Permanente Abstracts

An HMO Survey on Mass Customization of Healthcare Delivery for Women

Thompson M, Nussbaum R. Womens Health Issues 2000 Jan-Feb;10(1):10-9.

A telephone survey of 1000 randomly selected women members of Kaiser Permanente examined preferences for care delivery. The majority of women under age 55 years (80%) were interested in scheduling evening or Saturday appointments, and half (50%) of them were willing to switch doctors for this option. Although most (57%) said that physician gender "did not matter," women who preferred to see a female physician but were seeing a male were significantly less satisfied than women whose preferences were matched. Half (51%) of women were open to receiving health education in group classes. Information on when care is preferred, by whom, and in what setting sets the stage for mass customization strategies.

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Unintended Pregnancy among Adult Women Exposed to Abuse or Household Dysfunction During Their Childhood

Dietz PM, Spitz AM, Anda RF, Williamson DF, McMahon PM, Santelli JS, et al. JAMA 1999 Oct 13;282(14):1359-64.

Context: Studies have identified childhood sexual and physical abuse as a risk factor for adolescent pregnancy but the relationship between exposure to childhood abuse and unintended pregnancy in adulthood has, to our knowledge, not been studied.

Objective: To assess whether unintended pregnancy during adulthood is associated with exposure to psychological, physical, or sexual abuse or household dysfunction during childhood.

Design and Setting: Analysis of data from the Adverse Childhood Experiences Study, a survey mailed to members of a large health maintenance organization who visited a clinic in San Diego, CA, between August and November 1995 and January and March 1996. The survey had a 63.4% response rate among the target population for this study.

Participants: A total of 1193 women aged 20 to 50 years whose first pregnancy occurred at or after age 20 years.

Main Outcome Measure: Risk of unintended first pregnancy by type of abuse (psychological, physical, or sexual abuse; peer sexual assault) and type of household dysfunction (physical abuse of mother by her partner, substance abuse by a household member, mental illness of a household member).

Results: More than 45% of the women reported that their first pregnancy was unintended, and 65.8% reported exposure to two or more types of childhood abuse or household dysfunction. After adjustment for confounders (marital status at first pregnancy and age at first pregnancy), the strongest associations between childhood experiences and unintended first pregnancy included frequent psychological abuse (risk ratio [RR], 1.4; 95% confidence interval [CI], 1.2-1.6), frequent physical abuse of the mother by her partner (RR, 1.4; 95% CI, 1.1-1.7), and frequent physical abuse (RR, 1.5; 95% CI, 1.2-1.8). Women who experienced four or more types of abuse during their childhood were 1.5 times (95% CI, 1.2-1.8) more likely to have an unintended first pregnancy during adulthood than women who did not experience any abuse.

Conclusions: This study indicates that there may be a dose-response association between exposure to childhood abuse or household dysfunction and unintended first pregnancy in adulthood. Additional research is needed to fully understand the causal pathway of this association.

Osteoporosis: Risk Factor Prevalence and Drug and Densitometry Utilization

Binstock M. Obstet Gynecol 2000 Apr 1;95(4 Suppl 1):S50.

Objective: To evaluate the prevalence of selected risk factors for postmenopausal osteoporosis, use of bone protective medications, and utilization of bone densitometry (DXA).

Methods: Computerized records on demographics, medications dispensed, diagnostic/procedure summary lists, and radiology files for 33,662 women more than age 50 years who were current members of a health maintenance organization were merged and analyzed.

