MSN, CRNP

#### **Committee Members:**

Bobby Bellflower DNSc NNP-BC  
Rosanne Buck, RN, MS, CNNP  
Jessie Charpentier, RN  
Dianne Charsha, RNC, MSN, CRNP  
Paula Delmore, RNC, MSN  
Diane Eastman, ARNP, MA, CPNP  
Nancy A. Eschbach, LCSW  
Shirley Hargreaves, RN  
Thelma Patrick, PhD, RN

### **VON WELCOMES NEW STAFF MEMBER!**

**Tim Dartt** joined the Software Development team in June of 2009 as a Programmer. In his spare time, Tim likes to play with his kids, cook, knit, fence and play role playing games with his friends. Welcome Tim!

# 2009 DATA FINALIZATION NOTES FROM THE DATA PROCESSING TEAM

The Data Processing Team at the Vermont Oxford Network is very busy preparing to close out the Network's data for 2009.

Please review the following information and be sure to contact your Account Manager with any questions.

## 2009 DATA FINALIZATION

The Data Processing Team (DPT), which is made up of eight Account Managers, is gearing up for the finalization process of 2009 data. With 208 international centers and over 616 US centers we are counting on our member hospitals to be prompt in sending in their 2009 data. We also expect the completion of outstanding 2008 records.

Our Data Finalization Guidelines For Infants Born In 2009 and a Checklist were sent to the Data Contact at each hospital and can also be downloaded on our website [www.vtoxford.org](http://www.vtoxford.org) (See Downloads section.) Any questions on this information should be addressed to your Account Manager.

All of these efforts will enable Vermont Oxford Network to produce and deliver the 2009 Vermont Oxford Network Annual Quality Management Report to centers by the fall of 2010. We cannot accomplish this goal without your help. Please review the Finalization Guidelines and comply with the deadlines to facilitate a smooth closing of your 2009 data.

### 2009 DATA FINALIZATION DEADLINES REMINDER

**APRIL 1<sup>ST</sup> – COMPLETE**

**MAY 15<sup>TH</sup> – CONFIRM**

**JUNE 1<sup>ST</sup> – CORRECT**

**JUNE 15<sup>TH</sup> – CLOSE**

IF ALL ITEMS ARE COMPLETE, CONFIRMED, CORRECT & CLOSED BY JUNE 15<sup>TH</sup>, 2010, YOUR CENTER WILL RECEIVE THE 2009 NICU QUALITY MANAGEMENT REPORT (QMR) IN SEPTEMBER, 2010

PLEASE REFER TO THE  
2009 DATA FINALIZATION GUIDELINES  
FOUND IN "DOWNLOADS" ON OUR WEBSITE:  
[WWW.VTOXFORD.ORG](http://WWW.VTOXFORD.ORG)

## 2009 NER DATA FINALIZATION

The Neonatal Encephalopathy Registry deadlines are consistent with the deadlines noted in the Finalization Deadlines Reminder box. Please contact your Account Manager with any questions.

## SURVEY & ELIGIBILITY VERIFICATION PLAN

The 2009 Membership Survey was sent to all Member hospitals in January 2010. It is essential that we have the 2009 Membership Survey information from your center when we complete the Annual Quality Management Report (QMR) later this year. This survey is needed so that we can provide a detailed and accurate description of the membership. Please complete and return your center's survey by April 2010.

At the same time, we sent out the VON Contact Information form in January listing of the contact information we have in our files for your center. Please update any out of date information so we can keep all center files as current as possible. Each center should choose one of the noted contacts as a "Team Leader". The "Team Leader" is the person who will be responsible for leading and coordinating all Vermont Oxford Network activities at your center. If your center plans to change the name of either the "Report Contact" or the "Web Administrator", please contact Vermont Oxford Network for an official change form. You do not need to return this form if no changes have been made in your contact information.

