



NEHI Compendium

Overuse

Evidence Table—Overuse

Study

Outcome

Revisiting The Appropriateness Of Carotid Endarterectomy

Halm, E.A., Chassin, M.R., Tuhim, S., Hollier, L.H., Popp, A.J. Ascher, E., Dardik, H., Faust, G., Riles, T.S.; 2003; Stroke

This study was a retrospective chart review of 2,124 procedures in 6 New York hospitals to determine appropriateness of carotid endarterectomy based on Rand effectiveness criteria.

There are 14,000 inappropriate cases of carotid endarterectomy annually. 84.9% of cases were judged to be appropriate, an increase from earlier studies (35% of Medicare cases judged appropriate). 10.6% judged inappropriate, primarily due to high co-morbid conditions.

Antibiotics For Upper Respiratory Tract Infections In Ambulatory Practice In The United States, 1997-1999: Does Physician Specialty Matter?

Rutschmann, O.T., Domino, M.E.; 2004; J Am Board Fam Pract

This study used 1997-1999 National Ambulatory Medical Care Survey (NAMCS) data to examine antibiotic use for upper respiratory infection (URI) as a function of patient, physician and practice characteristics.

Antibiotics are overused for URI. Patients were less likely to receive antibiotic prescriptions from general internists than family practitioners. Rate of prescriptions written for URI decreased over the study period from 52.1% to 41.5%.

The Appropriateness Of Recommendations For Hysterectomy

Broder, M.S., Kanouse, D.E., Mittman, B.S., Bernstein, S.J.; 2000; Obstet Gynecol

This study retrospectively reviewed the records of women who underwent hysterectomy in nine capitated medical groups in California to determine the appropriateness of recommendation for hysterectomy (not the surgery itself) based on guidelines developed by expert panel and three criteria sets published by American College of Obstetricians and Gynecologists (ACOG). The surgeries were actually performed prior to the publication of the guidelines used.

Chart reviews revealed that 70% of charts did not completely meet all indications for hysterectomy. The most common failures were lack of adequate diagnostic testing and failure to try alternative treatments prior to hysterectomy. The ultimate significance, however, is questionable, as the panel estimated that only 14% of procedures were actually inappropriate.

Overuse

Study

Outcome

Overuse Of Transthoracic Echocardiography In The Diagnosis Of Native Valve Endocarditis

Kuruppu, J.C., Corretti, M., Mackowiak, P., Roghmann, M.C.; 2002; Arch Intern Med

This study reviewed hospital records of 98 patients with suspected infective endocarditis who underwent Transthoracic Echocardiography (TTE) to determine the impact that the study had on treatment decisions.

TTE is overused in cases of infective endocarditis (IE). The diagnosis of IE is a clinical diagnosis, and the results of the TTE did not significantly affect the duration of antibiotic therapy. The authors propose a new algorithm that would result in elimination of 53% of the TTEs done in this study, which can be avoided by treating patients empirically until the blood culture results are negative.

Antibiotic Treatment Of Children With Sore Throat

Kuruppu, J.C., Corretti, M., Mackowiak, P., Roghmann, M.C.; 2005; JAMA

The study used National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) data to measure rates of antibiotic prescribing and Group A Hemolytic Streptococcus (GABHS) testing and to evaluate the association between testing and antibiotic treatment in children with sore throat.

Antibiotics are generally overused, and the wrong antibiotics are prescribed (and misused) 27% of the time. Testing for GABHS is underused. Antibiotics were prescribed in 53% of visits for sore throats in children aged 3-17. Antibiotics are indicated for sore throats due to Group A Beta Hemolytic Streptococci infection, which accounts for only 15-36% of sore throats. When antibiotics are prescribed, the correct antibiotic is prescribed 73% of the time. Only 57% of children with a diagnosis of tonsillitis, strep sore throat, and pharyngitis had the GABHS test.

Overuse

Study

Outcome

Use Of Adenosine In Patients Hospitalized In A University Medical Center

Knight, B.P., Zivin, A., Souza, J., Goyal, R., Man, K.C., Strickberger, A., Morady, F.; 1998; Am J Med

40% of hospitalized patients received adenosine for arrhythmias where adenosine is not indicated. 26 patients from the series were excluded because there was no evidence of their specific arrhythmia.

This retrospective record review of patients administered adenosine for tachyarrhythmias, combined with house staff surveys, was used to identify the heart rhythms for which patients are prescribed adenosine, and to identify reasons for misuse. This was done by looking at patients who received adenosine, and giving resident physicians a questionnaire about reading electrocardiograms (EKGs) and the appropriate use of adenosine.

Emergency Medicine Versus Primary Care: A Case Study Of Three Prevalent, Costly, And Non-Emergent Diagnoses At A Community Teaching Hospital

Martin, BC; 2000; J Health Care Finance

Costs were significantly higher in the ED.

This study examines the implications of implementation of a prospective payment system for Medicare emergency department (ED) visits, using a large tertiary hospital as a data source. Costing systems were examined, and ED costs compared to outpatient primary care. For upper respiratory infections, ED costs were on average double those of out patient care, largely due to differences in ancillary tests ordered and prescription costs.

Overuse

Study

Effectiveness Of A Medical Priority Dispatch Protocol For Abdominal Pain

Kennedy, J.D., Sweeney, T.A., Roberts, D., O'Connor, R.E.; 2003; Prehosp Emerg Care

This study retrospectively reviewed the records of a regional Emergency Medical Service (EMS) service to determine the proportion of patients with abdominal pain who would benefit from advanced life support (ALS) when called for by these protocols.

Outcome

Hospital records were available for 86% of cases, of which 12 were potentially life-threatening, requiring ALS intervention. Seventeen were non-life-threatening, but potentially benefited from ALS intervention. The remaining 157 were classified as not requiring ALS.

A Clinician's Guide To The Appropriate And Accurate Use Of Antibiotics: The Council For Appropriate And Rational Antibiotic Therapy (CARAT) Criteria

Slama, T.G., Amin, A., Brunton, S.A., File, T.M., Jr., Milkovich, G., Rodvold, K.A., Sahm, D.F., Varon, J., Weiland, D., Jr.; 2005; Am J Med

This study reviews literature regarding appropriate use of antibiotics.

The rate of misuse and overuse of antibiotic prescriptions might be lowered if clinicians were to use the 5 Council for Appropriate and Rational Antibiotic Therapy (CARAT) criteria to help select appropriate antibiotics. The 5 criteria of CARAT (evidence-based results, therapeutic benefits, safety, optimal drug for the optimal duration, and cost effectiveness) are important to consider when choosing an appropriate and accurate antibiotic therapy.

Antibiotic Prescribing For Children With Colds, Upper Respiratory Tract Infections And Bronchitis

Nyquist, A.C., Gonzales, R., Steiner, J.F., Sande, M.A.; 1998; JAMA

This study drew upon the responses of physicians to the 1992 National Ambulatory Care Medical Care Survey (NAMCS) to evaluate antibiotic prescribing practices for children younger than 18 years, who were diagnosed with a cold, upper respiratory infection, or bronchitis in the U.S., among pediatricians and nonpediatricians.

Overuse and underuse of antibiotics may result because some provider groups are more inclined to prescribe than others; also some patient groups are more likely to receive antibiotics than others. Pediatricians were 0.57 times less likely to prescribe antibiotics to children with otitis, sinusitis, or pharyngitis than non-pediatricians.

Overuse

Study

Outcome

Ceftriaxone Use In The Emergency Department: Are We Doing It Right?

Jain, S., Sullivan, K.; 2002; Pediatr Emerg Care

This study evaluates ceftriaxone use in an urban pediatric emergency department (PED) to determine if overuse exists based on published guidelines for management of febrile infants.

Based on published guidelines, ceftriaxone use in the PED was not justified in the majority of cases (66.4%, with an additional 17% representing questionable use).

Insurance Coverage And Health Care Consumers' Use Of Emergency Departments: Has Managed Care Made A Difference?

Speck, S.K., Peyrot, M., Hsiao, C.W.; 2003; J Hosp Mark Public Relations

This study used National Hospital Ambulatory Medical Care Survey (NAHMCS) data from 1992 and 1996 to determine the effect of managed care on appropriateness of emergency department (ED) utilization.

The proportion of non-urgent ED visits decreased from 57.1% of visits in 1992 to 55.8% in 1996. However, over- and misuse of the ED did not decrease more for managed care patients compared with fee-for-service patients, nor for insured compared with uninsured patients.

Prospective Determination Of Medical Necessity For Ambulance Transport By Paramedics

Gratton, M.C., Ellison, S.R., Hunt, J. Ma, O.J.; 2003; Prehosp Emerg Care

This study prospectively assessed the medical necessity of emergency transport by a large urban EMS system.

Paramedics and emergency physicians agreed that a significant percentage of patients (30% for paramedics, 29% for physicians) did not require ambulance transport (76.2% agreement) to the emergency department.

Overuse

Study

Outcome

Cervical Cancer Screening Among Women With And Without Hysterectomies.

Eaker, E.D., Vierkant, R.A., Konitzer, K.A., Remington, P.L.; 1998; Obstet Gynecol

This retrospective record and claims review compared cervical cancer screening rates in women who had previously undergone hysterectomy to women who had not.

Pap testing rates vary by type and reason for hysterectomy. Women with hysterectomy for malignancy have 1 more test a year than women without, and women with hysterectomy for benign reasons have 1 fewer test (potential overuse).

Antibiotic Resistance: The Iowa Experience

Bell, N; 2002; Am J Manag Care

This study reviews the literature and reports on the prevalence of drug-resistant Strep pneumonia in Iowa. The Department of Public Health convened a multidisciplinary task force in January 1998 to develop strategies to combat antibiotic resistance in the state because they were alarmed by these reports.

The profiling and educational interventions led to a substantial decrease in both overall antibiotic prescribing and drug costs. Other states may want to undertake similar programs to help protect their citizens from infections caused by resistant pathogens.

Health Insurance, Primary Care, And Preventable Hospitalization Of Children In A Large State

Friedman, B., Basu, J.; 2001; Am J Manag Care

This study was a retrospective record review of 1994 hospital discharge data for New York resident children with Ambulatory-Care Sensitive (ACS) conditions. Relationship between ACS admission rates and several factors were analyzed.

Admission rates for ACS conditions in New York children were higher in locations where there were fewer primary care physicians, lower percents of children with private health maintenance organization (HMO) insurance, and higher proportions of non-white ethnic groups.

Overuse

Study

Outcome

Lansoprazole Overutilization: Methods For Step-Down Therapy

Pohland, C.J., Scavnicky, S.A., Lasky, S.S., Good, C.B.; 2003; Am J Manag Care

46% (n = 60) of recommended step-down therapies were accepted, resulting in an \$85,000 savings per year.

This study used a retrospective record review of all patients with prescriptions for lansoprazole at a Veterans Affairs Medical Center (VAMC) to identify the documented indications for long-term lansoprazole therapy and recommend appropriate step-down therapy in order to improve patient care and reduce medical costs.

Trends In Antimicrobial Prescribing For Bronchitis And Upper Respiratory Infections Among Adults And Children

Mainous, A.G., III Hueston, W.J., Davis, M.P., Pearson, W.S.; 2003; Am J Public Health

Inappropriate use of antibiotics for viral URI has decreased, but 10% of children and 20% of adults still receive inappropriate treatment.

This study used data from the National Ambulatory Medical Care Survey from 1993, 1995, 1997, and 1999 to examine antimicrobial prescribing patterns for adults and children with bronchitis or upper respiratory infections (URIs) before and after the 1998 release of national pediatric practice recommendations for minimizing use of antibiotics, and starting with narrow-spectrum medications if needed.

Overuse

Study

Outcome

The Impact Of Peer Management On Test-Ordering Behavior

Neilson, E.G., Johnson, K.B., Rosenbloom, S.T., Dupont, W.D., Talbert, D., Giuse, D.A., Kaiser, A., Miller, R.A.; 2004; Ann Intern Med

This retrospective review of inpatient records in a large tertiary hospital was designed to examine whether changes to the software of a care provider order entry system (CPOE) at a large academic hospital could reduce variability in ordered lab tests, chest x-rays, and EKGs.

Peer management reduced provider variability. Hospitals with growing health care costs can improve resource utilization through peer management by using CPOE systems.

Clinical And Economic Outcomes Assessment In Nuclear Cardiology

Shaw, L.J., Miller, D.D., Berman, D.S., Hachamovitch, R.; 2000; Q J Nucl Med

This article reviews the current state of the evidence on the clinical and economic data regarding different nuclear cardiology imaging tests. A synthesis of current economic evidence for gated, Single-Photon Emission Computed Tomography (SPECT) is also presented.

The overuse of diagnostic angiography often leads to unnecessary revascularization that does not lead to improvement in outcome. Thus, the potential exists that stress SPECT imaging, a highly effective diagnostic tool, could reduce the inappropriate use of an invasive procedures resulting in cost-effective cardiac care.

Overuse

Study

Self-Reported Papanicolaou Smears And Hysterectomies Among Women In The United States

Saraiya, M., Lee, N.C., Blackman, D., Smith, M.J., Morrow, B., McKenna, M.A.; 2001; Obstet Gynecol

This study used 1992-1997 BRFSS, 1993-1994 NHIS, and 1980-1997 NHDS data to estimate the rates of Papanicolaou smears in women post hysterectomy.

Outcome

There is significant overuse of pap smears following hysterectomy. 74.2-78.3% of women who have had a hysterectomy self-reported that they had a pap smear within the past 3 years. 77.2-82.1% of women without a hysterectomy self-reported that they had a pap smear within the past 3 years. Only 6.7-15.4% of women who had a hysterectomy need to have a pap smear due to supracervical hysterectomy or history of cervical neoplasia (including cervical cancer). 10.6-11.6 million pap smears were done unnecessarily at a cost of \$375-505 million for the study period, based on cost data for 1997.

Antimicrobial Use For Pediatric Upper Respiratory Tract Infections (URI): Reported Practice, Actual Practice, Parental Beliefs

Watson, R.L., Dowell, S.F., Jayaraman, M., Keyserling, H., Kolczak, M., Schwartz, B.; 1999; Pediatrics

This study surveyed 336 pediatricians and family physicians in Georgia regarding opinions of the treatment of URIs. Random chart reviews and parent interviews were performed in 25 randomly selected practices in order to examine the factors that relate to the over-prescribing of antibiotics in children 5 years of age and younger.

