583 NEONATAL DIAGNOSTIC RELATED GROUPS (DRG) PROSPECTIVE PAYMENT SYSTEM FOR TERTIARY NEONATAL INTENSIVE CARE CENTERS

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This study assessed the impact of the Federal Neonatal Diagnostic Related Group (DRG) payment system on the Neonatal Intensive Care Program of the State of Florida. Hospital charges of \$118 million, representing 8500 neonates, from the State's ten regionalized neonatal intensive care centers born in fiscal years 1980-1984 were analyzed. When analyzed, Federal DRGs were not predictive of hospital charges ($R^2 = 0.15$). We developed a stepwise regression model to evaluate the relative impact of neonatal variables such as lived/died, birth weight, sex, race, ventilation, surgery, in-born or transported on hospital fiscal charges; a threefold increase in R^2 was achieved (0.55). Our analysis indicated four basic differences from the Federal DRGs: 1) respiratory distress syndrome is not justified in Federal DRG 386 associated with extreme prematurity (≤ 1000 grams); 2) Federal DRG 387, 1001-2500 grams, should be divided into two separate DRGs by birth weight groupings of 1001-1500 and 1501-2500 grams; 3) ventilation and major surgery were the primary factors associated with "major problem" Federal DRGs 387 and 389; 4) our population was characterized by a longer geometric mean length of stay for each Federal DRG; this may be explained by the fact that our data came from tertiary regionalized neonatal intensive care centers, while the Federal DRGs were developed from community based hospitals. Our proposed neonatal intensive care prospective payment system requires knowledge of only mortality status, birth weight, ventilation, and major surgery, while the Federal DRG system requires utilization of over 500 neonatal diagnoses.

584 EVALUATION OF THE SAFETY AND IMMUNOGENICITY OF A NEW DTP VACCINE CONTAINING AN ACCELULAR PERTUSIS COMPONENT IN 4-6 YEAR OLD CHILDREN. George C. Rodgers Jr., Thomas Badgett (Spon. by Billy F. Andrews), University of Louisville School of Medicine, Department of Pediatrics, Louisville, Kentucky.

Thirty-one children aged 4-6 years were given in an open label study a single dose of an experimental DTP vaccine containing an acellular pertussis component. All subjects had received their primary immunization series. Informed consent was obtained from a parent or guardian. Subjects were observed for 1 hour post dosing and examined 24 hours and 1 month following the dose. Temperatures were taken at home by the parent 3, 6, and 24 hours post dosing. Antibody titers were drawn pre and 1 month following dosing. All subjects were seen at 24 hours but three were lost to 1 month follow-up. Eighteen subjects were white, the remainder black. There were 19 females and 12 males. The median age was 5.3 years (range 4.0-6.3 years). Two subjects developed $T^{\circ} > 100^{\circ}F$ during the 24 hours post dosing. Eleven subjects had mild local reactions reported by the parent or observed at the 24 hour visit. One subject developed a small sterile abscess. 26/28 subjects exhibited a rise in pertussis antibody titer while 26/28 and 27/28 subjects showed increases in tetanus and diphtheria titers respectively. All subjects showed a rise in anti-PHA titer (range 1.6-36.4) as measured by ELISA assay while 27/28 subjects showed a rise in anti-LPF titers (range 1.1-21.9). The experimental vaccine appears to have been safe and effective in the subjects studied.

585 ENTERIC ADENOVIRUS 40 & 41(EAdS) IN GASTROENTERITIS OF INFANTS & YOUNG CHILDREN. William J. Rodriguez, Hyun W. Kim, Carl D. Brandt, Julia Arrobbio, Mary K. Gardner, Barbara Jeffries, Robt. H. Parrott. Research Fdn of Children's Hosp. & The George Washington Univ., Washington D.C.

From 9/81 thru 9/83, adenoviruses (ad) were detected by electron microscopy and/or tissue culture in the stools (st) of 3:8% (46 of 1121) children with acute diarrhea. 35 viruses (76%) were EAdS; 33 of these were the sole enteric pathogen. The EAdS were confirmed by neutralization in 293 cells (25); by restriction endonuclease analysis (13) [two (15%) type 40, 11 (85%) type 41]; and/or by hybridization probes (22). The latter two tests were done directly on st. (26% of the EAd infections were nosocomial.) Mean age for 35 EAd patients (pts) was 8.3 mos (range 1-34). 77% were younger than 1 year; 43% were 6 mos or younger. 83% of EAd infections were seen from Sept thru March with a peak in December when 9.8% of 61 enteritis pts had EAd in their st. 54% with EAd had vomiting, 63% of these for >4 days. All had diarrhea (>4 days in 74%) and fever (>4 days in 38%). 26% had mild dehydration. Upper respiratory (URI) symptoms were noted in 20%, rales and wheezing in 9%. St had PMNs in 18% of 22. 11 pts with non-EAd fecal ad in st were young (mean 6.8 mos range 2-11 mos). Non-EAd cases exhibited no seasonality and had vomiting for >4 days in 28%. 36% of 11 non-EAd pts vs 74% of 35 EAd pts had diarrhea for >4 days ($p=.034$). Non-EAd pts had more URI (40%) than non-nosocomial EAd pts, 8% ($p=.033$). In young infants and children, EAdS are associated with enteritis, resulting in hospitalization and nosocomial enteritis.

