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IMPACT OF POLICY CHANGES ON INPATIENT CARE. J.T.Philipp, M.Rao,C.D.Cook,R.S.Duff,R.Angoff. Downstate Med. Ctr., Bklyn, & Yale Univ. Sch. Med., New Haven.

Between Oct.,'75 & Feb.,'76, policies were changed to reduce unnecessary hospitalizations, decrease unnecessary hospital days and improve care on the pediatric service of a municipal hospital. These included screening of all admissions by a senior resident, elimination of part-time attendings, increasing ward time of full-time attendings and frequent review of reasons for continued hospitalization. To assess the effect of these changes, approximately 100 records each from March '75, '76, and '77 were examined retrospectively by the authors (cf. Table):

Year	Adm.Per 1000 OPD Vis.	All Pts. Mean Stay (Days)	Inapp. Hosp. %Pts.	%Unnec. Days	%Pts. Delay In dx	%Pts. Inapp. Rx	%Pts. Extra Tests
1975	24	8.7	23	36	15	24	51
1976	13+	6.7	12	25+	8	9*	27+
1977	13+	5.4+	6+	12+	3*	11x	40

All comparisons with 1975: x=p < .05; *=p < .01; +=p < .005

Utilization of service was improved as evidenced by significant decreases in the number of admissions per ER visit, in the percent of patients inappropriately hospitalized, in the overall length of stay, and in the percent of unnecessary days spent in the hospital. Patient care was improved as demonstrated by significant decreases in the percent of patients with a delay in diagnosis or inappropriate treatment. We conclude that changes in policy can significantly improve hospital utilization and the quality of patient care even in a large municipal hospital.

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PEDIATRIC HOUSE OFFICER EDUCATION IN NEWBORN INTENSIVE CARE UNITS, Richard L. Schreiner, Glenn R. Schwenk, Jr., Edwin L. Gresham, Morris Green, Indiana University School of Medicine, Indiana University Hospitals, Department of Pediatrics, Indianapolis.

The purpose of this time motion study was to quantitate and evaluate the time spent by PL-1's in the newborn intensive care unit (NBICU). Seven PL-1's were followed continuously for approximately one week each. A total of 505 hours including 9 on-call shifts were studied. Nineteen percent of the time involved discussing patients with faculty, house officers, students and nurses; 17%, patient rounds and conferences; 16%, charting and writing histories and physicals, progress notes, etc.; 12%*, performing procedures which could easily be performed by non-physician personnel; 9%, personal activities; 8%, miscellaneous; 7%, physical examination or parent contact; 6%, tasks generally considered the responsibility of the physician, such as umbilical artery catheterization; and 5%*, non-medical tasks such as secretarial duties.

Based on 61 replies to 110 questionnaires sent to neonatal centers, an average of 23.3 weeks (16%) is spent by pediatric house officers in newborn nurseries in a 3-year training program. Ten programs required more than 28 weeks, but none more than 42 weeks. Conclusions are: 1) 16% of pediatric training is in the nursery; 2) a significant proportion of the house officers' time is spent in activities which other personnel could perform; and 3) nursing roles in an NBICU could be extended in order to relieve the house officer of many tasks(*).

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CONTINUITY IN A PRIMARY CARE RESIDENCY. Benjamin S. Siegel, Joel J. Alpert, Owen Mathieu, Boston U. Sch. Med., Boston City Hospital, Dept. Ped., Boston

New Federal Regulations now require at least 25% continuity experience for housestaff participating in new federally supported 3 year Primary Care (PC) Training programs. A PC residency was established in 1973 at BCH to educate principally for inner city needs. Four cohorts of trainees (n=40) have entered training and one cohort (n=6) has completed training. The program is characterized by a psychosocial curriculum, integration of pediatric and internal medicine pathways, multidisciplinary faculty, and the use of multiple ambulatory sites. Continuity occupies 10% of year 1, either in hospital or neighborhood health center. Continuity increases to 20% for 1/2 of year 2 and is followed by a 6 month period of 30%. During year 3, 40% time is spent in continuity clinic following patients longitudinally as well as in selected specialty clinics. During continuity, residents provide care to an identified panel of families. Total continuity for the three year program is 26% meeting the federal requirement. A modified pairing system has been established to free housestaff for expanded educational and clinical experiences. Small structural changes in scheduling without major change in the number of housestaff allowed the added continuity experiences. These changes included giving up elective time during years 2 and 3 to meet both service and educational requirements. Continuity is an important feature of PC Training and achieving a 25% goal requires multiple strategies.