The overuse of antibiotics is prevalent for the 5 conditions studied in pediatric patients, despite stated beliefs that over-prescribing contributes to antibiotic resistance. The reasons cited included parental pressure, desire to avoid a follow-up visit in managed care patients, and a belief that parents could elect to obtain antibiotics from colleagues. Despite survey results indicating that pediatricians and family practitioners recognize the problems associated with overuse of antibiotics for URI, survey results (including both pediatricians and family physicians) and chart reviews (pediatricians only) showed significant levels of over-prescribing of antibiotics. Overprescribing was worse for family physicians compared with pediatricians and especially common for diagnoses of: sinusitis, purulent rhinitis, and common cold.

Overuse

Study

Outcome

Factors Affecting Prescription Of Ultra-High Potency Topical Corticosteroids In Skin Disease: An Analysis Of US National Practice Data
Balkrishnan, R., Camacho, F.T., Pearce, D.J., Kulkarni, A.S., Spencer, L., Fleischer, A.B., Jr. Feldman, S.R.; 2005; J Drugs Dermatol

This study analyzed data from the National Ambulatory Medical Care Survey (NAMCS) to examine the prescribing patterns of Class I (ultra-high potency) topical corticosteroids in patients with skin disease.

Class I topical corticosteroids were prescribed in 3% of all skin disease-related visits, with prescription rates being highest in psoriasis (22%). There were a large number of questionable prescriptions for other conditions, which could be construed as improper use of these medications.

Characteristics Of Nonurgent Emergency Department Use In The First 3 Months Of Life
Pomerantz, W.J., Schubert, C.J., Atherton, H.D. Kotagal, U.R.; 2002; Pediatr Emerg Care

This study analyzed 965 visits by infants in the first 3 months of life to a single urban emergency room to determine the characteristics of non-urgent emergency room visits.

60.1% of all visits were nonurgent. Of all patients with non-urgent visits, 24.1% had more than 1. Younger maternal age, Medicaid, maternal parity, and non-white race all resulted in increased nonurgent emergency department (ED) use.

Impact Of Simple Screening Criteria On Utilization Of Low-Yield Bacterial Stool Cultures In A Children's Hospital
Zaidi, A.K., Macone, A., Goldmann, A.D.; 1999; Pediatrics

This study used a retrospective analysis of hospital laboratory records to estimate the appropriateness of stool cultures and to develop guidelines for reducing unwarranted stool cultures for Salmonella, Shigella, Campylobacter, Yersinia enterocolitica, and E. coli 0157:H7 (SSCYE).

Guidelines for tests such as stool cultures can reduce overuse, particularly through the education of physicians about when such tests are appropriate. Using guidelines to limit stool cultures for SSCYE for inpatients reduced cultures by 43% (689)—primarily by reducing the number of tests ordered (497) rather than through a dramatic number of tests being rejected (192)—and saved the hospital of over \$50,000 per year.

Overuse

Study

Outcome

Keeping Children Out Of Hospitals: Parents' And Physicians' Perspectives On How Pediatric Hospitalization For Ambulatory Care-Sensitive Conditions Can Be Avoided

Flores, Glenn; 2003; Pediatrics

This study used a survey of parents, primary care physicians (PCPs) and inpatient attending physicians about pediatric hospital admissions concerning whether the admission was avoidable.

About 50% of hospitalizations for children with 6 diagnoses may be avoidable through better parent education and follow-up clinical care. The most common diagnoses for avoidable hospitalization (AH) as agreed to by two of the three sources, were asthma (27%), skin infections (20%), and dehydration/gastroenteritis (15%). Overall, the agreement rate varied from 68% for parents and attending physicians to 79% for PCPs and attending physicians. Variables most associated with AH were being over the age of 10, and having a diagnosis of asthma.

Provider And Practice Characteristics Associated With Antibiotic Use In Children With Presumed Viral Respiratory Tract Infections.

Gaur, A.H., Hare, M.E., Shorr, R.I.; 2005; Pediatrics

This study used data from the 1995-2000 National Hospital Ambulatory Medical Care Survey (NHAMCS) to assess antibiotic prescribing to children in hospital outpatient clinics for 4 ICD-9 code diagnoses suggestive of viral respiratory infection acute nasopharyngitis.

Potential overuse of antibiotics in children is related to both provider and facility characteristics. Although there seems to be a downward trend, the overall rate of antibiotic prescribing for the 4 ICD-9 coded diagnoses was 33.2%. Antibiotic prescribing residents (19.5%) was less than physicians in teaching or non-teaching hospitals (39.6%). Other factors associated with increased likelihood of antibiotic prescribing included diagnosis of bronchitis (unspecified), being seen in a non-pediatric clinic, and being seen before the 1998 publication of the CDC/AAP guidelines.

Use Of Open Access In GI Endoscopy At An Academic Medical Center

Charles, R.J., Chak, A., Cooper, G.S., Wong, R.C., Sivak, M.V., Jr.; 1999; Gastrointest Endosc

This study examined records from 5 months of endoscopies at 1 hospital in order to compare appropriateness and yield of endoscopy for patients referred for open-access endoscopy with those for patients who had prior contact with a gastroenterologist.

86% of endoscopies after consultation with gastroenterologists were performed for accepted indications compared with 65% of open access procedures. Significant pathologic findings were present in 40% of the former group compared with 28% of those undergoing open-access endoscopy.

Overuse

Study

Outcome

Trends In Operative Management Of Pediatric Splenic Injury In A Regional Trauma System
Davis, D.H., Localio, A.R., Stafford, P.W., Helfaer, M.A., Durbin, D.R.;
2005; Pediatrics

This study used state hospital discharge data to identify patients <19 years of age who presented to an emergency department (ED) in Pennsylvania with a diagnosis of splenic injury to characterize the variation in management of blunt pediatric splenic injury, comparing nontrauma hospitals with regional centers.

Hospitals that specialized in treating pediatric trauma were less likely to perform surgery for blunt splenic injury. At all types of hospitals, the rate of surgery was low from the years 1991 to 1993, rose in the years 1994 to 1997 (more in the less specialized hospitals), and declined to an intermediate level from 1998 to 2000.

Factors Associated With Emergency Department Utilization For Nonurgent Pediatric Problems
Phelps, K., Taylor, C., Kimmel, S., Nagel, R., Klein, W., Puczynski, S.;
2000; Arch Fam Med

This study surveyed 200 caretakers who brought children to 2 urban emergency departments (EDs) for non-urgent conditions to identify caregiver characteristics associated with the utilization of EDs for non-urgent pediatric care in Toledo, OH.

65% of ED visits in this study were classified as nonurgent by qualified medical personnel.

Overuse

Study

Outcome

National Trends In The Use Of Antibiotics By Primary Care Physicians For Adult Patients With Cough

Metlay, J.P., Stafford, R.S., Singer, D.E.; 1998; Arch Intern Med

This study analyzed data from serial National Ambulatory Medical Care Survey (NAMCS) beginning in 1980 to examine national trends in the prescription of antibiotics by primary care physicians (PCPs) to adult patients with cough, and to identify factors influencing prescription.

The high rate of antibiotic prescription for symptoms of cough (66%) suggests overuse of antibiotics. However, there is no gold standard on this topic and the appropriateness of prescription may be confounded by the subjectivity of diagnosis. The percentage of outpatients receiving antibiotic prescriptions for cough increased modestly from 1980 to 1994 (1.05 per year). Overall, antibiotics were prescribed 66% of the time for adult patients with cough, rising from 59% in 1980 to 70% in 1994. Being under age 65, being white, visiting for the first time to complain of cough, and being diagnosed with bronchitis were associated with significantly increased odds of prescription.

Beta-Blocker Dosages And Mortality After Myocardial Infarction: Data From A Large Health Maintenance Organization

Barron, H.V., Viskin, S., Lundstrom, R.J., Swain, B.E., Truman, A.F., Wong, C.C., Selby, J.V.; 1998; Arch Intern Med

This study reviewed the clinical records of 1165 Northern California Permanente patients surviving Acute Myocardial Infarction (AMI) to examine a potential association between dosage of beta-blocker received at hospital discharge (for MI) and mortality.

Large doses of beta-blockers may be overprescribed, because smaller doses can be just as effective. Treatment with lower doses of beta-blockers (less than 50% of the dose used in RCTs) was associated with at least as much improvement in survival as higher doses. In fact, in this study, treatment with lower doses resulted in significantly improved mortality compared with treatment with higher doses.

Evaluating The Appropriateness Of Digoxin Level Monitoring

Canas, F., Tanasijevic, M.J., Ma'luf, N., Bates, D.W.; 1999; Arch Intern Med

This study used a retrospective record review to determine the appropriateness of a random sample of inpatient and outpatient digoxin levels at Brigham & Women's Hospital.

Digoxin blood tests are overused. Only 16% of tests on inpatients and 52% in outpatients were appropriate. The vast majority of inappropriate tests (76%) were for early routine monitoring, i.e., a test repeated less than 10 days after a previous test for inpatients, and less than 10 months for outpatients.

Overuse

Study

Outcome

Understanding Physician Adherence With A Pneumonia Practice Guideline: Effects Of Patient, System, And Physician Factors
Halm, E.A., Atlas, S.J., Borowsky, L.H., Benzer, T.I., Metlay, J.P., Chang, Y.C., Singer, D.E.; 2000; Arch Intern Med

Nonadherence occurred in 43.6% of cases and was associated with patient age (>65), gender (male), employment, multilobar disease, or comorbid conditions. PCP involvement and increasing physician experience with pneumonia management both contributed to increased non-compliance.

This study describes a retrospective chart review and physician survey designed to quantify non-compliance with a CAP guideline at the Massachusetts General Hospital.

Unnecessary Use Of Antimicrobials In Hospitalized Patients: Current Patterns Of Misuse With An Emphasis On The Antianaerobic Spectrum Of Activity
Hecker, M.T., Aron, D.C., Patel, N.P., Lehmann, M.K., Donskey, C.J.; 2003; Arch Intern Med

Antimicrobials were overused in hospitalized patients, either through prescription where antibiotics are not necessary, or misapplication of drugs where antibiotics are necessary. Approximately 30% of the therapy days were deemed unnecessary.

This prospective observational study in an academic hospital was designed to assess the necessity of antibiotic prescriptions during a two-week period.

Antimicrobial Resistance In The Intensive Care Unit: Understanding The Problem
Houghton, Douglas; 2002; AACN Clin Issues

This article reviews the literature pertaining to antibiotic resistance and the role of antibiotic misuse in its development.

The overuse and misuse of antibiotics is dangerous and costly. Treatment of nosocomial infections are estimated to cost nearly \$5 billion per year. While this article is more of a discussion, it takes the numbers of patients in an intensive care unit with nosocomial infections and shows the percentage increase of antimicrobial resistant pathogens which have increased across the spectrum since 1994-1998.

Overuse

Study

Outcome

Inappropriate Use Of Emergency Medical Services Transport: Comparison Of Provider And Patient Perspectives

Richards, J.R., Ferrall, S.J.; 1999; Acad Emerg Med

This study prospectively surveyed patients and emergency medical services (EMS) providers arriving at an urban university emergency department (ED) in California to examine the use of EMS transport and determine how appropriately the service is used, evaluating both provider and patient perceptions.

Inappropriate ambulance use is a significant problem from both EMS provider and patient perspectives. Approximately 43% of transports were not true emergencies, diverting resources from true emergencies. 41-50 year olds, whites, men and people without medical insurance or Medi-Cal are more likely to use EMS.

Emergency Medical Care: Types, Trends, And Factors Related To Nonurgent Visits

Liu, T. Sayre, M.R. Carleton, S.C.; 1999; Acad Emerg Med

This study used National Hospital Ambulatory Medical Care Survey (NHAMCS) data to describe and compare trends in emergency department (ED) use from 1992 to 1996.

54% of ED visits in 1996 were non urgent in nature.

The Influence Of Insurance Status On Non-urgent Pediatric Visits To The Emergency Department

Fong, Christina; 1999; Acad Emerg Med

This study used a subset of 1994 National Hospital Ambulatory Medical Care Survey (NHAMCS) data (age <16) to investigate the overall rate of non-urgent visits was 58%, 51% for HMO, 56% for privately insured, and 60% for government insured pediatric patients.

Nonurgent emergency department (ED) visits can lead to inefficient utilization of resources. Patients with HMOs used the ED less often with nonurgent complaints than those with private health insurance. While 58% of visits were considered non-urgent, 10% of those visits were HMO-insured patients. Males make up more than 50% of the caseload in both urgent and non-urgent care.

Overuse

Study

Outcome

Parental Use And Misuse Of Antibiotics: Are There Differences In Urban Vs. Suburban Settings?

Edwards, D.J., Richman, P.B., Bradley, K., Eskin, B., Mandell, M.; 2002; Acad Emerg Med

This was a prospective survey of parents of children presenting to two emergency department (EDs) (in NJ and CT) to compare the misuse of antibiotics by parents for their children in suburban and urban settings.

Parents in both settings are misusing and overusing antibiotics. However, the misuse in suburbia is different from urban misuse. Parents in suburban settings were more likely to have misused antibiotics for their children. Parents in urban settings were more likely to seek a prescription from more than one physician.

Usual Source Of Care And Nonurgent Emergency Department Use

Sarver, J.H., Cydulka, R.K., Baker, D.W.; 2002; Acad Emerg Med

This study used 1996 MEPS data to examine whether patient dissatisfaction with the usual source of care (USC) and perceived access difficulties to that USC were associated with nonurgent emergency department (ED) use.

Patients are more likely to use the ED for nonurgent visits when they believe that their usual source of care is not meeting their needs. Most participants reported high levels of satisfaction with their USC. Access to care items were also associated with nonurgent ED use.

Repeat Patients To The Emergency Department In A Statewide Database

Cook, L.J. Knight, S. Junkins, E.P., Jr. Mann, N.C. Dean, J.M. Olson, L.M.; 2004; Acad Emerg Med

This study used three years of statewide emergency department (ED) data to stratify ED use into single, repeat, or serial use, and then to assess differences between patients comprising each strata.

ED visits increased as the percentage of patients using government insurance increased. While repeat and serial ED patients made up one third of patients, they accumulated more than 60% of all ED visits and ED charges.

Overuse

Study

Outcome

Ineffective Use Of Radiology: The Hidden Cost Cascade, P.N., Webster, E.W. Kazerooni, E.A.; 1998; AJR Am J Roentgenol

This narrative review describes the extent of overuse of radiologic procedures, and provides a brief description of the causes and the costs in terms of radiation-induced deaths.

