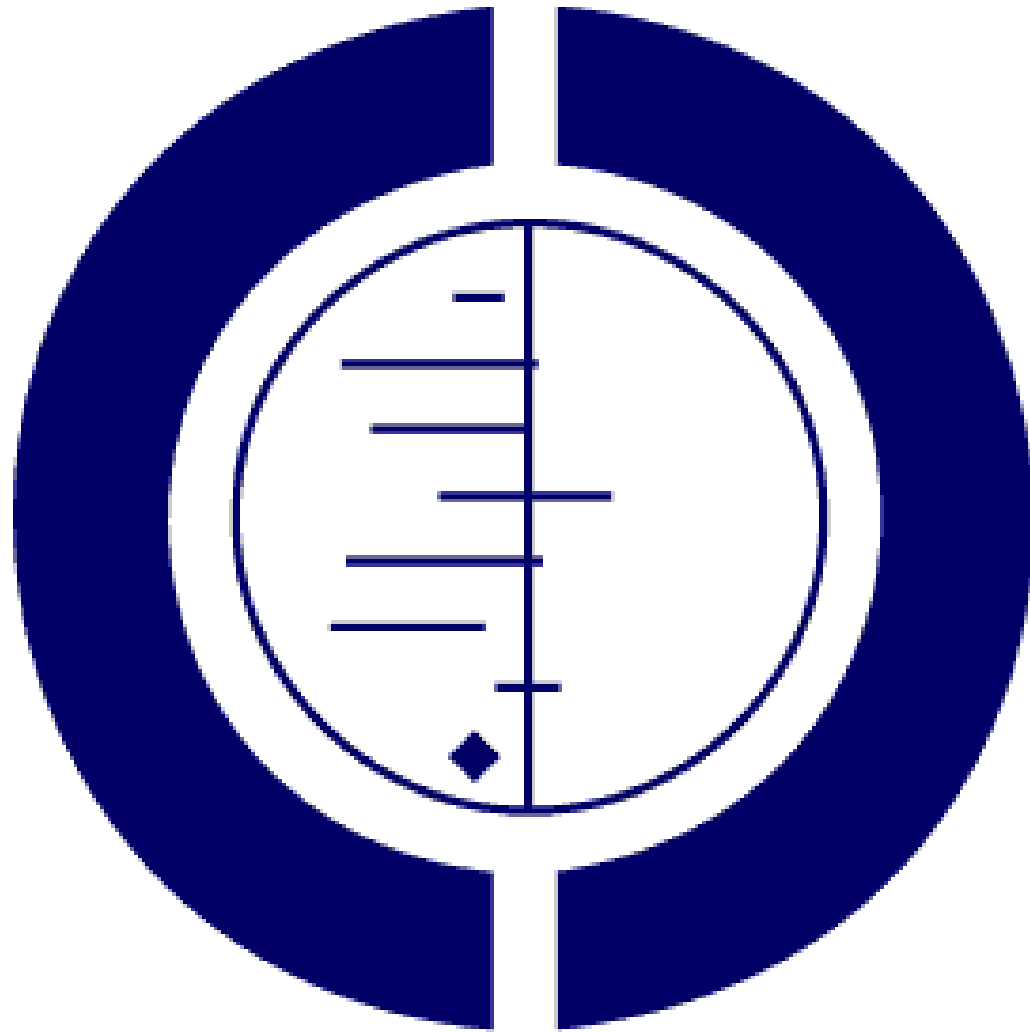

EVIDENCE BASED HEALTH AND THE COCHRANE COLLABORATION

Roger F. Soll, M.D.
Professor of Pediatrics
University of Vermont

Coordinating Editor
Cochrane Neonatal Review Group

Washington, DC 2008





**THE COCHRANE
COLLABORATION®**

*Preparing,
maintaining
and promoting
the accessibility
of systematic reviews
of the effects
of health care
interventions*

COCHRANE COLLABORATION

➤ Cochrane Collaborative Review Groups

Cochrane Centers

Cochrane Fields/Networks

The Cochrane Library

COCHRANE COLLABORATION

Cochrane Collaborative Groups

- Over 50 Collaborative Review Groups
- Most address specific disease entities/health problems
- The Cochrane Neonatal Review Group; one of the rare groups that address the needs of a population

COCHRANE COLLABORATIVE REVIEW GROUPS

Acute Respiratory Infections Group

Airways Group

Anaesthesia Group

Back Group

Breast Cancer Group

Colorectal Cancer Group

Consumers and Communication Group

Cystic Fibrosis and Genetic Disorders Group

Dementia and Cognitive Improvement Group

Depression, Anxiety and Neurosis Group

Developmental, Psychosocial and Learning Problems Group

Drugs and Alcohol Group...