Results: Overall, 4733 (14%) women had recently been dispensed one or more bone protective medications: estrogens conjugated, 4625 (13.7%); all other estrogens, 578 (2%); alendronate, 240 (1%); calcitonin, 499 (1%); etidronate disodium, 58 (1%); raloxifene, 82 (<1%); tamoxifen, 445 (1%). There were 14,668 (44%) who had one or more selected risk factors: current cigarette smoking, 7607 (23%); weight less than 125 lb, 3522 (11%); high-dose steroid use, 81 (<1%); on thyroid replacement, 3227 (9.6%); chronic renal failure, 221 (1%); vertebral fractures,

208 (<1%); fracture of pelvis, 88 (<1%); femoral neck fractures, 240 (1%); on antiseizure medication, 177 (<1%); and on benzodiazepam or lithium, 1145 (3%). Bone protective drug use was 17% in those with risk factors and 13% in those with none. Prior DXA was performed in 2.0% of those with risk factors and in 1% of those without risk factors.

Conclusions: In this population (probably not unlike other populations), despite high prevalence of osteoporosis risk factors, DXA screening utilization is low (<2%), as is use of bone protective medications (14%).

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Diagnosis of Symptomatic Postmenopausal Women by Traditional Chinese Medicine Practitioners

Zell B, Hirata J, Marcus A, Ettinger B, Pressman A, Ettinger KM. Menopause 2000 Mar-Apr;7(2):129-34.

Objective: To learn more about the way that practitioners of traditional Chinese medicine (TCM) diagnose women who have menopausal symptoms.

Design: We assembled a cohort of 23 postmenopausal women who had hot flushes and who were otherwise healthy. Each woman was examined independently by nine practitioners of TCM on the same day. Examination consisted of medical history and physical examination. Diagnoses were recorded and counted.

Results: The most frequent diagnosis made by the practitioners of TCM was kidney yin deficiency, which was the diagnosis made after 168 of 207 visits (81%); 23 women seen by nine TCM practitioners. Practitioners showed good agreement regarding presence of kidney yin deficiency: in 12 women (52%), this diagnosis was made by eight of nine practitioners; in 16 women (70%), seven of nine practitioners made this diagnosis; and in all 23 women (100%), at least five of nine practitioners made this diagnosis.

Conclusions: Practitioners of TCM who diagnose postmenopausal women with vasomotor symptoms are likely to make a diagnosis that includes kidney yin deficiency.

Adverse Childhood Experiences and Smoking During Adolescence and Adulthood

Anda RF, Croft JB, Felitti VJ, Nordenberg D, Giles WH, Williamson DF, et al. JAMA 1999 Nov 3;282(17):1652-8.

Context: In recent years, smoking among adolescents has increased and the decline of adult smoking has slowed to nearly a halt; new insights into tobacco dependency are needed to correct this situation. Long-term use of nicotine has been linked with self-medicating efforts to cope with negative emotional, neurobiological, and social effects of adverse childhood experiences.

Objective: To assess the relationship between adverse childhood experiences and five smoking behaviors.

Design: The ACE Study, a retrospective cohort survey including smoking and exposure to eight categories of adverse childhood experiences (emotional, physical, and sexual abuse; a battered mother; parental separation or divorce; and growing up with a substance-abusing, mentally ill, or incarcerated household member), conducted from August to November 1995 and January to March 1996.

Setting: A primary care clinic for adult members of a large health maintenance organization in San Diego, CA.

Participants: A total of 9215 adults (4958 women and 4257 men with mean [SD] ages of 55.3 [15.7] and 58.1 [14.5] years, respectively) who responded to a survey questionnaire, which was mailed to all patients one week after a clinic visit.

Main Outcome Measures: Smoking initiation by age 14 years or after age 18 years, and status as ever, current, or heavy smoker.

Results: At least one of eight categories of adverse childhood experiences was reported by 63% of respondents. After adjusting for age, sex, race, and education, each category showed an increased risk for each smoking behavior, and these risks were comparable for each category of adverse childhood experiences. Compared with those reporting no adverse childhood experiences, persons reporting five or more categories had substantially higher risks of early smoking initiation (odds ratio [OR], 5.4; 95% confidence interval [CI], 4.1-7.1), ever smoking (OR, 3.1; 95% CI, 2.6-3.8), current smoking (OR, 2.1; 95% CI, 1.6-2.7), and heavy smoking (OR, 2.8; 95% CI, 1.9-4.2). Each relationship between smoking behavior and the number of adverse childhood experiences was strong and graded ($P < .001$). For any given number of adverse childhood experiences, recent problems with depressed affect were more common among smokers than among nonsmokers.

