



NEHI Compendium

Underuse

Evidence Table—Underuse

Study

Underuse And Overuse Of Diagnostic Testing For Coronary Artery Disease In Patients Presenting With New-Onset Chest Pain

Carlisle, D.M., Leape, L.L., Bickel, S., Bell, R., Kamberg, C., Genovese, B., French, W.J., Kaushik, V.S., Mahrer, P.R., Ellestad, M.H., Brook, R.H., Shapiro, M.F.; 1999; Am J Med

This study retrospectively reviewed the records of patients who presented to five LA emergency departments (EDs) with new onset non-myoccardial infarction (non-MI) chest pain to determine the extent of overuse and underuse of diagnostic testing for coronary artery disease and whether the socioeconomic status, health insurance, gender, and race/ethnicity of a patient influences the use of diagnostic tests.

Antibiotic Treatment Of Children With Sore Throat

Linder, J.A., Bates, D.W., Lee, G.M., Finkelstein, J.A.; 2005; JAMA

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

Outcome

Underuse of testing for new onset chest pain without an MI is more significant than overuse. 51% of patients met criteria for necessary testing. 78% of these received one or more tests. 22% did NOT get the necessary testing. 215 patients underwent testing; in 3% testing was inappropriate. In 23% of the patients who underwent testing, the indications were inappropriate or of uncertain necessity. Those without insurance and lacking education beyond high school were less likely to undergo recommended testing. Among the insured, there was a 42% rate of underuse for Medicaid patients and only 11% for patients with private/HMO/Medicare insurance.

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 GABHS 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.

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Ten-Year Durability And Success Of An Organized Program To Increase Influenza And Pneumococcal Vaccination Rates Among High-Risk Adults

Nichol, Kristin L.; 1998; Am J Med

This study utilized pharmacy data and patient surveys from a Veterans Affairs Medical Center (VAMC) to estimate vaccination rates for influenza and pneumonia.

For influenza, 84% of eligible individuals were vaccinated. The pneumococcal vaccination rate is 63%.

Cancer-Directed Surgery For Localized Disease: Decreased Use In The Elderly

O'Connell, J.B., Maggard, M.A., Ko, C.Y.; 2004; Ann Surg Oncol

1988-1997 SEER data was used to examine the probabilities of undergoing surgical resection for a number of cancers based upon age.

Rates of surgery were lower in the elderly for some cancers (esophagus, stomach, pancreas, and lung), and about equal for others (colon, rectal, breast).

Attitudes Of Physicians Toward Objective Measures Of Airway Function In Asthma

O'Dowd, L.C., Fife, D., Tenhave, T., Panettieri, R.A., Jr.; 2003; Am J Med

This study utilized a survey methodology to estimate the extent of pulmonary function testing in asthma by physicians in Philadelphia.

Primary care physicians are less likely to use spirometry than pulmonary or allergy specialists (44% versus 80%). Owning a spirometer was associated with conducting the test, but familiarity of expert recommendations/guidelines National Asthma Education and Prevention Program (NAEPP) was not associated with using the test frequently.

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National Use And Effectiveness Of [Small Beta]-Blockers For The Treatment Of Elderly Patients After Acute Myocardial Infarction: National Cooperative Cardiovascular Project
Krumholz, H.M., Radford, M.J., Wang, Y., Chen, J., Heiat, A., Marciniak, T.A.; 1998; JAMA

This study utilized Cooperative Cardiovascular Project data for 115,015 Medicare patients discharged alive following acute myocardial infarction (AMI) to identify the most important predictors in prescribing beta-blockers and to evaluate the association of use upon discharge with mortality.

Methods To Encourage The Use Of Antenatal Corticosteroid Therapy For Fetal Maturation: A Randomized Controlled Trial
Leviton, L.C., Goldenberg, R.L., Baker, C.S., Schwartz, R.M., Freda, M.C., Fish, L.J., Cliver, S.P., Rouse, D.J., Chazotte, C., Merkatz, I.R., Raczynski, J.M.; 1999; JAMA

This retrospective chart review at 27 tertiary care institutions was designed to assess compliance with National Institute of Health (NIH) guidelines for antenatal corticosteroid use.

Outcome

The New England region has a significantly higher use of beta-blockers at approximately 71% for patients who met the study criteria. Cardiologist and internists had similar prescribing rates, both of which were higher than general and family practice physicians. Beta-blockers were associated with a 14% lower risk of mortality at 1 year after discharge.

Premature delivery is associated with increased rates of morbidity and mortality as well as increased costs of care. Antenatal corticosteroid therapy is underused, and can reduce the risks associated with preterm delivery. Active dissemination efforts increased the rate of corticosteroid use by 108% over the baseline, whereas usual dissemination practices yielded a 75% increase over baseline.

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Measuring Underuse Of Necessary Care Among Elderly Medicare Beneficiaries Using Inpatient And Outpatient Claims

Asch, S.M., Sloss, E.M., Hogan, C., Brook, R.H., Kravitz, R.L.; 2000; JAMA

In this study an expert panel examined the Medicare claims of a 1% sample of the Medicare population to estimate the rate of underuse of necessary care among elderly patients using inpatient and outpatient Medicare claims.

Underuse of necessary care is widespread for the 15 target conditions and contributes to more serious and costly problems. The system that was developed to measure underuse of care through claim review is potentially a lower cost process than patient surveys and chart reviews. Out of the 46 indicators, as decided upon by a Delphi-method expert panel, for almost half the indicators, less than two-thirds of beneficiaries received needed care. Underuse was more likely to occur among African Americans and residents of poverty areas.

Health And Economic Benefits Of Increased Beta-Blocker Use Following Myocardial Infarction

Phillips, K.A., Shlipak, M.G., Coxson, P., Heidenreich, P.A., Hunink, M.G., Goldman, P.A., Williams, L.W., Weinstein, M.C., Goldman, L.; 2000; JAMA

This study uses an existing epidemiological modeling program to predict potential savings in dollars and years lived if beta-blockers were consistently prescribed following a first Myocardial Infarction (MI).

The failure to consistently and responsibly use beta-blockers, when modeled over the next 20 years, could cause 72,000 unnecessary deaths, 62,000 unnecessary MIs, and cost \$18 million. Initiating beta-blocker use for all MI survivors except those with absolute contraindications in 2000 and continuing treatment for 20 years would result in 4,300 fewer coronary heart disease deaths, 3,500 MIs prevented, and 45,000 life-years gained compared with current use. The incremental cost per Quality-Adjusted Life Year (QALY) gained would be \$4,500.

Correlates Of Colorectal Cancer Testing In Massachusetts Men And Women

Brawarsky, P., Brooks, D.R., Mucci, L.A.; 2003; Prev Med

This study used 1999 Massachusetts Behavioral Risk Factor Surveillance System (BRFSS) data to examine colorectal cancer (CRC) as a leading cause of cancer-related death.

CRC screening is underused. Only 61% of respondents had any kind of screening, and of those screened 75% of men and 63% of women had a sigmoidoscopy or colonoscopy.

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A Propensity Score Analysis Of The Impact Of Angiotensin-Converting Enzyme Inhibitors On Long-Term Survival Of Older Adults With Heart Failure And Perceived Contraindications
Ahmed, A., Centor, R.M., Weaver, M.T., Perry, G.J.; 2005; Am Heart J

This study prospectively followed patients enrolled in a heart failure quality improvement project to determine the association between discharge use of angiotensin-converting enzyme (ACE) inhibitors in patients with perceived contraindications to these drugs and 4-year post-discharge survival among hospitalized older adults discharged alive with a primary discharge diagnosis of systolic heart failure.

Compared with the referent group, patients with perceived contraindications who were not discharged on an ACE inhibitor had a significant 2-fold increase in the risk of 4-year mortality. Patients with perceived contraindications who were discharged on ACE inhibitors had a non-significant 23% higher risk of 4-year mortality vs. the referent group.

Benefits Of Inpatient Initiation Of Beta-Blockers
Ventura, Hector O.; 2004; Am Heart J

This is a literature review pertaining to the benefits and underuse of beta blockers in acute myocardial infarction (AMI) and congestive heart failure (CHF).

This study provides a non-systemic review discussing the underuse of beta-blockers and the perceived conditions and clinical situations that may be keeping physicians from using them, as well as addresses the question of why initiating therapy in hospitalized patients is both clinically beneficial for the patient's hospitalization and for long-term compliance with the medicine.

Changes In Rates Of Beta-Blocker Use Between 1994 And 1997 Among Elderly Survivors Of Acute Myocardial Infarction
Heller, D.A., Ahern, F.M., Kozak, M.; 2000; Am Heart J

This study is a retrospective study of patients with history of acute myocardial infarction (AMI) enrolled in the Pennsylvania PACE project designed to examine changes in beta-blocker use in patients over age 65 in Pennsylvania who are lower income and lack prescription-drug insurance after they have an acute MI, and to identify factors associated with the use and non-use of beta-blockers.

Patients with AMI were more likely to get a beta-blocker in 1997 than in 1994. Major factors influencing the prescription of beta-blockers were historical comorbidities—especially chronic obstructive pulmonary disease (COPD), and treatment by a cardiologist (52% greater likelihood of getting a beta-blocker prescription).

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Resource Use And Quality Of Care For Medicare Patients With Acute Myocardial Infarction In Maryland And The District Of Columbia: Analysis Of Data From The Cooperative Cardiovascular Project

Berger, A.K., Edris, D.W., Breall, J.A., Oetgen, W.J., Marciniak, T.A., Molinari, G.F.; 1998 Am Heart J

This study used Medicare claims data to identify 4,300 Medicare beneficiaries admitted to hospitals in Maryland and Washington, D.C. Hospital records were retrospectively reviewed to evaluate adherence to the Cooperative Cardiovascular Project's recommendations (derived from the American College of Cardiology and American Heart Association recommendations).

Patients received less than the recommended treatments. The rates for specific therapies where patients were considered ideal candidates were: Thrombolytic therapy (72%), Aspirin (87%), ACE inhibitor for low EF (65%), Avoidance of Calcium Channel Blockers (CCBs).

Beta-Blocker Underuse In Secondary Prevention Of Myocardial Infarction

Everly, M.J., Heaton, P.C., Cluxton, R.J., Jr.; 2004; Ann Pharmacother

This paper reviews the risks and benefits of beta-blockers for secondary prevention of myocardial infarction (MI) and examines reasons for their underuse in this setting.

A lower rate of beta-blocker usage was documented in elderly patients and those with concomitant diabetes, heart failure, chronic obstructive pulmonary disease (COPD), asthma, or peripheral vascular disease.

Early Initiation Of Beta Blockade In Heart Failure; Issues And Evidence

Williams, R.E.; 2005; J Clin Hypertens (Greenwich)

This study reviews the literature concerning the use of beta-blockers in patients with heart failure, and examines the underuse of these drugs in that condition.

Patients with heart failure are prescribed beta-blockers in only 28-48% of cases. Beta-blocker therapy can safely be initiated prior to discharge.

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Factors Determining Angiotensin-Converting Enzyme Inhibitor Underutilization In Heart Failure In A Community Setting

Philbin, E.F.; 1998; Clin Cardiol

This record review of patients in 10 community hospitals compared utilization rates of angiotensin-converting enzyme (ACE) inhibitors in heart failure patients in 1992 and 1995 in several community settings.

Variation In The Use Of Cardiac Procedures In The Veterans Health Administration

Mirvis, D.M., Graney, M.J.; 1999; Am Heart J

This study reviewed records of 30,901 patients presenting to a Veterans Affairs Medical Center (VAMC) with coronary artery disease to determine whether the Veterans Affairs-structured referral system eliminates any confounding influences of hospital complexity or level of services in the likelihood of veterans with coronary artery disease receiving cardiac procedures: angiography, percutaneous transluminal coronary angioplasty, or bypass graft surgery.

Outcome

ACE inhibitor use among patients hospitalized with congestive heart failure (CHF) was significantly greater in 1995 compared with 1992. Usage in both years was associated with lower ejection fraction (EF), lower creatinine, younger age, documentation of EF, and non-prescription of other vasodilators.

The likelihood of having cardiac catheterization was increased if the VAMC had a catheterization lab (86% greater), cardiac surgery program (65%), and was affiliated with a medical school (42%). The greater the complexity of the medical center also increased the likelihood of patients having a cardiac catheterization (35-89%). Also, living in areas other than the Northeast increased the likelihood of having a cardiac catheterization (11-58%). The likelihood of having percutaneous transluminal coronary angioplasty (PTCA) increased at centers with a catheterization lab (34%), cardiac surgery (46%), a medical school affiliation (15%) and at centers with increased complexity characteristics (34-46%). The likelihood of having coronary artery bypass grafting (CABG) increased at facilities with catheterization labs (15%), cardiac surgery (43%), and with increasing complexity (12-33%).

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The Use Of Angiotensin-Converting Enzyme Inhibitors In Patients With Acute Myocardial Infarction In Community Hospitals. Michigan State University Inter-Institutional Collaborative Heart (MICH) Study Group
Dwamena, F.C., El-Tamimi, H., Watson, R.E., Kroll, J., Stein, A.D., McLane, A, Holmes-Rovner, M., McIntosh, B., Kupersmith, J.; 2000; Clin Cardiol

This retrospective review of 1,163 acute myocardial infarction (AMI) patients was designed to examine usage rates (and predictors) of angiotensin-converting enzyme (ACE) inhibitors in patients discharged from a community hospital following AMI.