COCHRANE COLLABORATIVE REVIEW GROUPS

Ear, Nose and Throat Disorders Group

Effective Practice and Organization of Care Group

Epilepsy Group

Eyes and Vision Group

Fertility Regulation Group

Gynaecological Cancer Group

Haematological Malignancies Group

Heart Group

Hepato-Biliary Group

HIV / AIDS Group

Hypertension Group

Incontinence Group....

COCHRANE COLLABORATIVE REVIEW GROUPS

Infectious Diseases Group

Inflammatory Bowel Disease Group

Injuries Group

Lung Cancer Group

Menstrual Disorders and Subfertility Group

Metabolic and Endocrine Disorders Group

Movement Disorders Group

Multiple Sclerosis Group

Musculoskeletal Injuries Group

★ **NEONATAL GROUP**

Neuromuscular Disease Group

Oral Health Group...

COCHRANE COLLABORATIVE REVIEW GROUPS

Pain, Palliative Care and Supportive Care Group

Peripheral Vascular Diseases Group

Pregnancy and Childbirth Group

Prostatic Diseases and Urologic Cancers Group

Renal Group

Schizophrenia Group

Sexually Transmitted Diseases Group

Skin Group

Stroke Group

Subfertility Group (see Menstrual Disorders)

Tobacco Addiction Group

Upper Gastrointestinal & Pancreatic Diseases Group

Wounds Group!

COCHRANE NEONATAL REVIEW GROUP

What do we do?

- prepare and disseminate evidence-based reviews of the effects of therapies in the field of neonatal medicine.
- reviews follow a standard method that includes a well formulated question, a comprehensive search for eligible trials, critical appraisal of trial quality and, where appropriate, quantitative synthesis of the results using meta-analysis.
- reviews are regularly updated as new trials are published.

COCHRANE NEONATAL REVIEW GROUP

Funding from The National Institute of Child Health and Human Development (USA) supports:

the infrastructure of the Neonatal Review Group and allows the preparation and continuous updating of:

- a classified bibliography of virtually all reports of randomized trials in the field of neonatology, and
- systematic reviews (incorporating meta-analysis) of the results of this body of research.

