NEWSLETTER Spring 2009

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2008 ANNUAL MEETING AND QUALITY CONGRESS

The Vermont Oxford Network Annual Meeting and Quality Congress held on December 6 and 7, 2008 in Washington, DC, were attended by over 700 individuals representing a range of professional disciplines.

Jeffrey Horbar, MD opened the Annual Meeting with a presentation, "Exploring the Context of Care", in which he addressed the importance of context in determining the effect of medical interventions. Drawing on the ideas of Pawson and Tilley (Ray Pawson and Nick Tilley. *Realistic Evaluation.* Sage Publications. London. 1997) he used the example of nasal CPAP to illustrate how a specific intervention can behave differently in different contexts. The presentation was illustrated with a short clip from a film made in 1986 by Drs. Wung, James and Driscoll, documenting the approach to early CPAP pioneered at Babies Hospital in New York and clearly showing the technical and social components of the intervention. Dr. Horbar proposed that differences in the socio-technical contexts may explain the differences in reported effectiveness of early CPAP reported in the available literature.

Roger Soll, MD reviewed the status of the Vermont Oxford Network Delivery Room Management Trial and the Heat Loss Prevention Trial, discussed the pilot trial of probiotics and provided an update on the Network's Extremely Low Birth Weight Follow up.

Thomas Pogge, PhD, Professor of Philosophy and International Affairs at Yale University presented an address titled, "What do we owe the distant poor?" Dr. Pogge reviewed major themes from his important work on global justice, *World Poverty and Human Rights: Cosmopolitan Responsibilities and Reforms*, second, expanded edition. Cambridge: Polity Press 2008, in which he argues that the global rich have a moral duty to take decisive steps toward the eradication of global poverty. One such step is the Health Impact Fund (HIF), a new proposal based on two simple insights: (1) privately funded pharmaceutical Research and Development responds to incentives, and (2) new drugs can have a much larger impact if their prices are low. At present, the most profitable research efforts are not the ones most needed to alleviate the global burden of disease. High prices often put new drugs out of reach of most of the world's population. The HIF seeks to correct both of these failings by offering to reward any new medicine, if priced at cost, on the basis of its global health impact. Details about this bold proposal can be found at (http://www.yale.edu/macmillan/igh/hif.html).

Ann Stark, MD, Professor of Pediatrics at Baylor College of Medicine and Chairperson AAP Committee on Fetus and Newborn discussed the "Levels of NICU Care". She reviewed the current status of the AAP guidelines for levels of care (*Pediatrics* 2004;114;1341-47), discussed data from the Vermont Oxford Network database related to levels of care, and indicated that the AAP will be reviewing the guidelines in the near future.

The afternoon session of the Annual Meeting included breakout sessions on the following topics: Encephalopathy Registry (J Horbar), Global Neonatology (S Ringer, J Spector, M Tadesse), Cochrane Collaboration (R Soll), Vermont Oxford Network Web Tools (J Carpenter), COFN Update - Processes and Policies (A Stark, W Barfield), and Quality and Safety in the NICU (J Handyside).

The Annual Meeting concluded with a session of open discussion in which Dr. Horbar responded to a wide range of questions.

The 9th Annual Quality Congress opened with a plenary presentation by Davis Balestracci, a statistician, addressing the topic, "QI what have we accomplished?" He stressed the need for measurement as a guiding principle in quality improvement.

Chris Longhurst, MD, Clinical Assistant Professor of Pediatrics at Stanford University and Medical Director of Clinical Informatics, provided an overview of the "Electronic Medical Record as a Quality Tool". He described the opportunities and risks for unanticipated adverse events associated with the

introduction of the electronic health record in the NICU.

Pat Croskerry, MD, Associate Professor, Dalhousie University, addressed cognitive errors in medicine in a talk titled, "Blink or Think?" How we make medical decisions. He reviewed the models of cognition relevant to medical decision making and explained the potential for cognitive errors arising from those models.

Jim Gray, MD Associate Professor of Pediatrics, Harvard Medical School presented, "Connecting the Dots: NICU Team Structure and Performance". He reviewed basic concepts of network theory and applied these in a novel way to data about nursing assignments for NICU infants.

Diana Elbourne, Professor of Health Care Evaluation, London School of Hygiene and Tropical Medicine presented the results of the "BEADI Trial: Standards of Care for Premature Babies". Diana opened her presentation with a remembrance of the principle investigator, Dominique Acolet, who had tragically passed away.

Jim Handyside, Leader of the NICQ 2009 Collaborative, introduced the Learning Fair, a collection of over 100 posters of case studies from NICUs working on improvement. Pam Ford and David Wirtschafter, the judges for the NICUTube Video Festival presented the awards for videos in a variety of categories.

The afternoon concluded with the Learning Fair and NICUTube Video Festival. An excellent selection of videos and informative improvement posters were shared and provided the opportunity for in depth discussion.

Recordings of presentations from both meetings can be viewed by going to the Collaborative Learning Center accessible via the following links:
2008 Annual Meeting Presentations
9th Annual Quality Congress Presentations

NICU TUBE VIDEO FESTIVAL

The Vermont Oxford Network was pleased to present the 2nd Annual NICUTube Video Festival in conjunction with the Quality Congress on December 7, 2008. Teams from 12 NICUs entered their 3 minute NIC-U Tube videos. Festival Committee Chairs, Pam Ford and David Wirtschafter, MD presented the *Reel Award* to SCDU Neonatologia- ASO OIRM S. Anna University in Torino, Italy, for their superb entry, "My Friend Sofia". Sertac Arslanoglu accepted the award for this exceptional entry on their behalf!