Beta-Blocker Use In The Emergency Department In Patients With Acute Myocardial Infarction Undergoing Primary Angioplasty
Pancu, D., Lee, D.C.; 2003; J Emerg Med

This study was a retrospective medical record review of patients who presented to two emergency departments (ED) with signs of acute myocardial infarction (AMI) to determine the frequency of beta blocker administration in the ED.

Outcome

Angiotensin converting enzyme (ACE) inhibitors were prescribed to only a minority of patients discharged after AMI (40% of ideal candidates). Prior use of ACE inhibitors and congestive heart failure (CHF) were positively associated with ACE inhibitor prescription, while female gender, lack of ejection fraction documentation, and acute renal failure were negative predictors.

Beta-blockers for the acute treatment of MI were significantly underused by ED physicians in this study. Of eligible patients, 99% received aspirin, 97% received heparin, and 28% received beta-blockers in the ED. Physicians cited bradycardia, asthma, and congestive heart failure (CHF) as reasons for withholding beta-blockers.

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Understanding Individual And Small Area Variation In The Underuse Of Coronary Angiography Following Acute Myocardial Infarction

Garg, P.P., Landrum, M.B., Normand, S.L., Ayanian, J.Z., Hauptman, P.J., Ryan, T.J., McNeil, B.J., Guadagnoli, E.; 2002; Med Care

This study used CCP data for 9,458 patients hospitalized for acute myocardial infarction (AMI) in 95 hospital-referral regions to examine the association of patient demographics and clinical and hospital characteristics with geographic variation in coronary angiography usage.

Underutilization Of Measurement Of Serum Low-Density Lipoprotein Cholesterol Levels And Of Lipid-Lowering Therapy In Older Patients With Manifest Atherosclerotic Disease

Mendelson, G., Aronow, W.S.; 1998; J Am Geriatr Soc

This study consisted of a retrospective chart review of all patients seen in an academic geriatrics practice to examine the rates of lipid measurement and prescription of lipid-lowering drugs in elderly patients.

A New Framework For Describing And Quantifying The Gap Between Proof And Practice

Sim, I., Cummings, S.R.; 2003; Med Care

This study used published data regarding underuse of beta blockers at discharge post-myocardial infarction to analyze the substantial gaps that often exist between every day practice and best practice as defined by research evidence.

Outcome

Coronary angiography was significantly underused in this study. Among patients for whom angiography was retrospectively deemed necessary, only 58% underwent the procedure. Underuse was associated with female gender, black race, treatment by a general practitioner (GP), and treatment in a hospital without angiography.

Serum low-density lipoprotein (LDL) testing and treatment of hyperlipidemia was suboptimal in this elderly population. LDL was measured in 42-51% of patients (lowest for stroke; highest for myocardial infarction); less received therapy. Prescription rates declined with age, though the effect was not statistically significant.

The authors apply a novel methodology (termed Number Not Prevented) to quantify the implications of underuse of beta-blockers at hospital discharge for acute MI. They estimate that 2,295 first-year post-MI deaths fail to be prevented due to underuse of this effective intervention.

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Under-Utilization Of Beta-Blockers After Acute Myocardial Infarction. Pharmacoeconomic Implications

Bradford, W.D., Chen, J., Krumholz, H.M.; 1999; Pharmacoeconomics

This paper reviewed the literature regarding the efficacy, effectiveness, and underutilization of beta-blockers post myocardial infarction (MI).

Beta-blockers are not prescribed in 50% of MI survivors in whom they are appropriate.

An Economic Model Of Stroke In Atrial Fibrillation

Caro, JJ; 2004; Am J Manag Care

This study used published literature and Medicare claims data to develop an economic model for the underuse of oral anticoagulation in patients with atrial fibrillation (AF).

1.265 million patients with AF (55%) are not receiving appropriate anticoagulation and will suffer 58382 strokes each year, costing \$3.1 billion. Additionally it is purported that many patients receiving therapy are not optimally anticoagulated.

Aspirin Treatment After Myocardial Infraction: Are Health Maintenance Organization Members, Women, And The Elderly Undertreated?

Hill, J.W., Roglieri, J.L., Warburton, S.W.; 1998; Am J Manag Care

In this study a sample was drawn from members of a managed care organization (MCO) identified as having a myocardial infarction (MI) in 1995. Telephone interviews were used to estimate the rate of aspirin (ASA) use in the sample and factors contributing to its use.

Older patients are at risk for undertreatment, but risk is low; other subsets of MI patient groups also do not indicate undertreatment.

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Effective Anticoagulation Therapy: Defining The Gap Between Clinical Studies And Clinical Practice

Wittokowsky, AK; 2004; Am J Manag Care

This article explores the scope of warfarin underutilization and undercoagulation that exists in current clinical practice, and provides a roundtable discussion of causative factors, economic implications, and strategies to increase use.

In patients with atrial fibrillation (AF), only 55% of appropriate patients were receiving warfarin, with the lowest rates among the elderly. Of patients receiving treatment, 54.4% failed to achieve an international normalized ratio (INR) in the desired therapeutic range.

Hypertension Management: The Care Gap Between Clinical Guidelines And Clinical Practice

Andrade, S.E., Gurwitz, J.H., Field, T.S., Kelleher, M., Majumdar, S.R., Reed, G., Black, R.; 2004; Am J Manag Care

This study used chart review and claims data from a mixed model health maintenance organization HMO in central Massachusetts to assess hypertension outcomes and the gap between guidelines and current practice.

38% of patients were at target at 50% of their visits, and 33% were never at target blood pressure.

Problems Due To Medication Costs Among Veterans Affairs And Non-Veterans Affairs Patients With Chronic Illnesses

Piette, J.D., Heisler, M.; 2004; Am J Manag Care

This study used a survey of 4055 patients with chronic illnesses to evaluate differences in cost-related adherence problems between Veterans Affairs (VA) patients and patients covered by Medicaid, Medicare, private, or no insurance.

Medicare and patients with no insurance coverage were 3.4 and 4 times more likely to report frequent medication underuse due to cost-related factors.

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Underuse Of Beta-Blockers In Cardiovascular Medicine

Gottlieb, SS; 2000; Am J Manag Care

This study used Medicare claims data from the Cooperative Cardiovascular Project database to estimate the rates of beta blocker prescribing at discharge post-acute myocardial infarction (AMI).

Only 34% of patients were prescribed beta blockers at the time of discharge.

Is Lipid-Lowering Therapy Underused By African Americans At High Risk Of Coronary Heart Disease Within The Veterans Affairs Health Care System?

Woodard, L.D., Kressin, N.R., Petersen, L.A.; 2004; Am J Public Health

Imaging records in 5 Veterans Affairs Medical Centers (VAMCs) were reviewed to identify a cohort of 1,374 patients with heart disease used to examine possible racial disparities in the screening and treatment of hypercholesterolemia within the Veterans Affairs system.

Race (black or white) was not correlated with cholesterol monitoring, treatment, or achievement of guideline-recommended low-density lipoprotein (LDL) levels. Although no racial disparities were noted, 33% of patients (all with known coronary artery disease) did not receive a lipid screening.

Physician Knowledge And Practice Patterns Relating To Diabetic Nephropathy

Wong, T., Foote, E.F., Lefavour, G.S., Cody, R.P., Brown, C.J., Sherman, R.A.; 1999; J Am Pharm Assoc (Wash)

Mailed questionnaires were sent to primary care physicians (PCPs) to assess the knowledge and practice patterns of PCPs relating to the detection and treatment of diabetic nephropathy.

Of the physicians who claimed to monitor patients for microalbuminuria, 39% chose inappropriate methods for detection. Patients with proteinuria (86%) were more likely to be treated with an angiotensin-converting enzyme inhibitor (ACEI) than were patients with microalbuminuria (79%).

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Targeting The Underserved For Breast And Cervical Cancer Screening: The Utility Of Ecological Analysis Using The National Health Interview Survey

Wells, B.L., Horm, J.W.; 1998; Am J Public Health

This study used 1990 National Health Institute Survey (NHIS) data to assess the role of education, income, neighborhood income and ethnicity, and neighborhood age in obtaining female cancer screening.

Outcome

Certain variables (low education, low income, Hispanic areas, and lower age) are correlated with lower rates of screening; interventions can be targeted specifically to these groups to increase screening. All of these factors correlated to underuse of mammograms. Pap smears and clinical breast exams followed similar trends, though they were more common in younger women, and significantly less common in recent immigrants. The authors conclude that using ecological variables to analyze the data can be important in designing targeted messages for screening in underserved communities.

Underuse Of Screening Sigmoidoscopy And Colonoscopy In A Large Cohort Of U.S. Adults
Chao, A., Connell, C.J., Cokkinides, V., Jacobs, E.J., Calle, E.E., Thun, M.J., 2004; Am J Public Health

This study assessed the prevalence of bowel endoscopy (sigmoidoscopy or colonoscopy) for colorectal screening (versus diagnosis or follow-up) in adults over 50 in the Cancer Prevention Study Nutrition Cohort in 1997 and analyzed factors predictive of screening.

The study suggests that screening endoscopy is underused, though it does not provide data about what the benefit would be in increasing the screening rate. 29% of men and 21% of women (24% of total) reported a screening endoscopy within the past 5 years.

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Adherence To Medications By Patients After Acute Coronary Syndromes

Sud, A., Kline-Rogers, E.M., Eagle, K.A., Fang, J., Armstrong, D.F., Rangarajan, K., Otten, R.F., Stafkey-Mailey, D.R., Taylor, S.D., Erickson, S.R.; 2005; Ann Pharmacother

208 patients were interviewed by telephone 10 months after discharge from an acute coronary syndrome hospital admission in order to describe medication-taking behavior and determine the relationship between self-reported adherence and patient characteristics.

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.

Relation Between Influenza Vaccination And Outpatient Visits, Hospitalizations, And Mortality In Elderly Persons With Chronic Lung Disease

Nichol, K.L., Baken, L., Nelson, A.; 1999; Ann Intern Med

This study used managed care organization (MCO) claims data to define the effects of influenza and the benefits of influenza vaccination in elderly persons with chronic lung disease.

Influenza vaccination is associated with substantial health benefits for elderly patients with chronic lung disease. Among staff model health maintenance organization (HMO) patients at least age 65 and diagnosed with chronic lung disease, influenza vaccination rates were 72%, 74% and 75% over three influenza seasons. Vaccinated patients had significantly fewer outpatient visits, inpatient stays, and deaths.

Platelet Glycoprotein Iib/Iiia Receptor Antagonists In Non-ST Segment Elevation Acute Coronary Syndromes: A Review And Guide To Patient Selection

Atwater, B.D., Roe, M.T., Mahaffey, K.W.; 2005; Drugs

This study reviews the literature surrounding the use of Gp IIb/IIIa antagonists in the treatment of patients with non-ST-segment elevation acute coronary syndromes.

Recent data from the CRUSADE (Can Rapid Risk Stratification of Unstable Angina Patients Suppress ADverse Outcomes with Early Implementation of the American College of Cardiology/American Heart Association Guidelines) initiative suggests that GpIIb/IIIa antagonists are underused in clinical practice.

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Patterns Of Anticoagulation In Patients Hospitalized With Atrial Fibrillation: Warfarin Is Underused In Paroxysmal Atrial Fibrillation.

Marcu, C.B., Ghantous, A.E., Caracciolo, E.A., Donohue, T.J.; 2003; Conn Med

This study defined the incidence of warfarin use at time of admission and discharge in patients hospitalized with paroxysmal atrial fibrillation (PAF) and chronic atrial fibrillation (CAF) at a single hospital.

Anticoagulation rates at hospital admission were 89% in the patients with CAF and 38% in patients with PAF, and increased to 100% for patients with CAF and 81% for patients with PAF at the time of hospital discharge.

The Use Of Prenatal Care By Hispanic Women After Welfare Reform

Fuentes-Afflick, E., Hessol, N.A., Bauer, T., O'Sullivan, M.J., Gomez-Lobo, V., Holman, S., Wilson, T.E., Minkoff, H.; 2006; Obstet Gynecol

This study interviewed women who delivered at participating hospitals in San Francisco, New York, or Miami to compare the use of prenatal care by Hispanic women in New York, California and Florida based on immigration status (U.S.-born citizen, foreign-born citizen, documented immigrant, undocumented immigrant) after implementation of the Personal Responsibility Work Opportunity Reconciliation Act of 1996 (PRWORA).

Hispanic women in Florida in all immigrant groups (U.S.-born citizen, foreign-born citizen, documented immigrant and undocumented immigrant) were more likely to have inadequate prenatal care than hispanic women in NY and CA. Hispanic women in FL in all categories had later onset of care and fewer visits than hispanic women in CA and NY. In multiple-regression analysis (using NY as the referent group) the statistically significant variables were state immigration status, maternal age, marital status, presence of health insurance, gravity and lack of money/insurance.