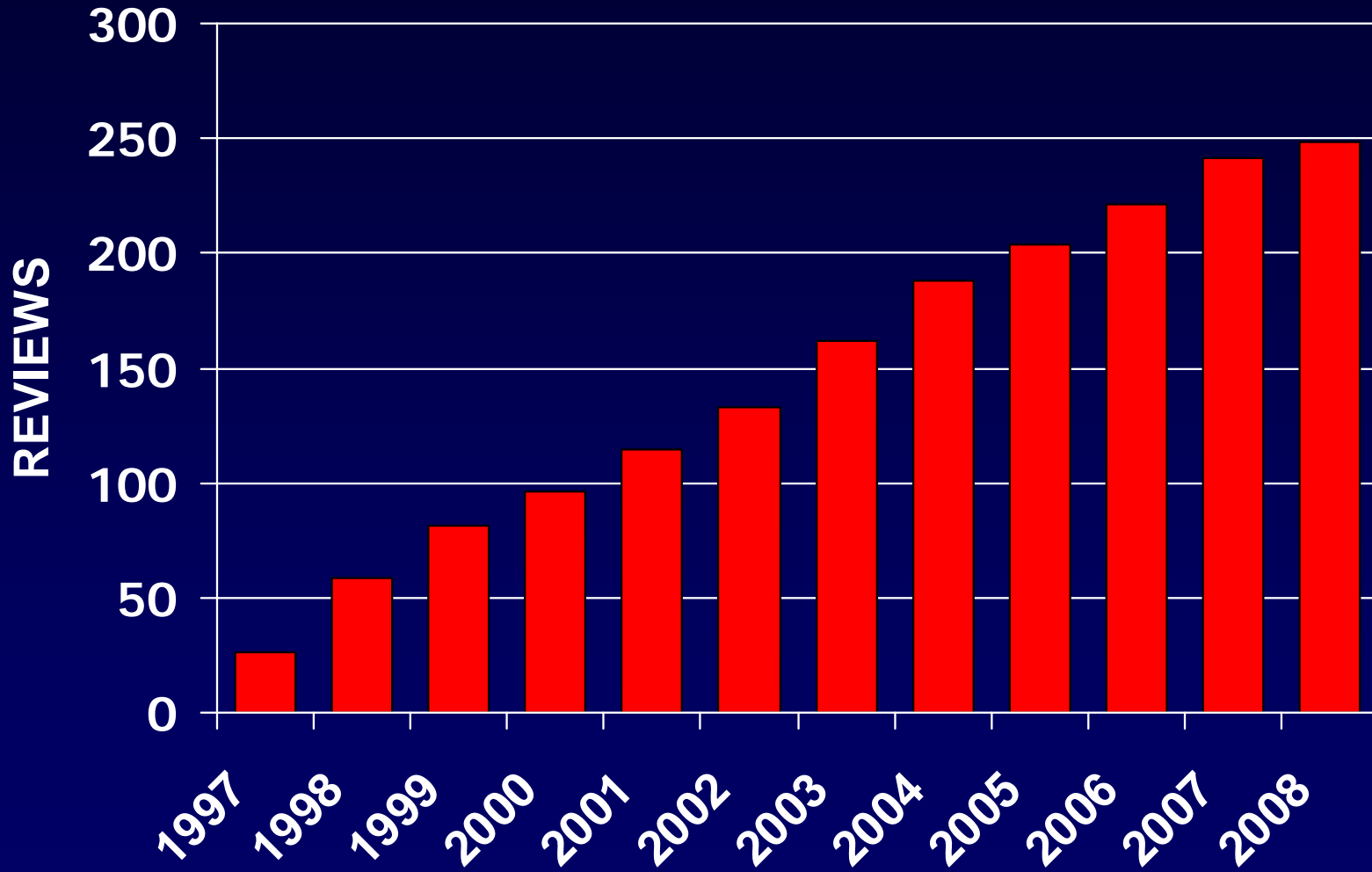
COCHRANE NEONATAL REVIEW GROUP

These Cochrane systematic reviews are published in the Cochrane Database of Systematic Reviews which is contained in the Cochrane Library.

Neonatal reviews can also be accessed on a web page maintained by the National Institute of Child Health and Human Development, USA.

www.nichd.nih.gov/cochraneneonatal.

COCHRANE NEONATAL REVIEW GROUP: REVIEWS



COCHRANE NEONATAL REVIEW GROUP

Have Reviews in Neonatal-Perinatal
Medicine Changed Practice and
Improved the Outcome of Babies?

CORTICOSTEROIDS FOR PRETERM BIRTH

Multiple randomized controlled trials (N=18)
Involving a large number of infants (3735 infants)
But...

Not utilized in the vast majority of patients until...

PROPHYLACTIC CORTICOSTEROIDS FOR PRETERM BIRTH

EFFECT ON NEONATAL DEATH

Study	Expt n/N	Ctrl n/N	Relative Risk (95%CI Fixed)	Weight %	RR (95%CI Fixed)
Neonatal death (all babies)					
AMSTERDAM 198	3 / 64	12 / 58		6.1	0.23 [0.07, 0.76]
AUCKLAND 1972	36 / 532	60 / 538		29.0	0.61 [0.41, 0.90]
BLOCK 1977	1 / 69	5 / 61		2.6	0.18 [0.02, 1.47]
DORAN 1980	4 / 81	11 / 63		6.0	0.28 [0.09, 0.85]
GAMSU 1989	14 / 131	20 / 137		9.5	0.73 [0.39, 1.39]
GARITE 1992	9 / 40	11 / 42		5.2	0.86 [0.40, 1.85]
KARI 1994	6 / 95	9 / 94		4.4	0.66 [0.24, 1.78]
MORALES 1986	7 / 121	13 / 124		6.2	0.55 [0.23, 1.34]
MORRISON 1978	3 / 67	7 / 59		3.6	0.38 [0.10, 1.39]
PAPAGEORGIU	1 / 71	7 / 75		3.3	0.15 [0.02, 1.20]
PARSONS 1988	0 / 23	1 / 22		0.7	0.32 [0.01, 7.45]
SCHMIDT 1984	5 / 49	4 / 31		2.4	0.79 [0.23, 2.72]
TAUESCH 1979	8 / 56	10 / 71		4.3	1.01 [0.43, 2.40]
US STEROID TRIA	32 / 371	34 / 372		16.5	0.94 [0.60, 1.50]
Subtotal (95%CI)	129 / 1770	204 / 1747		100.0	0.63 [0.51, 0.77]
Chi-square 14.00 (df=13)	Z=4.36				