The Eligibility Verification Plan is a form that is sent out with the new Manual of Operations each year to all participating centers. Each center is required to update it every year. Its purpose is to insure that all eligible infants are included in the Database each year. Each center should indicate the data sources they use to identify eligible infants for the Vermont Oxford Network Database and the frequency with which these sources are reviewed to make sure that all eligible infants have been included. Every center must have their plan on file before they can be included in the Annual QMR.

These are important parts of the 2009 Finalization process – please contact your Account Manager if you need another copy of any of these forms.

**VIEW A TUTORIAL WITH INSTRUCTIONS FOR FINALIZING YOUR 2009 DATA AT THE FOLLOWING LINK:**  
[\*\*FINALIZATION GUIDELINES FOR YEAR END CLOSEOUT\*\*](#)

# CLINICAL TRIALS AND FOLLOW-UP PROJECTS

## DELIVERY ROOM MANAGEMENT TRIAL

Congratulations! The Delivery Room Management Trial has been completed. The "DRM" Trial, as it is known to its participating centers, looked at three distinct approaches to the stabilization and support of premature infants at high risk of respiratory distress syndrome: one arm randomized infants to intubation and surfactant treatment; a second arm randomized infants to intubation, surfactant treatment, and rapid extubation to nasal continuous positive airway pressure (NCPAP); and a third arm randomized infants to nasal CPAP alone.

In the seven years that it took to complete this study, close to 650 babies were enrolled by 27 centers. Even though this study was terminated prior to reaching the desired sample size of 876 infants, it remains the largest study of its kind.

The results were presented at the VON 2009 Annual Meeting in December and will be presented at the Pediatric Academic Societies Annual Meeting in Vancouver in May. The trial demonstrated that infants stabilized in the delivery room with either NCPAP or prophylactic surfactant and extubation to NCPAP appear to have similar outcomes to those managed with prophylactic surfactant followed by mechanical ventilation. Some infants managed with early NCPAP can avoid intubation and treatment with surfactant thereby potentially reducing costs.

The presentation at the PAS meeting will be on Saturday, May 1<sup>st</sup> at 3:00 as part of the Neonatal Medicine Clinical Trials Session in the West Ballroom A. Materials for the talk will be distributed to participating centers prior to the meeting for comments and criticism and the slides will be posted for the general membership after the presentation.

We thank all of the participating centers in this trial for their hard work and perseverance.

Roger F. Soll, MD,  
Principal Investigator,  
Karla Ferrelli, BA,  
DRM Trial Coordinator

## THE HeLP TRIAL

Hypothermia immediately after birth remains a problem for infants born at less than 28 weeks gestation. The Heat Loss Prevention Trial (HeLP) is a randomized controlled trial that evaluates if polyethylene occlusive wrap applied immediately

after delivery has an impact on mortality and morbidity in infants born between 24 and 28 weeks gestation. Some participating centers have also enrolled infants born at less than 24 weeks gestation as part of a separate pilot study. Neurodevelopmental follow-up at 18 to 24 months corrected age is being conducted by a telephone assessment screening for major disability. More detailed information is obtained on enrolled infants from centers who have a follow-up clinic and who can perform a Bayley score.

The HeLP Trial is a collaborative project lead by Sunnybrook Health Sciences Center in Toronto, the University of Alberta in Edmonton and coordinated by the Vermont Oxford Network.

Study enrollment began in November 2004. Currently, 834 infants are enrolled in the trial. Now that we have reached the halfway point, the second interim analysis is being prepared for the Data and Safety Monitoring Board. After their review, the HeLP Trial Steering Committee will determine if the trial should be stopped early.

We would like to take this opportunity to thank our incredibly dedicated centers (the HeLPers) for their efforts and hard work. It is a critically important time for all participating sites to submit their data on all enrolled infants, even if some time has passed since their birth. Neurodevelopmental follow-up data is needed on all enrolled infants, and we thank our centers for sending these data in promptly. With your help, we will be able to inform evidence-based guidelines and policies regarding thermal resuscitation of the premature newborn.