As in 2007, the coveted *Premie Donna Awards* were given to all the teams for the following videos:

Our Safe Harbor
University of Washington Medical Center

Welcome to the Intensive Care Nursery
Children's Hospital at Dartmouth

Mach's First Bath
Anne Arundel Medical Center

Small Wonders
Marquette General Health System

Code 911
The Women's Hospital

Professor Microbe
Sunnybrook Health Science Centre

NICU Hand Hygiene
Baptist Health System

Desperate Neonatologists
National Maternity Hospital

My Friend Sofia
SCDU Neonatologia - ASO OIRM S. Anna Univ. Torino

Sterile Line Change
Joe DiMaggio Children's Hospital

Mission Impossible
Macedonio Melloni Hospital

NICU Comedy Movie
Univ. Medical Center of Southern Nevada

The videos were shown continuously to appreciative crowds during the Quality Congress Learning Fair and ended with a historical 1986 30 minute video, Treatment of Neonatal RDS, by Drs. Jen Wung, John Driscoll, and Stanley James of Babies Hospital at Columbia University.

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

DATA CONTACTS PARTICIPATE IN NETWORK DATABASE FORUM

During the Vermont Oxford Network Annual Meeting in Washington DC this past December, Data Contacts from 10 Network hospitals met with representatives of the Vermont staff for a Network Database forum. The participants represented a cross section of institutions with a variety of experience as well as types of data input. In attendance were Data Contacts from centers that participate in the VLBW and Expanded Databases, eNICQ users and centers that submit data on paper forms. Both US and international centers participated.

A lively two hour discussion with a focus on improving data accuracy and completeness and improving VON support for our Data Contacts was led by Joe Carpenter, Director of Technical Operations. From the definition of eligible infants, to data accuracy and management, the group shared their approaches, techniques and challenges in successfully collecting data at their center.

As a result of this meeting, Vermont Oxford Network will be moving forward to address data management issues, data collection considerations and eNICQ support for Vermont Oxford Network centers. One priority is to develop more instructional tutorials for data contacts, the first being *Finalization Guidelines* for end of the year data closeout found at the following link: Finalization Guidelines for Year End Close-out
We also anticipate a breakout session focusing on data quality at the next Annual Meeting.

A follow-up phone conference with a slide presentation was held in February with the DC attendants to continue our discussions from the December forum and to focus on the promotion of data quality as a Network goal.

2009 DATA CHANGES

We have added a number of new items and have revised the definitions of existing data items for 2009.

Please refer to pages i and ii in the 2009 Manual of Operations for a list of 2009 changes and review the detailed definitions noted in applicable section of the Manual.

Please be sure to contact your center's VON Account Manager with any questions.

THE BLACK LION PROJECT

The Vermont Oxford Network in partnership with Addis Ababa University is sponsoring a project in which teams of health professionals from Network hospitals will work with Ethiopian physicians, nurses, and trainees at the Neonatal Unit of the Black Lion Hospital, the major teaching hospital of Addis Ababa University in Addis Ababa, Ethiopia. The aim of the project is to improve the quality of medical care for newborn infants and their families in Ethiopia through training and research designed to address the specific needs and resource constraints of the country.

The Black Lion Project has been in planning for over two years. Dr. Bogale Worku, Chief of Neonatology at Addis Ababa University, was invited to attend the 2007 Vermont Oxford Network Annual Meeting and prepared the foundation for this project. In October 2008, a delegation representing the Vermont Oxford Network (Drs. Jeffrey Horbar, Jonathan Spector, Steven Ringer, and Misrak Tadesse) visited Dr. Worku at the Black Lion Hospital to plan the next steps.

Misrak Tadesse

Phillip Platt

At the 2008 Annual Meeting Dr. Horbar showed a video made during the visit and asked for volunteers willing to spend a month at the Black Lion Hospital. The response was terrific! We are planning to send the first team consisting of a neonatologist, Misrak Tadesse from Howard County General Hospital and a neonatal nurse practitioner, Phillip Platt from Baptist St. Anthony's Hospital in June 2009 for a one month stay. A long list of volunteers is available for future visits. We are currently planning to send three or four teams during the first year of the project. Vermont Oxford Network is covering all travel expenses and Addis Ababa University is providing housing.

We thank everyone who has volunteered and look forward to hearing about Misrak and Phillip's experience this summer. If you are interested in volunteering or in getting more information, please contact Nancy Cloutier nancy@vtoxford.org

NETWORK WELCOMES WILLIAM H. EDWARDS, MD TO BOARD OF DIRECTORS

The Vermont Oxford Network is pleased to announce that William H. Edwards, MD, Professor of Pediatrics at the Dartmouth Medical School and Chief of Neonatology, Dartmouth Hitchcock Medical Center, Lebanon, New Hampshire, joined the Network Board of Directors in January, 2009.

Dr. Edwards is a Professor of Pediatrics at Children's Hospital at Dartmouth, where he practices neonatology and serves as Medical Director of the Intensive Care Nursery, Division Chief of Neonatology, Vice Chairman of the Department of Pediatrics, and is a member of the Board of Governors and Board of Trustees for the Medical Center. He is Board Certified in Neonatal Perinatal Medicine by the American Board of Pediatrics. His academic interests include design and participation in randomized clinical trials and quality improvement. Dartmouth has been a participant in all of the Vermont Oxford Network NIC/Q collaboratives, and Dr. Edwards served a the leader ot the Family-Centered Care focus group, "We are Family". He has been an advocate for improved collaboration with health care providers and families, and has presented at regional, national and international conferences on quality improvement, clinical outcomes and family-centered care.

The other members of the Board are Jeffrey D. Horbar, MD, Jerold F. Lucey, MD, and Roger F. Soll, MD.

INICQ CREATING STANDARD PROCESSES COLLABORATIVE

The Vermont Oxford Network is pleased to report that multidisciplinary teams from 40 neonatal intensive care units are participating in the current iNICQ Internet series, Creating Standard Processes. Under the direction of Jeffrey D. Horbar, MD, and James Handyside, this collaborative is the ninth 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.

The Institute of Medicine, in its landmark publication *Crossing the Quality Chasm*, challenges us to make health care family centered, safe, equitable, effective, efficient, and timely. Vermont Oxford has added a seventh characteristic, socially and environmentally responsibility. The iNICQ Collaborative will help teams address these 7 themes in all of your NICU processes.