Conclusions: Smoking was strongly associated with adverse childhood experiences. Primary prevention of adverse childhood experiences and improved treatment of exposed children could reduce smoking among both adolescents and adults.

Efficacy, Safety and Immunogenicity of Heptavalent Pneumococcal Conjugate Vaccine in Children. Northern California Kaiser Permanente Vaccine Study Center Group

Black S, Shinefield H, Fireman B, Lewis E, Ray P, Hansen JR, et al. Pediatr Infect Dis J 2000 Mar;19(3):187-95.

OBJECTIVE: To determine the efficacy, safety and immunogenicity of the heptavalent CRM197 pneumococcal conjugate vaccine against invasive disease caused by vaccine serotypes and to determine the effectiveness of this vaccine against clinical episodes of otitis media.

METHODS: The Wyeth Lederle Heptavalent CRM197 (PCV) was given to infants at 2, 4, 6 and 12 to 15 months of age in a double-blind trial; 37,868 children were randomly assigned 1:1 to receive either the pneumococcal conjugate vaccine or meningococcus type C CRM197 conjugate. The primary study outcome was invasive disease caused by vaccine serotype. Other outcomes included overall impact on invasive disease regardless of serotype, effectiveness against clinical otitis media visits and episodes, impact against frequent and severe otitis media and ventilatory tube placement. In addition the serotype-specific efficacy against otitis media was estimated in an analysis of spontaneously draining ears.

RESULTS: In the interim analysis in August 1998, 17 of the 17 cases of invasive disease caused by vaccine serotype in fully vaccinated children and five of five partially vaccinated cases occurred in the control group for a vaccine efficacy of 100%. Blinded case ascertainment was continued until April 1999. As of that time 40 fully vaccinated cases of invasive disease caused by vaccine serotype had been identified, all but one in controls for an efficacy of 97.4% (95% confidence interval, 82.7 to 99.9%), and 52 cases, all but three in controls in the intent-to-treat analysis for an efficacy of 93.9% (95% confidence interval, 79.6 to 98.5%). There was no evidence of any increase of disease caused by nonvaccine serotypes. Efficacy for otitis media against visits, episodes, frequent otitis and ventilatory tube placement was 8.9, 7.0, 9.3 and 20.1% with $P < 0.04$ for all. In the analysis of spontaneously draining ears, serotype-specific effectiveness was 66.7%.

CONCLUSION: This heptavalent pneumococcal conjugate appears to be highly effective in preventing invasive disease in young children and to have a significant impact on otitis media.

Neonatal Assisted Ventilation: Predictors, Frequency, and Duration in a Mature Managed Care Organization

Wilson A, Gardner MN, Armstrong MA, Folck BF, Escobar GJ. Pediatrics 2000 Apr;105(4 Pt 1):822-30.

OBJECTIVE: Reference data are lacking on the frequency and duration of assisted ventilation in neonates. This information is essential for determining resource needs and planning clinical trials. As mortality becomes uncommon, ventilator utilization is increasingly used as a measure for assessing therapeutic effect and quality of care in intensive care medicine. Valid comparisons require adjustments for differences in a patient's baseline risk for assisted ventilation and prolonged ventilator support. The aims of this study were to determine the frequency and length of ventilation (LOV) in preterm and term infants and to develop models for predicting the need for assisted ventilation and length of ventilator support.

METHODS. We performed a retrospective, population-based cohort study of 77,576 inborn live births at six Northern California hospitals with level-three intensive care nurseries in a group-model managed care organization. The gestational age-specific frequency and duration of assisted ventilation among surviving infants was determined. Multivariable regression was performed to determine predictors for assisted ventilation and LOV.