The authors estimate that 10-30% of diagnostic radiologic procedures are unnecessary. They cite self-referral by doctors who own equipment, fear of litigation and “worried well” as causes. Based on various assumptions, they hypothesize that there are 5,540-7,200 radiation-induced deaths per year of in the US. They further estimate that 1,108-1,440 severe hereditary defects are inherited over succeeding generations as a result of diagnostic testing. Based on overuse rates of 10%-30%, the authors cite excess deaths due to unnecessary testing of around 110 (10%), 222 (20%) or 332 (30%).

Long Term Use Of Acid Suppression Started Inappropriately During Hospitalization Zink, D.A., Pohlman, M., Barnes, M. Cannon, M.E.; 2005; Aliment Pharmacol Ther

This study is a retrospective chart review of patients admitted to a general medicine inpatient teaching service to determine the appropriateness of using proton pump inhibitors (PPI) and Histamine Receptor Antagonists (H2RA) in inpatient general medicine service; to characterize patients discharged on PPI/H2RA; and to test the hypothesis that use of PPI/H2RA continues for an inappropriately long time.

196 out of 324 (60%) of general medical inpatients on acid-suppression therapy did not have an appropriate indication for the medication. 67 out of 196 (34%) were discharged on the medication with an appropriate indication. 84% were discharged on PPI, 15% were discharged on H2RA. At 3 months, 80% of those available for follow-up (31 out of 39) were still on it inappropriately. At 6 months, 50% of those available for follow-up (fifteen out of twenty-six) were still on it. Current costs of PPI are \$115 per month, generic H2RA costs \$35 per month, and brand H2RA costs \$112 month.

Diagnosis And Management Of Acute Bronchitis Knutson, D., Braun, C.; 2002; Am Fam Physician

This is a general review of the diagnosis and treatment of acute bronchitis.

The study discusses several studies that offer mixed evidence of symptomatic improvement resulting from antibiotic therapy.

Overuse

Study

Outcome

Vulnerable Populations At Risk Of Potentially Avoidable Hospitalizations: The Case Of Nursing Home Residents With Alzheimer's Disease

Carter, M.W., Porell, F.W.; 2005; Am J Alzheimers Dis Other Demen

This study linked Medicaid reimbursement data with Massachusetts Medical Provider Analysis and Review data to determine whether nursing home patients with dementia were more likely to experience Ambulatory Care Sensitive Conditions (ACSC) admissions.

Dementia patients are at higher risk of admission for pneumonia, urinary tract infection (UTI), and gastroenteritis, but there is significant variation in ACSC admissions between nursing homes regardless of dementia status, suggesting an important quality issue.

Is Appendiceal CT Scan Overused For Evaluating Patients With Right Lower Quadrant Pain?

Safran, D.B., Pilati, D., Folz, E., Oller, D.; 2001; Am J Emerg Med

This is a series of 4 cases to illustrate the controversy surrounding the routine use of computed tomography (CT) for suspected appendicitis.

CT scans can prevent avoidable laparotomy in equivocal cases, but routine scanning in cases with low likelihood of appendicitis can, as shown in this report, lead to extended hospitalizations and unnecessary costs.

Overuse Of Parenteral Antibiotics For Wound Care In An Urban Emergency Department

Waldrop, R.D. Prejean, C. Singleton, R.; 1998; Am J Emerg Med

This study retrospectively reviewed records of 72 patients who received parenteral antibiotics in emergency departments (EDs) for wound care but were not admitted, and assessed discrepancy with current recommendations derived from the literature.

Antibiotic use in about one-fifth (18%) of wounds was incorrect according to the guidelines (although the authors themselves describe their criteria as "arbitrary in the face of no accepted consensus among infection disease experts"). Some wounds were unnecessarily treated with Ceftriaxone and Cefazolin.

Overuse

Study

Outcome

An Evidence-Based Clinical Pathway For Bronchiolitis Safely Reduces Antibiotic Overuse
Wilson, S.D., Dahl, B.B., Wells, R.D.; 2002; Am J Med Qual

This study reviewed the charts of 181 children admitted to an academic hospital and estimated the extent to which antibiotics were overused.

Patients who were treated according to the evidence-based clinical pathway received more antibiotics than those not treated on the pathway (9% vs. 35%) and received no systemic steroids (0% vs. 10%) significantly less often. The cost of hospitalization was significantly less (\$2,241 vs. \$3,257), length of stay was lower (2.09 vs. 2.55 days), and there was no statistically significant increase in return for unplanned care within 72 hours (3.3% vs. 2.7% NS).

Nesiritide, Not Verified
Topol, Eric; 2005; N Engl J Med

A perspective piece expressing concern about the approval and use of nesiritide (recombinant human brain natriuretic peptide), a costly vasodilator used in congestive heart failure (CHF).

The author points out that the drug has been shown to increase mortality by 81% or 24% (two different studies) and cause 3 times as much deterioration in renal function as placebo. Mild efficacy in decreasing capillary wedge pressure was shown in one study. The author suggests that the drug should not have been approved, and notes that it is being heavily marketed.

Antibiotic Prescribing Practices In A Teaching Clinic: Comparison Of Resident And Staff Physicians
Mincey, B.A., Parkulo, M.A.; 2001; South Med J

This study employed a record review of all patients in an academic practice presenting with acute sinusitis to determine the relationship between inappropriate antibiotic prescribing and years of training.

Residents adopted attending physicians' prescribing behavior over time. In this case, attending physicians' behavior was more likely to be wasteful. First- and second-year residents were significantly more likely to prescribe narrow spectrum antibiotics for acute sinusitis (56%) compared with attending physicians (34%).

Overuse

Study

Association Between Medication Supplies And Healthcare Costs In Older Adults From An Urban Healthcare System

Stroupe, K.T., Murray, M.D., Stump, T.E., Callahan, C.M.; 2000; J Am Geriatr Soc

This study used a retrospective record review in a tax-supported health system to determine the costs associated with the over- and under-supply of medications to seniors in a public, urban health care system.

Is Colposcopic Biopsy Overused Among Women With A Cytological Diagnosis Of Atypical Squamous Cells Of Undetermined Significance (ASCUS)?

Lousuebsakul, V., Knutsen, S.M., Singh, P.N., Gram, I.T.; 2003; J Women's Health (Larchmt)

This study evaluated a cohort of 651 women with a Pap diagnosis of atypical squamous cells of undetermined significance (ASCUS) who received follow-up to analyze determinants of the type of follow-up received (colposcopic biopsy v. repeat Pap).

The Impact Of Drug Coverage On COX-2 Inhibitor Use In Medicare

Doshi, J.A., Brandt, N., Stuart, B.; 2004; Health Aff (Millwood)

Data from the 2000 Medicare Current Beneficiary Survey were used to assess the impact of drug coverage on COX-2 inhibitor use among elderly people with osteoarthritis, taking into account risk for adverse gastrointestinal events.

Outcome

16% had an under-supply and 47% had an over-supply of medications. Both over-and under-supply resulted in an increased chance of emergency room visits and hospital admission.

Women with high income, private insurance, and women aged 36-45 were more likely to undergo colposcopic biopsy for follow-up of ASCUS. In a multivariate model, women with income greater than approximately \$47,000 had an 8.5 times higher odds of follow-up by colposcopic biopsy than women with income less than approximately \$25,000. Women with private insurance had 2.8 times higher odds of follow-up by colposcopic biopsy than women with Medicaid. Women ages 36-45 had 3.1 times greater odds of follow-up by colposcopic biopsy than women older than 55.

Among patients with the most generous coverage, gastrointestinal risk had no independent effect on whether patients were prescribed this class of medications. Drug usage was higher in Medicare beneficiaries with coverage compared with no coverage. COX-2 use was twice as high in those with the most generous coverage compared with no third-party coverage. Among patients with the most generous coverage, patients with increased gastrointestinal risk are no more likely to be prescribed COX-2 inhibitors.

Overuse

Study

Outcome

Acetaminophen Overuse In The Ohio Medicaid Population

Heaton, P.C., Cluxton, Jr., R.J., Moomaw, C.J.; 2003; J Am Pharm Assoc (Wash DC)

This was a retrospective review of Ohio Medicaid claims data to examine potential acetaminophen overuse in patients with and without risk factors for hepatotoxicity.

A relatively small, but significant, number of patients were prescribed doses of acetaminophen that were too high. 3% of patients were prescribed an average dose of acetaminophen greater than or equal to 4g/day or greater than or equal to 3g/day with an ICD-9 code suggesting liver dysfunction.

Preventable Hospitalization Among Elderly Medicare Beneficiaries With Type 2 Diabetes

Niefeld, M.R., Braunstein, J.B., Wu, A.W., Saudek, C.D., Weller, W.E., Anderson, G.F.; 2003; Diabetes Care

This study reviewed 1999 Medicare claims data to identify hospitalizations for diagnoses that could have been prevented with appropriate ambulatory care and associating them with comorbid conditions in this type 2 diabetic senior cohort.

7% of all hospitalizations in this cohort were avoidable.

Prevalence And Correlates Of Potentially Inappropriate Prescribing Among Ambulatory Older Patients In The Year 2001: Comparison Of Three Explicit Criteria

Viswanathan, H., Bharmal, M., Thomas, III, J.; 2005; Clin Ther

This study analyzed 7,243 visits by elderly ambulatory patients in the National Ambulatory Medical Care Survey (NAMCS) in order to determine the prevalence of prescribing potentially inappropriate medications (PIMs) based on the 2002 Beers criteria, and identify factors associated with receiving a PIM.

13.4% of patient visits involved PIMs based on the 2002 Beers criteria (and 4.2% visits involved PIMs based on the Zhan criteria). Factors associated with receiving a PIM included: a visit occurring in a metropolitan area, and a visit receiving higher number of medications during a single visit.

Overuse

Study

Outcome

Nonurgent Pediatric Emergency Department Visits: Care-Seeking Behavior And Parental Knowledge Of Insurance

Doobinin, K.A.,Heidt-Davis, P.E., Gross, T.K., Isaacman, D.J.; 2003; *Pediatr Emerg Care*

This study surveyed 251 parents of children attending a pediatric emergency department (ED) in order to: determine factors associated with utilization of emergency services for nonurgent illnesses by insured children, assess parental knowledge of their insurance, and assess if that knowledge influenced care-seeking behaviors.

The primary reason chosen by the parent for the ED visit was convenience (62.8% of cases). 38.7% stated that they were educated as to what problems are considered emergencies by their insurance. ED referrals for nonurgent complaints are required by the insurance carrier for 74.9%, but only 37.2% of the parents said referrals were necessary.

Income, Race, And Preventable Hospitalizations: A Small Area Analysis In New Jersey

Cable, G.; 2002; *J Health Care Poor Underserved*

This study reviewed hospital discharge data from 53 contiguous zip codes in New Jersey to examine the effect of income, race, and cultural factors on preventable hospitalizations in New Jersey from 1993 to 1995.

High rates of preventable hospitalizations were associated with low income and race.

Factors Related To Potentially Preventable Hospitalizations Among The Elderly

Culler, S.D., Parchman, M.L., Przybylski, M.; 1998; *Med Care*

This study examined inpatient claims data from Medicare beneficiaries in order to examine what factors are associated with having a hospitalization due to an ambulatory care-sensitive condition.

Higher odds of preventable hospitalizations were associated with being older, black, living in a metropolitan or a rural area, assessing oneself as having poor status, or having certain diseases such as diabetes. Factors associated with lower odds included: having attended college, or having only Medicare insurance coverage.

Overuse

Study

Outcome

Pap Screening In A U.S. Health Plan
Insinga, R.P., Glass, A.G., Rush, B.B.; 2004; Cancer Epidemiol Biomarkers Prev

This study analyzed claims data from 150,052 female members of Kaiser Permanente Northwest to estimate compliance with U. S. Preventive Services Task Force guidelines for cervical cancer screening.

Of the enrolled women, 31% received a Pap smear in 1998. The highest utilization rates were among 25-29 year olds, of whom 62% received a Pap smear in 1998. Rates declined with increasing age: 26% of 65-69 year old women received a Pap smear in 1998. Of women who were routinely screened during the follow-up period, 36% received annual smears, 22% received biennial smears, and 13% received triennial smears. This study, using administrative data, found lower utilization rates than similar studies using self-report.

Inappropriate Prescribing For Elderly Outpatients
Aparasu, R.R., Sitzman, S.J.; 1999; Am J Health Syst Pharm

This study extracted data from the 1994 National Hospital Ambulatory Medical Care Survey (NHAMCS) to determine: (1) the frequency of potentially inappropriate prescribing for elderly outpatients; and (2) factors predicting inappropriate prescribing.

Potentially inappropriate medications were prescribed at 4.45% of elderly outpatient visits involving medications. Patients were more likely to be given potentially inappropriate medications if they had been referred; had a number of medications prescribed; had a prescription for certain types of medications; or had a medication prescribed by a provider from a nonmetropolitan area.

Nosocomial Infections In The ICU: The Growing Importance Of Antibiotic Resistant Pathogens
Weber, D.J., Raasch, R., Rutala, W.A.; 1999; Chest

This article reviews the literature concerning nosocomial infections in intensive care units.

Studies have shown that patients infected with resistant strains of bacteria are more likely than control patients to have previously received antimicrobials, and hospital areas that have the highest prevalence of resistance also have the highest rates of antibiotic use. Additional interventions include hand washing and surveillance protocols, isolation measures, and occupational health services for employees.

Overuse

Study

Outcome

Inappropriate Medication Prescribing In Homebound Older Adults

Golden, A.G., Preston, R.A., Barnett, S.D., Llorente, M., Hamdan, K., Silverman, M.A.; 1999; J Am Geriatr Soc

This study extracted data from records of 2,193 elderly patients in a managed care plan who were homebound and met nursing home eligibility. The objective of the study was to report on the prevalence and pattern of inappropriate medications in this population.

9.9% of prescriptions were inappropriate. 39.7% of the residents had at least one inappropriate prescription. Inappropriate drugs included: temazepam and zoldipem.

A Controlled Trial Of Arthroscopic Surgery For Osteoarthritis Of The Knee

Moseley, J.B., O'Malley, K., Petersen, N.J., Menke, T.J., Brody, B.A., Kuykendall, D.H., Hollingsworth, J.C., Ashton, C.M., Wray, N.P.; 2002; N Engl J Med

This prospective randomized trial studied 180 patients with osteoarthritis of the knee to determine whether arthroscopic knee lavage and debridement resulted in greater symptomatic relief than a sham procedure.