*Sunita Vohra*, Co-principal Investigator,  
University of Alberta

*Maureen Reilly*, Co-principal Investigator, Sunnybrook  
Health Sciences Centre

*Valeria Rac*, HeLP Trial Coordinator

## FEEDINGS IN EXTREMELY LOW BIRTH WEIGHT INFANTS

The VON Probiotics pilot was also completed this past year and accepted for a presentation at PAS 2010 Vancouver.

Investigators at the Cardinal Glennon Children's Medical Center began this pilot trial in 2008, involving feedings probiotics to extremely low birth weight infants. The goal of the study was to demonstrate that probiotic supplemented feeding in extremely low birth weight infants can improve

growth, feeding tolerance, and reduce days of antimicrobial treatment. Infants with birthweight 501-1000 grams and ready to feed by day 14 of life were eligible for the study. Infants were randomized to either probiotic supplementation or no supplementation. Infants received both lactobacillus and bifidobacteria and continued on supplementation until discharge at 34 weeks adjusted age. The primary outcome measures were growth and feeding tolerance. The results showed that probiotics-supplemented feeding increases growth velocity in ELBW infants.

Although we would like to continue with a large scale randomized trial on probiotics, the current FDA ruling on probiotics as a drug (as opposed to a food additive) makes it difficult to do so. The regulatory procedures are daunting and represent a significant hurdle for proceeding with a large trial at this time.

The PAS presentation will be on May 1<sup>st</sup> at 4:30. It will be a 10 minute oral presentation followed by 5 minutes of discussion.

Mohamad Al-Hosni,  
Principal Investigator,  
Cardinal Glennon Children's Medical Center

## PARENTAL INTERVIEW AND REPORTING QUESTIONNAIRE (PIRQ)

Current neurodevelopmental follow-up of all high risk infants is difficult, incomplete and expensive. The Parental Interview and Reporting Questionnaire (PIRQ) represents an effort to create a simple questionnaire that could identify infants with serious disability. In order to test the validity of this tool, we are comparing parental perception of their child's health and developmental status (as reflected in the PIRQ) with information gained from formal medical evaluation. The questionnaire has been revised and the current interview tool has 20 structured questions and one open ended question. The PIRQ does not require a health care provider to administer. To date, we have over 1300 completed PIRQs to compare to formal neurodevelopmental evaluation. Hopefully, this tool will allow for large scale, inexpensive follow up of high risk infants that will identify the major medical and developmental issues these children encounter. The PIRQ is currently being used as a follow-up tool for the DRM and the HeLP Trials. In the Fall we hope to begin a new PIRQ initiative which will compare follow-up done in the clinic with the PIRQ questionnaire administered over the phone and also gather information from parents as to their reasons for not returning to the follow-up clinics. We

have noticed a noticeable decrease in follow-up rates from our centers involved in the follow-up project over the past few years. This tool will help us to identify reasons why the families do not return for follow-up visits as well as compare the groups that return vs. those that do not.

## ELBW INFANT FOLLOW-UP PROJECT

The Extremely Low Birth Weight (ELBW) Follow-up project has been collecting data on ELBW infants over the past ten years! Data collection is complete on infants born during 2006 with birth weight between 400 and 1001 grams or gestational age between 22 weeks 0 days and 27 weeks 6 days. There are 37 centers currently participating in this project. The database now contains the survival status at two years adjusted age on infants born between 1998 and 2006.

Want to know more? A summary of the data from the ELBW Infant Follow-up Project is now available to all centers on our Nightingale site. It is located in the summaries section under "Special Reports", specifically: "ELBW Follow-up All Center Report". Individual center reports have been posted to Nightingale for the past four years.

A brief snapshot of the survival status at two years adjusted age on 7,107 infants born during 2002 through 2006 is noted below. Of the 7,107 surviving infants, 3,895 had neurodevelopmental evaluations conducted.