This series includes 10 interactive, 90-minute Internet sessions. Each web conference provides formal teaching, interactive discussion and time for teams to work together. Prior to each conference, participating teams are provided with materials and prework assignments designed to prepare the team for action. A 30 minute post conference exercise period is also provided to participating teams.

Collaborative members have access to a dedicated e-mail listserv. CME and Contact Hours are available for iNICQ Collaborative participants.

The topic areas of the iNICQ Creating Standard Processes are as follows:

Session 1: June 18, 2008
Tools for Process Improvement
Flowcharts, process measures, and playbooks
Jim Handyside
Discussion

Session 2: Sept. 3, 2008
Making Your Processes Family Centered
Family Centered NICU Care
Jim Conway
Discussion

Session 3: Oct. 22, 2008
Making Your Processes Safe
Identifying and reducing hazards
Jim Handyside
Discussion

Session 4: Nov. 19 2008
Making Your Processes Effective
Evidence based NICU care
Gautham Suresh
Discussion

Session 5: Jan. 21 2009
Making Your Processes Equitable
Equitable care in the NICU: What are the issues?
Stephaine Hale

Session 6: March 4, 2009
Tools for Process Improvement Part 2
Additional tools for process improvement
Ginna Crowe
Case studies
Discussion

Session 7: April 22, 2009
Making Your Processes Timely
Timeliness of critical information
Karen McKinley
Case studies
Discussion

Session 8: June 10, 2009
Making Your Processes Efficient
Application of lean principles to the NICU
Diane Frndak
Case studies
Discussion

Session 9: July 15, 2009
Making Your Processes Environmentally Responsible
What is environmentally responsible NICU care?
Ted Schettler
Case studies
Discussion

Session 10: Sept 23, 2009
Case Studies on Creating Standard Processes
Case studies from participating teams
Jim Handyside

iNICQ Faculty
James B. Conway
Senior Vice President, Institute for Healthcare Improvement

Ginna Crowe, RN, Ed.D
Founder, Hamilton Counsulting, LLC
Facilitator of Education and Improvement

Diane Frndak, MBA
Vice President of Organizational Excellence,
West Penn Allegheny Health System
Stephaine Hale, MD
Commonwealth Fund Fellow, Minority Health Policy
Harvard School of Public Health

James Handyside, B Sc
Director , NICQ Projects
President, Improvision
Advisor to the Ontario Ministry of Health and Long Term Care.

Jeffrey Horbar, MD
Professor of Pediatrics, University of Vermont College of Medicine
Chief Executive and Scientific Officer, Vermont Oxford Network

Karen McKinley, RN
Vice President, Division of Clinical Effectiveness
Geisinger Health System

Ted Schettler
Science Director, Science and Environmental Health Network
Science Advisor, Health Care Without Harm

Gautham Suresh, MD
Neonatologist, Children's Hospital at Dartmouth
Associate Professor of Pediatrics, Dartmouth College

iNICQ IMPROVING CARE FOR NEONATAL ENCEPHALOPATHY

The Vermont Oxford Network is pleased to report that multidisciplinary teams from 51 neonatal intensive care units are participating in the current iNICQ Internet series, Improving Care for Neonatal Encephalopathy. Under the direction of Jeffrey D. Horbar, MD, Terrie Inder, MD, and Peter Bingham, MD, this is the tenth 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 collaborative will help multidisciplinary NICU teams identify infants with neonatal encephalopathy reliably, diagnose and treat neonatal seizures appropriately, use brain monitoring and neuroimaging effectively, understand if and how to use hypothermia in their NICU as well as address follow up and services for infants and families.

Collaborative members have access to a dedicated e-mail listserv. Free CME and Contact Hours are available for iNICQ Collaborative participants. Prior to each session we will provide prework designed to prepare teams for the session.

The schedule for the iNICQ sessions is presented below. Each session will last 90 minutes. We ask each team to schedule an additional 30 minutes following the session to work together on a structured improvement exercise that we will provide related to the topic of the session.

Session 1: March 11, 2009
Introduction to Neonatal Encephalopathy
Donna Ferriero, MD

Session 2: May 12, 2009
Neonatal Neurologic Exam
Terrie Inder, MD
Peter Bingham, MD

Session 3: July 22, 2009
Neonatal Seizures
Amit Mathur, MD

Session 4: September 2, 2009
Brain Monitoring: EEG and aEEG
Lena Hellstrom-Westas, MD

Session 5: November 19, 2009
Neuroimaging: MRI, CT, US
Steven Miller, MD

Session 6: January 13, 2010
Hypothermic Therapy
Denis Azzopardi, MD

Session 7: March 10, 2010
Neurodevelopmental Follow-up and Services
Terrie Inder, MD

Faculty

Denis Azzorpardi, MD
Senior Lecturer in Paediatrics and Neonatal Medicine, Imperial College, London
Consultant Neonatalogist, Hammersmith Hospital, London

Peter Bingham, MD
Associate Professor of Neurology and Pediatrics, University of Vermont
Neurologist, Fletcher Allen Healthcare

Donna Ferriero, MD
Chief of Child Neurology, UCSF Children's Hospital
Director, Neonatal Brain Disorders Center at UCSF

Lena Hellstrom-Westas, MD
Associate Professor, Department of Paediatrics, Uppsala University, Uppsala, Sweden

Jeffrey Horbar, MD
Professor of Pediatrics, University of Vermont College of Medicine
Chief Executive and Scientific Officer, Vermont Oxford Network

Terrie Inder, MD
Co-Leader, iNICQ Encephalopathy Series
Associate Professor of Pediatrics
Department of Pediatrics
Washington University in St. Louis

Amit Mathur, MD
Associate Professor of Pediatrics, Washington University
Associate Medical Director, Neonatal Intensive Care Unit, St. Louis Children's Hospital

Steven Miller, MD
Associate Professor of Pediatrics, Division of Neurology
University of British Columbia

NEONATAL ENCEPHALOPATHY REGISTRY

The care and treatment of infants with neonatal encephalopathy now presents clinicians and families with new opportunities and many unanswered questions and challenges. Institutions must decide whether to offer hypothermic therapy, efficient transport systems must be established to allow hypothermic treatment to be started within the first few hours after birth, and a variety of co-interventions and diagnostic tests such as EEG, aEEG, and MRI must be considered. There is a need for a central registry to begin to assess these issues.