Arthroscopic lavage or debridement was no more effective than a placebo procedure on pain or function. At 1- and 2-year follow-up, mean pain scale scores were not significantly different in the three groups.

Overuse

Study

Outcome

Patterns And Correlates Of Local Therapy For Women With Ductal Carcinoma-In-Situ

Katz, S.J., Lantz, P.M., Janz, N.K., Fagerlin, A., Schwartz, K., Liu, L., Deapen, D., Salem, B., Lakhani, I., Morrow, M.; 2005; J Clin Oncol

This study interviewed 659 patients with Ductal Carcinoma In-Situ (DCIS) in Detroit and Los Angeles in order to determine if rates of mastectomy and radiation therapy are due to overuse or underuse of these treatments, or if they are due to patient preferences and physician recommendations.

Only 14% of patients at lowest risk of recurrence received a mastectomy compared with 22.8% and 52.6% of patients at intermediate and highest risk. Between-site differences in receipt of radiation after breast conserving surgery (BCS) were consistent with patient recall of surgeon discussions about treatment.

Consequences Of Underuse Of Generic Drugs: Evidence From Medicaid And Implications For Prescription Drug Benefit Plans

Fischer, M.A., Avorn, J.; Economic 2003; Health Serv Res

This study used 2000 state-level Medicaid data to estimate the rate of underuse of generic drugs and calculate potential cost savings.

In 2000, Medicaid could have saved between \$229 and \$450 million dollars if generic drugs were used instead of the brand-name versions of the same agents. The majority of the unrealized savings were concentrated in a small group of medications, including clozapine, alprazolam, and levothyroxine.

Support Of Evidence Based Guidelines For The Annual Physical Examination: A Survey Of Primary Care Providers

Prochazka, A.V., Lundahl, K., Pearson, W., Oboler, S.K., Anderson, R.J.; 2005; Arch Intern Med

This study used a mailed survey to assess the attitudes of 783 primary care physicians regarding annual physical exams.

Despite evidence to the contrary, 65% felt that an annual exam was necessary, 55% disagreed with evidence that exams were unnecessary, and 88% perform annual exams and screenings, including CBC, UA, lipid panel, glucose, and mammography.

Overuse

Study

Outcome

Distributional Issues In The Analysis Of Preventable Hospitalizations
DeLia, D.; 2003; Health Serv Res

ACS admissions are geographically concentrated and have increased to 12.2% of all admissions.

This study used New York State hospital discharge data to describe patterns in the rates of ambulatory care sensitive (ACS) admissions and preventable hospitalizations.

Utilization Management And Noninvasive Diagnostic Imaging
Weiner, S.N., Komarow, M.; 2005; Manag Care Interface

Utilization rates for nuclear imaging were 2-3 times higher in unmanaged plans. PET rates were comparable, and computed tomography (CT) rates 30% higher in unmanaged plans. Utilization Management consisted of both review and facility credentialing.

This study compared imaging rates between 2 plans that adopted proprietary imaging management systems and 2 unmanaged plans in the same geographic area.

Safety And Cost-Effectiveness Of Early Discharge After Primary Angioplasty In Low-Risk Patients With Acute Myocardial Infarction. PAMI-II Investigators. Primary Angioplasty In Myocardial Infarction
Grines, C.L., Marsalese, D.L., Brodie, B., Griffin, J., Donohue, B., Costantini, C.R., Balestrini, C., Stone, G., Wharton, T., Esente, P., Spain, M., Moses, J., Nobuyoshi, M., Ayres, M., Jones, D., Mason, D., Sachs, D., Grines, L.L., O'Neill, W.; 1998; Journal of the American College of Cardiology

Low-risk patients treated with PTCA randomized to an accelerated hospital course did not have inferior outcomes to those treated traditionally. The accelerated approach reduced hospital costs by \$2,000 per patient.

This prospective RCT study conducted in 34 centers evaluated the hypothesis that primary Percutaneous Transluminal Coronary Angioplasty (PTCA), with subsequent discharge from the hospital 3 days later, is safe and cost-effective in low-risk patients.

Overuse

Study

The Cost-Effective Use Of Nebulized Racemic Epinephrine In The Treatment Of Croup
Thomas, L.P., Friedland, L.R.; 1998; Am J Emerg Med

This study used a survey of emergency department (ED) medical directors in Kentucky, Indiana, and Ohio to examine whether ED medical directors are adhering to guidelines which demonstrate that, under specific circumstances, it is safe to discharge to home many patients presenting with croup.

Calling Acute Bronchitis A Chest Cold May Improve Patient Satisfaction With Appropriate Antibiotic Use
Phillips, T.G., Hickner, J.; 2005; J Am Board Fam Pract

459 people were given a written scenario describing a typical acute respiratory infection where they were given 1 of 3 different diagnostic labels: chest cold, viral upper respiratory infection, or bronchitis, followed by a treatment plan that excluded antibiotic treatment. Satisfaction levels were analyzed.

Use And Costs Of Nonrecommended Tests During Routine Preventive Health Exams
Merenstein, D., Daumit, G.L., Powe, N.R.; 2006; Am J Prev Med

This study compared data from 1997 to 2002 National Ambulatory Medical Care Survey (NAMCS) to U.S. Preventive Services Task Force (USPSTF) recommendations to estimate the frequency and associated costs of nonrecommended tests during routine preventive health exams from 1997 to 2002.

Outcome

Several ED medical directors (7/23, 30%) responded that they would automatically admit a child with croup despite recent studies suggesting safe discharge to home is possible.

26% of those that were told they had bronchitis were dissatisfied with their treatment, compared with 13% and 17% for colds and viral illness, respectively. Educational attainment, age, and gender did not affect satisfaction rates.

Tests for which there is no documented evidence were routinely ordered during annual preventive health exams (43% of the time). The frequency of ordering specific tests ranged from 7% to 37% of visits for x-rays and urinalysis, respectively.

Overuse

Study

Cervical Cancer Screening Among Women Without A Cervix

Sirovich, B.E., Welch, H.G.; 2004; JAMA

This study used behavioral risk factor surveillance system (BRFSS) and national immunization survey (NIS) data to estimate the number of women with a history of hysterectomy who reported a current Pap smear.

Outcome

The proportion of women who had undergone a hysterectomy and reported a Pap smear in the prior 3 years did not change over the course of the study. In both 1992 (before the U.S. Preventive Services Task Force recommendation) and 2002 (after the recommendation), approximately 69% of hysterectomized women reported having undergone a recent Pap smear. The authors estimate that 10 million women, or half of all women who have undergone hysterectomy, are receiving Pap smears unnecessarily.

Excessive Antibiotic Use For Acute Respiratory Infections In The United States

Gonzales, R., Malone, D.C., Maselli, J.H., Sande, M.A.; 2001; Clin Infect Dis

This study used data from the 1998 National Ambulatory Medical Care Survey (NAMCS) to estimate primary care office visits and antibiotic prescription rates for acute respiratory infections.

In 1998, antibiotic prescriptions in excess of expectations amounted to 55% of all antibiotics prescribed for acute respiratory infections. Associated costs of this unnecessary prescription totaled approximately \$726 million.

Trends In Antimicrobial Prescribing Rates For Children And Adolescents

McCaig, L.F., Besser, R.E., Hughes, J.M.; 2002; JAMA

This study used physician provided National Ambulatory Medical Care Survey (NAMCS) data to assess antibiotic prescribing rates for respiratory infections in children < age 15.

Although the average annual rate of antibiotic prescription for children and adolescents decreased from 838 per 1,000 in 1989 to 503 per 1,000 in 1999, the authors conclude that it is important to continue efforts to improve appropriate antimicrobial prescribing.

Overuse

Study

Outcome

Desire For Antibiotics And Antibiotic Prescribing For Adults With Upper Respiratory Tract Infections

Linder, J.A., Singer, D.E.; 2003; J Gen Intern Med

This is a prospective cohort study in adults with upper respiratory tract infections. The study sought to: (1) determine what proportion of patients wanted antibiotics, and (2) identify factors associated with wanting antibiotics and antibiotic prescribing.

39% of adults seeking care for upper respiratory tract infections wanted antibiotics, which is less than in previous studies. Predictors of wanting antibiotics were prior antibiotic use and current smoking. Wanting antibiotics was an independent predictor of antibiotic prescribing.

A Prospective Study Of Reasons For Prolonged Hospitalizations On A General Medicine Teaching Service

Carey, M.R., Sheth, H., Braithwaite, R.S.; 2005; J Gen Intern Med

This study collected data from 16 senior residents at a tertiary care, university-affiliated teaching hospital in order to quantify and characterize delays in care which prolong hospitalizations for general medicine inpatients.

13.5% of all hospital days were judged unnecessary for acute inpatient care and occurred because of delays in needed services. The majority of nonmedical service delays were due to difficulty finding a bed in a skilled nursing facility. Medical service delays were more common on weekend days.

The Impact Of Empirical Management Of Acute Cystitis On Unnecessary Antibiotic Use

McIsaac, W.J., Low, D.E., Biringer, A., Pimlott, N., Evans, M., Glazier, R.; 2002; Arch Intern Med

This study evaluated the appropriateness of empiric antibiotic use in a cohort of 231 women presenting to family physicians with symptoms of cystitis.

Empiric antibiotic use without testing for nitrites and pyuria increases antibiotic usage 41%.

Overuse

Study

Outcome

Antibiotic Use For Upper Respiratory Tract Infections: How Well Do Pediatric Residents Do?

Nambiar, S., Schwartz, R.H., Sheridan, M.J.; 2002; Arch Pediatr Adolesc Med

This study surveyed residents in pediatrics about their familiarity with guidelines to avoid the unnecessary use of antibiotics in upper respiratory infection (URI).

Residents' knowledge of the guidelines increased with level of training, from 16% (first year) to 36% (second year) to 50% (third/fourth year).

Acute Care And Antibiotic Seeking For Upper Respiratory Tract Infections For Children In Day Care

Friedman, J.F., Lee, G.M., Kleinman, K.P., Finkelstein, J.A.; 2003; Arch Pediatr Adolesc Med

This study surveyed 211 parents of children attending day care in 36 Massachusetts centers, and day care staff, to determine both parental and day care level predictors of acute care and antibiotic seeking for upper respiratory infections (URIs).

Staff does not influence parental care seeking.

Does Reimbursement Influence Chemotherapy Treatment For Cancer Patients?

Jacobson, M., O'Malley, A.J., Earle, C.C., Pakes, J., Gaccione, P., Newhouse, J.P.; 2006; Health Aff (Millwood)

This study sought to determine if physician reimbursement rates for chemotherapy drugs affected the frequency of using chemotherapy in metastatic cancer patients during 1995 and 1998.

A physician's decision to administer chemotherapy to metastatic cancer patients was not measurably affected by higher reimbursement. Providers who were more generously reimbursed, however, prescribed more costly chemotherapy regimens to metastatic breast, colorectal, and lung cancer patients.

Overuse

Study

Outcome

Trends In Antibiotic Prescribing For Adults In The United States—1995 To 2002

Roumie, C.L., Halasa, N.B., Grijalva, C.G., Edwards, K.M., Zhu, Y., Dittus, R.S., Griffin, M.R.; 2005; J Gen Intern Med

This study used data from the National Ambulatory Medical Care Survey (NAMCS) to estimate the impact of efforts to limit antibiotic prescribing in adults.

From 1996 to 2002, the percentage of out-patient visits resulting in an antibiotic prescription decreased from 18% to 15%. The reduction was completely attributable to a decrease in antibiotic prescription for acute respiratory infections (ARIs). However, the percentage of broad-spectrum antibiotics prescribed for ARIs increased from 41% to 77%.

Measuring The Quality Of Care For Group A Streptococcal Pharyngitis In 5 US Health Plans

Mangione-Smith, R. Elliott, M.N. Wong, L., McDonald, L., Roski, J.; 2005; Arch Pediatr Adolesc Med

This study used claims data from 5 health plans to estimate the rate of Group A Streptococcal (GAS) testing in children with a diagnosis of pharyngitis who are prescribed antibiotics.

There is substantial variability in GAS testing rates between health plans. Overall, the rate of GAS testing was 74%, but ranged from 59% to 83% among the 5 health plans studied. Rates of antibiotic prescription also varied tremendously by health plan, ranging from 9% to 61%.

More May Be Better: Evidence Of A Negative Relationship Between Physician Supply And Hospitalization For Ambulatory Care Sensitive Conditions

Laditka, J.N., Laditka, S.B., Probst, J.C.; 2005; Health Serv Res

This study analyzed data from 642 urban counties and 306 rural counties to determine the relationship between physician supply and ambulatory care sensitive conditions (ACSH). ACSHs are also called “potentially preventable hospitalizations” and are an indicator of accessibility and effectiveness of primary health care.

In urban settings, increased physician supply was associated with lower rates of potentially preventable hospitalizations. In rural areas, there was no association between physician supply and potentially preventable hospitalizations.

Overuse

Study

Outcome

Is Routine Postoperative Chest Radiography Needed After Open Nephrectomy?

Latchamsetty, K.C., La Rochelle, J.C., Hoeksema, J., Coogan, C.L.; 2005;
Urology

This study examined 150 retrospective cases of open nephrectomy at 1 institution in order to determine if routine postoperative chest X-ray is required after open nephrectomy for the detection and management of a pneumothorax.

Of the 150 patients undergoing nephrectomy, 92 (61%) underwent postoperative CXR, and 4 of these had a pneumothorax. Only 1 of these 4 needed a chest tube.

The Value Of Clinical Examination Versus Magnetic Resonance Imaging In The Diagnosis Of Meniscal Tears And Anterior Cruciate Ligament Rupture

Kocabey, Y., Tetik, O., Isbell, W.M., Atay, O.A., Johnson, D.L.; 2004;
Arthroscopy

This study examined 50 patients in 1 orthopedic practice in order to compare the accuracy of clinical examination versus magnetic resonance imaging (MRI) in diagnosing meniscal and ACL (anterior cruciate ligament) pathology.

There was no statistical difference between MRI and clinical examination in diagnosing meniscal or anterior cruciate ligament injuries suggesting overuse of MRI.