RESULTS. Of 77,576 inborn live births in the study, 11,199 required admission to the neonatal intensive care unit, and of these, 1928 survivors required ventilator support. The proportion of infants requiring assisted ventilation and the median LOV decreased markedly with increasing gestational age. In addition to gestational age, admission illness severity, five-minute Apgar scores, presence of anomalies, male sex, and white race were important predictors for the need for assisted ventilation. The ability of the models to predict need for ventilation was high, and significantly better than birth weight alone with an area under the receiver operating characteristic curve of .90 versus .70 for preterm infants, and .88 versus .50 for term infants. For preterm infants, gestational age, admission illness severity, oxygenation index, anomalies, and small-for-gestational age status were significant predictors for LOV, accounting for 60% of the variance in the length of assisted ventilation. For term infants, oxygenation index and anomalies were significant predictors but only accounted for 29% of the variance.

Conclusions. Considerable variation exists in the utilization of ventilator support among infants of closely related gestational age. In addition, a number of medical risk factors influence the need for, and length of, assisted ventilation. These models explain much of the variance in LOV among preterm infants but explain substantially less among term infants.

Newborn Circumcision Decreases Incidence and Costs of Urinary Tract Infections During the First Year of Life

Schoen EJ, Colby CJ, Ray GT. Pediatrics 2000 Apr;105(4 Pt 1):789-93.

Objective: To assess the effect of newborn circumcision on the incidence and medical costs of urinary tract infection (UTI) during the first year of life for patients in a large health maintenance organization.

Setting. Kaiser Permanente Medical Care Program of Northern California (KPNC).

Patients. The population consisted of members of KPNC. The study group consisted of a cohort of 28,812 infants delivered during 1996 at KPNC hospitals; of the 14,893 male infants in the group, 9668 (64.9%) were circumcised. A second cohort of 20,587 infants born in 1997 and monitored for 12 months was analyzed to determine incidence rates.

Design. Retrospective study of all infants consecutively delivered at 12 facilities.

Outcome Measures. Diagnosis of UTI was determined from the KPNC computerized database using the International Classification of Diseases, Ninth Revision code for inpatients and KPNC Outpatient Summary Clinical Record codes for outpatients. A sample of 52 patient charts was reviewed to confirm the International Classification of Diseases, Ninth Revision and KPNC Outpatient Summary Clinical Record codes and provide additional data.

Results. Infants <1 year old who were born in 1996 had 446 UTIs (292 in females; 154 in males); 132 (86%) of the UTIs in males occurred in uncircumcised boys. The mean total cost of managing UTI was two times as high in males ($1111) as in females ($542). This higher total cost reflected the higher rate of hospital admission in uncircumcised males with UTIs (27.3%) compared with females (7.5%); mean age at hospitalization for UTI was 2.5 months old for uncircumcised boys and 6.5 months old for girls. In 1996, total cost of managing UTI in uncircumcised males ($155,628) was ten times higher than for circumcised males ($15,466) despite the fact that uncircumcised males made up only 35.1% of the male patient base in 1996, reflecting the more frequent occurrence of UTI in uncircumcised males (132 episodes) than in circumcised males (22 episodes) and the larger number of hospital admissions in uncircumcised males (38) than in circumcised males (four). The incidence of UTI in the first year of life was 1:47 (2.15%) in uncircumcised males, 1:455 (.22%) in circumcised males, and 1:49 (2. 05%) in females. The odds ratio of UTI in uncircumcised:circumcised males was 9.1:1.

Conclusions. Newborn circumcision results in a 9.1-fold decrease in incidence of UTI during the first year of life as well as markedly lower UTI-related medical costs and rate of hospital admissions. Newborn circumcision during the first year of life is, thus, a valuable preventive health measure, particularly in the first three months of life, when uncircumcised males are most likely to be hospitalized with severe UTI.