Here's what our ELBW infants look like:

<b>Family Characteristics</b>	
Two-parent household	74%
College Graduates	38%
<b>Interventions</b>	
Rehospitalized after discharge	37%
Required support after discharge	31%
Required surgery	26%
<b>Growth Parameters</b>	
Poor weight gain	29%
Microcephaly	13%
<b>Severe Developmental Disability</b>	
Severe Disability *	28.4%
Bilateral blindness	0.8%
Hearing impairment requiring amplification	1.6%
Cerebral Palsy	7.7%

\*Components of severe disability include: bilateral blindness, hearing loss requiring amplification, unable to walk with support, cerebral palsy, a Bayley score of less than 70 or too severely delayed for Bayley testing.

## VERMONT OXFORD NETWORK CONTRIBUTIONS TO PAS MEETING

Centers with high reporting rates of follow-up ( $\geq 60\%$ ) had slightly less infants with severe disabilities, 28.6% vs. 29.2%, compared to centers with low reporting follow-up rates ( $< 60\%$ ).

The Followmeup Listserv was launched this past year. All center investigators and project coordinators from participating follow-up centers were initially added to this listserv. If you think you should be subscribed please contact Karla Ferrelli at [karla@vtoxford.org](mailto:karla@vtoxford.org).

And last, but not least, our manuscript was accepted for publication in Neonatology! Citation follows:

Mercier CE, Dunn MS, Ferrelli KR, Howard DB, Soll RF, and the Vermont Oxford Network ELBW Follow-up Study Group. Neurodevelopmental Outcome of Extremely Low Birth Weight Infants from the Vermont Oxford Network: 1988-2003. Neonatology. 2010;97:329-338.

Charles Mercier, MD,  
Principal Investigator,  
University of Vermont

### **ELBW FOLLOW UP DEADLINE**

**Please note the deadline for submitting Birth  
Year 2007 ELBW Follow-up data:  
June 1, 2010**

### **FOLLOW-UP FOR THE NEONATAL ENCEPHALOPATHY REGISTRY**

Follow-up is being done on babies that were enrolled in Neonatal Encephalopathy Registry and received hypothermic therapy and have reached 24 months of age. We have begun follow-up on those infants born in 2007 and 2008. If you are interested in participating in Follow-up for the Registry and need more information please contact [karla@vtoxford.org](mailto:karla@vtoxford.org)

#### **CONTACT US:**

For more information on Clinical Trials or the ELBW and NER Follow-Up Projects, please contact Karla Ferrelli at 802 865 4814 ext 212 or email: [karla@vtoxford.org](mailto:karla@vtoxford.org)

There is a lot going on at the upcoming PAS Meeting that reflects the hard work done by Vermont Oxford Network members. Dr. Roger Soll will be presenting the Delivery Room Management (DRM) Trial and the Probiotics Study results on Saturday, May 1 at 3 PM and 4:30 PM respectively in the West Ballroom A (Session 1670). Dr. Roger Soll will also be presenting the AAP Presidential Plenary and Annual Silverman Lecture on evidence based medicine. The William A. Silverman Lectureship was established in 2006 by the American Academy of Pediatrics' Section on Perinatal Pediatrics to honor Dr. Silverman. Dr Silverman was a leader in both evidence based medicine and bioethics of the newborn. This lecture titled "Beyond Randomized Controlled Trials" will be presented on Sunday, May 2<sup>nd</sup> at 3:15 PM in the West Ballroom B (Session 2535).