As a result, the Vermont Oxford Network has established the Neonatal Encephalopathy Registry (NER) for newborn infants with encephalopathy and those treated with hypothermia. The Registry is overseen by a Steering Committee that includes Peter Bingham, MD, Associate Professor of Neurology and Pediatrics, University of Vermont; Terrie Inder, MD, Associate Professor of Pediatrics, Washington University; Karin Nelson, MD, Senior Investigator, NIH; and Tonse Raju, MD, DCH, Program Scientist/Medical Offices, NICHD/NIH.

The Registry identifies demographic characteristics, associated perinatal factors, medical treatments, co-morbidities and outcomes of the enrolled infants. It also allows us to identify and evaluate variations in current practice, monitor the introduction and dissemination of new neuroprotective therapies such as hypothermia, and assess selection criteria for neuroprotective therapy.

Moreover, the NER allows us to identify opportunities for improvement in the quality and safety of care for infants with encephalopathy, define important questions for clinical research, and plan prospective research and randomized trials.

The Registry began enrolling patients in 2006. Since then, 71 hospitals have submitted data on 1640 newborns with encephalopathy. Of these, 458 have been treated with hypothermia. The Registry continues to grow and will become a valuable resource for understanding the care of infants with neonatal encephalopathy.

Participation in the Registry is free and open to all Network member institutions. All participants receive annual reports on their own infants and the aggregated data for all infants in the registry. Data are collected and submitted using the Network's eNICQ software. Participants have the option of submitting standardized 2 year follow up data for infants treated with hypothermia.

If you would like more information, please contact Nancy Cloutier, Registry Coordinator (nancy@vtoxford.org).

WOODSTOCK CELEBRITY CLOSES NICQ 2007

The NICQ 2007 QI Collaborative, which ended in December 2008, was comprised of multidisciplinary teams from 46 NICUs working in small, facilitated multicenter Learning and Improvement Communities to standardize processes of care in the areas of Daily Care, Transitions, and Staffing. This work was accomplished over the course of two years with 4 face-to-face meetings, facilitated conference calls and dedicated email listservs. The approach was based on the six key themes identified by the IOM: care should be safe, patient & family centered, effective, efficient, equitable and timely. We included an additional theme of making care socially and environmentally responsible. There was a Leadership component to the Collaborative that was composed of four half day meetings for NICU leaders preceding the NICQ meetings. This included a strong emphasis on the Microsystems approach & Measuring what Matters to document improvement.

The NICQ 2007 Quality Improvement Collaborative, representing yet another milestone in the journey to providing high quality care to infants and their families, concluded with a productive meeting in San Francisco September 11-14, 2008. In addition to the multidisciplinary NICU teams, senior organizational leaders were invited to attend this final meeting of the Collaborative. Among the interesting topics discussed, were Evidence Based Management and Experience Based Design presented by Robert Sutton, PhD, Stanford University Professor of Management Science and Engineering and well known author. Beverley Johnson, president and CEO of the Institute for Family-Centered Care, addressed Partnering with Families at the Bedside to Improve Care. Lou Halamek, MD, Associate Professor in Pediatrics at Stanford University and a member of the board of directors of the Society for Simulation in Healthcare, revisited the use of simulation in healthcare quality improvement. In addition, multiple concurrent session topics were offered by Collaborative participants including healthcare professionals and family members alike. Our "Summer of Love" social event featured a guest appearance by 60's musician, Woodstock phenom and Florence Nightingale scholar, Country Joe MacDonald. (without the Fish!) Visit the VON Nightingale website for more information on Country Joe and Florence Nightingale.

The work product for the NICQ 2007 Collaborative is a compendium on themes for improvement in the NICU which includes chapters written by selected experts based on the work done in NICQ 2007. This publication is currently in the editing stages. We anticipate completion in the summer of 2009.

NICQ 2009 COLLABORATIVE

NICQ 2009, the two year quality improvement collaborative for multidisciplinary NICU teams that began in January 2009 is the 6th in a series of intensive NICQ collaboratives sponsored by the Vermont Oxford Network. NICQ 2009 is comprised of multidisciplinary teams from 53 NICUs and leadership teams from eight state groups that will work together for two years under the guidance of an expert faculty to fulfill this vision:

"To be an inclusive Community of Practice that supports the pursuit of shared goals for improvement and the provision of exemplary care for all newborn infants and their families."

To realize this vision, we have adopted the following Manifesto and Specific Aims:

Manifesto: As members of the NICQ Community of Practice we will:

- Provide care that is always family centered, safe, effective, equitable, timely, efficient, and socially and environmentally responsible.

- Apply four key habits for improvement in our daily practice: the habit for evidence based practice, the habit for change, the habit for systems thinking, and the habit for collaborative learning.
- Hold ourselves accountable to patients, families, colleagues, and to the communities in which we live and work by incorporating measurement into our daily practice.
- Treat each other with respect.

Specific Aims:

- Make measurable improvements in Quality & Safety
- Engage families as team members for improvement
- Foster a worldwide Community of Practice for newborn care in which knowledge, tools, and resources for improvement are developed, managed, shared, and applied.

The NICQ 2009 participants will meet face to face twice each year over two years. Our first meeting was held in Orlando, FL from March 19-22, 2009. The meetings include interactive plenary sessions as well as blocks of time for teams to work intensively together with experts on specific improvement topics. The participating teams have chosen to work on one of the following nine topics: NICU Design, Resuscitation and Stabilization, Medication Safety, Nutrition, Electronic Medical Record, Infection, Respiratory Care, Discharge Management and Encephalopathy. Each Topic Group of 4-9 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 provided to the Topic Groups to jump start their improvement work. Between meetings, Topic Group participants will communicate through conference calls and dedicated email discussion lists.

In partnership with the Cambridge Leadership Associates, we are offering a series of four special half day workshops, *Leading for Improvement*, which will precede the main meetings of NICQ. 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.