NIH Consensus Statement

Volume 12, Number 2
February 28–March 2, 1994



***Effect of Corticosteroids
for Fetal Maturation on
Perinatal Outcomes***

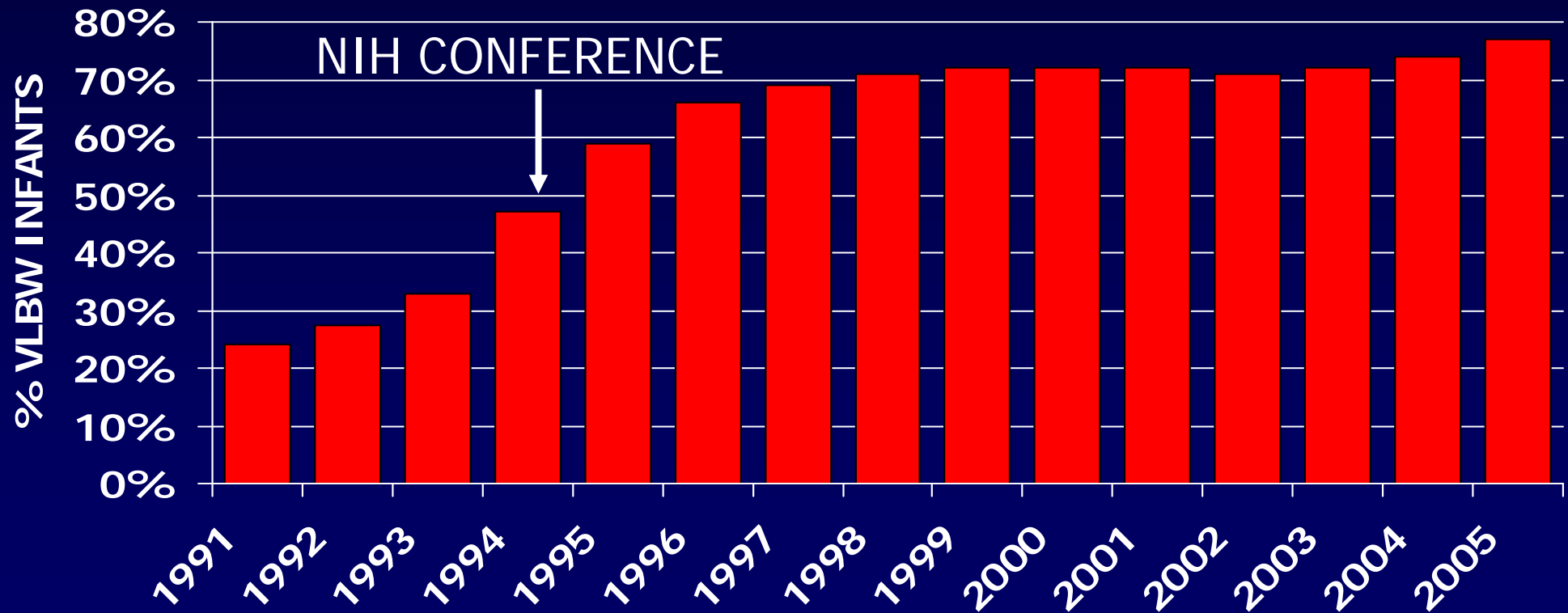
NATIONAL INSTITUTES OF HEALTH
Office of the Director

CORTICOSTEROIDS FOR PRETERM BIRTH

“Antenatal corticosteroid therapy is indicated for women at risk of premature delivery with few exceptions and will result in a substantial decrease in neonatal morbidity and mortality as well as substantial savings in health care costs”