Magnetic Resonance Imaging Is Not Needed To Clear Cervical Spines In Blunt Trauma Patients With Normal Computed Tomographic Results And No Motor Deficits

Schuster, R., Waxman, K., Sanchez, B., Becerra, S., Chung, R., Conner, S., Jones, T.; 2005; Arch Surg

This study reports results from 93 patients with negative computed tomography (CT) scans who were also examined by magnetic resonance imaging (MRI), in order to try to determine if MRI testing was necessary.

Out of the 93 patients with no motor deficits, a negative CT, and persistent cervical pain, none had evidence of fracture on MRI.

Overuse

Study

Health Insurance, Neighborhood Income, And Emergency Department Usage By Utah Children 1996-1998

Suruda, A., Burns, T.J., Knight, S., Dean, J.M.; 2005; BMC Health Serv Res

This study used ED discharge data reported in Utah to examine income, health insurance status, types of medical conditions, and whether introduction of managed care affected utilization by Medicaid children.

Radiologic Tests After A New Diagnosis Of Cancer

Dillman, R.O., Chico, S.; 2000; Eff Clin Pract

In this study, records of newly diagnosed breast cancer patients were retrospectively reviewed to determine the frequency with which radiologic tests are used in women with newly diagnosed breast cancer and the yield of such tests in these patients.

Analysis Of Medication Use Patterns: Apparent Overuse Of Antibiotics And Underuse Of Prescription Drugs For Asthma, Depression And CHF

Gilberg, K.; 2003; J Manag Care Pharm

This study used claims data from 3 California Managed Care Organizations (MCOs) to assess the appropriateness of prescription medication use based upon guidelines for various conditions.

Outcome

The majority of usage for Medicaid and uninsured children (65%) was for non-traumatic conditions. Children with Medicaid had approximately 50% greater ED utilization rates than children with commercial health insurance or uninsured children.

A total of 1,910 radiologic tests, including 646 bone scans, 637 chest radiographs, and 627 other tests, were obtained in 1,167 patients with a known TN status. Radiologic tests were performed in 42% of patients with carcinoma in situ, but none of the 183 tests detected metastases. 828 radiologic tests were performed in patients who were classified as having stage I disease on the basis of TN criteria. Only 3 of these tests (0.4%) detected metastatic disease, and all 3 were performed in 1 patient with bone pain. For patients, who were classified as having stage IIA, stage IIB, or stage III disease on the basis of TN criteria, 5 of 410 tests (1.2%), 20 of 294 tests (6.8%), and 33 of 195 tests (17%), respectively, yielded positive results.

Of patients with cold or upper respiratory infection (URIs), conditions for which antibiotics are not indicated, 35.7% received antibiotics.

Overuse

Study

The Cost Of Antibiotics In Treating Upper Respiratory Tract Infections In A Medicaid Population

Mainous, A.G., III Hueston, W.J.; 1998; Arch Fam Med

This study examined Kentucky Medicaid claims in order to examine the use and cost of the nonindicated antibiotics for upper respiratory tract infections (URIs).

Outcome

60% of outpatient episodes and 48% of emergency department episodes resulted in an antibiotic prescription being filled. In outpatient settings, secondary diagnoses of either otitis media or acute sinusitis accounted for less than 6% of the episodes that resulted in an antibiotic prescription being filled. The most frequently filled antibiotic was amoxicillin, although second- and third-generation cephalosporins were the second most frequently occurring antibiotic class. 23% and 9% of outpatient emergency department episodes, respectively, resulted in a prescription filled for antihistamines. In outpatient episodes, antibiotics account for 23% of the total cost of care or \$9.91 for each episode of care. In emergency department visits, antibiotics account for 8% of the cost of URIs. An estimate of the cost of antibiotics for URIs in a year for the Kentucky Medicaid program is \$1.62 million.

Prescribing Potentially Inappropriate Psychotropic Medications To The Ambulatory Elderly

Mort, J.R., Aparasu, R.R.; 2000; Arch Intern Med

This study analyzed public use files from the 1996 National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) for inappropriate prescription of psychotropic medications for the elderly in office-based settings and outpatient departments.

Potentially inappropriate psychotropic agents were overused (27.2% of visits involving psychotropics).

Overuse

Study

Outcome

Resource Utilization Of Patients With Hypochondriacal Health Anxiety And Somatization

Barsky, A.J., Ettner, S.L., Horsky, J., Bates, D.W.; 2001; Med Care

876 patients attending an academic primary care clinic were randomly selected to complete surveys designed to examine the resource utilization of patients with high levels of somatization and health-related anxiety.

Patients with healthcare-related anxiety use more services than those without it. The study found that patients with hypochondria or somatization have more outpatient visits (approximately 9 vs. 6), more outpatient costs (approximately \$1,300 vs. \$950), and greater likelihood of hospitalization (24% vs. 17%) than others.

Overutilization Of Shoulder Magnetic Resonance Imaging As A Diagnostic Screening Tool In Patients With Chronic Shoulder Pain

Bradley, M.P., Tung, G., Green, A.; 2005; J Shoulder Elbow Surg

This study examined 101 patients with chronic shoulder pain to see if magnetic resonance imaging (MRI) done before being evaluated by a shoulder specialist improved outcomes.

The study concludes that MRI is overused, based on two main outcomes: (1) There were no differences (in age, sex, insurance status, range of motion, or mechanism of injury) among patients who received a pre-evaluation MRI and those who did not. (2) There was no difference in outcomes between patients who did or did not have a pre-evaluation MRI. The first outcome could imply that there are no consistent criteria that doctors use to decide which patients should get a “pre-evaluation MRI” before being referred to a shoulder specialist.

Musculoskeletal Imaging In Physical Therapist Practice

Deyle, Gail; 2005; J Orthop Sports Phys Ther

This article reviews literature pertinent to evidence-based use of diagnostic imaging and overuse of imaging for musculoskeletal conditions.

This paper suggests that physical therapists use 50% less imaging than physicians in low-back-pain patients.

Overuse

Study

Outcome

Current Antibiotic Therapy For Isolated Urinary Tract Infections In Women

Kallen, A.J, Welch, H.G, Sirovich, B.E.; 2006; Arch Intern Med

This study used data from 2000-2002 National Hospital Ambulatory Medical Care Survey (NHAMCS) to estimate the rate of antibiotic prescribing for women with isolated uncomplicated urinary tract infections (UTIs).

The study found that quinolones were prescribed more commonly than sulfa drugs for isolated outpatient UTIs, despite recommended guidelines. The former were prescribed for 44% of UTIs compared with 30% for the latter, and nitrofurantoin for 18%. There were few significant predictors of quinolone use, and more frequent quinolone prescription (e.g., in the Northeast) did not reflect geographically higher rates of sulfa-resistant organisms.

Unnecessary Cesarean Delivery In Louisiana: An Analysis Of Birth Certificate Data

Kabir, A.A., Steinmann, W.C., Myers, L., Khan, M.M., Herrera, E.A., Yu, S. Jooma, N.; 2004; Am J Obstet Gynecol

This study used the Louisiana birth certificate database to determine temporal trends and factors that are associated with Cesarean deliveries and potentially unnecessary Cesarean deliveries.

The average potentially unnecessary primary and repeat Cesarean deliveries were 17 and 43, respectively, per 100 cesarean deliveries. The primary Cesarean delivery rate decreased and the repeat Cesarean delivery rate increased during the study. But neither the absence nor the presence of potential risk factors accounted for these changes.

Geographic Variation In Preventable Hospitalizations Of Older Women And Men: Implications For Access To Primary Health Care

Laditka, S.B. Laditka, J.N.; 1999; J Women Aging

This study reviewed hospital discharge data in five upstate New York counties to demonstrate how readily available data and small area analysis can be used to identify potential problems of access to primary care services for older women and men.

Using hospital discharge data, 5 county and 24 intracounty areas in Upstate New York are studied. There is significant variation in preventable hospitalization within counties. Areas having significantly higher rates of these hospitalizations tend to have higher rates for both women and men. Problems of access are associated with lower income areas for women and men.

Overuse

Study

Outcome

Estimating The Proportion Of Unnecessary Cesarean Sections In Ohio Using Birth Certificate Data

Koroukian, S.M., Trisel, B., Rimm, A.A.; 1998; J Clin Epidemiol

This study examined data from 262,013 patients in databases of Ohio birth certificates and Medicaid eligibility files in order to validate a method that can be used to estimate the proportion of unnecessary Cesarean sections.

Using the authors' methods, nearly 40% of repeat C-sections had no documented abnormalities on the birth certificate to justify a C-section.

Association Between Antibiotic Prescribing And Visit Duration In Adults With Upper Respiratory Tract Infections

Linder, J.A., Singer, D.E., Stafford, R.S.; 2003; Clin Ther

3,764 patient visits from the National Ambulatory Medical Care Survey (NAMCS) database were analyzed to determine the association between antibiotic prescribing and visit duration in adults with upper respiratory tract infections.

Antibiotic use was marginally associated with a shorter visit duration (0.7 minutes shorter).

Does Litigation Influence Medical Practice? The Influence Of Community Radiologists' Medical Malpractice Perceptions And Experience On Screening Mammography

Elmore, J.G. Taplin, S.H., Barlow, W.E., Cutter, G.R., D'Orsi, C.J., Hendrick, R.E., Abraham, L.A., Fosse, J.S., Carney, P.A.; 2005; Radiology

This study surveyed radiologists who interpret mammograms to determine whether the higher rate of repeat mammography and breast biopsy by U.S. radiologists relates to perceptions of, and experience with, malpractice claims for failing to identify breast cancer by mammography.

There was no correlation between concern about or experience of malpractice and higher rates of re-examination; however more than half of the radiologists (59%) reported that concerns about malpractice claims increased their rate of recommendation for breast biopsies, and 76% expressed concern about the impact of malpractice on mammography practice. About one-third were considering withdrawing from interpretation of mammograms.

Overuse

Study

Outcome

How Are Age And Payors Related To Avoidable Hospitalization Conditions?

Guo, L., MacDowell, M., Levin, L., Hornung, R.W., Linn, S.; 2001; Manag Care Q

This study used hospital discharge data collected in Cincinnati Ohio to investigate how age and payor types were related to the rates of avoidable hospital conditions.

This study demonstrates that age and age/gender adjustments for AHC are needed for privately insured and Medicare patients while additional adjustment for community characteristics is needed for Medicaid and self-pay patients.

Whither The Almshouse? Overutilization And The Role Of The Emergency Department

Malone, Ruth E.; 1998; J Health Polit Policy Law

Interviews with frequent emergency department (ED) patients (i.e., those with more than four visits per year) and ED staff were used at 2 urban hospitals to determine what factors (traditional, medical and social) were related to their frequent ED visits.

70% of heavy ED users were either homeless or sufficiently poor or disabled to qualify for government assistance.

Antimicrobial Resistance Among Pediatric Respiratory Tract Infections: Clinical Challenges

Jacobs, M.R., Dagan, R.; Antimicrobial; 2004; Semin Pediatr Infect Dis

This study reviews the literature pertinent to the development of antibiotic resistance among upper respiratory infection (URI) pathogens and discusses both the overuse of antibiotics and the inadequate dosing of antibiotics.

The challenge for rational antibiotic use is to determine which patients can be treated conservatively and which require antimicrobial intervention. Different antibiotics are discussed. The pneumococcal vaccine introduced in 2000 has not had a major impact on decreasing antimicrobial resistance.

Overuse

Study

Outcome

Triage Services: A Profile Of High Utilization
Berg-Weger, M., Gockel, J. Rubio, D.M., Douglas, R.; 1998; Soc Work Health Care

This study examined the utilization patterns of 189 veterans in order to identify factors that are related to high utilization rates of ambulatory care triage clinic services.

Factors associated with high utilization of ambulatory care triage clinic services include: patient perception of health status; number of prescription medications; and social needs.

Effect Of Managed Care Enrollment On Primary And Repeat Cesarean Rates Among U.S. Department Of Defense Health Care Beneficiaries In Military And Civilian Hospitals Worldwide, 1999-2002
Linton, A., Peterson, M.R.; 2004; Birth

This study used Department of Defense (DOD) hospital records for 365,648 singleton deliveries to assess the impact of enrollment in TRICARE prime, the department's managed care plan, on C-section rates. Rates among TRICARE Prime beneficiaries were compared to those for non-Prime beneficiaries.

The study found that primary C-section rates were significantly lower for TRICARE Prime enrollees when compared to non-TRICARE Prime enrollees. No significant differences in repeat C-section rates were found. Primary and repeat C-section rates were lower in military hospitals than in civilian hospitals. The study suggests that to lower C-section rates (which should decrease morbidity and decrease costs) we need to understand better why different health care plans have different C-section rates. Patients under the TRICARE Prime health plan had lower primary C-section rates, but it is not clearly understood why.

Antibiotic Prescribing Rates In The US Ambulatory Care Setting For Patients Diagnosed With Influenza, 1997-2001
Ciesla, G., Leader, S., Stoddard, J.; 2004; Respir Med

This study used National Ambulatory Medical Care Survey (NAMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) data to document the rate and cost of antibiotic prescribing to patients diagnosed with uncomplicated influenza at ambulatory care visits from 1997-2001.

Antibiotic prescribing for influenza is widespread; 38% of visits where the diagnosis of influenza was made led to an antibiotic prescription of which one-third were for broad spectrum antibiotics. Inappropriate antibiotics cost \$18.5 million annually and may contribute to resistance.

Overuse

Study

Outcome

Regional Air Transport Of Burn Patients: A Case For Telemedicine?

Saffle, J.R., Edelman, L., Morris, S.E.; 2004; J Trauma

225 cases of patients transported by air for burn injuries were reviewed to determine if telemedicine could have been used to assist in evaluation and treatment of burn patients.

In 92 out of 225 cases, overestimation or underestimation of burn size by referring physicians or performance of endotracheal incubation suggested that telemedicine evaluation before transport might have significantly altered transport decisions or care.

Improving Quality Through Identifying Inappropriate Care: The Use Of Guideline-Based Utilization Review Protocols In The Washington State Workers' Compensation System

Wickizer, T.M., Franklin, G., Gluck, J.V., Fulton-Kehoe, D.; 2004; J Occup Environ Med

This study examined patterns of denied requests through an analysis of the 100,005 utilization reviews that were done between 1993 and 1998 by the workers' compensation program of the Washington State Department of Labor and Industries.

The authors conclude that their program shows that "guideline-based utilization review protocols" can be used to identify inappropriate care, and improve quality. When "guideline-based review criteria" were used during a utilization review, denial rates were 7.9%. When "proprietary review criteria" were used, denial rates were 4.9%. When "other criteria" were used, denial rates were 1.8%.