To support our Community of Practice, VON is developing NICQpedia, a web-based repository for our Quality Improvement work. NICQ participants have access to and are expected to contribute to NICQpedia. The Quality Improvement Starter Kits reside on NICQpedia wiki pages that will be refined by NICQ members during the course of the Collaborative. Improvement Stories, developed by teams and shared as posters at the NICQ meetings, will be posted to NICQpedia to provide valuable practice improvement implementation stories. This exciting tool will enhance collaboration as well as archive the tremendous work of this group.

STATE, REGIONAL & NATIONAL COLLABORATIVE GROUPS

In the past two years a remarkable trend has emerged. Groups of neonatal units are beginning to organize improvement collaboratives at a rapidly increasing rate. In fact it is happening so fast that it is hard to keep all of the C's and Q's in their names straight! Here is a list of the existing and emerging state, regional, administrative and national collaborative groups of which we are aware:

USA

- California, CPQCC
- Child Health Corporation of America CHCA
- Children's Hospitals Neonatal Consortium CHNC
- Colorado
- Dallas Fort Worth Area
- Florida
- HCA
- Illinois, IAPC
- Intermountain Health
- Kentucky
- Massachusetts, NeoQIC
- Michigan
- Mississippi
- North Carolina, PQCNC
- New Jersey
- New York City
- Ohio, OPQC
- Oregon
- South Carolina
- Tennessee, TIPQC
- Texas
- Washington
- Wisconsin

International

- Austria

- SW Peninsula
- N Ireland, NICORE
- Ireland
- Italy, INN
- South Africa
- Spain
- United Kingdom

This trend presents a unique opportunity for the field of neonatology. By fostering collaboration and focusing on improvement with close colleagues the emerging collaboratives have the potential to speed up our improvement efforts. The Vermont Oxford Network has attempted to foster and support this movement in several ways. For the past two years we have hosted a special session on the evening before the Annual Meeting in Washington, DC to bring together leaders from the collaborative groups. The leaders have shared ideas and presented posters describing their work. In response to a request from the leaders at the 2008 meeting, Vermont Oxford has established an email discussion list for leaders of neonatal collaboratives. This list has already proved useful as a tool for collaborative learning with discussions of barriers facing regional groups and strategies to overcome them. If you are a leader of a neonatal collaborative group and would like to be added to the discussion list, please contact Kathy Leahy, NICQ Coordinator (Kathy@vtoxford.org).

The Vermont Oxford Network provides customized reporting services to established multi-hospital groups. The Report Contacts at group member centers receive Detailed Group Reports and are able to compare their center's VLBW data to VLBW data from all centers within the group using the Nightingale Internet reporting system. For more information on the VON Group Reporting Services, please contact Nancy Cloutier, Group Services Coordinator (Nancy@vtoxford.org).

Finally, the Vermont Oxford Network has invited leaders of state collaboratives to join the NICQ 2009 improvement collaborative. Leaders of 8 states (CA, IL, MA, MI, NC, NJ, OH, and TN) accepted the invitation and attended the first meeting of NICQ 2009 held in Orlando, Florida March 19-22, 2009. The leaders from those state groups have now formed a working group within NICQ 2009 to explore how best to create, support, and sustain statewide neonatal improvement efforts. We look forward to working with and learning from these state leaders.

VON WEB SERVICES

The VON online resources available to Network members continue to grow. Last September, we introduced the Member's Area which has become the easiest way to view center specific summaries and to access resources for your center. This area includes the Data Management section which your Data Contact uses to review the most recent data submissions and any errors that require correction. The Member's Area also includes information about the projects your center participates in and the contacts we have for your center. The Member's Area can be accessed by going to: https://www.vtoxford.org/portal/portal.aspx

The Collaborative Learning Center has recently been updated to include new multimedia presentations from the Annual Meeting, Quality Congress, iNICQ and NICQ Collaboratives. The Tools for Improvement Series is also available for your review in this section of the Member's Area.

In the future we will be introducing some new collaborative tools that will foster greater interaction between Network members. We hope to create a knowledge base to which all Network members can make contributions and use as resource. Our NICQ 2009 Collaborative is currently experimenting with these tools and we hope to introduce them to all Network members in the next year or two.

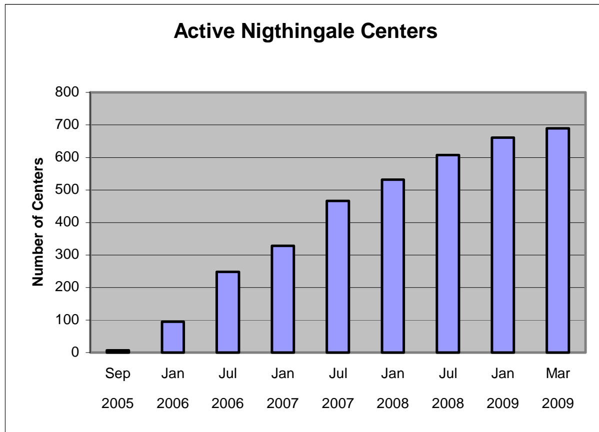
ATTENTION
WEB SERVICES ADMINISTRATORS

Be sure 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 "View More Contacts". For instructions on removing users, please review the "How to Administer Users" tutorial found at the following link:
Web Services Administrator's Instructions

NIGHTINGALE INTERNET REPORTING SYSTEM

Since its beginning in 2005, the VON Nightingale Internet Reporting system has provided information to thousands of care givers on neonatal interventions and outcomes. Measures may be compared at your center to all centers in the Network, to all centers of your NICU type, and to other groups of which your center is a member.



Comparisons by birth weight, gestational age, birth location and year are available for various populations, including all very low birth weight infants, infants 501-1500 grams and infants 22-29 weeks gestation. If your center participates in the Expanded Database, you can also select "All NICU Infants" to view and compare outcomes such as infection and mortality for all eligible infants admitted to your NICU.