Vermont Oxford is also happy to support four presentations highlighting the initial findings from the Neonatal Encephalopathy Registry at the PAS. Dr. Terrie Inder and Dr. Peter Bingham were both awarded platform presentations. Dr. Inder's presentation, titled "Neuroimaging in the Vermont Oxford Network" will take place on Sunday, May 5 at 9:45 AM in room 109 (Session 2150). Dr. Bingham's presentation, titled "Diagnosis and Treatment of Neonatal Seizures in a Neonatal Encephalopathy Registry" will take place on Saturday, May 1 at 2:45 PM in the West Ballroom B (Session 1675). Dr. Karin Nelson will be displaying her research titled "Antecedents of Neonatal Encephalopathy in the Vermont Oxford Network" as a poster presentation on Tuesday, May 4 from 10 AM until 2 PM in Exhibit Hall C on board 66 (Session 4401). Finally, Dr. Robert Pfister will be presenting his work titled, "Hypothermia in Practice, Initial Observations from the Vermont Oxford Network" at a poster symposium presentation on Sunday, May 2 from 1 – 3 PM on board 5 in room 110 (Session 2632).

A poster presentation by Dr. Jeremy Archer titled "Serious Congenital Heart Disease in Very Low Birth Weight Infants in the Vermont Oxford Network" will be displayed Monday, May 3 from 4 – 7:30 PM on board 272 in Exhibit Hall C (Session 3727).

We want to thank all of the members of the Vermont Oxford Network for their important contributions to this research.

# VON WEB SERVICES

## NICQpedia

NICQpedia is a VON website that has been under development and pilot tested by the centers participating in NICQ 2009. It is a collaboratively created, continuously evolving on-line resource for archiving and sharing neonatal health care knowledge and improvement science strategies. Access to this rich collaborative resource comes with the expectation that members will contribute constructively and generously to the site. The contents of NICQpedia may be shared freely under a Creative Commons, Share Alike, Non-Commercial license, in the pursuit of sustained improvement in the quality & safety of health care for newborn infants and their families. (For information about the license, see: <http://creativecommons.org/licenses/by-nc-sa/3.0/>.)

Unique characteristics of NICQpedia:

- Developed by a community of multidisciplinary healthcare providers and patient family members.
- Provides evidence-based quality improvement resource kits including potentially better practices in selected neonatal topics compiled by clinical experts
- Features neonatal quality improvement practice change implementation stories/examples provided by front line care providers and patient family members.
- Integrates families as partners in the design and delivery of care for neonates
- Promotes continuous collaboration via a Q & A/ discussion forum archive
- Stimulates education and discussion via the NeoNotes blog– an on-line journal club updated regularly with contributions from the VON community
- Contains multi-media learning tools- including presentations from experts in neonatology, as well as examples of the use of video as an improvement tool

VON plans to make NICQpedia available to all member centers beginning in 2011.

## UPDATE YOUR WEB SERVICES USERS!

It is important to occasionally review your center's list of users who have access to the VON Web Services and make all necessary modifications as personnel changes occur at your center.

To view a complete list of Web Services users for

your center, go to the Member's Area Home Page and click on "Admin Tools".

For instructions on adding or removing user access, changing passwords and log in emails, please review the "How to Administer Users" tutorial found at the following link: [Web Services Administrator's Instructions](#)

Please contact Nancy Cloutier at [nancy@vtoxford.org](mailto:nancy@vtoxford.org) if a person assigned the role of Web Services Administrator for your center should no longer be in that role!

### VIEW OUR USEFUL AND INFORMATIVE WEB SERVICES TUTORIALS

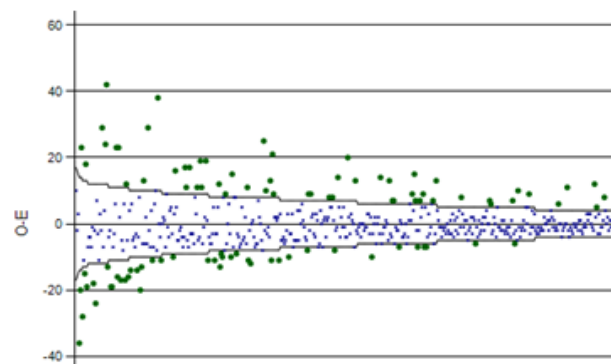
- [Data Finalization Guidelines](#)
- [Web Services Administrator Instructions](#)
- [Nightingale Introduction Tutorial](#)
- [Member's Area Overview](#)
- [Data Management](#)