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Adherence To AAP Guidelines For Well-Child Care Under Managed Care

Byrd, R.S., Hoekelman, R.A., Auinger, P.; 1999; Pediatrics

This study used data from a private health management organization (HMO) and a Medicaid plan to determine adherence to the American Academy of Pediatricians (AAP) schedule for well-child care (WCC) in Monroe County, NY.

Outcome

There is significant underuse of WCC for both privately and publicly insured children. Utilization is slightly better for privately insured patients. Only 46% of privately insured children received 100% of the recommended WCC; 35% of the publicly insured children received 100% of the WCC. 17% of private and 35% of public children received no WCC. Only 5% of pediatricians had a 100% compliance rate for their patients. Pediatricians completed an average of 52% of WCC in publicly funded children and 68% of WCC in privately funded children.

Aspirin, Ticlopidine, And Clopidogrel In Acute Coronary Syndromes: Underused Treatments Could Save Thousands Of Lives

Tan, W.A., Moliterno, D.J.; 1999; Cleve Clin J Med

This study provides a narrative review of the role of aspirin in the treatment of acute coronary syndromes.

Despite clear data, aspirin is woefully underused or is often used late. Ticlopidine and clopidogrel have a synergistic effect when used with aspirin and can also have a role in treating patients who are aspirin-resistant or have diffuse atherosclerosis.

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Asthma Symptoms, Morbidity And Anti-Inflammatory Use In Inner City Children

Warman, K.L., Silver, E.J., Stein, R.E.; 2001; Pediatrics

This telephone study surveyed parents of children previously admitted to an inner-city (NYC) hospital with a diagnosis of asthma to determine the rate of persistent asthma symptoms among inner-city children in New York, NY aged 2-12 years hospitalized for acute asthma symptoms. Determining how many children with persistent asthma received the recommended treatment with anti-inflammatory agents and whether use of these agents is related to their caretakers' race, educational level, insurance, self-efficacy score and whether the care-taker receives public assistance.

Outcome

Anti-inflammatory agents for persistent asthma are underused. The most effective medications (inhaled steroids) are not used by the majority of patients. 83% of inner city children hospitalized for acute asthma have persistence of symptoms; only 35% of these children receive recommended daily treatment with anti-inflammatory agents (83% received cromolyn alone). Of the subset of children for whom starting/increasing daily dose of anti-inflammatory agent is recommended, 39% received said medication. No differences in use of anti-inflammatory agents were based on child's age or gender. Race, educational level, insurance, receipt of public assistance or self-efficacy rating of caretakers did not impact rate of use of anti-inflammatory agents. Children who used anti-inflammatory agents were more likely to have a primary care physician, have a written asthma plan, have a peak flow meter and a mattress cover. Appropriate use of anti-inflammatory agents may prevent remodeling of lung tissue.

Compliance With Guidelines For Medical Care In The First Urinary Tract Infection In Infants; A Population-Based Study.

Cohen, A.L., Rivara, F.P., Davis, R., Christakis, D.A.; 2005; Pediatrics

This study used Washington State Medicaid data to determine how many children < one year with a documented urinary tract infection (UTI) received recommended care based on most the recent guidelines from the American Academy of Pediatrics.

The appropriate follow-ups are underused after UTI in the first year of life. Less than half of children received the recommended care after UTI in the first year of life. 44% had renal ultrasound; 39.5% had imaging to rule out reflux. 220 children (28.2%) had both imaging studies; 123 (15.8%) had only a renal ultrasound; 88 (11.3%) had imaging to rule out reflux. Of those who had any imaging study, only 51% had adequate antibiotic prophylaxis. Being hospitalized for the UTI was associated with increased compliance with guidelines.

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Factors Inhibiting Use Of The Pneumococcal Polysaccharide Vaccine: A Survey Of Connecticut Physicians

Metersky, M.L., Mennone, J.Z., Fine, J.M.; 1998; Conn Med

A survey was completed by 397 internists and family doctors to determine their frequency of utilization of pneumococcal polysaccharide vaccine (PPV) and what factors inhibited utilization of PPV.

Medication Use Among Children With Asthma In East Harlem

Diaz, T., Sturm, T., Matte, T., Bindra, M., Lawler, K., Findley, S., Maylahn, C.; 2000; Pediatrics

A survey of parents at 2 East Harlem elementary schools about their children's asthma to determine what type of medicines were taken and how frequently they were used, to see if medication use complied with National Health, Lung, and Blood Institute guidelines and to see what factors were associated with deviation from these guidelines.

Outcome

Forgetting to administer the vaccine (59% of respondents) and patient refusal (55% of respondents) were the factors most frequently noted as preventing vaccination in the outpatient setting.

There is significant underuse of anti-inflammatory medicines (inhaled steroid or chomyl/nedocromil) among children thought to have persistent/severe asthma. 89% of children with asthma used some medicine. 22% of children used an anti-inflammatory medicine daily, while 24% reported using a beta-agonist daily (10% used both daily). Of 107 children with severe asthma, only 39% used anti-inflammatory meds daily. Factors increasing the likelihood of using an anti-inflammatory daily were having a spacer tube and visiting a physician in the previous 6 months; not being Puerto Rican decreased the likelihood.

Underuse

Study

Analysis Of The Degree Of Undertreatment Of Hyperlipidemia And Congestive Heart Failure Secondary To Coronary Artery Disease

Sueta, C.A., Chowdhury, M., Boccuzzi, S.J., Smith, S.C., Jr., Alexander, C.M., Londhe, A., Lulla, A., Simpson, R.J., Jr.; 1999; Am J Cardiol

This study examined 58,890 patients from 140 practices with coronary artery disease (CAD) and/or congestive heart failure (CHF) in order to determine: (1) frequency of lipid documentation and prescription of lipid agents in patients with CAD, (2) frequency of assessment of left ventricular function and prescription of an angiotensin-converting enzyme (ACE) inhibitor in patients with CHF, (3) predictors of medication prescription.

Immunizations: A Health Disparity Concerning African American Children And Implications For Community Health

Coleman, C.L.; 2004; J Natl Black Nurses Assoc

This article reviews evidence regarding pediatric immunizations in African American children.

The Urgent Need To Improve Hypertension Care

Trilling, J.S., Froom, J.; 2000; Arch Fam Med

This study reports on a literature review of the underdiagnosis, misdiagnosis, underuse, overuse, and misuse of medications for hypertension.

Outcome

Current practice patterns in the management of CAD and CHF are inadequate. Of the patients with CAD, 44% had annual diagnostic testing of low-density lipoprotein cholesterol. Of the patients with CHF, 64% had diagnostic testing of left ventricular function, and 50% of patients were taking an ACE inhibitor.

African American children from 19-35 months of age are falling below national goals. The study suggests intervention and prevention strategies and recommends implementation and evaluation strategies.

A narrative review of suboptimal blood pressure control in reference to Joint National Committee (JNC-6) guidelines (the goal of less than 140/90 was achieved by only 27% of hypertensive patients). The authors briefly review several potential improvements for hypertension care including computer-aided management, medical chart audit, academic detailing, and the addition of a nurse case manager.

Underuse

Study

Outcome

Temporal Patterns In The Medical Treatment Of Congestive Heart Failure With Angiotensin-Converting Enzyme Inhibitors In Older Adults, 1989-1995

Smith, N.L., Psaty, B.M., Pitt, B., Garg, R., Gottdiener, J.S., Heckbert, S.R.; 1998; Arch Intern Med

This study used a prospective cohort of adults > age 65 and matching Medicare claims data to examine whether there was a temporal pattern from 1989-1995 of angiotensin-converting enzyme (ACE) inhibitor use in elderly patients with congestive heart failure (CHF), in accordance with accumulating evidence of the efficacy of this class of medications for this condition.

This study suggests that ACE inhibitors are significantly underused in elderly patients with CHF, though there was some increase in prevalent use from 1989 to 1995, from 26% in 1989 to 36% in 1994 ($p < 0.01$).

There was no significant temporal change in the use of ACE inhibitors for incident CHF (defined as diagnosis within the previous year): 42% of patients diagnosed with CHF from 1989-1990 were taking ACE inhibitors in 1990 compared with 40% diagnosed from 1994-1995 taking ACE inhibitors in 1995.

National Patterns And Predictors Of Beta-Blocker Use In Patients With Coronary Artery Disease

Wang, T.J., Stafford, R.S., 1998; Arch Intern Med

This study used National Ambulatory Medical Care Survey (NAMCS) data to identify 11,745 visits by patients with coronary artery disease (CAD) to randomly selected office-based physicians in order to examine the frequency and predictors of beta-blocker use.

This study suggests that beta-blockers are significantly underused in ambulatory patients with coronary artery disease. This underuse may translate to significant preventable mortality given the strength of evidence for use of this class of medications.

Underuse

Study

Warfarin Use Following Ischemic Stroke Among Medicare Patients With Atrial Fibrillation

Brass, L.M., Krumholz, H.M., Scinto, J.D., Mathur, D., Radford, M.; 1998; Arch Intern Med

This study used a chart review of Medicare patients hospitalized in Connecticut with a diagnosis of atrial fibrillation (AF) to estimate the rate of warfarin prescription.

Outcome

Underuse of warfarin in this population could lead to increased morbidity and mortality from cerebrovascular disease. Anticoagulation of elderly patients with AF is underused for secondary prevention of recurrent stroke, even among ideal candidates (i.e., those without possible contraindication). 53% of elderly patients with AF discharged alive after an ischemic stroke were prescribed warfarin at discharge. Patients older than 85, those with prior bleeding, dementia, or limitations in ADLs were less likely to be prescribed warfarin. Those receiving warfarin on admission, beta-blockers, or ACE inhibitors were more likely to be prescribed warfarin.

Underuse Of Venous Thromboembolism Prophylaxis For General Surgery Patients: Physician Practices In The Community Hospital Setting

Bratzler, D.W., Raskob, G.E., Murray, C.K., Bumpus, L.J., Piatt, D.S.; 1998; Arch Intern Med

This study used a retrospective records review of 419 Medicare beneficiaries undergoing major abdominal or thoracic surgery in 20 hospitals in Oklahoma to assess the rate of venous thromboembolism (VTE) prophylaxis.

The underuse of VTE prophylaxis at these small-to medium-size community hospitals is of concern, since the consequence of an embolus can be severe. Most Medicare patients over age 65 undergoing abdomino-thoracic surgery (gastrectomy, bowel resection, or lung resection) did not receive VTE prophylaxis. Overall only 38% of these patients received prophylaxis, and the percentage did not change with the patient's risk of venous thromboembolus (35% for moderate risk patients to 40% for very high risk patients).

Underuse

Study

The Health And Economic Benefits Associated With Pneumococcal Vaccination Of Elderly Persons With Chronic Lung Disease

Nichol, K.L., Baken, L., Wuorenma, J., Nelson, A.; 1999; Arch Intern Med

This study was a 2-year retrospective review of elderly members of a staff model health management organization (HMO) with chronic obstructive pulmonary disease (COPD) to assess the ability of pneumococcal vaccination to prevent hospitalization or death.

Outcome

Pneumococcal vaccination is potentially underused; non-vaccinated, high-risk seniors are at higher risk for hospitalization for pneumonia or influenza and death.

Vaccinated seniors are at a lower risk, with a 43% reduction in hospitalization for pneumonia or influenza, and 29% reduction in the death rate. There was no difference between the groups for non-pneumonia hospitalizations, and there was no cost differential between hospitalizations for vaccinated versus non-vaccinated individuals. However, the reduced number of hospitalizations for vaccinated individuals equated to savings of \$294 per person vaccinated.

Treatment Patterns Among Adult Patients With Asthma: Factors Associated With Overuse Of Inhaled Beta-Agonists And Underuse Of Inhaled Corticosteroids

Diette, G.B., Wu, A.W., Skinner, E.A., Markson, L., Clark, R.D., McDonald, R.C., Healy, J.P., Jr., Huber, M., Steinwachs, D.M.; 1999; Arch Intern Med

A 2-year cohort survey study of employees (and their adult dependants) who work at a consortium of 11 employers (who use managed care plans for their health benefits), to examine overuse of b-agonist inhalers, and underuse of inhaled corticosteroids.

Standard maintenance medications for asthma may be underused, while rescue medications may be overused. Patients with moderate to severe allergy in these managed care plans overused beta-agonists (15.8%) and underused inhaled steroids (64%). Overuse of beta-agonists was associated with the patient having a peak flow meter, greater knowledge about asthma, more use of other medications, and being treated by a pulmonologist. Underuse of inhaled steroids was associated with being female, non-white, younger, working full-time, and being treated by a generalist rather than a pulmonologist or an allergist.

Underuse

Study

Prevention Of Venous Thromboembolism: Adherence To The 1995 American College Of Chest Physicians Consensus Guidelines For Surgical Patients

Stratton, M.A., Anderson, F.A., Bussey, H.I., Caprini, J., Comerota, A., Haines, S.T., Hawkins, D.W., O'Connell, M.B., Smith, R.C., Stringer, K.A.; 2000; Arch Intern Med

This study is a review of charts from 10 hospitals to evaluate the adherence to American College of Chest Physicians (ACCP) guidelines for venous thromboembolism (VTE) prophylaxis treatments.