Nightingale is very intuitive and easy to use. Simply select the category of interest and drill down to the level you want to see. You can even view a list of the cases for each of the procedures and outcomes. Another nice feature is the ability to see data for all the years that your center has participated in the Network. Finally, you can view risk adjusted outcome information for your hospital by visiting the "Summaries" link.

Please go to the following link to view a very informative 10-minute introduction to Nightingale: Nightingale Introduction Tutorial

MARK YOUR CALENDAR!

NETWORK ANNUAL MEETING
&
10th ANNUAL QUALITY CONGRESS
December 5 & 6, 2009
Omni Shoreham Hotel
Washington, DC
Registration materials will be available in June.

CORRECTION MADE TO THE 2009 MANUAL OF OPERATIONS

A new release of the 2009 VON Manual of Operations has been posted to our Web site. This new release includes the following note for the data item, "Maternal Hypertension, Chronic or Preganancy Induced":

NOTE: Eclampsia and pre-eclampsia should be considered forms of pregnancy-induced hypertension.

Please refer to version 13.2 of the 2009 Manual of Operations when collecting data for 2009 births.

JEROLD F. LUCEY, MD RECEIVES 2009 JOHN HOWLAND AWARD

Jerold Lucey, M.D., Professor of Pediatrics and Wallace Professor of Neonatology at the University of Vermont College of Medicine, received the 2009 American Pediatric Society (APS) Howland Medal Award at the Pediatric Academic Societies Annual Meeting in Baltimore and was honored at a special APS Members' Dinner on May 4.

The John Howland Medal, the highest award of the American Pediatric Society, has been given since 1952 to honor those who, by their contribution to pediatrics, have aided in its advancement.

Dr. Lucey's past awards include the Apgar Award, the Humboldt Award and the American Academy of Pediatrics Lifetime Achievement Award. In 2000, he was elected a senior member of the Institute of Medicine and in 2004, he received the Vermont Medical Society's Distinguished Service Award. Lucey is the 2007 recipient of the Alfred I. duPont Award for Excellence in Children's Health Care from the Nemours Foundation and the author of over 170 professional journal articles and a contributor to 11 neonatology textbooks. Named a UVM University Scholar in 1989 and the Harry Wallace Professor of Neonatology in 1995, Lucey was further honored in 2007 when UVM announcement the endowed Jerold F. Lucey Chair in Neonatal Medicine.

Congratulations to Dr. Lucey for his lifelong achievements and important contributions to the field of neonatology!

2008 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 2008.

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

2008 DATA FINALIZATION

The Data Processing Team (DPT), which is made up of eight Account Managers, is gearing up for the finalization process of 2008 data. With 182 international centers and over 584 US centers we are counting on our member hospitals to be prompt in sending in their 2008 data. We also expect the completion of outstanding 2007 records.

Our Data Finalization Guidelines For Infants Born In 2008 and a Checklist were sent to the Data Contact at each hospital and can also be downloaded on our website www.vtoxford.org 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 2008 Vermont Oxford Network Annual Quality Management Report to centers by the fall of 2009. 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 2008 data.

2008 DATA FINALIZATION DEADLINES REMINDER

APRIL 1ST – COMPLETE

MAY 15TH – CONFIRM

JUNE 1ST – CORRECT

JUNE 15TH – CLOSE

IF ALL ITEMS ARE COMPLETE, CONFIRMED, CORRECT & CLOSED BY JUNE 15TH, 2009, YOUR CENTER WILL RECEIVE THE 2008 NICU QUALITY MANAGEMENT REPORT (QMR) IN SEPTEMBER, 2009

PLEASE REFER TO THE *2008 DATA FINALIZATION GUIDELINES* FOUND IN "DOWNLOADS" ON OUR WEBSITE: WWW.VTOXFORD.ORG

2008 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 *2008 Membership Survey* was sent to all Member hospitals in January 2009. It is essential that we have the *2008 Membership Survey* information from your center when we complete the Annual Quality Management Report (QMR) later this year. Completed survey information is required in order for us to provide a detailed and accurate description of the membership. Please complete and return your center's survey by April 2009.

We also sent the VON *Contact Information* form in January. This is a 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 each participating VON member center is required to fill out and update annually 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.

Completion of the above forms is an important part of the 2008 Finalization process – please contact your Account Manager if you need another copy any of these forms.

VIEW A TUTORIAL WITH INSTRUCTIONS FOR FINALIZING YOUR 2008 DATA AT THE FOLLOWING LINK: *FINALIZATION GUIDELINES FOR YEAR END CLOSEOUT*

CLINICAL TRIALS AND FOLLOW-UP PROJECTS

DELIVERY ROOM MANAGEMENT TRIAL

Enrollment for Delivery Room Management Trial (DRM) has ended. The trial 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.

The question posed by the trial is still relevant to our clinical practice. All three approaches have evidence to support their use. The prophylactic administration of surfactant is supported by multiple clinical trials from the 1990's. In a publication in the *New England Journal of Medicine*, Morley and colleagues compared early stabilization on nasal CPAP to intubation for infants who did not require immediate resuscitation but had some evidence of respiratory difficulty (The Coin Trial). In the seven years that it took to complete this study, slightly over 600 babies were enrolled. Both groups have similar results regarding death or oxygen requirement at 36 weeks postmenstrual age. On the face of it, that might support the less invasive approach. However, infants initially stabilized on CPAP had a three fold increase in the risk of pneumothorax and there was a concerning increase in mortality in the smallest babies (25-26 weeks gestation). Recent meta-analyses in larger babies have demonstrated that early intubation and surfactant treatment, followed by rapid extubation to NCPAP may reduce chronic lung disease. However, these trials have not been done in the more immature babies that comprise the DRM Trial. The question remains unanswered.

Current status: Enrollment has ceased. A total of 27 centers enrolled over 650 infants, making the DRM Trial the largest trial of DR stabilization currently undertaken. We thank all of the participating centers and hope to present our findings at the upcoming VON Annual Meeting.