586 CORONARY DISEASE IN YOUNG CHILDREN: DIAGNOSIS AND INTERVENTION IN 5 ASYMPTOMATIC PATIENTS (PTS) WITH HOMOZYGOUS FAMILIAL HYPERCHOLESTEROLEMIA (HFH) V. Rose MD, L. Regelin RN, D. Daneman MD, A. Angel MD, G. Steiner MD.

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Five pts with HFH (4m, 1f) were aged 22 months - 15 yrs at diagnosis. Two receptor negative (r.n.) pts had mean Chol of 24 mMol/l, LDL 22 mMol/l, HDL 0.64 mMol/l and TG 2.22 mMol/l. Three receptor defective (r.d.) pts had mean Chol of 17.1 mMol/l, LDL 16 mMol/l, HDL 0.8 mMol/l and TG 1.14 mMol/l. One r.n. pt died at age 3 with coronary occlusion. All pts had normal ECG and chest x-ray. Abnormalities were seen on 2d Echo and exercise test in 1 of 5 pts and stress MUGA study in 2 of 3 pt studies. Coronary angiograms (c.a.) showed obstructive lesion of left main coronary artery of 60% in 1 r.n. pt (5 yrs) and 50% in 1 r.d. pt (7 yrs). It was normal in 1 r.d. pt (16 yrs). All pts had poor response to treatment with diet, Questran or Colestid and Niacin. In 2 pts (1 r.n. and 1 r.d.) continuous nocturnal intragastric feeding caused a moderate, but unsustained cholesterol lowering effect. In 2 r.d. pts addition of cornstarch to the diet led to a 25% reduction in Chol and LDL with stable HDL. In 1 r.n. pt aged 5 yrs repetitive plasma exchange every 2-3 weeks reduced Chol and LDL 56%, HDL 36% at maximum.

Coronary disease in young asymptomatic HFH pts may be more severe in r.n. than r.d. pts. Non-invasive assessment can be helpful in diagnosis and followup. Regression of coronary lesions following plasma exchange in childhood HFH remains to be demonstrated.

587 NUTRITIONAL STATUS OF IMMIGRANT CHILDREN. L. Schumacher, I.G. Pawson, D. Echenberg, H. Pollick, K. Hipkins, N. Kretschmer. Koret Center for Human Nutrition, San Francisco General Hospital, S.F., CA

We have evaluated the nutritional status, growth and domestic environment of children of new immigrant families in San Francisco. We have collected ethnographic data on food habits, anthropometric measurements and performed dental and clinical examinations on 1,200 7-12 year olds from three ethnic groups (Chinese, Latin American, Southeast Asian). At the initial examination, performed soon after arrival in the U.S., median height and weight in each group was below the 25th percentile for U.S. children (HANES standards). Subsequent exams showed median growth velocity for all age groups to exceed the 75th percentile (Fels Longitudinal series) indicating these children are in catch-up growth. Chemical and hematologic examinations were normal. The lowest 10% height-for-weight was screened for parasites and compared to a random group; parasites were found in 60% of this sample with some differences between the ethnic groups. The lowest 10% had a significantly higher percent of parasites but exhibited significant catch up growth. About 30% of all children had serious dental conditions, that persisted 6 months later. 30% had non-serious conditions that needed treatment. Approximately 40% have no apparent problems. There is considerable variation between ethnic groups; 75% of the Filipino group have serious dental conditions, compared to 30% in the Chinese, 30% in the Vietnamese, 20% in the Cambodians, and 20% in the Latin Americans. History, dental status, and anthropometric measures are very significant parameters of nutritional assessment. Supported by the San Francisco Foundation.

588 MEDICAL COSTS OF HIGH-RISK INFANTS AFTER NEONATAL INTENSIVE CARE. Seetha Shankaran, Marsha Linver and Susan Zonia. (Spons. by Ronald L. Poland), Wayne State Univ. Sch. of Med., Children's Hospital of Michigan, Dept. of Peds., Developmental Disabilities Institute, Detroit, MI.

Medical costs including that of primary health care, diagnostic and therapeutic medical care were computed from Neonatal Intensive Care Unit (NICU) discharge to 3 yrs of age in two groups of infants. Thirty-five infants with neurological or developmental defects were matched for neonatal and social risk factors with 25 infants who had normal outcomes. Costs are reported per infant per month following discharge from NICU. The costs of primary health care were comparable in both groups (\$7.6 $\pm$ 1.3 in the control vs 8.0 $\pm$ 1.4 in the disabled group). The highest cost per service was developmental testing in the control group (9.7 $\pm$ 4.4) and occupational and physical therapy in the disabled group (\$22.0 $\pm$ 4.1). Twenty-two disabled infants were hospitalized on 53 occasions, with a cost per admission of \$3612 $\pm$ 571, compared to one hospitalization for a control infant (\$1110). The total medical costs were compared to the U.S. Dept. of Agriculture estimates of the medical cost of raising an urban child which ranges from \$22-26.8/infant/month (July, 1983).

	Total Cost	Outpatient	Inpatient
Control Infant, n=25	32.0	30.1	1.9
Disabled Infant, n=35	387.6*	92.1*	295.5*

* $p < .05$
Our study demonstrates that medical costs of developmentally or neurologically disabled infants after discharge from NICU are significantly higher than control infants.