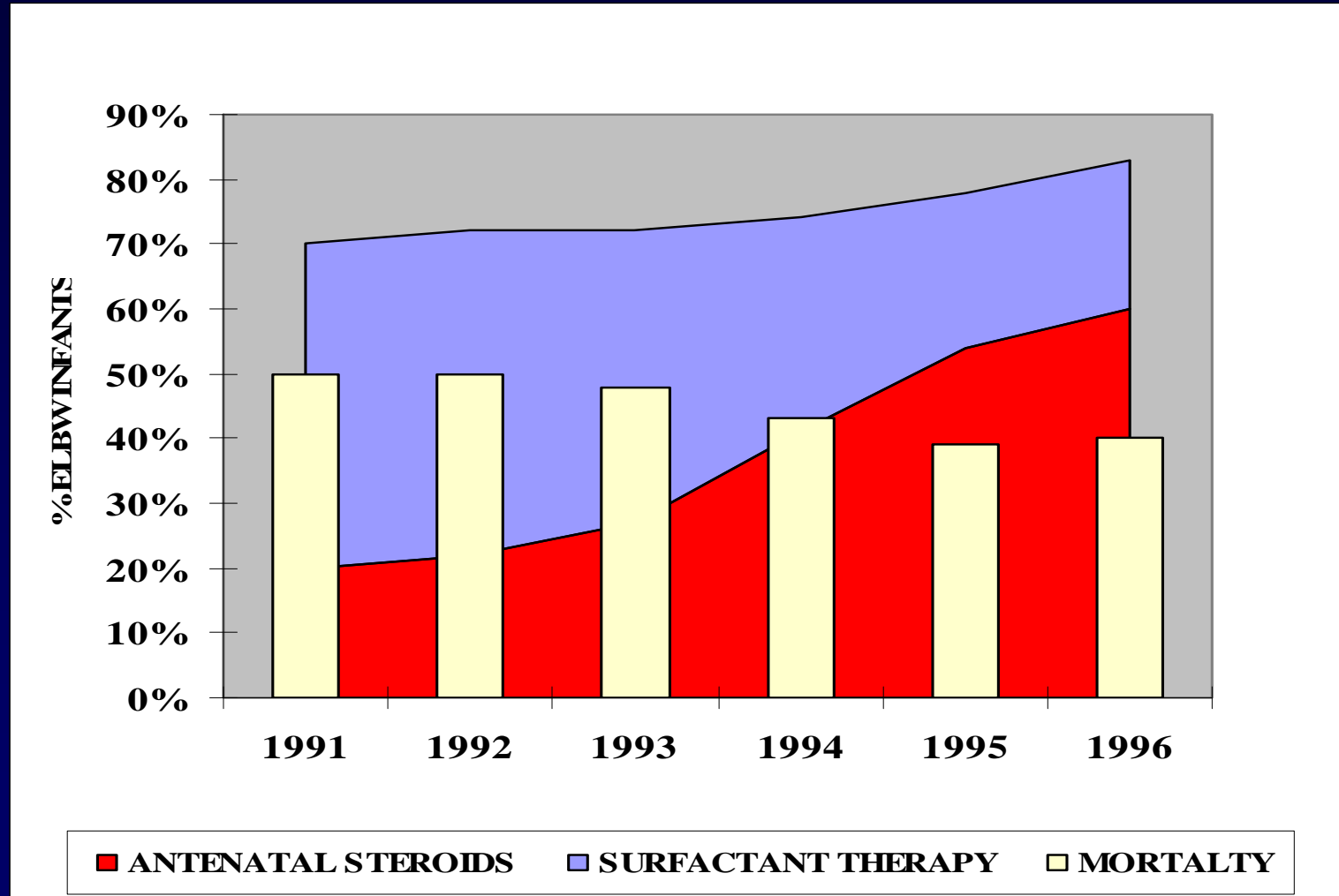
ANTENATAL CORTICOSTEROIDS

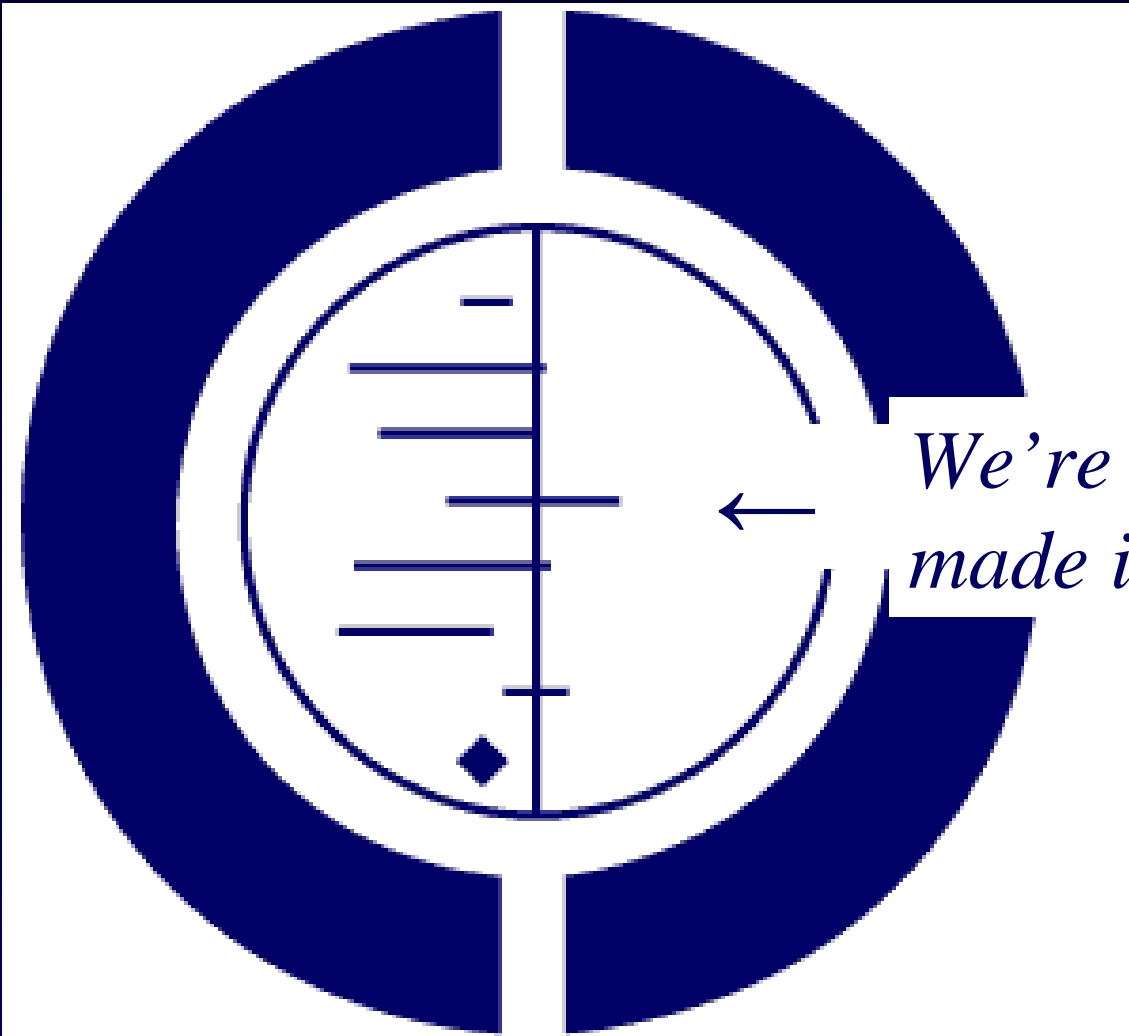
VERMONT OXFORD NETWORK ANNUAL REPORTS 1991-2005