The Highly Protective Effect of Newborn Circumcision Against Invasive Penile Cancer

Schoen EJ, Oehrli M, Colby Cd, Machin G. Pediatrics 2000 Mar;105(3):E36.

Objective: We determined the relation between newborn circumcision and both invasive penile cancer (IPC) and carcinoma in situ (CIS) among adult male members of a large health maintenance organization.

Subjects and Methods: Circumcision status was ascertained by a combination of pathology reports, medical record review, and questionnaires for 213 adult male members of a large prepaid health plan who were diagnosed with IPC or CIS.

Results: Of 89 men with IPC whose circumcision status was known, two (2.3%) had been circumcised as newborns, and 87 were not circumcised. Of 118 men with CIS whose circumcision status was known, 16 (15.7%) had been circumcised as newborns.

Conclusions: Our results confirm the highly protective effect of newborn circumcision against IPC and the less protective effect against CIS.

Optimizing Treatment of Dyslipidemia in Patients with Coronary Artery Disease in the Managed-Care Environment (the Rocky Mountain Kaiser Permanente Experience)

Merenich JA, Lousberg TR, Brennan SH, Calonge NB. Am J Cardiol 2000 Feb 10;85(3A):36A-42A.

Rocky Mountain Kaiser Permanente has taken aggres-

sive steps to ensure optimal treatment of all modifiable cardiac risk factors, especially low-density lipoprotein (LDL) cholesterol, in patients with coronary artery disease. In this article, we are presenting (1) the basic rationale for our approach, (2) the critical steps translating philosophy into practice, and (3) justification for all health plans to pursue a similar course. The continuum of physician-directed disease management systems that have evolved in our region—one administered by cardiology nurses in the perihospitalization period and the other by pharmacists in the long-term, outpatient setting—is then detailed. Although the relatively short duration that our comprehensive systems have been in place precludes any assessment of their impact on cardiac death, coronary artery disease events, or coronary artery disease procedure rates, the improvements in intermediate surrogate outcomes are promising. Virtually all surveyed patients participating in our management systems have been "very" or "extremely" satisfied with their experience. The LDL-cholesterol screening rate in the approximately 2500 participants in the programs to date has reached 97%. Of these patients, 84% have LDL cholesterol <130 mg/dL and 48% <100 mg/dL, and only 15% of those few with LDL cholesterol >130 mg/dL (2.5% overall) are currently not receiving lipid-lowering therapy. The proportions of patients on aspirin/antiplatelet and beta-blocker therapy after myocardial infarction are 97% and 92%, respectively. The lipid-screening and treatment rates, especially, represent significant improvement from our own baseline, and compare favorably with outcomes from other practice settings. In conclusion, health maintenance organizations have tremendous incentive and the unique opportunity and ability to develop systems to better manage large numbers of individuals with coronary artery disease.

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Predictors of Glycemic Control in Insulin-Using Adults with Type 2 Diabetes

Nichols GA, Hillier TA, Javor K, Brown JB. Diabetes Care 2000 Mar; 23(3):273-7.

OBJECTIVE: To determine the characteristics that influence glycemic control among insulin-using adults with type 2 diabetes.

RESEARCH DESIGN AND METHODS: We studied all 1333 eligible members of a large not-for-profit health maintenance organization who responded to a 1997 survey. We tested associations among demographic, treatment, and psychometric variables with mean 1997 HbA_{1c} values. The Problem Areas in Diabetes (PAID) instrument was used to assess the emotional effect of living with diabetes, and the Short Form 12 Physical Function Scale was used to assess the effect of physical limitations on daily activities. Based on differences between and within treatment groups, we built models to predict glycemic control for subgroups of subjects who were using insulin alone and those who were using insulin in combination with an oral hypoglycemic agent.

RESULTS: Younger age, lower BMI, and increased emotional distress about diabetes (according to the PAID scale) were all significant predictors ($P < 0.05$) of worse glycemic control. However, except among individuals with an HbA_{1c} level of > 8.0 who were receiving combination therapy, only ~10% of the variance in glycemic control could be predicted by demographic, treatment, or psychometric characteristics.