The Effects Of Preferred Provider Organizations On Cost And Utilization Of Hysterectomies

Currier, C.A., Smith, D.G., Wheeler, J.R., Hirth, R.A., Walker, D.S.; 2004; Nurs Econ

This study used claims data to compare hysterectomy rates for beneficiaries of employer sponsored PPO and indemnity plans between 1988 and 1990.

Utilization rates among PPO participants were lower for TAH and (12% lower) for vaginal hysterectomy, suggesting overuse of these procedures in indemnity plan beneficiaries.

Overuse

Study

Outcome

Radiograph Use In Low Back Pain: A United States Emergency Department Database Analysis

Isaacs, D.M., Marinac, J., Sun, C.;
2004; J Emerg Med

A retrospective analysis of data from the National Hospital Ambulatory Medical Care Survey (NHAMCS) from 1998-2000 to determine what factors were associated with having an x-ray if a person presented to an emergency room for uncomplicated low back pain.

Based upon published guidelines, the study identified over 3 million patients with uncomplicated low back pain, of whom 17.8% received an unnecessary radiograph.

Evaluation And Treatment Of Acute Bronchitis At An Academic Teaching Clinic

Hall, K.K., Philbrick, J., Nadkarni, M.;
2003; Am J Med Sci

This study examined the medical records of 160 patients diagnosed with acute bronchitis to examine antibiotic prescribing patterns in a single university internal medicine clinic.

66% of patients diagnosed with bronchitis received an antibiotic. Increasing age, purulent cough, abnormal exam, and comorbidities were associated with higher likelihood of antibiotic use. Smoking, duration of symptoms, gender, and race did not predict antibiotic use.

Computed Tomography For Evaluation Of Mild To Moderate Pediatric Trauma: Are We Overusing It?

Jindal, A. Velmahos, G.C. Rofougaran, R.;
2001; World J Surg

A retrospective case control study that examined 102 cases of pediatric trauma to determine if children with mild to moderate trauma are evaluated by more computed tomography (CT) scans than adults with injuries of similar severity. To look at morbidity, mortality, and lengths of hospital and ICU stays, and to see if the number of CT scans was associated with outcomes.

Comparing pediatric and adult trauma patients the number of patients who needed CT scans were equal. More CT scans were done in pediatric patients, due to more pediatric patients receiving scans of multiple body areas. The higher number of CT scans did not improve outcomes since they did not identify more injuries, and did not decrease morbidity, mortality, length of hospital or length of ICU stay.

Overuse

Study

Overuse Of Acid-Suppressive Therapy In Hospitalized Patients

Nardino, R.J., Vender, R.J. Herbert, P.N.; 2000; Am J Gastroenterol

A chart review of 226 patients admitted to the general adult wards to determine the frequency of use and indications of acid-suppressive medications, and to determine if patients who were prescribed them for stress ulcer prophylaxis were also prescribed them on discharge.

Outcome

At this hospital, acid-suppressant medications were inappropriately used among outpatient adults and inpatients. The study found that among patients who entered the hospital already on acid-suppressant medications, 54% were deemed to be taking them unnecessarily. Among patients who began acid-suppressant medication during their hospitalization, 75% of these cases were deemed unnecessary. When these medications were started during a hospitalization, 55% of low-risk patients were discharged with a prescription for these medications.

Patient Characteristics And Patterns Of Use For Lumbar Patient Characteristics And Patterns Of Use For Lumbar Spine Radiographs: Results From The Veterans Health Study

Selim, A.J., Fincke, G., Ren, X.S. Deyo, R.A., Lee, A., Skinner, K., Kazis, L.; 2000; Spine

To identify patient characteristics that predict different patterns in the use of lumbar spine X-rays, a prospective cohort study over 12 months of 401 patients who present to Veterans Administration clinics for low-back pain.

Lumbar X-rays for low-back pain are overused in patients who scored worse on surveys of mental health. The study found that higher rates of new lumbar spine X-rays were associated with both physical exam and psychological factors. Higher rates of repeat lumbar spine X-rays were associated with worse mental health, but they were not associated with worse physical health. There was no association between patterns of X-ray use and the following factors: age, income, education, alcohol or drug use, or number of medical and mental conditions.

Overuse

Study

Outcome

Healthcare Utilization And Referral Patterns In The Initial Management Of New-Onset, Uncomplicated, Low Back Workers' Compensation Disability Claims

Tacci, J.A., Webster, B.S., Hashemi, L., Christiani, D.C.; 1998; J Occup Environ Med

To describe the utilization and physician-referral patterns for new-onset, uncomplicated low back pain, an analysis of 415 cases of low back pain from the workman's compensation claims data of an insurance company that operates in 44 states in the U.S.

The study found that urgent care and emergency rooms were used more than what is probably indicated: only 56% of patients saw their primary care physician first.

Specialist care was provided more commonly than would be expected: 36% were seen by specialists. Referral to specialists was made sooner than expected: the median for referrals was 13 days.

Regional Variation And Clinical Indicators Of Antipsychotic Use In Residential Treatment: A Four-State Comparison

Rawal, P.H., Lyons, J.S., MacIntyre, J.C., Hunter, J.C.; 2004; J Behav Health Serv Res

The medical records of pediatric residential treatment patients in 4 states were retrospectively reviewed to determine if regional variation exists in off-label prescription and what clinical factors predict use. The study used clinical and pharmacological data collected via retrospective chart reviews (N=732).

There was significant regional variation. Of the children taking antipsychotic medication, 42.9% had no history of or current psychosis.

Antibiotic-Seeking Behavior In College Students: What Do They Really Expect?

Haltiwanger, K.A. Hayden, G.F. Weber, T. Evans, B.A. Possner, A.B.; 2001; J Am Coll Health

129 university students with upper respiratory symptoms were evaluated to determine if receiving an antibiotic prescription influenced patients' satisfaction with visits to a clinician.

A clear diagnosis, an explanation of the rationale for treatment, and an antibiotic prescription were significantly associated with patient satisfaction. Clinicians prescribed an antibiotic for 36% of the students.

Overuse

Study

Outcome

Infantile Hypertrophic Pyloric Stenosis: Delays In Diagnosis And Overutilization Of Imaging Modalities

Abbas, A.E., Weiss, S.M., Alvear, D.T.; 1999; Am Surg

This study is a retrospective chart review of 93 patients with infantile hypertrophic pyloric stenosis (IHPS) to determine if unnecessary and redundant diagnostic studies were done and to propose an algorithm for the management of patients with suspected IHPS.

Many patients who had the diagnosis confirmed on physical exam underwent unnecessary studies. Unnecessary studies were associated with delay in diagnosis, and possibly with adverse health problems. The authors propose an algorithm to decrease this waste; if there is clinical suspicion of pyloric stenosis, the first step is prompt referral to a pediatric surgeon or an “experienced physician,” before doing testing which may be unnecessary.

Propensity Of HIV Patients To Seek Urgent And Emergent Care. HIV Cost And Services Utilization Study Consortium

Gifford, A.L., Collins, R., Timberlake, D., Schuster, M.A., Shapiro, M.F., Bozzette, S.A., Kanouse, D.E.; 2000; J Gen Intern Med

This study interviewed HIV-infected adults in order to determine if they said that they would be more likely to seek care in the the emergency department (ED) or with their primary care provider.

Many patients reported that they would use the Emergency Department (ED) instead of same-day primary care for several common symptoms of HIV disease. African Americans, the poor, and patients with psychological symptoms were more likely to say they would use the ED.

Medical-Resource Use For Suspected Tuberculosis In A New York City Hospital

Griffiths, R.I., Hyman, C.L., McFarlane, S.I., Saurina, G.R., Anderson, J.E., O'Brien, T., Popper, C., McGrath, M.M., Herbert, R.J., Sierra, M.F.; 1998; Infect Control Hosp Epidemiol

This study analyzed 151 adult admissions for suspected Tuberculosis (TB) at one New York hospital, in order to compare resource use by diagnostic outcome.

Admissions without culture-proven TB accounted for 36% of the days of TB isolation, and for 65% of the days of anti-TB treatment. The vast majority of resource consumption occurred during the diagnostic period before a definitive culture result was known.

Overuse

Study

Preventive Pharmacologic Therapy Among Asthmatics Five Years After Publication Of Guidelines

Jatulis, D.E., Meng, Y.Y., Elashoff, R.M., Schocket, A.L., Evans, R.M., Hasan, A.G., Legorreta, A.P.; 1998; Annals of Allergy, Asthma, & Immunology

This study used pharmacy and survey data for 7,423 asthmatic members of a California HMO to examine the use of routine anti-inflammatory steroids and bronchodilators.

Are We Ordering Too Many PSA Tests? Prostate Cancer Diagnosis And PSA Screening Patterns For A Single Veterans Affairs Medical Center

Richter, F., Dudley, A.W., Jr. Irwin, R.J., Jr. Sadeghi-Nejad, H.; 2001; J Cancer Educ

This study retrospectively reviewed computerized records of a Veterans Affairs Medical Center (VAMC) to estimate the appropriateness of Prostate-Specific Antigen (PSA) testing.

Analysis Of Chronic Emergency Department Use
Bond, T.K., Stearns, S., Peters, M.; 1999; Nurs Econ

This is a retrospective chart review to determine the relationship between acuity level of illness and type of insurance for patients who visit an emergency department (ED) in Northern VA more than 6 times a year. It was hypothesized that uninsured/public aid chronic ED users would have more visits for nonurgent needs.

Outcome

In contrast to the recommendations of the national guidelines, about half of moderate asthmatics and 40% of severe asthmatics did not fill any anti-inflammatory agents (AI) prescriptions. Approximately one-fourth of the asthmatics were relying on short-acting bronchodilators without AI-representing overutilization of symptom relief agents.

The study concludes that the findings raise the “possibility of indiscriminate PSA testing or unnecessary repetition of testing.” The study found that the number of cases of prostate cancer per PSA test performed decreased from 1.8% in 1997 to 0.8% in 1998. There was a significant increase in the number of PSA tests performed between 1997 (9,410 tests) and 1998 (23,684 tests).

62% of the visits were nonurgent, and the public aid/uninsured (or equivalent) patients were more likely to have nonurgent visits (70%). Looking at visits, a greater percentage of these visits were from public aid/uninsured (or equivalent) patients (61%), even though this group represented only 57.4% of patients. The study also found that the age group with the highest frequency of visits was the 24-64 year old patients, and that the peak visit period for these patients was between 0800 and 1600 and did not increase on weekends, leading the authors to conclude that these patients were not first seeking care elsewhere.

Overuse

Study

Outcome

The Financial Burden Of Emergency Department Congestion And Hospital Crowding For Chest Pain Patients Awaiting Admission
Bayley, M.D., Schwartz, J.S., Shofer, F.S., Weiner, M., Sites, F.D., Traber, K.B., Hollander, J.E.; 2005; Ann Emerg Med

This study examined 904 emergency room ER visits for chest pain and admission to a telemetry bed in an urban university hospital. The purpose was to determine the additional cost of an extended emergency department (ED) stay while awaiting non-Intensive Care Unit (ICU), monitored (telemetry) beds.

Extended ED length of stay demonstrated no association with total hospital costs or revenues, or total hospital length of stay. However, patients awaiting telemetry beds prevented ER use for new patients, thereby causing a loss of potential revenue.

Managed Care And Preventable Hospitalization Among Medicaid Adults
Basu, J. Friedman, B., Burstin, H.; 2004; Health Serv Res

The study used data from the Healthcare Cost and Utilization Project (HCUP) to examine the association between managed care enrollment and preventable hospitalization patterns of adult Medicaid enrollees in 4 states.

Private health maintenance organization (HMO) enrollment was associated with fewer preventable admissions, compared to private fee-for-service. However, Medicaid managed care enrollment was not associated with a reduction in preventable admissions, compared to Medicaid fee-for-service.

Non-Emergent And Preventable ED Visits
Massachusetts Division of Health Care Finance and Policy; 2004; Analysis in Brief

To estimate the proportion of non-emergent and preventable emergency department (ED) visits in Massachusetts.

Approximately 21% of outpatient ED visits were considered non-emergent. A further 19% and 6% were deemed emergent but primary-care treatable and emergent but preventable with good primary care, respectively. Women, blacks, and the uninsured were more likely to visit the ED for non-emergent reasons.

Overuse

Study

Outcome

Extended Use Of Indwelling Urinary Catheters In Postoperative Hip Fracture Patients

Wald, H., Epstein, A., Kramer, A.; 2005; Med Care

This study used data from Medicare admissions to skilled nursing facilities (SNFs) from acute care hospitals with a diagnosis of hip fracture to estimate the probability and impact of having an indwelling urinary catheter.

32% of hip fracture discharges to SNFs had urinary catheters. At 30 days after operation, these patients had higher odds of death, and of rehospitalization for urinary tract infection. Western region and urban location were associated with a higher likelihood of having an indwelling urinary catheter.

Decreasing Overuse Of Therapies In The Treatment Of Bronchiolitis By Incorporating Evidence At The Point Of Care

Muething, S., Schoettker, P.J., Gerhardt, W.E., Atherton, H.D., Britto, M.T., Kotagal, U.R.; 2004; J Pediatr

This study used a cohort of infants < age 1 year admitted to an academic children's hospital with a first-time diagnosis of bronchiolitis to assess the use of bronchodilator therapy before and after guideline implementation.

Bronchodilator and chest radiograph use decreased, although 53.7% of patients still received bronchodilators and 46.5% a chest radiograph.

Whole-Body Computed Tomography Screening: Looking For Trouble?

Anderiesz, C., Elwood, J.M., McAvoy, B.R., Kenny, L.M.; 2004; Med J Aust

This review article discusses the issue of whether or not whole-body computed tomography scans are appropriate. The author discusses evidence from the US and other developed countries.

Despite the growth in demand for whole-body computed tomography scans, there is no evidence that they are effective in detecting serious, treatable disease without undue cost or undesirable effects.

Overuse

Study

Outcome

Estimated Risks Of Radiation-Induced Fatal Cancer From Pediatric CT

Brenner, D., Elliston, C., Hall, E., Berdon, W.; 2001; AJR Am J Roentgenol

This article discusses biologic responses to ionizing radiation and estimates potential cancer deaths attributable to current levels of pediatric computed tomography (CT) use.