Sex Bias And Underutilization Of Lipid-Lowering Therapy In Patients With Coronary Artery Disease At Academic Medical Centers In The United States And Canada. Prospective Randomized Evaluation Of The Vascular Effects Of Norvasc Trial (PREVENT) Investigators

Miller, M., Byington, R., Hunninghake, D., Pitt, B., Furberg, C.D.; 2000; Arch Intern Med

This study prospectively evaluated 825 men and women with coronary artery disease (CAD) at 16 academic medical centers to determine whether lipid lowering therapies (LLTs) were being used appropriately.

Outcome

The effects of less than total adherence to guidelines is unclear. 89.3% of these high risk patients received some VTE prophylaxis as inpatients, 97.3% for those undergoing orthopedic procedures (total hip, total knee, and hip fracture repair), and 75.2% for the high risk major abdominal surgery patients. However, only 63.6% of patients received prophylaxis that conformed to the ACCP guidelines: 45.2% for hip fracture; 50.3% for major abdominal surgery; 76% for total knee; and 84.3% for total hip.

LLT is underused for patients with CAD in academic medical centers and more so among female patients. The percentage of CAD patients on lipid-lowering therapy went from 30% to 56% over the course of the trial, even after the 4S trial results were released and publicized to the investigators early in this study. However, the percentage of men receiving LLT was greater than for women (63% vs. 47%), and the percentage of men achieving goal low-density lipoprotein (LDL) levels (less than 100mg/dl) was 31% versus only 12% for women.

Underuse

Study

Prevalence And Quality Of Warfarin Use For Patients With Atrial Fibrillation In The Long-Term Care Setting

McCormick, D., Gurwitz, J.H., Goldberg, R.J., Becker, R., Tate, J.P., Elwell, A., Radford, M.J.; 2001; Arch Intern Med

Medical records from residents of a sample of long term care facilities in Connecticut were reviewed to identify atrial fibrillation (AF) patients and estimate whether warfarin was being appropriately administered

Effect Of Medicare Coverage On Use Of Invasive Colorectal Cancer Screening Tests

Ko, C.W., Kreuter, W., Baldwin, L.M.; 2002; Arch Intern Med

This study used Medicare claims data from Washington State to determine the effects of Medicare reimbursement on the utilization rates of invasive screening tests such as those for colorectal cancer.

Time Trends In High Blood Pressure Control And The Use Of Antihypertensive Medications In Older Adults: The Cardiovascular Health Study

Psaty, B.M., Manolio, T.A., Smith, N.L., Heckbert, S.R., Gottdiener, J.S., Burke, G.L., Weissfeld, J., Enright, P., Lumley, T., Powe, N., Furberg, C.D.; 2002; Arch Intern Med

This study used a prospective cohort of 5,888 Medicare beneficiaries to evaluate the use of medications to treat high blood pressure in adults aged 65 years and older.

Outcome

42% of all atrial fibrillation patients received warfarin for at least 2 weeks of the 12 month study period, an additional 27% received aspirin, and 32% received no antiplatelet therapy. Of 83 ideal candidates, 53% received warfarin, 22% received aspirin, and 25% received no stroke prevention therapy. For patients taking warfarin, their levels were therapeutic 51% of the time, below the therapeutic range 36% of the time, and above the therapeutic range 13% of the time.

Insurance coverage did not increase the screening rates for colorectal cancer. Insurance coverage is only one factor in affecting the use of screening tests, and the provision of insurance coverage for screening tests has not been immediately shown to increase the use of such tests.

51% of patients in this study did not achieve optimal control, although the variance was often mild systolic hypertension. Diuretics and beta-blockers were used in less than 50% of eligible patients.

Underuse

Study

Outcome

A Survey Of Oral Vitamin K Use By Anticoagulation Clinics

Libby, E.N., Garcia, D.A.; 2002; Arch Intern Med

This study surveyed 53 anticoagulation clinics to assess whether Vitamin K is being administered by clinics according to the American College of Chest Physicians criteria in the treatment of patients who are having complications from warfarin therapy.

68% of anticoagulation clinics surveyed did not fully conform with guidelines concerning Vitamin K use.

Cancer Survival In Kentucky And Health Insurance Coverage

McDavid, K., Tucker, T.C., Sloggett, A., Coleman, M.P.; 2003; Arch Intern Med

This retrospective review of the Kentucky Cancer Registry database was designed to assess the influence of health insurance on the amount and quality of health care received by patient populations affected with prostate, breast, colorectal, and lung cancers.

Patients with private insurance fare better than patients without insurance, unknown insurance, or Medicaid when it comes to cancer survival rates. Differences in prostate cancer survival rates are 15%, breast 13%, colorectal 18% and lung 10%. This confirms the purported disparities in access to quality cancer care.

In-Hospital Initiation Of Lipid-Lowering Therapy After Coronary Intervention As A Predictor Of Long-Term Utilization: A Propensity Analysis

Aronow, H.D., Novaro, G.M., Lauer, M.S., Brennan, D.M., Lincoff, A.M., Topol, E.J., Kereiakes, D.J., Nissen, S.E.; 2003; Arch Intern Med

This retrospective review of patients enrolled in the EPILOG database was used to examine the relationship between pre-discharge initiation of lipid-lowering therapy and long-term use.

This study suggests that there is an under-use of lipid-lowering agents. Pre-discharge initiation is very effective in influencing subsequent use. 77% of patients who started taking lipid-lowering agents before hospital discharge continued taking the therapy. After adjusting for other confounders, initiation of lipid-lowering agents introduced during hospitalization was the strongest independent predictor of use at 6 months.

Underuse

Study

Outcome

Maternal Determinants Of Pediatric Preventive Care Utilization Among Blacks And Whites
Alio, A.P., Salihu, H.M.; 2005; J Natl Med Assoc

This study used 1996-2000 medical expenditure panel survey (MEPS) data to assess maternal characteristics that were predictive of preventative care utilization among children 0-5 years and compared black-white differences in preventative care usage.

Overall, the level of pediatric preventive services used regardless of race was 15.4% of expected.

Lack Of Physician Concordance With Guidelines On The Perioperative Use Of Beta-Blockers
Siddiqui, A.K., Ahmed, S., Delbeau, H., Conner, D., Mattana, J.; 2004; Arch Intern Med

This study retrospectively reviewed the records of patients undergoing cholecystectomy at a tertiary academic center to estimate compliance with American College of Physicians ACP guidelines for the use of perioperative beta-blockers.

Only 43% of patients thought to benefit from perioperative beta-blockers actually received them.

Underutilization Of Digital Rectal Examination When Screening For Prostate Cancer
Murthy, G.D., Byron, D.P., Pasquale, D.; 2004; Arch Intern Med

This study identified 588 patients at a Veterans Affairs Medical Center (VAMC) who underwent prostate-specific antigen (PSA) testing, and then reviewed the medical record to determine whether or not digital rectal examination (DRE) was done.

DRE is underused. 17% of the prostate cancers diagnosed were by DREs alone. DRE were performed less than 50% of the time. If those tests did not take place, about 37,500 cancers would not be diagnosed. This is important because DREs may detect early abnormalities before PSA test levels are abnormal. Female providers were more likely to perform DREs than male providers. And physician extenders outperformed physicians. Physician attitudes may be a factor in whether or not DREs are performed. Of 588 records reviewed, DRE was not performed in 311 patients.

Underuse

Study

Outcome

The Potential Preventability Of Postoperative Myocardial Infarction: Underuse Of Perioperative Beta-Adrenergic Blockade

Lindenauer, P.K., Fitzgerald, J., Hoople, N., Benjamin, E.M.; 2004; Arch Intern Med

This study retrospectively reviewed records of patients sustaining a post operative acute myocardial infarction (AMI) at Baystate Medical Center to examine beta-blocker use among patients in order to estimate the potential preventability of postoperative MI among patients who underwent noncardiac surgery.

A large percentage of postoperative MI may be preventable through improved use of beta-blockers perioperatively. Greater efforts should be made to encourage beta-blocker use among high-risk patients undergoing major noncardiac surgery.

Influenza Vaccination By Race Among Disabled Community Dwelling Older Women

Frick, K.D., Scanlon, D.P., Bandeen-Roche, K., Kasper, J.D., Simonsick, E.M., Sullivan, E.M.; 2004; J Health Care Poor Underserved

This study used a survey of community-dwelling Medicare enrollees in Baltimore, MD to estimate the likelihood of receiving influenza vaccination and the role of race in that outcome.

Influenza vaccination remains underused: 70% of white and 45% black study beneficiaries received appropriate vaccination.

Geriatric Trauma Patients: Are They Receiving Trauma Center Care?

Lane, P., Sorondo, B., Kelly, J.J.; 2003; Acad Emerg Med

This study analyzed hospital discharge data in Pennsylvania to evaluate whether severely injured geriatric patients were as likely to be treated at designated trauma centers within the statewide trauma system. It compared the demographic and injury characteristics of severely injured older and younger patients in trauma centers and non-trauma centers.

Severely injured geriatric patients are not as likely to receive trauma center care for their injuries as younger patients. Geriatric patients are more likely to be injured in a given incident and the injuries they sustain are more severe and difficult to diagnose. They are also likely to suffer more complications.

Underuse

Study

Outcome

Early Glycoprotein Iib/Iiia Inhibitor Use For Non-ST-Segment Elevation Acute Coronary Syndrome: Patient Selection And Associated Treatment Patterns

Hoekstra, J.W., Roe, M.T., Peterson, E.D., Menon, V., Mulgund, J., Pollack, C.V., Miller, C., Palabrica, T., Harrington, R.A., Ohman, E.M., Gibler, W.B.; 2005; Acad Emerg Med

This study used the CRUSADE Quality Improvement Initiative database to determine patient selection patterns with early use and the relationship between glycoprotein (GP) Iib/IIIa inhibitor therapy and the use of other guidelines recommended therapies for Non-ST-Segment Elevation Acute Coronary Syndrome (NSTE-ACS).

Only 35% of eligible patients received GP Iib/IIIa inhibitors within 24 hours of hospital admission.

Regulatory Issues In Pain Management

Fujimoto, D.; 2001; Clin Geriatr Med

This study reviews the relevant issues of the regulation of controlled substances, updates the reader about the laws, and provides guidance to practitioners about the appropriate use of controller substances, especially opioids, to manage pain.

Opioids should be the mainstay for moderate to severe pain, however they are not used or are underdosed. Health care professionals fear sanctions of governing boards, law enforcement, and have limited knowledge on the laws and regulations.

Underuse

Study

Outcome

Delivery Of Preventative Services To Older Black Patients Using Neighborhood Health Centers

Wright, P.J., Fortinsky, R.H., Covinsky, K.E., Anderson, P.A., Landefeld, C.S.; 2000; J Am Geriatr Soc

This study used retrospective chart review of 683 patients of low-income neighborhood health centers in Cleveland to assess the delivery of 5 preventive services in Title 330-funded health centers in low-income neighborhoods and determines the association of health system factors and health status with the delivery of these services.

Influenza vaccination, pneumococcal vaccination, mammography, Pap screening and fecal occult blood testing were achieved for 59%, 64%, 59%, 51% and 17% of patients respectively. Title 330 federally supported neighborhood health centers achieved high rates of performance in 4 of the 5 recommended preventive services.

Aggressive Pharmacologic Treatment Of Pain
Pappagallo, M.; 1999; Rheum Dis Clin North Am

This is a narrative review of opioid and non-opioid analgesics for pain control and provides information on how to use analgesics for prompt, safe and effective pharmacologic treatment of acute and chronic pain.

Opioid analgesics have been underused in the management of pain.

Predictors Of Treatment Adherence Among Asthma Patients In The Emergency Department
Schmaling, K.B., Afari, N., Blume, A.W.; 1998; J Asthma

This study used structured chart reviews of 120 randomly selected adults who presented with asthma at two university hospital emergency departments (EDs) to examine predictors of treatment adherence.

60% of subjects had evidence of nonadherence with asthma treatment. Younger age, more ED visits, using ED for medication refills, not being prescribed prednisone at discharge, and not keeping post-discharge follow-up appointments were variables associated with nonadherence.

Underuse

Study

Outcome

Optimizing Beta-Blocker Use After Myocardial Infarction

Howard, P.A., Ellerbeck, E.F.; 2000; Am Fam Physician

This paper is a narrative review of use of beta-blocker therapy after myocardial infarction (MI) and in congestive heart failure (CHF).

Only 20-50% of eligible patients receive beta-blocker after MI. The failure to prescribe is based on perceived risk factors, doctor training, recent percutaneous transluminal coronary angioplasty (PTCA), and geographical location. Patients previously deemed high-risk (the elderly, diabetics, non-Q wave MI, CHF) benefit from beta-blocker use. The use of cardioselective agents in a low initial dose with titration to an effective dose are all associated with decreased side effects. This may also be useful in patients with lipid disorders, chronic obstructive pulmonary disease, and peripheral vascular disease.

