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**FINANCIAL IMPACT TO FAMILIES OF LESS THAN 1,000 GRAM BABIES ADMITTED TO A NICU.** Lyman A. Marsh, Thomas D. Coleman, and August L. Jung. (Spon. by M.Eugene Lahey University of Utah Medical Center, Dep't of Pediatrics, Salt Lake City, Utah.

The financial impact upon 59 families of babies weighing less than 1,000 grams admitted to a NICU from Jan.1975 through June 1977 was studied. There were 28 families of surviving infants and 31 families whose infant expired. The median cost incurred was \$13,775--for survivors, \$30,536(range \$1750-\$251,350) and expired infants, \$2,754(range \$416-\$24,825). The mean length of hospitalization for the survivors was 93 days(range 2-482), and for expired infants, 4.7 days(range 1-30). The mean cost per day was \$470--\$434 for survivors and \$1,120 for expired infants. 14% had incomes from \$0-\$5,000; 37% from \$5,000-\$10,000; 39% from \$10,000 to \$20,000; 5%, \$20,000 and over. Financing was 57% by insurance, 30% by government and charity and 13% personal. Average annual medical expense for U.S. families in 1973 was \$550 and average insurance expense, \$224.01. By paying the NICU median cost of \$13,775, at 12% interest using the U.S. annual average medical expenses inflating at 6%, the loan would be paid off in 32.5 years. With 3rd party payments it would take 5 years to pay. For the parents of living children, the obligation would last for 9.5 years. Families of premature children incur substantial financial burdens. Society should be aware of the overwhelming financial strain borne by the parents. Sources of funding should be strengthened in order to help alleviate the cost facing families.

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**MINIMAL BRAIN DYSFUNCTION SYNDROME IN CHILDHOOD: LATE OUTCOME IN RELATION TO INITIAL PRESENTATION AND INITIAL DIAGNOSTIC CATEGORIES.** Doris H. Milman,

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73 patients, diagnosed in childhood as having minimal brain dysfunction, were followed into adolescence and early adult life (average duration 12.4 years). Delayed speech (74%), delayed motor development (41%), and tantrums (60%) did not show any significant correlation with outcome. Early school problems(84%) immaturity (62%), social problems (56%), fearfulness and anxiety (55%), and anti-social behavior in childhood (18%) all correlated in various specific ways with psychiatric symptoms (e.g. anxiety, depression, obsessiveness, tics) and with psychopathological states (personality disorders, including schizoid, passive-aggressive, inadequate and anti-social). Initially patients were differentiated diagnostically on the basis of clinical severity and neurological findings into developmental lag(38%) and organic brain syndrome (62%). At follow-up 58% continued to manifest organic brain syndrome. Learning disability, present initially in 92%, persisted in 67%. Schizoid personality traits, present initially in 32%, were present finally in 44%. The original diagnosis of developmental lag strongly correlated with the findings on follow up of passive-aggressive personality, anti-social personality, and depressive symptoms. The initial diagnosis of organic brain syndrome correlated positively with final diagnoses of organic brain syndrome, inadequate personality, schizoid personality, paranoid personality, and anxiety symptoms. Only 5 individuals (7%) were free of psychiatric disorder at follow-up.

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**NEUROPSYCHOLOGICAL DYSFUNCTION IN CHILDREN WITH "SILENT" LEAD EXPOSURE.** Herbert L. Needleman, Charles Gunnoe, Alan Leviton, Henry Peresie. Spon.

by Warren Grupe. Harvard Medical School, Children's Hospital Medical Center, Dept. of Psychiatry, Boston. Lead exposure in a cohort of "normal" first and second grade children (N=1411) was determined by dentine lead analysis in shed primary teeth. Children in the highest and lowest ranges for lead were then examined blindly with a comprehensive neuropsychologic battery. Thirty covariates known to affect measured outcome (SES, race, birthweight, etc.) were scaled. High lead children did not differ significantly on any control variables from low lead children, but tended to be slightly older and of slightly lower SES. Analysis of covariance, controlling for age and SES was performed on 83 low and 33 high lead subjects. Children with low birthweight, history of lead intoxication, or head injury were excluded from the analysis. Significant differences favoring low lead children were found on 13 of the 37 outcome measures (2-tailed test, ANACOVA. P values indicated in parentheses). WISC-R: Full Scale (.017), Verbal (.009), Subtests: Information (.018), Similarities (.047), Vocabulary (.016), Digit Span (.009), Block Design (.009). Other tests which showed significant differences were: Seashore Rhythm (.003), Math Achievement (.008), Reading Comprehension (.014), Sentence Repetition (.003), Token Test of Language (.01) and Piagetian Conservation (.007). Eight other tests showed differences not reaching significance, ( $P < .05$ ), but favoring the low lead group.