Roger F. Soll, MD,
Principal Investigator,
Director of Clinical Trials,
Vermont Oxford Network
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 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. Interested participating centers are also enrolling infants born at less than 24 weeks gestation as part of a separate pilot study. Neuro-developmental follow-up at 18 months corrected age is conducted by a telephone assessment screening for major disability. More detailed information will be 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, over 700 infants are enrolled in the trial. The first interim analysis was completed when 25% enrollment was reached and the Data and Safety Monitoring Board identified no safety concerns.

Because the HeLP trial procedures must be implemented immediately after delivery, it is often not possible to get parental consent for trial participation prior to birth. Because of this, HeLP Trial centers have the option of applying to their IRB/REB for approval to enroll infants under institutional consent.

This year, two new centers have joined the trial. We welcome any inquiries from other centers that are interested in becoming a member of the HeLP Trial team. HeLP Trial centers are supplied with all the equipment necessary for the trial and we provide training for the members of your team on the trial procedures.

We would like to take this opportunity to thank our incredibly dedicated centers (the HeLPers) for their efforts and hard work. If you are interested in more information about the trial please contact the trial coordinator Valeria Rac at helptrials@sunnybrook.ca

Sunita Vohra, Co-principal Investigator,
University of Alberta
Maureen Reilly, Co-principal Investigator, Sunnybrook Health Sciences Centre
Valeria Rac, HeLP Trial Coordinator

PROBIOTICS SUPPLEMENTED FEEDINGS IN EXTREMELY LOW BIRTH WEIGHT INFANTS

In the meta-analysis of Al Faleh and colleagues published in the Cochrane Database of Systematic Reviews 2008, probiotic supplementation was shown to decrease the risk of severe necrotizing enterocolitis and decrease the risk of mortality. This potentially represents one of the most effective therapies for the prevention of the most serious gastrointestinal disease we see in the premature babies.

Investigators at the Cardinal Glennon Children's Medical Center have begun a small pilot trial involving feeding probiotics to extremely low birth weight infants. The goal of the study is 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 are eligible for the study. When investigators are considering introducing enteral feeds infants can be enrolled and randomized to either probiotic supplementation or no supplementation. Infants will receive both lactobacillus and bifidobacteria. Infants will continue on supplementation until discharge at 34 weeks postmenstrual age. The primary outcome measures are growth and feeding tolerance. This pilot study will help us in understanding and modeling other potential trials of probiotics that could evaluate clinical outcomes, including feeding tolerance and necrotizing enterocolitis.
Current status: Three centers are participating in the pilot study and 91 infants have been enrolled.

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

EXTREMELY LOW BIRTH WEIGHT (ELBW) INFANT FOLLOW-UP PROJECT

The Extremely Low Birth Weight (ELBW) Follow-up project has been collecting data on ELBW infants over the past nine years! Data collection is complete on infants born during 2005 with birth weight between 400 and 1001 grams. 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 2005.

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 three years.

A brief snapshot of the survival status at two years adjusted age on 6,636 infants born during 2000 through 2005 is noted below. Here's what our ELBW infants look like:

Of the 6,636 surviving infants, 3,745 had health and neurodevelopmental evaluations conducted. Of these:

37% were rehospitalized after discharge
27% required surgery

30% had poor weight gain
13% had microcephaly
1% had bilateral blindness
1.7% had hearing impairment requiring amplification

7.5% had cerebral palsy.
31.5% had severe disability: defined as having one of the following: cerebral palsy, inability to walk, cognitive delay, hearing loss requiring amplification, or visual impairment of bilateral blindness. Centers with high reporting rates of follow-up (>=60%) had slightly lower rates of severe disabilities, 33.5% vs. 37%, compared to centers with low reporting follow-up rages (<60%).

The Followmeup Listserv will be launched in April. All center investigators and project coordinators from participating follow-up centers will be added to this listserv initially. For more information contact karla@vtoxford.org.

Charles Mercier, MD,
Principal Investigator,
University of Vermont

DEADLINE for submitting
Birth Year 2006 ELBW Follow-up Data:
JUNE 1, 2009

FOLLOW-UP FOR THE NEONATAL ENCEPHALOPATHY REGISTRY

Twenty-four month follow-up is being done on babies that were enrolled in the Neonatal Encephalopathy Registry and received hypothermic therapy. If you are interested in participating in Follow-up for the Registry and need more information please contact karla@vtoxford.org.

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 1000 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.

CLUSTER TRIALS

One of the founding principles of the Vermont Oxford Network is to improve the care of infants by conducting pragmatic clinical trials. Pragmatic clinical trials ask clinically relevant questions regarding available therapeutic options. A pragmatic trial is designed to be compatible with current practice and minimize data collection. Our first randomized controlled trial was typical of this approach. Individual infants were randomized to one available surfactant product or another to answer the pragmatic question of whether this choice affected chronic lung disease and death. However, many pragmatic trials involve processes and systems as much as specific interventions. In these situations, "cluster" trials may be the best way to answer the question. In cluster trials, the unit of randomization is no longer the individual subject. It could be an entire clinic, a hospital, or an entire community (such as some of the famous public health studies done on vitamin A in Indian villages). The advantages of cluster trials are an increased administrative efficiency, decreased risk of experimental contamination, improved study subject compliance, and allows for a study of interventions that affect processes or entire groups in institutions. Some studies clearly require a cluster design. If you wanted to study the effect of sending all of your administrators to leadership training, you would have to send the entire team of a given hospital and evaluate the effects for the entire hospital service. For widely available therapies, such as those tested in pragmatic trials, there is always the risk of experimental contamination. If you wanted to test the approach to assessment of feeding residuals, you cannot teach the caregiver person at the bedside to approach it in one way and then pretend that the exposure to that approach will not affect their thought processes and reactions in an infant who is not assigned to that group.

Since the cluster design allows for widespread application of the study intervention at the hospital level, there is improved study subject compliance. However, there are disadvantages to the use of a cluster design. Cluster designs substantially reduce statistical efficiency. Because members of the cluster cannot be treated as independent there is a need to increase the sample size. In addition, there are ethical concerns regarding trial participation. The need for individual consent is sometimes unclear. There are many ways that this has been handled, including institutional consent, patient information regarding the trial, and the opportunity to withdraw.