In the U.S., of approximately 600,000 abdominal and head CT examinations annually performed in children under the age of 15 years, a rough estimate is that 500 of these individuals might ultimately die from cancer attributable to the CT radiation.

The Clinical And Economic Correlates Of Misdiagnosed Appendicitis: Nationwide Analysis

Flum, D.R., Koepsell, T.; 2002; Archives of Surgery

This study used data from the 1997 health cost and utilization project (HCUP) National Inpatient Sample to estimate the frequency and cost of negative appendectomy.

Nationwide, 15.3% of appendectomies are estimated to be negative appendectomies. Patients in whom negative appendectomies were suspected had longer lengths of stay (5.8 vs. 3.6 days), higher total charge-admission (\$18,780 vs. \$10,584), higher case fatality rate (1.5% vs. 0.2%), and higher rate of infectious complications (2.6% vs. 1.8%).

An Evaluation Of Statewide Strategies To Reduce Antibiotic Overuse

Mainous, A.G., III, Hueston, W.J., Love, M.M., Evans, M.E., Finger, R.; 2000; Fam Med

This article tested the hypothesis that interventions will decrease antibiotic overuse in treatment of upper respiratory infection (URI) in pediatric populations. There were three intervention groups: patient education only, provider education only, and both patient and provider education.

There is over- and misuse of antibiotics for the treatment of viral pediatric illness. Antibiotic use increased in all 3 intervention groups as well as in the control group, although the increases in 2 intervention groups (patient educated and patient educated/provider feedback) increased at a slower rate.

Overuse

Study

Outcome

Urban Emergency Department Utilization By Adolescents

Grove, D.D., Lazebnik, R., Petrack, E.M.; 2000; Clin Pediatr (Phila)

This study is a retrospective chart review at an academic medical center to determine emergency department (ED) utilization and follow-up referral patterns among adolescents.

Adolescents on public assistance or without insurance may frequently utilize an urban ED for nonurgent medical problems. The majority of triage codes for ED visits were nonurgent (n=140; 93%).

Changes In Antibiotic Prescribing For Children After A Community-Wide Campaign

Perz, J.F., Craig, A.S., Coffey, C.S., Jorgensen, D.M., Mitchel, E., Hall, S., Schaffner, W., Griffin, M.R.; 2002; JAMA

To evaluate the effectiveness of a multifaceted campaign to reduce unnecessary antibiotic prescriptions to children. The intervention included educational efforts directed at health care practitioners, parents, and the public.

Antibiotic prescription rates declined 19% in the intervention county compared with 8% in the control counties.

Nonurgent Emergency Department Visits: The Effect Of Having A Regular Doctor.

Petersen, L.A., Burstin, H.R., O'Neil, A.C., Orav, E.J., Brennan, T.A.; 1998; Med Care

This study used interviews of patients presenting to 5 major Boston teaching hospitals with diagnoses of abdominal pain, chest pain, or asthma, to assess the association between having a regular doctor and presentation for nonurgent versus urgent emergency department.

Lack of a PCP predicted overuse of the emergency department (ED) (odds ration 1.6). Half of the ED visits were deemed unnecessary.

Overuse

Study

Outcome

Emergency Department Use By Family Practice Patients In An Academic Health Center.

Campbell, P.A., Pai, R.K., Derksen, D.J., Skipper, B.; 1998; Fam Med

This retrospective review of emergency department (ED) logs assessed whether patients who call the ED before visiting, and are thus triaged by telephone, had fewer inappropriate ED visits.

Calling ahead was not associated with more appropriate ED use (63% vs. 61%).

Nonurgent Use Of The Pediatric Emergency Department During The Day

Kini, N.M., Strait, R.T.; 1998; Pediatr Emerg Care

This was a prospective study of non-urgent patients presenting to a pediatric emergency department (PED) to evaluate the pattern and reasons for nonurgent use of the pediatric emergency department during regular office hours.

Most Health Maintenance Organization (HMO) (62%) and non-HMO enrollees (86%) did not call their Primary Care Physician (PCP) prior to arrival in the PED. Comparing the reasons given by these patients (HMO enrollees vs. non-HMO) for not calling, we found: convenience (HMO 17% vs. non-HMO 42%) “no identified PCP”, (HMO 17% vs. non-HMO 42%), and “felt problem was an emergency” (HMO 19% vs. non-HMO 10%) to be important differences. HMO enrollees received approval for the visit 79% of the time. These approvals were mostly after noon, and due to “a full office schedule.”

Resource Utilization And Its Management In Splenic Trauma

Cochran, A., Mann, N.C., Dean, J.M., Cook, L.J., Barton, R.G.; 2004; Am J Surg

This study used emergency department (ED) and hospital discharge data to compare resource utilization and its management for splenic injury at 2 level-I trauma centers and a pediatric referral center with other facilities.

Splenic injury cases managed at pediatric referral centers and trauma centers had longer hospital stays and higher total costs when compared to cases managed at other facilities, even when controlled for injury type and severity.

Overuse

Study

Outcome

Indigent Men's Use Of Emergency Departments Over Primary Care Settings (Letter)

Schanzer, B.M., Morgan, J.A.; 2004; Am J Public Health

This letter to the editor commented on a study that surveyed 2 Bronx hospitals to examine the factors leading to emergency department (ED) overuse by men.

Factors including a lack of insurance, unemployment, and low income (less than \$20,000 a year) were associated with a higher rate of ED utilization. Lower income patients visited the ED 2.5 times the frequency of higher income patients.

Emergency Department Management Of Acute Respiratory Infections

Ward, M.A.; 2002; Semin Respir Infect

This study reviews common respiratory infections and considers the overuse of antibiotics.

Careful selection of antimicrobial agents is essential to maximize benefit and prevent overuse.

Practical Considerations When Treating Children With Antimicrobials In The Outpatient Setting

Werk, L.N., Bauchner, H.; 1998; Drugs

This article is an overview of practical considerations for providers when treating children with antimicrobials in the outpatient setting, with special attention paid to acute otitis media.

By avoiding inappropriate use of antimicrobials, we can avoid antibiotic resistance. Simple strategies can improve compliance with therapeutic regimens and improve parental satisfaction

When The Visit To The Emergency Department Is Medically Nonurgent: Provider Ideologies And Patient Advice

Guttman, N., Nelson, M.S., Zimmerman, D.R.; 2001; Qual Health Res

This study employed interviews of 26 emergency department (ED) providers in urban hospitals to determine their opinions about nonurgent pediatric ED visits and how they advise parents on appropriate ED use.

Three provider ideologies regarding the appropriateness of medically nonurgent ED use were identified and found to be linked to particular communication strategies that providers employed with ED users: restrictive, pragmatic, and all-inclusive.

Overuse

Study

Outcome

Reducing Antibiotic Use In Children: A Randomized Trial In 12 Practices

Finkelstein, J.A., Davis, R.L., Dowell, S.F., Metlay, J.P., Soumerai, S.B., Rifas-Shiman, S.L., Higham, M., Miller, Z., Miroshnik, I., Pedan, A., Platt, R.; 2001; **Pediatrics**

This study utilized educational outreach regarding antibiotics for upper respiratory infection (URI) in 12 pediatric practices in Massachusetts and Washington State.

Educational efforts targeting physicians and parents can contribute to the declining rate of antibiotic misuse and overuse in children between the ages of 3 months and 6 years. The educational interventions reduced antibiotic prescribing by 16% in children aged 3-36 months, and 12% in children 36-72 months compared to a control group of practices. These represented 0.23 fewer antibiotics per-patient per-year for ages 3-36 months, and 0.13 fewer antibiotics per-patient per-year for patients 36-72 months compared to the controls which showed smaller decreases in the intervention year. Also, most of the antibiotics prescriptions were for otitis media (62.1%).

The Beginning Of The End Of The Antibiotic Era? Part I. The Problem: Abuse Of The "Miracle Drugs"

Harrison, J.W., Svec, T.A.; 1998; **Quintessence Int**

This study presents a comprehensive review of the evolution of antibiotic resistance since WWII.

Antibiotic overuse is one factor in the emergence of significant antibiotic resistance.

Health Care Utilization Of Chronic Inebriates

Thornquist, L., Biros, M., Olander, R., Sterner, S.; 2002; **Acad Emerg Med**

Chronic inebriates often use emergency services because they lack other resources or access to primary care. Three county programs were developed to reduce emergency resource utilization which would be measured by medical visits, hospital visits, hospital inpatient days, and total charges.

These programs reduce health care use for most patients; however serious medical illness and injury in a small number of patients contributed heavily to resource utilization.

Overuse

Study

Outcome

Use And Misuse Of Corticosteroids

Borchers, A.T., Keen, C.L., Gershwin, M.E.; 2003; Compr Ther

This article provides a systemic review of corticosteroid use, focusing on evidence supporting use in rheumatoid arthritis, asthma, COPD, and prematurity.

Corticosteroids appear to be either overused or over-prescribed in each of the conditions studied.

Use And Overuse Of Angiography And Revascularization for Acute Coronary Syndromes

Lange, R.A., Hillis, L.D.; 1998; N Engl J Med

This is an editorial commenting on the Veterans Affairs Non-Q-Wave Infarction Strategies in Hospital (VANQWISH) Trial, published in the same issue. The study is the fourth large randomized clinical trial (RCT) looking at aggressive versus conservative management of acute coronary syndromes.

“Angiography, percutaneous transluminal coronary angioplasty (PTCA), and coronary artery bypass grafting (CABG) done routinely following myocardial infarction, rather than on the basis of ischemia, do not improve outcomes. All four studies show that routine angiography and revascularization do not reduce the incidence of nonfatal reinfarction or death as compared with the more conservative, ischemia-guided approach. Physicians who work in hospitals with catheterization facilities are more likely to recommend coronary angiography than those without easy access to such a facility.”

Preventing The Spread Of Antimicrobial Resistance Among Bacterial Respiratory Pathogens In Industrialized Countries: The Case For Judicious Antimicrobial Use

Schwartz, B.; 1999; Clin Infect Dis

This article reviews the literature and discusses the joint Centers for Disease Control (CDC)/American Academy of Pediatrics (AAP)/American Academy of Family Physicians (AAFP) program to promote rational antibiotic use.

Patient pressure and suboptimal diagnosis and treatment contribute to antibiotic overuse. Curricula for doctors have been developed to describe the optimal management of respiratory infections. Patient education materials and strategies to improve doctor-patient communication have been developed. Studies are underway to evaluate interventions.

Overuse

Study

Outcome

The Annual Physical: Are Physicians And Patients Telling Us Something?

O'Malley, P.G., Greenland, P.; 2005; Arch Intern Med

This editorial addresses the attitudes of primary care physicians regarding “annual physicals” that are discordant with U.S. Preventive Services Task Force (USPSTF) guidelines and evidence.

Although there is no evidence for the utility of the annual physical, this editorial suggests that it may persist because it provides a forum to build and nurture the physician-patient relationship.

Wise Use Of Perioperative Antibiotics

Plonczynski, D.J.; 2005; AORN J

This article examines the relationship between microbial resistance and the overuse of antibiotics.

This article supports the use of prophylactic antibiotics for specific cardiac, colorectal, gynecologic, ophthalmologic, orthopedic, or urologic procedures when given as a single dose prior to incision.

A Simple, Focused, Computerized Query To Detect Overutilization Of Laboratory Tests

Weydert, J.A., Nobbs, N.D., Feld, R., Kemp, J.D.; 2005; Arch Pathol Lab Med

This study tested a method for detecting repetitive daily ordering of a commonly ordered laboratory test (serum sodium). The results were followed by a chart review in order to determine the accuracy of the test.

A focused query of data derived from a clinical data repository can detect and document overutilization of a common laboratory test in a convincing fashion within a given institution.

Overuse

Study

Outcome

Resource Utilization And Outcome In Gravely Ill Intensive Care Unit Patients With Predicted In-Hospital Mortality Rates Of 95% Or Higher By APACHE III Scores: The Relationship With Physician And Family Expectations

Berge, K.H. Maiers, D.R., Schreiner, D.P., Jewell, S.M., Bechtle, P.S., Schroeder, D.R., Stevens, S.R., Lanier, W.L.; 2005; Mayo Clin Proc

This study evaluated APACHE III scores of all patients admitted to the intensive care unit (ICU) at the Mayo Clinic between 1994 and 2001. 248 had a predicted in-hospital mortality of 95% or higher, and the study evaluated the resource utilization and ultimate outcome of this cohort.

23% of patients in the cohort survived to hospital discharge; all but one were moderately or severely disabled. 10% were alive at 1 year. Resource utilization was extensive, but costs were not calculated. Survival was 5 times that predicted by the tool.

Availability Of Antibiotics Without Prescription In New York City

Larson, E., Grullon-Figueroa, L.; 2004; J Urban Health

This article describes a survey of the availability of non-prescription antibiotics in 101 independent stores in Manhattan, New York.

Antibiotics were available in all stores in the Hispanic neighborhood, but in none of the stores in non-Hispanic neighborhoods.

Combating Antimicrobial Resistance: Intervention Programs To Promote Appropriate Antibiotic Use

Emmer, C.L., Besser, R.E.; 2002; Infect Med

This article reviews current efforts to promote the appropriate use of antibiotics, and reduce the spread of antibiotic resistance.

It appears that these interventions are successfully reducing the inappropriate use of antibiotics.

Overuse

Study

Outcome

Cost-Utility Analysis Of Screening Intervals For Diabetic Retinopathy In Patients With Type 2 Diabetes Mellitus

Vijan, S., Hofer, T.P., Hayward, R.A.; 2000; JAMA

This study performed a Markov cost-effectiveness model using data from the Third National Health and Nutrition Examination Survey in order to examine the cost-effectiveness of various screening intervals for eye disease in patients with type 2 diabetes.

Patients in the high-risk group cost an additional \$40,530 per quality-adjusted life year (QALY) gained, while those in the low-risk group cost an additional \$211,570 per QALY gained. Retinal screening annually vs. every other year for patients with type 2 diabetes costs \$107,510 per QALY gained, while screening every other year vs. every third year costs \$49,760 per QALY gained.

Diagnosis And Treatment Of Upper Respiratory Tract Infections In The Primary Care Setting

Fendrick, A.M., Saint, S., Brook, I., Jacobs, M.R., Pelton, S., Sethi, S.; 2001; Clin Ther

This paper reviews the literature and the results of an industry-sponsored roundtable discussion regarding the management of acute exacerbations of chronic bronchitis (AECB), acute otitis media (AOM), and acute bacterial rhinosinusitis (ABRS).