For more information on the VON Web Services or to determine if your center has Web Services access, please contact Nancy Cloutier at: [nancy@vtoxford.org](mailto:nancy@vtoxford.org)

## NEW NIGHTINGALE FEATURES

### New Risk Adjusted Measure Categories

Risk-adjusted measures for key outcomes, including Standardized Morbidity/Mortality Ratios and Observed Minus Expected (O-E) values, are now available on Nightingale. These measures may be viewed for VLBW or Expanded populations by selecting the desired drop-down category. Data are presented in both table and chart format, including the O-E funnel charts that are included in the annual Quality Management Report.



### 3 Year Risk Adjusted Reports

You can now also view risk adjusted outcome data for 3-year periods in addition to viewing measures by birth year. After selecting the Risk Adjusted Measures category, simply click the check box for 3 Years next to the year drop-down list.

Year: 2008  3 Years

## WELCOME TO OUR NEWEST MEMBERS!

Vermont Oxford Network welcomes 113 new member centers who have joined the Network since March, 2009!

A. O. Universitaria Policlinico, Bari, Italy  
Al. Ruscescu Mother & Child Health Institute, Bucharest, Romania  
Allegheny General Hospital, Pittsburgh, PA  
Arrowhead Hospital, Glendale, AZ  
Azienda Ospedaliera A. Cardarelli, Naples, Italy  
Azienda Ospedaliera San Sebastiano e S. Anna, Caserta, Italy  
Azienda Ospedaliera Verona-Ospedale Civile Maggiore, Verona, Italy  
Baptist Medical Center East, Montgomery, Alabama  
Ben Taub General Hospital, Houston, TX  
Bryan LGH Medical Center, Lincoln, NE  
Carolinas Medical Center- NorthEast, Concord, NC  
Central Baptist Hospital, Lexington, KY  
CentraState Medical Center, Freehold, NJ  
Cesare Arrigo Children's Hospital, Alessandria, Italy  
Children's Hospital of Michigan, Detroit, MI  
Clinica Alemana De Santiago, Santiago, Chile  
Community Hospital North, Indianapolis, IN  
Community Medical Center, Toms River, NJ  
Covenant Women & Children's Hospital, Lubbock, TX  
CoxHealth Neonatology, Springfield, MO  
Denver Health Medical Center, Denver, CO  
Duke University, Durham, NC  
Emfuleni Medi-clinic, Vanderbiylpark, South Africa  
Ephrata Community Hospital, Ephrata, PA  
Frankfort Regional Medical Center, Frankfort, KY  
Good Samaritan Hospital, Kearney, NE  
Good Samaritan Hospital Med. Center, West Islip, NY  
Great Western Hospital, Swinton, United Kingdom  
Greenacres Hospital, Port Elizabeth, E.C., South Africa  
Greenwich Hospital, Greenwich, CT  
Hadassah Medical Center, Jerusalem, Israel  
Hamilton Medical Center, Dalton, GA  
Hospital e Maternida de Sao Luiz, Sao Paulo, SP, Brazil  
Hospital Israelita Albert Einstein, Sao Paulo, SP, Brazil  
Hutzel Women's Hospital, Detroit, MI  
Jennie Stuart Medical Center, Hopkinsville, KY  
Johns Hopkins Bayview Medical Center, Baltimore, MD  
Kaiser, Roseville, CA  
Kapiolani Med. Ctr for Women & Children, Honolulu, HI  
Kern Medical Center, Bakersfield, CA  
Kettering Medical Center, Kettering, OH  
Kaiser Foundation Hospital, Downey, CA  
Kaiser Foundation Hospital Orange Country, Irvine, CA  
Kimball Medical Center, Lakewood, NJ  
Kings Daughter Medical Center, Ashland, KY  
Lovelace Women's Hospital, Albuquerque, NM  
Lyndon B. Johnson General Hospital, Houston, TX  
Materno Infantile – Universita de Palermo, Palermo, Italy  
McMaster Children's Hospital Neonatal Nurseries, Hamilton, Ontario, Canada  
Methodist Hospital, Henderson, KY  
Methodist Willowbrook Hospital, Houston, TX