INTRODUCTION OF ANTENATAL STEROIDS AND POSTNATAL SURFACTANT TREATMENT

EFFECT ON MORTALITY IN ELBW INFANTS





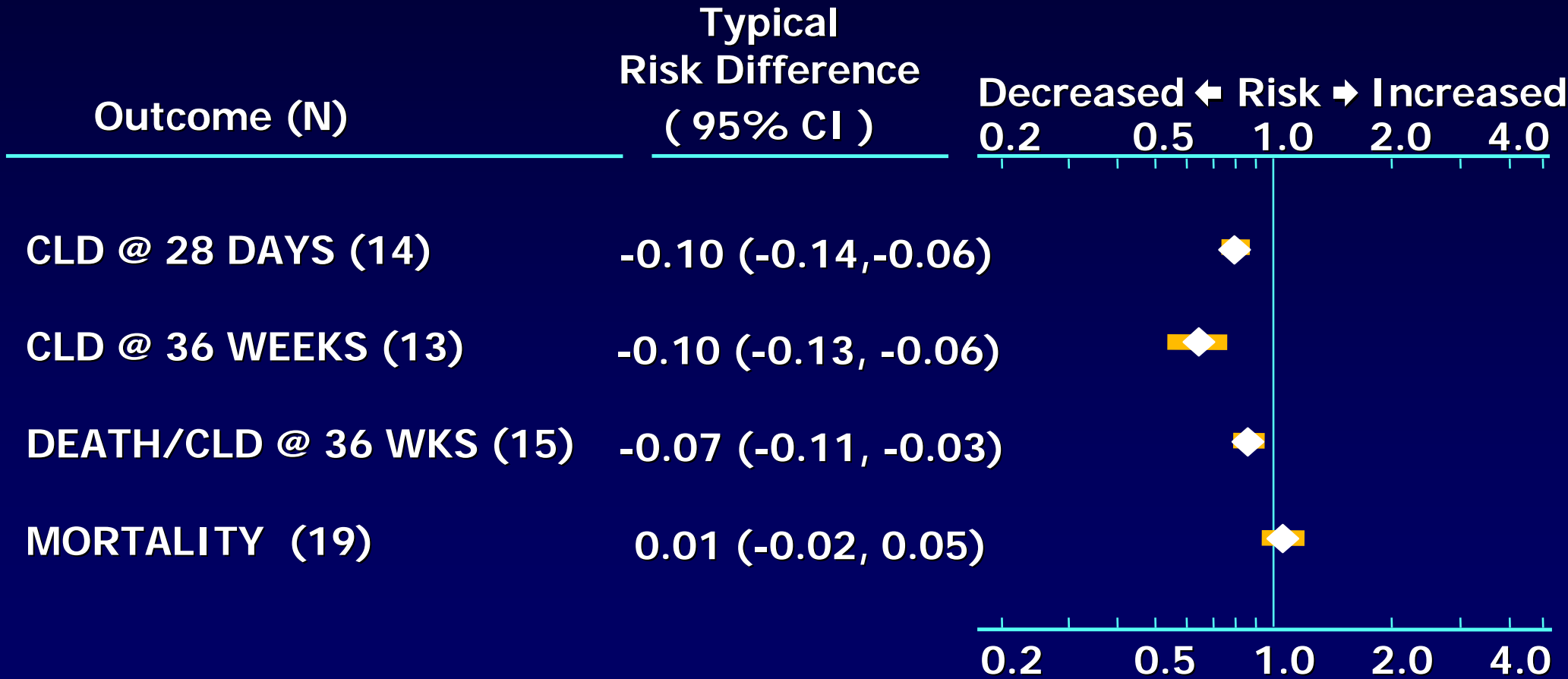
*We're so proud of this, we
made it part of our logo...*