Guidelines for the management of AECB, AOM, and ABRS emphasize the importance of differentiating between bacterial and nonbacterial infections, choosing an antibiotic based on the likelihood of infection with resistant pathogens, and providing coverage against the predominant pathogens.

Appropriateness Of Ambulance Transportation To A Suburban Pediatric Emergency Department

Kost, S., Arruda, J.; 1999; Prehosp Emerg Care

This study examined emergency department (ED) records of all patients arriving to a suburban ED during 1 year in order to assess the appropriateness of ambulance use with regard to both medical necessity and insurance status.

28% of patients who arrived by ambulance were judged to have used the ambulance transportation unnecessarily. Of the unnecessary transports, 60% were insured by Medicaid.

Overuse

Study

Outcome

Medication Overuse Headache From Antimigraine Therapy Clinical Features, Pathogenesis And Management
Smith, T.R., Stoneman, J.; 2004; Drugs

This study is an examination of the literature on medication-overuse headaches (also termed analgesia rebound headaches) to describe a number of theories on cause and a number of suggestions for treatment.

Transformed Migraine And Medication Overuse In A Tertiary Headache Centre—Clinical Characteristics And Treatment Outcomes
Bigal, M.E., Rapoport, A.M., Sheftell, F.D., Tepper, S.J., Lipton, R.B.; 2004; Cephalalgia

To compare the outcomes for patients with medication-overuse headaches (transformed migraines) who were able to stop overusing analgesics to those who were not.

Use Of Antihypertensive Drug Therapy In Older Persons In An Academic Nursing Home
Ziesmer, V., Ghosh, S., Aronow, W.S.; 2003; J Am Med Dir Assoc

This study analyzed the charts of all residents of an academic nursing home to examine the prevalence of hypertension and appropriate treatment of hypertension in a nursing home population.

Patients are overusing analgesics for migraine headaches, leading to more headaches. According to the study, treatments for medication-overuse headaches should include replacement of analgesics with prophylactic and headache-aborting medications and the use of alternative treatments, such as biofeedback.

By overusing analgesics, patients worsen their illness. The study found that the frequency of headaches decreased by 74% in patients who were able to stop analgesic overuse (“detox”), and 17% in those who were not. The duration of headache pain was reduced by 61% (detox) vs. 15% (no detox).

A significant minority of patients (16%) had uncontrolled hypertension. Among patients with hypertension and concomitant diabetes, coronary artery disease, and/or heart failure, a specific recommended class of drugs (e.g., ACE inhibitors for diabetics) was often not being prescribed (3-47% of the time, depending on condition and drug class).

Overuse

Study

Outcome

Prevalence Of Subacute Patients In Acute Care: Results Of A Study Of VA Hospitals

Weaver, F.M., Guihan, M., Hynes, D.M., Byck, G., Conrad, K.J., Demakis, J.G.; 1998; J Med Syst

This study reviewed 858 medical and surgical admissions from 43 VA hospitals in order to determine the number of VA patients with subacute needs being cared for in acute care.

Over one-third of hospitalized patients had at least 1 subacute day; with an average length of stay of 12.7 days; of which 6.8 days were subacute.

Laparoscopically Assisted Vaginal Hysterectomy
Shwayder, J.M.; 1999; Obstet Gynecol Clin North Am

This article is a review about the topic of “laparoscopically assisted vaginal hysterectomy” (LAVH). The review discusses the history, challenges, and future of this technique.

The growth and, at times, overuse of the laparoscopic approach have waned somewhat as physicians reevaluate LAVH, adopt new techniques such as arterial embolization and myolysis, and rediscover old techniques such as uterine morcellation at vaginal hysterectomy.

Pediatric Emergency Room Visits For Nontraumatic Dental Disease

Graham, D.B., Webb, M.D., Seale, N.S.; 2000; Pediatr Dent

This study reviewed 149 visits to an emergency room (ER) of a children’s hospital which had a diagnosis of dental caries, periapical abscess or facial cellulitis. The purpose was to determine “the incidence and predisposing, enabling, and need factors of outpatients” and to analyze the hospital charges.

During 1996-97, 149 patients made 159 ER visits. The most common diagnoses were ICD-9 codes 521.0 for dental carie (48%) and 522.5 for periapical abscess (47%). Medicaid recipients used the ER at an intermediate level between patients with no payor source and those with private insurance. Almost one-half of the accounts changed status during the billing process, with the majority being entered as private-pay upon admission, but changing to bad debt or charity after the registration records were processed and collection was attempted. Most patients were treated empirically by the ER physicians according to their presenting signs/symptoms.

Overuse

Study

Outcome

Propoxyphene Use By Community-Dwelling And Institutionalized Elderly Medicare Beneficiaries
Kamal-Bahl, S.J., Doshi, J.A., Stuart, B.C., Briesacher, B.A.; 2003; J Am Geriatr Soc

This study was conducted to provide the first comparable national prevalence estimates on the use of propoxyphene by elderly Medicare beneficiaries living in the community and in institutions, and to determine whether institutionalized beneficiaries are at greater risk for receiving propoxyphene than community-dwelling beneficiaries.

The results show that propoxyphene use by U.S. community-dwelling seniors is high, but is much higher in the institutionalized population. These findings suggest that prescribing for older adults with pain could be improved, especially for vulnerable long-term care residents.

The LUNAR Project: A Description Of The Population Of Individuals Who Seek Health Care At Emergency Departments
MacLean, S.L., Bayley, E.W., Cole, F.L., Bernardo, L., Lenaghan, P., Manton, A.; 1999; J Emerg Nurs

This study employed a retrospective record review of 12,422 randomly selected emergency department (ED) visits at 89 EDs in 35 states to describe the population of patients who seek care in EDs.

Most patients had insurance (80%) and 78% of patients had a primary care physician (PCP), but only 51% of self-pay patients had PCPs. 31% of visits were for injuries, and 52% were for nonurgent care. The specific diagnoses were very varied, with the most frequent diagnosis being otitis media (4.5% of diagnoses). It was also noted that most visits were NOT related to alcohol or drugs (77%), and 16% of patients were admitted to the hospital.

Variation In Psychotropic Drug Use In Nursing Homes
Castle, Nicholas; 1999; J Health Soc Policy

This study uses self reported data in the OSCAR databases to provide a descriptive analysis of nursing homes with and without high levels of psychotropic drug use and to provide an analysis of the determinants of high use.

Homes with high levels of antipsychotic drug use are less likely to be hospital-based, are less likely to have special care units, but are more likely to have Alzheimer's special-care units.

Overuse

Study

Overcrowding In The Nation's Emergency Departments: Complex Causes And Disturbing Effects

Derlet, R.W., Richards, J.R.; 2000; Ann Emerg Med

This study reviews the literature regarding overcrowding of emergency department (EDs) and describes root causes and consequences of overcrowding.

Outcome

Root causes include increased complexity and acuity of patients using EDs; overall increases in populations; unintended effects of managed care; scarcity of inpatient beds; increasing intensity of ED interventions to avoid hospitalization; delays in providing ancillary services; nursing, clerical, and physician shortages; shortages of on-call specialty physicians; difficulty arranging follow-up care, limited physical space; language barriers; and increased documentation requirements. The results are: poor patient satisfaction, ambulance diversion of critically ill patients, and poor outcomes related to delays in treatment.

1998 ARRS Executive Council Award. Radiology In The Emergency Department: Technique For Quantitative Description Of Use And Results

Lee, S.I., Chew, F.S.; 1998; AJR Am J Roentgenol

This article describes how one hospital developed a method to analyze their records from the radiology department in order to describe the use and results of imaging studies in emergency department (ED) patients.

ED admissions and imaging studies were stable from 1991 to 1997, averaging 60,000 and 52,000 per year, respectively. Bone radiographs comprised 45.1% of examinations; chest radiographs, 44.6%; and abdominal radiographs, 10.4%. The percentages of radiographs interpreted as normal were 75.9% in 1992 and 75.3% in 1996, with cervical spine (88.7%), thoracic spine (86.3%), and knee (86.3%) yielding the highest proportion of studies with normal findings. The number of CT studies of the body increased from 1,840 in 1993 to 3,101 in 1997. Studies of the abdomen accounted for most of this increase (52.3% in 1993 to 66.0% in 1997). During evaluations for cervical spine injury, a mean of 6.5% of radiographic studies were followed by CT studies, and the findings of 89.0% of those CT studies were interpreted as normal.

Overuse

Study

Outcome

Care In The Emergency Department: How Crowded Is Overcrowded?

Hwang, U., Concato, J.; 2004; Acad Emerg Med

This article examined 53 articles, which included all articles on PubMed and MEDLINE databases (1966 to 2002) about overcrowding in emergency rooms, in order to determine if there existed an explicit criteria for the term “emergency room overcrowding.”

43% of the articles had explicit definitions of crowding or overcrowding. The definitions varied widely in content and focus, including emergency department, hospital, or external (non-hospital) factors.

Emergency Department Overcrowding In The United States: An Emerging Threat To Patient Safety And Public Health

Trzeciak, S., Rivers, E.P; 2003; Emerg Med J

This is a systematic review that describes how emergency department (ED) overcrowding threatens patient safety and public health.

The study reports three findings: 1) the ED is a vital part of the safety net, 2) overcrowding threatens public health, 3) the main cause is inadequate inpatient capacity.

Frequent Overcrowding In U.S. Emergency Departments

Derlet, R., Richards, J., Kravitz, R.; 2001; Acad Emerg Med

This study employed a survey methodology to assess the frequency, determinants, and consequences of ED overcrowding.

91% of ED directors reported overcrowding as a problem. Common definitions of overcrowding (greater than 70%) included the following: patients in hallways, all ED beds occupied, full waiting rooms longer than 6 hours a day, and acutely ill patients who wait longer than 60 minutes to see a physician.

Overuse

Study

Outcome

Ethnic Differences In Past Hysterectomy For Benign Conditions

Powell, L.H., Meyer, P., Weiss, G., Matthews, K.A., Santoro, N., Randolph, J.F., Jr., Schocken, M., Skurnick, J., Ory, M.G., Sutton-Tyrrell, K.; 2005; Womens Health Issues

Using a phone survey of women in 7 different U.S. cities, this study attempted to determine differences in hysterectomy rates among different ethnic groups.

The highest rates of hysterectomy occurred in the disadvantaged African American and Hispanic subgroups, and could not be explained by known risk factors. Therefore, overuse of hysterectomy in these disadvantaged groups may exist.

Health Resource Utilization Of The Emergency Department Headache "Repeater"

Maizels, M; 2002; Headache

This study employed retrospective emergency department (ED) and urgent care center chart reviews to analyze the health care utilization of patients who use EDs repeatedly for recurrent headaches.

Over a 6-month period, 502 patients made 1004 visits. 54 patients accounted for 502 visits. Retrospectively, the ED charges for this group of patients in the previous 12 months was \$183,760, 41/52 used narcotics, and 30/52 benzodiazepines.

The Health Economics Of Asthma And Rhinitis. I. Assessing The Economic Impact

Weiss, K.B., Sullivan, S.D.; 2001; J Allergy Clin Immunol

This paper is a narrative review that looked at 128 articles about asthma and allergic rhinitis in order to estimate the amount of direct and indirect costs of these 2 diseases in the U.S.

In 1998, asthma in the U.S. cost 12.7 billion dollars annually (for direct and indirect costs). In 1994, allergic rhinitis cost \$1.2 billion. Most of the costs were due to direct medical expenditures (especially medications).

Overuse

Study

Outcome

Helicopter Transport Of Pediatric Trauma Patients In An Urban Emergency Medical Services System: A Critical Analysis
Eckstein, M., Jantos, T., Kelly, N., Cardillo, A.; 2002; J Trauma

This study was a retrospective review of 175 pediatric patients transported by helicopter to a single pediatric trauma center in order to determine if helicopter transport was necessary.

Out of 175 patients transported by helicopter, 14% were incubated in the emergency department (ED), 18% were admitted to the intensive care unit (ICU), 4% were taken directly to the operating room (OR), 33% were discharged home from the ED.

Prevention Of Catheter-Associated Urinary Tract Infection
Trautner, B.W., Hull, R.A., Darouiche, R.O.; 2005; Current opinion in infectious diseases

This article reviews the topic of catheter-associated urinary tract infections (UTIs). The article discusses etiology and pathology, and areas of research.

The underlying cause of catheter-associated UTIs is biofilm formation by pathogens on the urinary catheter. Research is ongoing regarding biofilm formation, and ways to prevent and treat these infections.

The Quality Of Antipsychotic Drug Prescribing In Nursing Homes
Briesacher, B.A., Limcangco, M.R., Simoni-Wastila, L., Doshi, J.A., Levens, S.R., Shea, D.G., Stuart, B.; 2005; Arch Intern Med

This study retrospectively analyzed data from 1,096 nursing home patients in the Medicare Current Beneficiary Survey in order to determine the pattern of antipsychotic use and the appropriateness of antipsychotic use.

27% of all Medicare beneficiaries in nursing homes received antipsychotics. Patients receiving antipsychotic therapy within guidelines were no more likely to achieve stability or improved behavioral symptoms than were those taking antipsychotics outside the guidelines.

Overuse

Study

Outcome

Economic Evaluation Of Four Treatments For Low Back Pain: Results From A Randomized Controlled Trial

Kominski, G.F., Heslin, K.C., Morgenstern, H., Hurwitz, E.L., Harbor, P.L.; 2005; Med Care

This study examined 18-month costs for 4 treatments for low-back pain.

The adjusted outpatient costs (not including pharmaceuticals) for the 4 modalities for low-back pain were \$369 for medical care only, \$560 for chiropractic care only, \$579 for chiropractic care with physical modalities, and \$760 for medical care and physical therapy.

Medical Care- Is More Always Better?

Fisher, E.S.; 2003; N Engl J Med

This editorial discusses the effect of the Veterans Administration's reform of its health care system on patients with chronic disease.

High-intensity practice patterns are associated with lower quality of care and worse outcomes than more conservative practice patterns.

Responsible Use Of CT [Letter]

Frush, D.P.; 2003; Radiology

This letter to the editor discusses theoretical risks and benefits of computed tomography (CT) scans in terms of the trade-off between low-level radiation exposure and increased diagnostic certainty

CT results in low level radiation exposure. The cumulative effect of repeated exams can lead to significant exposure which could predispose to a variety of malignancies.