Missouri Baptist Medical Center NICU, St. Louis, MO  
Morningside Medi-Clinic, Sandton, South Africa  
NCH at Dublin Methodist Hospital, Dublin, OH  
Neocenter S/A, Belo Horizonte, Mina Gerais, Brazil  
Neonatologia – Policlinico Genelli, Rome, Italy  
Netcare Kulls River Hospital, Cape Town, South Africa  
NICU- Bambino Gesu Children's Hospital, Rome, Italy  
NICU A.O. Gaetano Rummo, Benevento, Italy  
NICU Azienda Ospedaliera SMN, Reggio Emilia, Italy  
NICU Ospedale Di Rho, Milan, Italy  
NICU Ospedale Monaldi, Naples, Italy  
NICU Ospedale Sprito Santo, Pescara, Italy  
NICU Ospedali Riuniti OORR, Reggio Calabria, Italy  
NICU-Dip Interaziendale dell'eta Evolutiva, Perugia, Italy  
Norwalk Hospital, Norwalk, CT  
Onslow Memorial Hospital, Jacksonville, NC  
Ospedale Di Venere, Bari, Italy  
Ospedale Fatebenefratelli, Benevento, Italy  
Ospedale Santo Bambino, Catania, Italy  
Ospedale Valduce, Como, Italy  
Overlake Hospital Medical Center, Seattle, WA  
Palmetto Health Baptist, Columbia, SC  
Patologia Neonatale- AV Lodi, Lodi, Italy  
Patologia Neonatale- Isoedake San Bortolo, Vicenza, Italy  
Pediatria e Patologie Neonatale- Ospedale di Thiene, Italy  
Peninsula Regional Medical Center, Salisbury, MD  
PICU-NICU Ospedale M. Bufalini, Cesena, Italy  
Pietermaritzburg Medi-Clinic, Pietermaritzburg, So. Africa  
Policlinico – Vittorio Emanuele- UOCUTIN, Cantinia, Italy  
Potchefstroom Medi-Clinic, Porchefstroom, South Africa  
Pro Matre Paulista, Sao Paulo, Brazil  
Queen Charlotte's & Chelsea Hospital, London, UK  
Regional Medical Center, Madisonville, KY  
Rex Hospital, Raleigh, NC  
Riddle Memorial Hospital, Media, Pa  
Riley Hosp. for Children – IN Univ. Hosp., Indianapolis, IN  
Riverside County Regional Medical Center, Moreno Valley, CA  
Rush University Medical Center, Chicago, IL  
RWJUH- Hamilton, Hamilton, NJ  
SOD Neonatologia- Azienda Ospedali Riuniti, Ancona, Italy  
Somerset Neonatal Intensive Care Unit, Somerset, UK  
Southview Medical Center, Dayton, OH  
St. Luke's The Woodlands Hospital, The Woodlands, TX  
St. Mary Medical Center, Langhorne, PA  
Sutter Roseville Medical Center, Roseville, CA  
The City Hospital, Dubai, United Arab Emirates  
The Hospital of Central Connecticut, New Britain, CT  
TIN Ospedale Umberto 1, Nocera Inferiore, SA, Italy  
Trident Health System, Summerville, SC  
Trident Medical Center, Charleston, SC  
Universitaets Medizin-Neonatology, Mainz, Germany  
University of Virginia, Charlottesville, VA  
UTIN Ospedale Versilia, Lido di Camaiore, Italy  
Virginia Commonwealth Univ. Health System, Richmond, VA  
Welcare Hospital, Dubai, United Arab Emirates  
Wishard Memorial Hospital, Indianapolis, IN  
Woman's Hospital, Jackson, MS  
Yeovil District Hospital, Yeovil, Somerset, United Kingdom