CONCLUSIONS: Personal characteristics explain little of the variation in glycemic control in insulin-using adults with type 2 diabetes. Possible explanations are that the reduced complexity of control in type 2 diabetes makes the disease less sensitive to personal factors than control in type 1 diabetes, that health-related behavior is less driven by personal and environmental characteristics among older individuals, or that, in populations exposed to aggressive glycemic control with oral hypoglycemic agents and nurse care managers, personal differences become largely irrelevant.

The Treatment of Anxiety Disorders in a Primary Care HMO Setting

Price D, Beck A, Nimmer C, Bensen S, Psychiatr Q 2000 Spring;71(1):31-45.

Anxiety disorders are common, yet under diagnosed, in primary care settings. Many patients with anxiety and other psychiatric disorders do not seek care in mental health care settings. An integrated primary care/mental health model offers one approach to improving outcomes for patients with anxiety disorders. This model has been researched for the treatment of depression with positive results but has not been well studied for the treatment of anxiety disorders. We describe the results of care for a cohort of adult patients with Generalized Anxiety Disorder (GAD) and clinically significant anxiety sec-

ondary to Major Depressive Disorder (MDD) treated in an integrated model. Compared to a matched cohort of adults treated in a primary care setting with usual care, the intervention cohort experienced significantly improved reduction in symptoms of anxiety at six months. The intervention cohort also was significantly more satisfied with care.

The Cost-Effectiveness of Mind-Body Medicine Interventions

Sobel DS. Prog Brain Res 2000;122:393-412.

Evidence is mounting that addressing the psychosocial needs of patients makes economic and health sense. If there were a drug or surgical procedure that could reduce ambulatory care visits, decrease post-surgical length of stay, reduce c-section rates, or decrease death rates from cancer, this medical intervention would be widely accepted and utilized with little hesitation. The beliefs and biases that delay and retard the use of psychosocial interventions need to be challenged (Engel, 1977; Williamson et al, 1991). This brief review of mind-body interventions suggests that health care providers can ill afford to treat patients simply as disordered machines whose health can be restored with physical or chemical interventions alone. Indeed, a burgeoning interest in alternative and complementary medicine with a focus on non-drug, non-surgical interventions as well as the exploding field of lay literature and self-help groups suggests that many patients are ready, willing, and even demanding that mind-body health techniques be considered as part of health care (Friedman et al, 1997). While the health care system cannot be expected to address all the psychosocial needs of people, clinical intervention can be brought into better alignment with the emerging evidence on the health and cost-effectiveness of mind-body interventions. Mind-body medicine is not something separate or peripheral to the main tasks of medical care but should be an integral part of evidence-based, cost-effective, quality health care.

The Cost of Health Conditions in a Health Maintenance Organization

Ray GT, Collin F, Lieu T, Fireman B, Colby CJ, Quesenberry CP, et al. Med Care Res Rev 2000 Mar;57(1):92-109.

In this retrospective cohort analysis of all adults who were members of Kaiser Permanente, Northern California, between July 1995 and June 1996 (N = 2,076,303), the authors estimated the prevalence, average annual costs per person, and percentage of total direct medical expenditures attributable to each of 25 chronic and acute conditions. Ordinary least squares regression was used to adjust for age, gender, and comorbidities. The costs attributable to the 25 conditions accounted for 78 percent of the health maintenance organization's total direct medical expense for this age-group. Injury accounted for a higher proportion (11.5 percent) of expenditures than any other single condition. Three cardiovascular conditions—ischemic heart disease, hypertension, and congestive heart failure—together accounted for 17 percent of direct medical expense and separately accounted for 6.8 percent, 5.7 percent, and 4.0 percent, respectively. Renal failure ($22,636), colorectal cancer ($10,506), pneumonia ($9499), and lung cancer ($8612) were the most expensive conditions per person per year.