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**INTERDISCIPLINARY ASSESSMENT OF MORBIDITY OF INFANTS WITH BIRTHWEIGHTS  $\leq$  950 GRAMS.** Kathleen G. Nelson, Em-

malee Setzer, Samuel Saxon, Faye McCollister, Fred Setzer, Sally Whitley, Deborah Gustin, Harriet Cloud, Susan Johnson. (Spon. by John W. Benton). Univ. of Al. in Birmingham, Dept. of Ped. and Center for Dev. and Learning Disorders, Birmingham.

26/31(84%) surviving NICU infants with birthweights  $\leq$  950 g. born 4/74-1/77 were evaluated by an interdisciplinary team including pediatricians(2), psychologist, audiologist, optometrist, developmentalist, social worker, nutritionist and R.N. The study began in 1/76 with evaluations performed at ages 6,12,18,24 and 36 mos. Mean age at last evaluation was 18 mos.(range 6-38 mos.). Population characteristics included mean birth weight 889 g.(range 650-940 g.); mean gestational age 28.4 wks.(range 24-33 wks., 7/26 small for gestational age); male:female 10:16; inborn:outborn 5:21; and Black:White:Other 13:12:1. Results were corrected for gestational age.

Significant major morbidity was found in 9/26(34.6%) including stage V retrolental fibroplasia (RLF)(1); developmental delay (7 with DQ $\leq$ 70); cerebral palsy(6); acquired hydrocephalus(2); extreme failure to thrive (FTT)(3). 6/9(67%) affected infants had multiple major handicaps. 11/17 infants without major handicaps had one or more minor disabilities including stage II RLF(1); recurrent lower respiratory disease(4); serous otitis media(11); mild conductive hearing loss(8); mild FTT(2); visual disorders(4) arrested hydrocephalus(3) and scoliosis(1). Although longitudinal followup may alter some of the results reported, it appears that survival without major morbidity is occurring in 65% of surviving infants with birthweights  $\leq$  950 g.

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**PSYCHOLOGICAL COSTS OF SURVIVING CHILDHOOD CANCER**

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Psychosocial interviews of 100 long-term survivors of pediatric cancer and their families reveal a significant level of residual psychological sequelae. The patients studied were diagnosed as having a malignancy at least five years prior to interview, and were off treatment and in disease-free remission for at least one year. The median interval since diagnosis was 13 years and the patients' present ages range from 6 to 36 years. Findings demonstrate a significantly poorer degree of psychological adjustment by cancer patients in comparison with a small comparable group of control patients with prior non-life-threatening illnesses. Well-adjusted pediatric cancer survivors and their families tend to use denial effectively to avoid anxiety, while poorly adjusted patients remain anxious and uncertain about the future. Employment and insurance discrimination are a significant problem, even for patients who have been disease-free for many years. Patients who contract malignancies of infancy have a better prognosis for long-term psychological adjustment than do those with onset of malignancies in middle childhood or adolescence. A very high percentage of patients expressed the wish that psychological support services had been available to them at the time of active treatment. Most participants also gave strong support to the need for open and honest communication about the seriousness of the illness with both parents and children.

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**DEVELOPMENT OF CRITICALLY-ILL INFANTS GREATER THAN 2500 GRAMS.** Michael B. Resnick, Robert M. Nelson, Donald V. Eitzman, Ernest F. Beale, Richard L.

Bucciarelli, Edmund A. Egan, Jon W. Nagel, University of Florida College of Medicine, Shands Teaching Hospital, Department of Pediatrics, Gainesville.

There is limited developmental outcome data available on near term infants requiring intensive care. To assess the impact on larger infants requiring such care, a 20% random sample of infants >2500 grams discharged from the University of Florida Regional Neonatal Intensive Care Center (RNICC) between 1975-1976 were evaluated at 21 months post conceptual age. The Bayley Scales of Infant Development's mental and physical development quotients (MDQ/PDQ) and physical and neurological exams were the outcome assessment measures administered utilizing a blind experimental design. Mean gestational age was 39 weeks and mean hospital stay was 7 days. No statistical differences were found by race or sex of the infants. Those infants who were transferred to the RNICC had MDQ and PDQ significantly lower than those born inhouse.

Since only sick infants in this weight group are transported, the lower MDQ and PDQ may be just a reflection of the initial disease.

BIRTHWEIGHT (BW)	N	X	MDQ	PDQ	X	% NORMAL
Born Inhouse	28	3675	119	119		100%
Transported	15	3022	109*	107*		87%
TOTAL GROUP	43	3560	116	115		95%

\*p < .05