Psychological Factors Associated With Medication Nonadherence In Asthmatic Children

Bender, B., Milgrom, H., Rand, C., Ackerson, L.; 1998; J Asthma

This study tracked adherence to inhaler prescribing for 3 months in a sample of clinic patients, and evaluated psychological factors that might contribute to non-compliance.

On 41.8% of days patients did not take any inhaled corticosteroids and 28.1% of days did not take inhaled beta-agonists, despite prescribed daily use. Nonadherence was correlated with lower levels of asthma knowledge and family dysfunction.

Underutilization Of Lipid-Lowering Drugs In Older Persons With Prior MI And A Serum LDL Cholesterol >125 Mg/Dl

Aronow, Wilbert S.; 1998; Am J Cardiol

This was a prospective study of patients admitted to an academic nursing home following Q-wave myocardial infarction (MI) to determine the rate of lipid lowering drug use in patients with low-density lipoprotein (LDL) cholesterol > 125.

In 500 people (age range 60-100) with documented Q-wave MI consecutively admitted to a long-term care facility, only 5% of those with LDL cholesterol of more than 125 mg/dl were on lipid-lowering drugs. American Heart Association/American College of Cardiology guidelines recommend lipid-lowering drugs in all persons status post-MI if their LDL cholesterol is higher than 125 mg/dl.

Underuse

Study

Outcome

Underutilization Of Beta-Adrenoceptor Antagonists Post-Myocardial Infarction
Gutierrez, M.E., Labovitz, A.J.; 2005; Am J Cardiovasc Drugs

This paper presents a review of major studies showing the benefits of early use of beta-blockers following myocardial infarction (MI).

The underuse of beta-blockers after MI leads to increased mortality. Previous studies show the benefit of early use of beta-blockers following MI. There is brief discussion of studies showing underuse (only 29-58% of eligible patients receive this therapy).

Survey Of Use Of ST-Segment Monitoring In Patients With Acute Coronary Syndromes
Patton, J.A., Funk, M.; 2001; Am J Crit Care

This study used a mailed survey of 192 cardiac nurse managers to ascertain whether continuous ST-segment monitoring was routinely used in their institutions to diagnose ischemia.

Continuous ST-segment monitoring is underused in the acute setting. 54% of units use ST-segment monitoring according to a survey of ICU/CCU nurses. The percentage of units using it regularly was less than 50% and may be even lower. The majority of units did not use the 12-lead electrocardiogram (EKG) to monitor ST segments despite the recommendation that this is the most appropriate method.

Pain Management In The ED
Wilsey, B., Fishman, S., Rose, J.S., Papazian, J.; 2004; Am J Emerg Med

This narrative article reviews the current issues of pain control in the emergency department with specific reference to headaches, back pain, sickle cell crisis and renal colic.

Acute and chronic pain are undertreated. The study reviews general literature that shows inadequate treatment of all pain syndromes with relevance to practice in the emergency room and the specific conditions noted above.

Underuse

Study

Outcome

Computed Tomography For Blunt Abdominal Trauma In The ED: A Prospective Study

Richards, J.R., Derlet, R.W.; 1998; Am J Emerg Med

This is a prospective study of stable patients with suspected blunt abdominal trauma presenting to an academic emergency department (ED) to determine whether abdominal computerized tomography (CT) in the ED could prevent unnecessary surgery for intra-abdominal injury.

Unnecessary admissions and possibly overuse of surgery can be avoided by appropriate use of abdominal CT for blunt abdominal trauma in the ED. A total of 40 potential trauma admissions were averted by obtaining CT within the ED.

The Impact Of Computerized Clinical Reminders On Physician Prescribing Behavior: Evidence From Community Oncology Practice

Kralj, B., Iverson, D., Hotz, K., Ashbury, F.D.; 2003; Am J Med Qual

This study reviewed 11,644 encounters in 2 community oncology practices to estimate the frequency with which erythropoietin (EPO) was not prescribed when clinically indicated.

More anemic cancer patients would receive epo if there were computer-based reminders when Hgb is less than 12. In the intervention clinic, use of epo increased from 21.2% to 24.2%; the difference in the intervention versus the control clinic was 9.3% (24.2% versus 14.9%).

Adherence To Treatment With Antipsychotic Medication And Health Care Costs Among Medicaid Beneficiaries With Schizophrenia

Gilmer, T.P., Dolder, C.R., Lacro, J.P., Folsom, D.P., Lindamer, L., Garcia, P., Jeste, D.V; 2004; Am J Psychiatry

This study used MediCal claims data to determine the level of adherence to medication seen in Medicaid patients with schizophrenia and to address the relationship between adherence and psychiatric or medical hospitalization.

Only 41% of patients studied were adherent to treatment with antipsychotic medications.

Underuse

Study

Characteristics Of Children With Asthma Who Are Enrolled In A Head Start Program

Vargas, P.A., Simpson, P.M., Gary, Wheeler J., Goel, R., Feild, C.R., Tilford, J.M., Jones, S.M., 2004; J Allergy Clin Immunol

This study enrolled 368 children who participated in a Head Start program in Arkansas, surveying caregivers regarding health care use and access, and home environmental factors. Children underwent urine cotinine and allergen sensitization testing.

Outcome

Overall, children in the study had poor asthma control. At baseline, 64% of the children had more than 1 emergency department visit for asthma in their lifetime. 21% had symptoms consistent with intermittent asthma, 79% with persistent asthma. Only 32% with persistent asthma had both rescue and controller medications.

Regionalization And The Underuse Of Angiography In The Veterans Affairs Health Care System As Compared With A Fee-For-Service System

Petersen, L.A., Normand, S.L., Leape, L.L., McNeil, B.J.; 2003; N Engl J Med

This study used data from the Cooperative Cardiovascular Project and a national, hospital-based Veterans Affairs sample to compare the underuse of needed angiography after acute myocardial infarction in a traditional Medicare fee-for-service system in the regionalized Department of Veterans Affairs health care system.

Veterans Affairs patients were significantly less likely than Medicare patients to undergo the procedure (43.9% versus 51.0%). When controlling for on-site availability of angiography at the admitting hospital, there was no significant difference in the rates of use (odds ratio, 1.02) or in 1-year mortality (odds ratio, 1.08).

Underuse

Study

Electronic Alerts To Prevent Venous Thromboembolism Among Hospitalized Patients
Kucher, N.Koo, S., Quiroz, R., Cooper, J.M., Paterno, M.D., Soukonnikov, B., Goldhaber, S.Z.; 2005; N Engl J Med

This prospective study of the value of computer alerts for venous thromboembolism (VTE) prophylaxis in reducing deep vein thrombosis and pulmonary embolism documents the extent to which indicated prophylaxis is underused at the Brigham and Womens' Hospital.

Aspirin Administration For Cardiac-Related Acute Chest Pain/Angina: Increased Use In Medicare Patients
Bing, M.Abel, R.L.Pendergrass, P., Malone, M., Sabharwal, K., McCauley, C.; 1999; South Med J

Retrospective chart reviews were carried out in 10 acute care hospitals before and after a program designed to increase aspirin use in patients with diagnoses of coronary heart disease (CHD).

Age-Related Underutilization Of Left Ventricular Function Evaluation In Older Heart Failure Patients
Ahmed, A., Allman, R.M., DeLong, J.F., Bodner, E.V., Howard, G.; 2002; South Med J

This study examines age-related variation of left ventricular function (LVF) evaluation in older Medicare-beneficiaries discharged with a diagnosis of heart failure in 1994 in Alabama to determine the relationship between age and underutilization of LVF evaluation.

Outcome

Computer alerts increase the rate of prophylaxis for hospitalized patients at risk for thromboembolism, and reduce the rate of pulmonary embolism (PE) and deep vein thrombosis (DVT). In the intervention group (alerts), prophylactic measures were ordered more frequently and DVT or PE at 90 days was less likely resulting in a reduction of 41% in thromboembolism. There was no increase in the rate of hemorrhage at 30 days in patients who received prophylaxis versus those who did not.

Average time from arrival to Aspirin/dose (ASA) decreased 2.9 hours, but remains over 11 hours. ASA prescription at discharge increased to 68.8%.

There was overall underutilization of LVF evaluation (58%). Older patients (ages 75-84 and 85 or older) with heart failure were less likely to receive left ventricular assessment than younger patients (65-74). 66% of patients aged 65-74 had left ventricular evaluation at or before the index hospitalization, compared with 57% of those aged 75-84 and 51% of those 85 or older. After multivariate adjustment, patients aged 85 or older had 33% lower odds of left ventricular assessment than patients aged 65-74.

Underuse

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.

Age-Related Underutilization Of Angiotensin-Converting Enzyme Inhibitors In Older Hospitalized Heart Failure Patients

Ahmed, Ali MD, MPH; 2002; South Med J

This study examines age-related variation in the use of Angiotensin-Converting Enzyme (ACE) inhibitors in older Medicare beneficiaries discharged alive in Alabama with a diagnosis of heart failure to determine the extent to which age affects the underutilization of ACE inhibitors.

Factors Influencing Access To Cardiovascular Procedures In Patients With Chronic Renal Disease: Race, Sex And Insurance

Daumit, G.L., Powe, N.R.; 2001; Semin Nephrol

This study used both Medicare claims data and medical chart review to determine what effect race, sex and insurance status have on rates at which different groups receive cardiac procedures before and after development of end-stage renal disease (ESRD).

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 department visits and hospital admission.

There was overall underutilization of ACE inhibitors at discharge for hospitalization for heart failure (63%). Older patients (aged 85 or older) with heart failure were not significantly less likely to be prescribed ACE inhibitors than younger patients (ages 65-74). 66% of patients ages 65-74 were prescribed ACE inhibitors at discharge, compared with 64% of those ages 75-84 and 59% of those aged 85 or older. In a multivariate model, patients aged 85 or older had 56% lower odds of being prescribed an ACE inhibitor at discharge compared with patients ages 65-74.

White and black women as well as black men have lower rates of cardiac procedures both pre- and post-ESRD when compared with white men. These differences narrow after development of ESRD and dialysis.

Underuse

Study

Outcome

Racial Differences In Cardiac Catheterization Use And Appropriateness

Ferguson, J.A., Adams, T.A., Weinberger, M.; 1998; Am J Med Sci

This study used a retrospective chart review at a Veterans Affairs Medical Center (VAMC) to determine whether medical appropriateness explained interracial cardiac procedure rate differences.

Using RAND criteria for appropriateness of cardiac catheterization, no underuse was identified for black males. Black males had fewer indications for and more against than whites. There was 10% overuse among whites.

Underuse Of ACE Inhibitors And Angiotensin II Receptor Blockers In Elderly Patients With Diabetes

Winkelmayer, W.C., Fischer, M.A., Schneeweiss, S., Wang, P.S., Levin, R., Avorn, J.; 2005; Am J Kidney Dis

This study used Medicare claims data and data from the Pennsylvania PACE program to evaluate the use of angiotensin-converting enzyme (ACE) inhibitors and/or angiotensin receptor blockers (ARBs) in diabetics over 65 with hypertension and/or proteinuria.

Only 50.7% of diabetics with hypertension and/or proteinuria filled a prescription for ACE inhibitors or receptor blockers during the quarter studied. Factors associated with decreased use were gender (male), age > 75, chronic obstructive pulmonary disease (COPD), depression, and dementia.

Warfarin Therapy: A Review Of The Literature Since The 5th American College Of Chest Physicians Consensus Conference On Antithrombotic Therapy

Lodwick, A.; 1999; Clin Appl Thromb Hemost

This paper reviews studies published since 1998 pertaining to the appropriateness of warfarin use in atrial fibrillation (AF) and deep vein thrombosis (DVT).

The article concludes the warfarin is underutilized in AF and DVT, but refers to other sources and does not estimate the percent of underuse.

Underuse

Study

Outcome

Adherence To Screening Guidelines For Breast And Cervical Cancer In Postmenopausal Women With Coronary Heart Disease: An Ancillary Study Of Volunteers For HERS

Castellano, P.Z., Wenger, N.K., Graves, W.L.; 2001; J Womens Health Gend Based Med

This study used data from the Heart and Estrogen/Progestin Replacement Study (HERS) to assess patients prior compliance with female cancer screening guidelines.

Compliance rates among women who volunteered for HERS were 59% for monthly breast self-exam, 67% for yearly mammography, 73% for yearly Pap smear and pelvic exam, and 76% for provider breast exam. For all types of preventive procedures, a significantly higher proportion of women received screening if cared for by providers who scheduled or performed the screenings themselves. For example, 80% of women whose providers scheduled or performed mammography reported receiving yearly mammograms compared with 56% of women whose providers did not schedule or perform the procedure.

Correlates Of Surgical Treatment Type For Women With Noninvasive And Invasive Breast Cancer

Katz, S.J., Lantz, P.M., Zemencuk, J.K.; 2001; J Womens Health Gend Based Med

This study used interviews and surveys to examine factors related to the type of surgery (mastectomy vs. breast-conserving) and satisfaction with surgery among women with invasive and in situ breast cancer.