Controlled Trials of CQI and Academic Detailing to Implement a Clinical Practice Guideline for Depression

Brown JB, Shye D, McFarland BH, Nichols GA, Mullooly JP, Johnson RE. Jt Comm J Qual Improv 2000 Jan;26(1):39-54.

Background: The release of the Agency for Health Care Policy and Research (AHCPR)'s Guideline for the Detection and Treatment of Depression in Primary Care created an opportunity to evaluate under naturalistic conditions the effectiveness of two clinical practice guideline implementation methods: continuous quality improvement (CQI) and academic detailing. A study conducted in 1993-1994 at Kaiser Permanente Northwest Division, a large, not-for-profit prepaid group practice (group-model) HMO, tested the hypotheses that each method would increase the number of members receiving depression treatment and would relieve depressive symptoms.

Methods: Two trials were conducted simultaneously among adult primary care physicians, physician assistants, and nurse practitioners, using the same guideline document, measurement methods, and one-year follow-up period. The academic detailing trial was randomized at the clinician level. CQI was assigned to one of the setting's two geographic areas. To account for intraclinician correlation, both trials were evaluated using generalized equations analysis.

RESULTS: Most of the CQI team's recommendations were not implemented. Academic detailing increased treatment rates, but—in a cohort of patients with probable chronic depressive disorder—it failed to improve symptoms and reduced measures of overall functional status.

CONCLUSIONS: New organizational structures may be necessary before CQI teams and academic detailing can substantially change complex processes such as the primary care of depression. New research and treatment guidelines are needed to improve the management of persons with chronic or recurring major depressive disorder.

Outcomes of the Kaiser Permanente Tele-Home Health Research Project

Johnston B, Wheeler L, Deuser J. Sousa KH; Arch Fam Med 2000 Jan;9(1):40-5.

CONTEXT: Level of acuity and number of referrals for home health care have been escalating exponentially. As referrals continue to increase, health care organizations are encouraged to find more effective methods for providing high-quality patient care with cost savings.

OBJECTIVE: To evaluate the use of remote video technology in the home health care setting as well as the quality, use, patient satisfaction, and cost savings from this technology.

DESIGN: Quasi-experimental study conducted from May 1996 to October 1997.

SETTING: Home health department in the Sacramento, CA, facility of a large health maintenance organization.

PARTICIPANTS: Newly referred patients diagnosed as having congestive heart failure, chronic obstructive pulmonary disease, cerebral vascular accident, cancer, diabetes, anxiety, or need for wound care were eligible for random assignment to intervention (n = 102) or control (n = 110) groups.

INTERVENTION: The control and intervention groups received routine home health care (home visits and telephone contact). The intervention group also had access to a remote video system that allowed nurses and patients to interact in real time. The video system included peripheral equipment for assessing cardiopulmonary status.

MAIN OUTCOME MEASURES: Three quality indicators (medication compliance, knowledge of disease, and ability for self-care); extent of use of services; degree of patient satisfaction as reported on a three-part scale; and direct and indirect costs of using the remote video technology.

RESULTS: No differences in the quality indicators, patient satisfaction, or use were seen. Although the average direct cost for home health services was $1830 in the intervention group and $1167 in the control group, the total mean costs of care, excluding home health care costs, were $1948 in the intervention group and $2674 in the control group.

CONCLUSIONS: Remote video technology in the home health care setting was shown to be effective, well received by patients, capable of maintaining quality of care, and to have the potential for cost savings. Patients seemed pleased with the equipment and the ability to access a home health care provider 24 hours a day. Remote technology has the potential to effect cost savings when used to substitute some in-person visits and can also improve access to home health care staff for patients and caregivers. This technology can thus be an asset for patients and providers.

A Simple Way

Some say that art is a complicated way of saying very simple things, but we know that art is a simple way of saying very complex things.

Jean Cocteau, 1889-1963, French filmmaker, dramatist, poet and novelist