The Vermont Oxford Network has completed one cluster trial. The Collaborative Quality Improvement to Promote Evidence Based Surfactant for Preterm Infants, a cluster randomized trial, was published in the British Medical Journal in 2004. One hundred and fourteen VON NICUs, which treated 6039 infants of 23-29 weeks gestation, were randomized using a cluster design to either receive a multifaceted quality improvement intervention (including audit and feedback, evidence reviews, a training workshop and ongoing faculty support via conference calls and e-mail) or simply receive data regarding their practices and outcomes. In this study, those units that received the multifaceted collaborative quality improvement advice had distinct changes in practice, including an increase in the use of surfactant in the delivery room and a decrease in time to the first dose. Trials like these are powerful tools to demonstrate how process changes can affect practice.

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

WELCOME TO OUR NEWEST MEMBERS!

Vermont Oxford Network welcomes 74 new members who have joined the Network since March, 2008:

A.O. Universitaria Policlinico, Bari, Italy
Al. Rusescu Mother & Child Health Institute, Bucharest, Romania
Allegheny General Hospital, Pittsburgh, PA
Azienda Ospedaliera San Sebastiano e S. Anna, Casserta, Italy
Azienda Ospedalier Verona-Ospedale Civile Maggiore, Verona, Italy
Bryan LGH Medical Center, Lincoln, NE
Cesare Arrigo Children's Hospital, Alessandria, Italy
Children's Hospital of the King's Daughters, Norfolk, VA
Christus Spohn Hospital Corpus Christi South, Corpus Christi, TX
Community Hospital North, Indianapolis, IN
Community Medical Center, Toms River, NJ
CoxHealth Neonatology, Springfield, MS
Duke University, Durham, NC
Ephrata Community Hospital, Ephrata, PA
Evergreen Hospital Medical Center, Kirkland, WA
Frankfort Regional medical Center, Frankfort, KY
Greenacres Hospital, Port Elizabeth, E. C., South Africa
Hadassah Medical Center, Jerusalem, Israel
Hutzel Women's Hospital & Children's of Michigan, Detroit, MI
Jennie Stuart Medical Center, Hopkinsville, KY
Johns Hopkins Bayview Medical Center, Baltimore, MD
Johns Hopkins Hospital, Baltimore, MD
Kaiser, Roseville, CA
Kaiser Foundation Hospital, Orange County, Irvine, CA
Kimball Medical Center, Lakewood, NJ
Kings Daughters Medical Center, Ashland, KY
Klinikum Wels Grieskirchen, Wels, Austria
Life Healthcare Wilgers Hospital, Lynwood Ridge, South Africa
McMaster Children's Hospital Neonatal Nurseries, Hamilton, Ontario, Canada
Medical Center Hospital, Odessa, TX
Medical Center of Lewisville, Lewisville, TX
Memorial Hermann Southeast, Houston, TX
Methodist Hospital, Henderson, KY
Morningside Medi-Clinic, Sandton, South Africa
Mother Francis Regional Healthcare Center, Tyler, TX
NCH at Doctor's Hospital West, Columbus, OH
NCH at Dublin Methodist Hospital, Columbus, OH
NCH at Grant Medical Center, Columbus, OH
NCH at Riverside Methodist Hospital, Columbus, OH
NCH Main Campus, Columbus, OH
Neocenter S/A, Belo Hoizonte, Mina Gerais, Brazil
Neonatologia - Policlinico Gemelli, Rome, Italy
NICU Bambino Gesu Children's Hospital, Rome, Italy
NICU Ospedale A. Meyer, Florence, Italy
NICU Ospedale Le Scotte, Siena, Italy
NICU A. O. Gaetano Rummo, Benevento, Italy
NICU Azienda Ospedaliera SMN, Reggio Emilia, Italy
NICU Ospedale Di Rho, Rho (Milano), Italy
NICU Ospedale Monaldi, Naples, 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 Valduce, Como, Italy
Overlake Hospital Medical Center, Seattle, WA
Palmetto Health Baptist, Columbia, SC
Patologia Neonatale- AO Lodi, Lodi, Italy
Patologia Neonatale- Ospedale San Bortolo, Vincenza, Italy
Peninsula Regional Medical Center, Salisbury, MD
PIOU-NICU Opsedale M. Bufalini, Cesena, Italy
Potchefstroom Medi-Clinic, Potchefstroom, South Africa
Pro Matre Paulista, Sao Paulo, Brazil
Queen Charlotte's and Chelsea Hospital, London, England, UK
Regional Medical Center, Madisonville, KY
Rex Hospital, Raleigh, NC
Riddle Memorial Hospital, Media, PA
Riverside County Regional Medical Center, Chicago, IL
RWJUH, Hamilton, New Jersey
Security Forces Hospital, Riyadh, Saudi Arabia
SOD Neonatologia, Azienda Ospedale Riuniti, Ancona, Italy
Somerset NICU, Taunton, Somerset, UK
TIN Ospedala Umberto I, Nocera Inferiore (SA), Italy
University of Virginia, Charlottesville, VA
UTIN Ospedale Versilia, Lido di Camaiore, Italy
William Beaumont Hospital, Royal Oak, MI
Winnie Palmer Hosp. for Women & Babies, Orlando, FL

VON WELCOMES NEW STAFF MEMBERS!

Jimmie Sue Deppe joined the Software Development team in June of 2008 as Quality Assurance Specialist. Jimmie Sue has a B.S. in Computer Science from St. Mary's University. In her spare time she enjoys spending time with her family hiking and biking.

Andy Warner joined the Vermont Oxford Network in April of 2008. He performs in a variety of roles including account management, data processing, software testing, technical support and multimedia production. He has a B.A. in music from Carleton College and a commercial pilot's license. In his spare time, he likes to sail, ski, and sing.

CHECK OUT OUR TUTORIALS ON TOPICS OF MEMBER INTEREST!

2008 Data Finalization Guidelines
Web Services Administrator Instructions
Nightingale Introduction Tutorial
Member's Area Overview
Data Management