There is a high rate of mastectomy among patients with in situ and invasive breast carcinoma. Overall, 53% of women received mastectomy, including 49% of women with in situ carcinoma. One third of patients reported that they were not given a choice between mastectomy and breast-conserving surgery (lumpectomy). Patients who did not perceive choice were less satisfied with the results of the surgery.

Underutilization Of Mammography In Older Breast Cancer Survivors

Schapiro, M.M., McAuliffe, T.L., Nattinger, A.B.; 2000; Med Care

This study matched Surveillance Epidemiology and End Results (SEER) and Medicare claims data to evaluate the use of mammography in older breast cancer survivors.

Elderly women underuse mammography. Overall, 62% of the cohort underwent annual mammography, 23% underwent mammography in 1 of 2 years, and 15% had no mammography claim in the 2 years evaluated.

Underuse

Study

Outcome

Diabetes Education Program Use And Patient-Perceived Barriers To Attendance

Graziani, C., Rosenthal, M.P., Diamond, J.J.; 1999; Fam Med

A sample of 150 diabetics cared for in an academic family practice were surveyed to determine uptake rates for diabetic education programs.

Only 22% of eligible patients had ever attended a diabetes education program.

Diabetes Process And Outcome Measures In The Department Of Veterans Affairs

Sawin, C.T., Walder, D.J., Bross, D.S., Pogach, L.M.; 2004; Diabetes Care

This study used retrospective chart audits to report on the prevalence of diabetics receiving care at Veteran Affairs (VA) facilities. The study reports on the prevalence of patients receiving dilated eye exams, urinary protein tests, influenza vaccinations, and other preventive and diabetes-specific measures in 22 Veterans Affairs Medical Center (VAMC) networks.

From 1995 to 2000, more patients received dilated eye exams (from 44% in 1995 to 67% in 2000), urinary protein tests (from 23% to 54% in 2000), and influenza vaccines (from 34% to 78%).

Problems Paying Out-Of-Pocket Medication Costs Among Older Adults With Diabetes.

Piette, J.D., Heisler, M., Wagner, T.H.; 2004; Diabetes Care

This study used a proprietary panel to survey diabetic adults > age 50 regarding problems faced by older adults with diabetes due to out-of-pocket medication costs.

19% of respondents reported cutting back on medication use in the prior year due to cost, 14% increased their credit card debt, and 10% borrowed money to pay for their prescriptions. Medication cost problems were especially common among respondents who were younger, had higher monthly out-of-pocket costs, and had no prescription drug coverage.

Underuse

Study

Pap Smear Use In A Population Of Older Mexican-American Women

Randolph, W.M., Freeman, D.H., Jr., Freeman, J.L.; 2002; Women Health

This study conducted 452 in-person interviews from 1997 to 1999 in order to report the rates of cervical cancer screening in a group of older Mexican-American women in Texas, and to identify factors associated with having a Pap smear.

Outcome

In this population, recent Pap smear use (within the last 3 years) was 64.1% which falls well below the year 2010 goal of 90%. The odds of having a recent Pap smear was lower for women who were older, below the poverty line, and did not have a regular doctor.

Physician Recommendation For Papanicolaou Testing Among U.S. Women, 2000

Coughlin, S.S., Breslau, E.S., Thompson, T., Benard, V.B.; 2005; Cancer Epidemiol Biomarkers Prev

This study used data from the 2000 National Health Interview Survey (NHIS) to determine whether women who failed to receive cervical cancer screening did so because of physician failure to recommend cervical cancer screening.

17% of women > age 18 had not had a Pap smear, 86% of women who did not have a Pap but had seen a physician within the past year reported that the test was not recommended.

Primary Care Provider Perceptions Of Barriers To And Facilitators Of Colorectal Cancer Screening In A Managed Care Setting

Dulai, G.S., Farmer, M.M., Ganz, P.A., Bernaards, C.A., Qi, K., Dietrich, A.J., Bastani, R., Belman, M.J., Kahn, K.L.; 2004; Cancer

This study used a survey methodology to assess the attitudes of California primary care physicians (PCPs) toward colorectal cancer (CRC) screening, and to assess facilitators for improving screening rates.

PCPs indicated that 79% of their standard-risk patients were screened for CRC.

Underuse

Study

The Use Of Anti-Inflammatory Medications In Cystic Fibrosis: Trends And Physician Attitudes
Oermann, C.M., Sockrider, M.M., Konstan, M.W.; 1999; Chest

This study used a mailed survey to Cystic Fibrosis (CF) Centers in the U.S. to determine trends and physician attitudes in the use of anti-inflammatory medications (i.e., ibuprofen (IBU), oral corticosteroids (OCS) and inhaled corticosteroids (ICS). in managing cystic fibrosis long-term.

Outcome

67 surveys were returned (60%). The responding centers represented 239 physicians and served 9,363 patients, 2,234 (24%) of whom were receiving routine anti-inflammatory drugs. Complete data sets were available for 8,803 patients with 2,169 (25%) receiving anti-inflammatory therapy. 98 (41%) physicians prescribed long-term use of oral steroids for 413 (5%) patients, 103 (42%) prescribed inhaled steroids for 1,032 (12%) patients, and 108 (45%) prescribed high-dose IBU for 723 (8%) patients to control CF. The practitioners reported familiarity and efficacy as the primary reasons for prescribing OCS; concerns over side effects were the major reason for not prescribing. Regarding ICS, the primary reasons for prescribing were familiarity and safety, with lack of efficacy being cited as the major reason for not prescribing. For IBU, efficacy was ranked highest among reasons for prescribing, with concern over safety being the highest ranked reason for not prescribing.

The Clinical Application And Cost Analysis Of Fine-Needle Aspiration Biopsy In The Diagnosis Of Mass Lesions In Sarcoidosis

Fonarow, G.C., French, W.J., Parsons, L.S., Sun, H., Malmgren, J.A.; 2000; Chest

Records from 28 patients with diagnosed, suspected, or undiagnosed sarcoidosis who underwent fine needle aspiration biopsy (FNAB) were examined in order to analyze the utility and cost-effectiveness of FNAB in the clinical investigation of patients.

Sarcoidosis had already been diagnosed or was a clinical consideration prior to fine needle aspiration biopsy (FNAB) in 14 cases. Simultaneous or subsequent excisional biopsies confirmed the FNAB findings in 17 patients. The cost of FNAB was only 12.5% to 50% that of tissue biopsy.

Underuse

Study

Characteristics Of Patients With Uncontrolled Hypertension In The United States

Hyman, D.J., Pavlik, V.N.; 2001; N Engl J Med

This study used data from NHANES III to assess the role of access to and effectiveness of health care in the control of hypertension.

Outcome

Only 23% of patients with hypertension were taking medications that adequately controlled their condition, despite the majority having insurance and frequent physician contact. Most cases were mild systolic hypertension in older adults.

Use Of Lipid-Lowering Medications At Discharge In Patients With Acute Myocardial Infarction: Data From The National Registry Of Myocardial Infarction 3

Fonarow, G.C., French, W.J., Parsons, L.S., Sun, H., Malmgren, J.A.; 2001; Circulation

This study used data from 1,470 hospitals participating in the National Registry of Myocardial Infarctions 3 project to assess use of lipid-lowering medication at discharge in a current national sample of patients hospitalized with acute myocardial infarction (AMI) and to evaluate factors associated with prescribing patterns.

Lipid-lowering agents are underused in patients discharged from the hospital following AMI. A low percentage of patients (37.1%) following AMI were discharged with a prescription for a lipid-lowering medicine. Multivariate analysis showed that younger age, previous history of MI, PTCG, CABG, or high cholesterol increased the likelihood of receiving a lipid-lowering prescription. Other factors that increased the likelihood of receiving a prescription were being in a Medicare health management organization (HMO), or being in a teaching, urban or large hospital. Also noted was that only 40.6% of current smokers had documentation in their chart about discussion smoking of cessation counseling.

Underuse

Study

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.

Impact Of Cardiac Service Availability On Case-Selection For Angiography And Survival Associated With Angiography

Dendukuri, N., Normand, S.L., McNeil, B.J.; 2003; Health Serv Res

This study used Medicare claims data and medical record reviews of 37,788 Medicare beneficiaries discharged from 7 hospitals with a diagnosis of acute myocardial infarction (AMI) to determine the role of cardiac catheterization availability in the hospital in whether patients received indicated cardiac interventions.

Outcome

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.

The probability of receiving angiography increased with the increasing capabilities of the hospitals (25% basic, 41% angiography, and 63% revascularization), and these differences persisted when patients were subdivided into necessary, appropriate, and unnecessary subgroups. However, year survival was not significantly different at hospitals with more intensive services available, (i.e., revascularization-capable hospitals 82% vs. basic hospitals 78%). Patients receiving angiography in all subgroups at all hospital types had higher survival than patients who did not receive angiography (8-23%). When patients were case matched, this difference remained, but was smaller (5-18%).

Underuse

Study

Outcome

Influenza And Pneumococcal Vaccination Coverage Levels Among Hawaii Statewide Long-Term Care Facilities

Cui, X.W., Nagao, M.M., Effler, P.V; 2001; Infect Control Hosp Epidemiol

This study used a survey instrument to estimate the influenza and pneumonia vaccine rates in long-term care facilities in Hawaii.

Influenza vaccination rates remained over 89%, but pneumococcal vaccination was underutilized.

Effects Of Noncardiovascular Comorbidities On Antihypertensive Use In Elderly Hypertensives

Wang, P.S., Avorn, J., Brookhart, M.A., Mogun, H., Schneeweiss, S., Fischer, M.A., Glynn, R.J.; 2005; Hypertension

This retrospective study of patients enrolled in the Pennsylvania PACE study was designed to determine whether cardiovascular comorbidities contributes to the underuse of antihypertensives in the elderly.

Anti-hypertensive medications are under-used in patients with non-cardiac comorbidities (i.e., depression, gastrointestinal disorders, or osteoarthritis). Senior citizens who had non-cardiac comorbidities were approximately 2 times more likely not to take anti-hypertensive medications when compared to seniors who had diseases that usually are indicators for antihypertensives (i.e., coronary artery disease, cardiovascular disease, peripheral vascular disease, diabetes).

Major Review: The Underutilization Of Vision Screening (For Amlyopia, Optical Anomalies And Strabismus) Among Preschool Age Children
Castanes, Maria; 2003; Binocul Vis Strabismus Q

This article is a review of the literature between 1992 and 2003 that was done in order to (1) determine what barriers contribute to the underutilization of vision screening among preschool-age children, and (2) identify gaps in the literature base regarding this problem.

There are a variety of barriers that prevent children from receiving proper vision screening, including social, economic and political barriers. Low-income, minority, and uninsured families are at higher risk of not utilizing vision screening.

Underuse

Study

Outcome

Undertreatment Of Panic Disorder In Primary Care: Role Of Patient And Physician Characteristics

Roy-Byrne, P., Russo, J., Dugdale, D.C., Lessler, D., Cowley, D., Katon, W.; 2002; J Am Board Fam Pract

This study identified 58 patients with panic disorder getting care from 3 university affiliated primary care practices to determine the frequency of appropriate pharmaceutical management.

The proportion of patients receiving appropriate antipanic medication regimens varied between 46% and 52%.

Use Of Angiotensin-Converting Enzyme Inhibitors At Discharge In Patients With Acute Myocardial Infarction In The United States: Data From The National Registry Of Myocardial Infarction 2

Barron, H.V., Michaels, A.D., Maynard, C., Every, N.R.; 1998; J Am Coll Cardiol

This study collected data from 190,015 patients discharged from hospitals participating in the National Registry of Myocardial Infarction 2 project with a diagnosis of acute myocardial infarction (AMI) to determine the rate of angiotensin-converting enzyme (ACE) inhibitor therapy in this cohort.

Overall, ACE inhibitors were substantially underused in this large registry. Prescription rates at discharge following MI increased from 25% in 1994 to 31% in 1996; rates were up to 43% for the subset of patients with concomitant congestive heart failure (CHF).

Use Of Echocardiography In The Management Of Congestive Heart Failure In The Community

Senni, M., Rodeheffer, R.J., Tribouilloy, C.M., Evans, J.M., Jacobsen, S.J., Bailey, K.R., Redfield, M.M.; 1999; J Am Coll Cardiol

This study examined 216 patients who received an initial diagnosis of congestive heart failure (CHF) to determine the use and the impact of echocardiography in these patients.

63% underwent echocardiography within 3 weeks before or after the episode of CHF. Fewer patients in the No-Echo group were treated with angiotensin-converting enzyme (ACE) inhibitors. Survival after adjustment for age, functional class, and gender was lower in the No-Echo group than the Echo group.

Underuse

Study

Outcome

A Remarkable Medical Story: Benefits Of Angiotensin-Converting Enzyme Inhibitors In Cardiac Patients

Khalil, M.E., Basher, A.W., Brown, E.J., Jr. Alhaddad, I.A.; 2001; J Am Coll Cardiol

This study reviewed the literature pertaining to the underuse of angiotensin-converting enzyme (ACE) inhibitors in patients with left ventricular (LV) dysfunction.

ACE inhibitors are underused.