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EXPERIMENTAL DESIGN DECK FOR CLINICAL RESEARCH: A NEW LEARNING RESOURCE IN AID OF SCIENTIFIC THINKING. John C. Sinclair, McMaster University, Dept. Pediatrics, Hamilton, Can.

The Experimental Design Deck for Clinical Research is a simulation of a problem in experimental design in a card deck format. It is intended to stimulate the development of skills in scientific thinking by allowing the student, in self-directed fashion, to design a clinical trial to test either a given hypothesis (specific deck) or a hypothesis which the player provides (general deck). The deck consists of cards classed by color according to the following experimental design issues: sample selection, prognostic stratification, allocation, maneuver, compliance, co-intervention, contamination, and outcome criteria. The front of each card displays a title at the top, naming one element related to the design issue. Brief questions on the front of each card force the player to consider why he might be concerned about this element in planning the study. The back of each card gives data relating to the front title with which the player must work in designing his study (specific deck) or is left blank for the player's own entry of data relevant to the front title (general deck). In addition to its use as an educational tool, the deck can be used as a guide to the application of scientific thinking in a variety of biomedical activities.

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MEASURING THE UNIQUENESS OF PRIMARY CARE. Barbara H. Starfield. The Johns Hopkins University Medical Institutions, Baltimore, Maryland.

Specification of the characteristics unique to primary care, as distinguished from secondary and tertiary care, has been difficult. Definitions of primary care have stressed its first-contact aspects, its "coordinating" features, its "comprehensiveness," and its "longitudinality." While adequate as gross descriptors, the inability to quantify these phenomena reduces their usefulness to teachers, planners, and evaluators.

In order to overcome this problem, a model has been developed which shows the interrelationships among the many separate aspects of the structure, process, and outcome of care. The system parameters such as access, coordination, comprehensiveness, and longitudinality are defined as specific interrelationships among the structural and process components of care, each of which is measurable.

Use of this model provides a way to examine the attainment of primary care objectives, as will be shown by several examples. Therefore, it may facilitate both the achievement of better programs of service and more complete educational experiences for primary care trainees.

GENETICS

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REGULATION OF GLOBIN CHAIN SYNTHESIS IN NEONATES. Blanche P. Alter, Arthur L. Beaudet, and Charles I. Scott. Harvard Medical School, Children's Hospital Medical Center, Boston, MA; Baylor College of Medicine, and University of Texas Medical School, Departments of Pediatrics, Houston, TX.

Newborns with trisomy 13 have elevated hemoglobin (HB) F; those with trisomy 21 have increased HB A. To examine this "switch", blood was obtained from neonates, incubated with ^{3}H-leucine, and globin chains separated on carboxymethylcellulose columns in urea:

Ratio	Normal	β thal trait	β thal major	α thal trait	Trisomy 13		Trisomy 18		Trisomy 21
β/α	0.38	0.28	0.05	0.52	0.11	0.20	0.65		0.82
γ/α	0.51	0.49	0.51	0.51	0.67	0.49	0.40		0.16
(β+γ)/α	0.89	0.70	0.56	1.03	0.78	0.69	1.05		0.98
N	6	5	2	2	3	4	2		1

β/α ratios were in the range of β-thal trait in trisomy 13, and in 4/6 with trisomy 18. (β+γ)/α was also low. β/α was above normal in 2/6 with trisomy 18, and in trisomy 21. (β+γ)/α was high. Thus the high HB F in trisomy 13 results from normal γ/α synthesis, but a delay in turning on β chain. High HB A in trisomy 21 is due to an early and coordinated switch from γ to β synthesis. Trisomy 18 infants represent both types. Finally these data emphasize that abnormalities other than thal genes may lead to aberrant β/α ratios in neonates and also may affect the β/γ ratios in utero that are used to define hemoglobin phenotypes in prenatal diagnoses.