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COLLABORATION®**

www.cochrane.org

EARLY (<96 HOURS) POSTNATAL STEROID THERAPY

META-ANALYSIS OF 19 RANDOMIZED CONTROLLED TRIALS

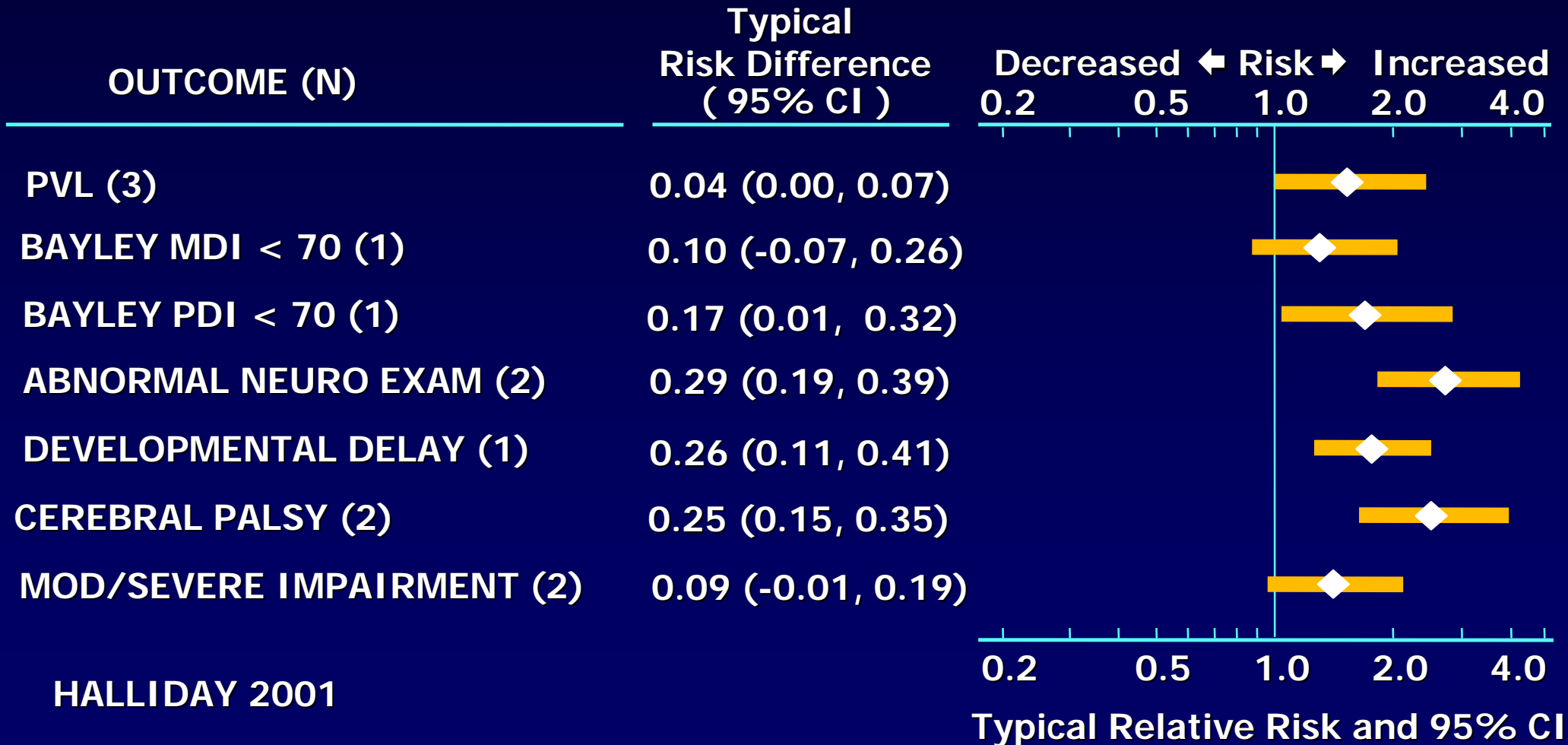


HALLIDAY 2001

Typical Relative Risk and 95% CI

EARLY (<96 HOURS) POSTNATAL STEROID THERAPY

NEURODEVELOPMENTAL OUTCOME IN SURVIVORS



HALLIDAY 2001

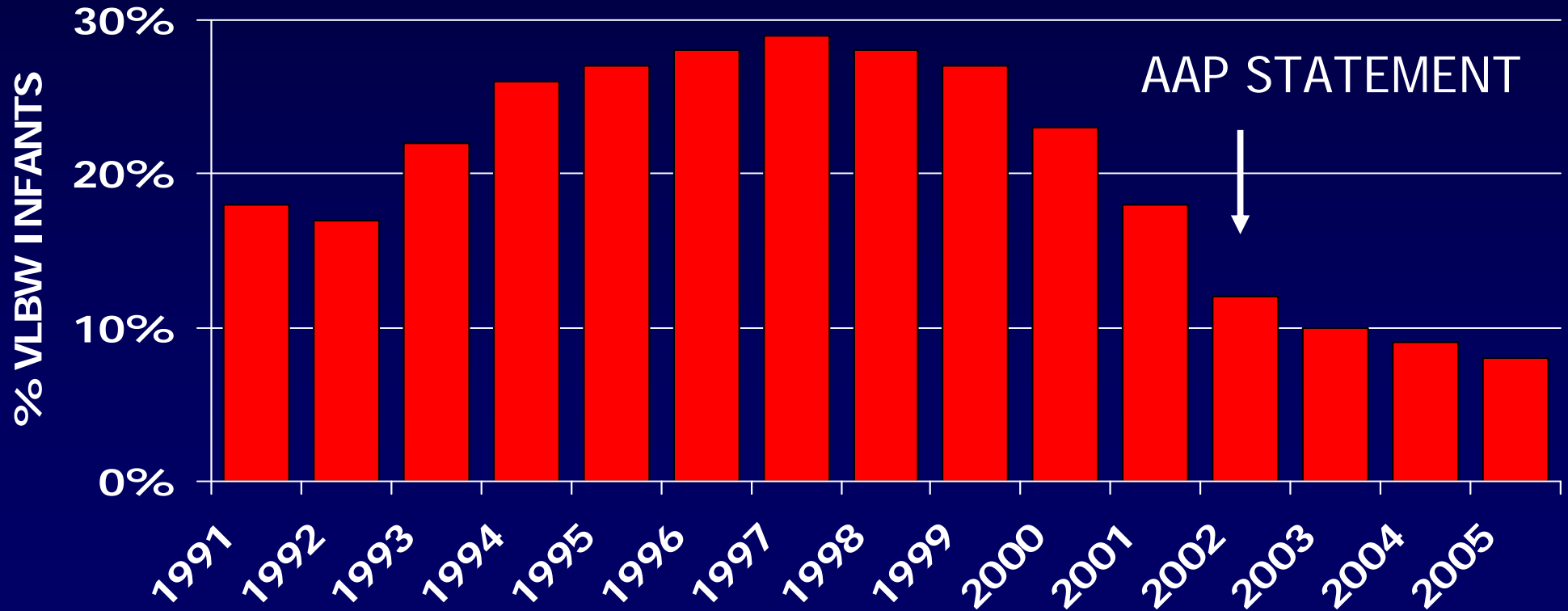
POSTNATAL CORTICOSTEROIDS TO TREAT OR PREVENT CHRONIC LUNG DISEASE IN PRETERM INFANTS

RECOMMENDATIONS FROM THE COMMITTEE ON THE FETUS AND NEWBORN AMERICAN ACADEMY OF PEDIATRICS 2002

“On the basis of limited short-term benefits, the absence of long-term benefits, and the number of serious short-term and long-term complications, the routine use of systemic dexamethasone for the prevention or treatment of chronic lung disease in infants with very low birth weight is not recommended”.

POSTNATAL CORTICOSTEROID USE IN VLBW INFANTS

VERMONT OXFORD NETWORK ANNUAL REPORTS 1991-2005



IMPROVEMENT FORMULA



Do What?
Evidence Based Medicine

Do How?
Evidence Based Practice

Batalden, PB, Davidoff F. Qual Saf Health Care 2007;16:2-3