A Diabetes Report Card For The United States: Quality Of Care In The 1990's

Saaddine, J.B., Engelgau, M.M., Beckles, G.L., Gregg, E.W., Thompson, T.J., Narayan, K.M.; 2002; Ann Intern Med

This study analyzed Third national Health and Nutrition Examination Survey (NHANES III) and Behavioral Risk Factor Surveillance System (BRFSS) 1995 data to document the quality of diabetes care between 1988-1995.

There was a significant gap between recommended diabetes care and care actually received from 1988-1995. 18% had HgbA1C greater than 9.5%, 34% had blood pressure greater than 140/90, and 58% had low-density lipoprotein (LDL) greater than 130. The rates of eye and foot exams within the previous year were also sub par (63% and 55% respectively).

Utilization Of Implantable Cardioverter-Defibrillators (ICD) In Survivors Of Cardiac Arrest In The United States From 1996 To 2001.

Voigt, A., Ezzeddine, R., Barrington, W., Obiaha-Ngwu, O., Ganz, L.I., London, B., Saba, S.; 2004; J Am Coll Cardiol

This study used the National Hospital Discharge Survey (NHDS) to estimate the percentage of patients admitted with cardiac arrest who underwent implantation of a defibrillator.

The rate of implantable cardioverter defibrillator (ICD) use remained low although it increased over the study period from 23.6% to 46.3%. Being of older age, of African American ethnicity, and being admitted to a smaller hospital were all significantly associated with absence of ICD at discharge.

Underuse

Study

Is Warfarin Really Underused In Patients With Atrial Fibrillation?

Weisbord, S.D., Whittle, J., Brooks, R.C.; 2001; J Gen Intern Med

This study utilized a chart review at a tertiary VAMC to determine if warfarin is underused in patients with atrial fibrillation.

Preventive Health Care Measures Before And After Start Of Renal Replacement Therapy
Winkelmayer, W.C., Owen, W., Glynn, R.J., Levin, R., Avorn, J.; 2002; J Gen Intern Med

This is a retrospective cohort study to see what percent of patients received preventive health care measures before and after starting renal replacement therapy. The preventive health care measures studied included: mammogram, Pap smear, prostate-specific antigen, diabetic eye exam, and hemoglobin A1c.

Gaps In Asthma Care Of The Oldest Adults
Wolfenden, L.L., Diette, G.B., Skinner, E.A., Steinwachs, D.M., Wu, A.W.; 2002; J Am Geriatr Soc

This study surveyed a sample of patients enrolled in the Managed Health Care Association Outcomes Management System Consortium Asthma Study to assess the adequacy of asthma care and knowledge reported by adults > age 70 who were subsequently admitted for asthma.

Outcome

Warfarin was less underutilized in this population than in other studies. Of the 35% of patients not prescribed warfarin, many did not actually have atrial fibrillation (27%), had a contraindication to warfarin (16%), were receiving warfarin elsewhere (12%), or had only a history of, or transient, atrial fibrillation.

Mammogram, pap smear, prostate-specific antigen, diabetic eye exam, and hemoglobin A1c testing were done less often after renal replacement therapy (RRT) was begun than before RRT. Overall, screening rates were low with the exception of diabetic eye exams. Thus, they concluded that the tests were underutilized.

Of 254 older adults, 38 (15.0%) reported being hospitalized for asthma at 1 year follow-up. Of these, 22.9% owned a peak flow meter (PFM). Of those with allergies, only about half (56%) had been told how to avoid allergens and had been referred for formal allergy testing. Only 18.4% of respondents rated their overall asthma attack knowledge as excellent. Compared with non-hospitalized older adults, the hospitalized group reported care that was more consistent with guidelines, but also higher rates of potentially toxic combination of adrenergic drugs. Compared with younger hospitalized adults, older hospitalized adults had clear deficiencies, including lower use of PFMs (55.3% vs. 22.9%) and worse asthma self-management knowledge.

Underuse

Study

Outcome

Demonstrated Use Of Metered-Dose Inhalers And Peak Flow Meters By Children And Adolescents With Acute Asthma Exacerbations
Scarfone, R.J., Capraro, G.A., Zorc, J.J., Zhao, H.; 2002; Arch Pediatr Adolesc Med

This study prospectively identified patients presenting to an academic ED with acute asthma exacerbations to determine the extent to which children with asthma properly use metered dose inhalers (MDIs) and peak-flow meters (PFMs) as recommended by national guidelines.

Most children with asthma could not demonstrate perfect technique of a MDI, and only 24% of children were judged to use perfect technique. Reports of a primary care physician (PCP) demonstrating use and/or giving written or verbal instructions for MDIs were not significantly associated with improved technique. Of children who met national guidelines for PFM use at home, only 17% reported using one.

Underuse Of Controller Medications Among Medicaid-Insured Children With Asthma
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.; 2002; Arch Pediatr Adolesc Med

This study used health plan data from 5 plans to identify a cohort of children with asthma whose caretakers were then surveyed to examine factors associated with underuse of controller medications.

Children with persistent asthma substantially underuse asthma controller medications. Among such children, 27% reported daily use of a steroid or mast cell stabilizer. Underuse was associated with children aged older than 4 and adolescents compared with school-aged children. Underuse was also associated with less parental education and with black and Latino race and ethnicity compared with white patients. Access to a primary care physician (PCP), having seen an asthma specialist, and having been given a written care plan were associated with significantly less underuse.

Measuring The Quality Of Care For Group A Streptococcal Pharyngitis In 5 U.S. 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 strep (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%.

Underuse

Study

Adverse Outcomes And Predictors Of Underuse Of Antithrombotic Therapy In Medicare Beneficiaries With Chronic Atrial Fibrillation
Gage, B.F., Boechler, M., Doggette, A.L., Fortune, G., Flaker, G.C., Rich, M.W., Radford, M.J.; 2000; Stroke

This study used Missouri Medicare claims data and chart reviews to estimate the rate of antithrombotic use in Medicare beneficiaries with a diagnosis of non-valvular atrial fibrillation (AF).

National Trends In Statin Use By Coronary Heart Disease Risk Category
Ma, J., Sehgal, N.L., Ayanian, J.Z., Stafford, R.S.; 2005; PLoS Med

This study took data from 45,311 patients with hyperlipidemia in the National Ambulatory Medical Care Survey (NAMCS) in order to determine their rates of using statin medications, and to see the different rates of statin use among groups of different levels of risk for coronary heart disease (CHD).

Twelve-Month Use Of Mental Health Services In The United States: Results From The National Comorbidity Survey Replication
Wang, P.S., Lane, M., Olfson, M., Pincus, H.A., Wells, K.B., Kessler, R.C.; 2005; Arch Gen Psychiatry

This article reports data from the National Comorbidity Survey Replication, which included household interviews of 9,282 people in order to determine patterns and predictors of receiving psychiatric treatment during the 12 months prior to the interview.

Outcome

Only 55% of eligible patients were prescribed aspirin or warfarin at hospital discharge. The use of antithrombotic therapy was especially low in elderly, female, and rural populations. The use of warfarin was associated with a 24% relative risk reduction in adverse outcomes.

Statin use by patients with hyperlipidemia, increased from 9% of patient visits in 1992 to 49% in 2000 but then declined to 36% in 2002. Increases in the rate of statin use were greatest for patients at high risk of coronary heart disease (CHD). Lower statin use was associated with younger patient age, female gender, African American race, and non-cardiologist care.

Out of all the people who had a psychiatric disorder, only 41.1% received some treatment in the past 12 months. If people were cared for by mental health specialists, they had more visits than if they were cared for by general medical providers.

Underuse

Study

Outcome

Problems With Inhaler Use: A Call For Improved Clinician And Patient Education
Fink, J.B., Rubin, B.K.; 2005; Respir Care

This study reviewed literature pertaining to the use and misuse of medication inhalers used for asthma, and estimate the prevalence and economic impact of misuse.

28-68% of patients do not use inhalers well enough to benefit from the medications. 39-67% of health professionals cannot adequately explain/perform their use. Authors estimate \$5-6 billion dollars in savings if these problems were corrected with education.

Quality Of Care In U.S. Hospitals As Reflected By Standardized Measures, 2002-2004
Williams, S.C., Schmaltz, S.P., Morton, D.J., Koss, R.G., Loeb, J.M.; 2005; N Engl J Med

This article reported data collected by Joint Commission on Accreditation of Healthcare Organizations (JCAHO) in order to determine how U.S. hospitals performed over a 2-year period on 18 standardized indicators of the quality of care for acute myocardial infarction, heart failure, and pneumonia.

There was a significant improvement in the performance of U.S. hospitals on 15 out of the 18 indicators of the quality of care for acute myocardial infarction, heart failure, and pneumonia.

Cholesterol Management And The Reduction Of Cardiovascular Risk
Nixon, J. V.; 2004; Prev Cardiol

This study reviews the literature pertaining to the efficacy and underuse of statins in reducing cardiovascular risk.

Some studies have indicated dramatic underuse of statins. 20 million Americans who should be treated have never had a cholesterol level checked and only 38% of patients who are treated achieve recommended low-density lipoprotein goals.

Underuse

Study

Outcome

Underestimating Asthma Severity - Variability Of Classifications And Outcomes
O'Connor, Richard; 2004; Managed Care

This narrative review discusses the following issues: the state of asthma care, the argument to revisit the classification system for asthma, the underutilization of anti-inflammatory medicines, and medication persistence.

The current prevalence of asthma has increased to 7.2%. Inhaled corticosteroids remain underused.

Costs And Utilization Patterns Associated With Persistent Asthma: A Comparison Of Texas Medicaid Patients With And Without Continuous Inhaled Corticosteroid Treatment
Smith, M.J., Rascati, K.L., Johnsrud, M.T; 2001; J Manag Care Pharm

This study analyzed Texas Medicaid database claims over 27 months in order to determine if prescription payments, medical payments, and utilization patterns were different between asthma patients who continuously took inhaled steroids vs. patients who continuously took therapies other than inhaled steroids.

Post-steroid monthly prescription payments were higher for the group taking inhaled steroids (compared to the group taking a medicine that was not an inhaled steroid), but a decrease in medical payments in this group offset this increase, so that overall cost was similar between groups.

HIVAN And Medication Use In Chronic Dialysis Patients In The United States: Analysis Of The USRDS DMMS Wave 2 Study
Abbott, K.C., Trespalacios, F.C., Agodoa, L.Y., Ahuja, T.S.; 2003; BMC Nephrol

This was a historical cohort study that looked at 36 patients with End Stage Renal Disease (ESRD) as a result of HIV associated nephropathy (HIVAN) to see if angiotensin-converting enzyme (ACE) inhibitors and antiretrovirals (ARVs) improved outcomes.

Only 61% of patients with HIVAN were on ARVs and only 25% were on combination ARVs, which led the authors to conclude that ARVs are underutilized in patients with HIVAN. Other conclusion were: (1) patients with HIVAN have a lower survival rate than patients with ESRD due to other causes; (2) ACE inhibitors do not improve survival for patients with ESRD due to HIVAN.

Underuse

Study

Outcome

Statin Therapy After Acute Myocardial Infarction: Are We Adequately Treating High-Risk Patients?

Fonarow, G.C.; 2002; Curr Atheroscler Rep

This study reviews the literature concerning the efficacy and underutilization of lipid-lowering treatment following acute myocardial infarction (AMI).

On average, only 30% of post-AMI patients are discharged with a statin prescription, and that gap persists in the outpatient setting despite the proven efficacy of statins to reduce mortality in this group.

Impact Of Inhaled Anti-inflammatory Therapy On Hospitalization And Emergency Department Visits For Children With Asthma

Adams, L.L. Gatchel, R.J., Robinson, R.C. Polatin, P. Gajraj, N. Deschner, M. Noe, C.; 2001; Pediatrics

This study examined data from a total of 11,195 children in 3 managed care organizations in order to determine the effect of inhaled anti-inflammatory therapy on hospitalization and emergency room (ER) visits. Inhaled anti-inflammatory therapy included inhaled steroids, cromolyn, and nedocromil.

The adjusted relative risk for an emergency department (ED) visit was .4 if patients received cromolyn and 0.4 if they received inhaled steroid. Hospitalization relative risk was 0.6 if they received cromolyn, and 0.4 for inhaled steroids.

Racial/Ethnic Variation In Asthma Status And Management Practices Among Children In Managed Medicaid

Lieu, T.A., Lozano, P., Finkelstein, J.A., Chi, F.W., Jensvold, N.G., Capra, A.M. Quesenberry, C.P., Selby, J.V., Farber, H.J.; 2002; Pediatrics

This study examined data from 1,658 Medicaid-insured children with asthma in 5 managed care organizations in order to determine if there were any associations between race and asthma status.

75% of children, regardless of race, reported no anti-inflammatory use, 22% had a written care plan, and only 58% had a preventive health visit within the prior 6 months.

Underuse

Study

Pharmacologic Treatment Of Hypertension In The Department Of Veterans Affairs During 1995 And 1996

Siegel, D., Lopez, J., Meier, J.; 1998; Am J Erg Med

This study examined the frequency at which anihypertensive medications were prescribed in Veterans Affairs hospitals in 1995 and 1996, and calculated an annual cost savings if beta-blockers were used instead of calcium channel blockers.

A Retrospective Study Of Risk Factors For Repeated Admissions For Asthma In A Rural/Suburban University Hospital

Kuo, A.; Craig, T.J.; 2001; J Am Osteopath Assoc

This study reviewed medical records of 65 patients cared for at an academic medical center who were hospitalized 2 or more times during a 7-year period to determine predictors of hospitalization.

Change In The Quality Of Care Delivered To Medicare Beneficiaries, 1998-1999 To 2000-2001

Jencks, S.F., Huff, E.D., Cuerdon, T; 2003; JAMA

This study analyzed data from the Medicare Quality Improvement program which tracked changes in performance on 22 quality indicators for inpatient and outpatient care of Medicare beneficiaries. Data from 1998-1999 were compared to data from 2000-2001.

Outcome

Calcium antagonists and angiotensin-converting enzyme (ACE) inhibitors were the most commonly dispensed antihypertensives at Veterans Affairs facilities for both 1995 and 1996. The estimated annual cost savings for each 1% conversion of calcium antagonists to beta-blockers would be \$713,000 and to conversion to diuretics would save \$758,000.

95% of patients had access to primary care. 38% reported poor compliance with treatment regimens, and 69% had received a prescription for inhaled corticosteroids at some point.

The median state's performance improved from baseline to follow-up on 20 of the 22 indicators. In the median state, the percentage of patients receiving appropriate care on the median indicator increased from 69.5% to 73.4%, a 12.8% relative improvement. The average relative improvement was 19.9% for outpatient indicators combined and 11.9% for inpatient indicators combined. For all but 1 indicator, absolute improvement was greater in states in which performance was low at baseline than those in which it was high at baseline. When states were ranked on each indicator, the state's average rank was highly stable over time.

Underuse

Study

A New Approach For Measuring Quality Of Care For Women With Hypertension

Asch, S.M., Kerr, E.A., Lapuerta, P., Law, A., McGlynn, E.A.; 2001; Arch Intern Med

This study surveyed a sample of 234 women with hypertension belonging to a single health plan to determine quality of care received.

Outcome

On average, a woman received 64% of the recommended care. Only 37% of hypertensive women with blood pressure above 160/90 mm Hg had changes in therapy or lifestyle recommended. Patients who did not receive or meet the indicators were more likely to have worse blood pressure control.

Cost-Related Medication Nonadherence Among Elderly And Disabled Medicare Beneficiaries: A National Survey 1 Year Before The Medicare Drug Benefit

Soumerai, S.B., Pierre-Jacques, M., Zhang, F., Ross-Degnan, D., Adams, A.S., Gurwitz, J., Adler, G., Safran, D.G.; 2006; Arch Intern Med

This study analyzed data from 13,835 non-institutionalized Medicare enrollees in order to report the rates of medication non-adherence in 2004 one year before the start of Medicare part D.

29% of disabled beneficiaries and 13% of the elderly reported a cost-related episode of prescription non-compliance.

Effect Of Medication Nonadherence On Hospitalization And Mortality Among Patients With Diabetes Mellitus

Ho, P.M., Rumsfeld, J.S., Masoudi, F.A., McClure, D.L., Plomondon, M.E., Steiner, J.F. Magid, D.J.; 2006; Arch Intern Med

This study retrospectively examined 11,532 patients with diabetes in a managed care organization to see the prevalence of medication non adherence, and to determine if there were associations between medication non adherence and clinical outcomes. Outcomes measured were hospitalization rates and mortality rates.

Medication non adherence had a prevalence of 21.3%. Non adherent patients had higher HbA1c, blood pressure, and cholesterol levels. Non adherent patients had higher rates of hospitalization and all-cause mortality.

Underuse

Study

Impact Of Medication Therapy Discontinuation On Mortality After Myocardial Infarction

Ho, P.M., Rumsfeld, J.S., Masoudi, F.A., McClure, D.L., Plomondon, M.E., Steiner, J.F. Magid, D.J.; 2006 Arch Intern Med

This multi-center prospective cohort study followed 1,521 patients with acute myocardial infarction (MI) in order to determine factors that were associated with medication discontinuation, and to assess the impact of medication discontinuation 1 month after MI on 12-month mortality.

Quality Of Medical Care Delivered To Medicare Beneficiaries: A Profile At State And National Levels

Jencks, S.F., Cuerdon, T., Burwen, D.R., Fleming, B., Houck, P.M., Kussmaul, A.E., Nilasena, D.S., Ordin, D.L., Arday, D.R.; 2000; JAMA

This article reports the results of a monitoring system for 24 quality indicators (or “process-of-care measures”) for the care of Medicare fee-for-service beneficiaries during 1997-1999. The quality indicators were related to both prevention and treatment and they were related to 6 medical conditions.

Outcome

Factors associated with discontinuation of medications after MI included not graduating from high school and increasing age. Patients who discontinued all medications at 1 month had a lower 1-year survival (88.5% versus 97.7%) than patients on 1 or more medications.

The percentage of patients receiving appropriate care varied for different quality indicators: 95% of patients did not receive sublingual nifedipine after stroke; 11% of patients with pneumonia were screened for pneumococcal immunization. Some states consistently ranked higher in performance than other states.

Underuse

Study

Outcome

Direct Observation Of Smoking Cessation Activities In Primary Care Practice

Ellerbeck, E.F., Ahluwalia, J.S., Jolicoeur, D.G., Gladden, J., Mosier, M.C.; 2001; J Fam Pract

This study used direct observation to estimate the frequency with which primary care physicians (PCPs) incorporate smoking cessation advice into patient encounters.

The study notes that physicians did not raise the issue of smoking frequently (it was raised in only 21% of encounters) and did not always make suggestions for smoking cessation (bupropion discussed in 31% of encounters, nicotine replacement therapy in 17% of encounters, both agents in 15% of encounters).

Asthma: Resource Use And Costs For Inhaled Corticosteroid Vs Leukotriene Modifier Treatment: A Meta-Analysis

Halpern, M.T., Khan, Z.M., Stanford, R.H., Spayde, K.M., Golubiewski, M.; 2003; J Fam Pract

This is a meta-analysis to compare the effects of inhaled corticosteroid treatment with leukotriene modifier treatment on resource use and costs for asthma patients.

Patients taking inhaled corticosteroids had lower rates of hospitalization and ER visits and lower total cost than those taking leukotriene modifiers.

Depression Diagnoses And Antidepressant Use In Primary Care Practices: A Study From The Practice Partner Research Network (PPRNET)

Ornstein, S., Stuart, G., Jenkins, R.; 2000; Public Health Rep

This study used data from a national network of 389 primary care physicians (PCPs) to identify 2,103 patients with a new diagnosis of depression in 1996, and to determine the percentage of those patients who received an antidepressant prescription within 5 days of diagnosis.

1.6% of the patients without a prior history of depression or treatment had a new diagnosis of depression in 1996 (range 0.4% to 4.0%). 49% of the newly diagnosed patients received an antidepressant prescription within 5 days of diagnosis (mostly selective serotonin reuptake inhibitors). 90% of the patients given antidepressants had at least 1 contact in the 6 months after diagnosis (mean = 5.3 contacts).

Underuse

Study

Outcome

Factors Associated With Underimmunization At 3 Months Of Age In Four Medically Underserved Areas

Bardenheier, B.H., Yusuf, H.R., Rosenthal, J., Santoli, J.M., Shefer, A.M., Rickert, D.L., Chu, S.Y.; 2004; Public Health Rep

This survey of households residing within Community Health Network Childhood Immunization Demonstration Project communities was designed to examine the rates of appropriate vaccination at 3 months of age in 4 medically underserved areas and to examine factors associated with underimmunization.

The rates of appropriate vaccination coverage at 3 months of age varied across sites: 82.4% in northern Manhattan, 70.5% in Detroit, 82.3% in San Diego, and 75.8% in rural Colorado. Reasons that babies were not up-to-date on vaccinations included guardians having public or no insurance, having 2 or more children living in the household, and the adult respondent being unmarried.

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

Gilberg, K., Laouri, M., Wade, S., Isonaka, S.; 2003; J Manag Care Pharm

This study used claims data from 3 California managed care organizations to assess the appropriateness of prescription medication use based upon guidelines for various conditions.

27.5% of antidepressant users received the recommended therapy, 49% of asthma patients received at least 1 inhaled corticosteroid prescription, and only 54.5% of patients with congestive heart failure (CHF) received angiotensin-converting enzyme inhibitor. Of patients with a cold or upper respiratory infection (URI), 35.7% received antibiotics.

Underuse

Study

Outcome

Adherence To Antipsychotic And Nonpsychiatric Medications In Middle-Aged And Older Patients With Psychotic Disorders

Dolder, C.R., Lacro, J.P., Jeste, D.V.; 2003; Psychosom Med

This study reviewed the pharmacy records of 76 patients > age 40 being treated for psychotic disorders in a Veterans Affairs Medical Center (VAMC) to estimate adherence rates for antipsychotic, antihypertensive, lipid-lowering and antiglycemic drugs.

Adherence rates for antipsychotics, antihypertensives, antihyperlipidemics, and antidiabetics ranged from 52% to 64%.

Adherence was not better for patients taking atypical antipsychotics than for those taking typical antipsychotics.

Lack Of Diagnosis And Treatment Of Osteoporosis In Men And Women After Hip Fracture

Follin, S.L., Black, J.N., McDermott, M.T.; 2003; Pharmacotherapy

The records of a single academic teaching hospital were reviewed to determine if patients admitted to a university teaching hospital for low-trauma hip fracture were diagnosed, evaluated or treated for osteoporosis during admission, or within 1 year after admission.

After hospitalization for hip fracture, only 14% of the charts reviewed had a diagnosis of osteoporosis (OP) at discharge, and only 26% had a diagnosis of OP at 1 year after discharge. Only 4% of patients received tests for OP (such as bone densitometry) during the hospitalization, and only 9% within 1 year after discharge.

Adherence To Surveillance Among Patients With Superficial Bladder Cancer

Schrag, D., Hsieh, L.J., Rabbani, F., Bach, P.B., Herr, H., Begg, C.B.; 2003; J Natl Cancer Inst

This study analyzed Surveillance Epidemiology and End Results (SEER) data to evaluate the extent to which patients diagnosed with superficial bladder cancer undergo the recommended follow-up bladder cystoscopy every 3-6 months.

Only 40% of the cohort had an examination during all 5 consecutive intervals studied; 18.1% had fewer than 2 exams. Patient characteristics that were associated with fewer than 2 exams included being age 75 years or older, being non-white, being urban or low-income, and having less severe bladder cancer or fewer other illnesses.

Underuse

Study

Outcome

Underuse Of Necessary Care Among Cancer Survivors

Earle, C.C., Neville, B.A.; 2004; Cancer

This study linked Medicare claims data and Surveillance Epidemiology and End Results (SEER) data to determine whether Medicare beneficiaries who are disease-free for 5 years after treatment for non-metastatic colon cancer receive less recommended care for non-cancer conditions, compared to a control group without cancer, and to identify which factors relate to the delivery of recommended care.

The study found that seniors in fee-for-service Medicare who are 5 years disease-free and survivors of colorectal cancer receive less care for chronic conditions than similar patients who did not have cancer.

However, cancer survivors received the same level of acute care. Areas in which survivors received less care included influenza vaccinations and lipid screenings. Survivors with chronic obstructive pulmonary disease (COPD) were also admitted more often to the hospital. However, survivors who were seen regularly by both oncologists and a primary care physician were more likely to have more of their recommended care.

Mammographic Screening: Patterns Of Use And Estimated Impact On Breast Carcinoma Survival

Blanchard, K., Colbert, J.A., Puri, D., Weissman, J., Moy, B., Kopans, D.B., Kaine, E.M., Moore, R.H., Halpern, E.F., Hughes, K.S., Tanabe, K.K., Smith, B.L., Michaelson, J.S.; 2002; Cancer

This study retrospectively reviewed screening mammogram data at Massachusetts General Hospital to determine the consistency with which women complied with American Cancer Society (ACS) guidelines.

Very few women (6%) received all yearly mammograms between 1985 and 2002. The mean number of mammograms received during this period was 5.06, or 51% of the 13 possible exams.

Myocardial Infarction In Women: A Critical Appraisal Of Gender Differences In Outcomes

Bell, D.M., Nappi, J.; 2000; Pharmacotherapy

This study reviews clinical trials that demonstrate the importance of gender in myocardial infarction (MI) mortality and outcomes.

Women experience more vague symptoms than men, may benefit less from thrombolytic therapy than men, and are less likely to receive medically proven therapies.

Underuse

Study

Outcome

Underutilization Of Gastroprotective Measures In Patients Receiving Nonsteroidal Anti-inflammatory Drugs

Smalley, W.Stein, C.M.Arbogast, P.G.Eisen, G.Ray, W.A.Griffin, M.; 2002; **Arthritis Rheum**

This study used data from the Tennessee Medicaid program to determine how often patients on non-steroidal anti-inflammatory drugs (NSAIDs) were receiving recommended "gastroprotective strategies." The two "gastroprotective strategies" were either: (1) using NSAIDs combined with anti-ulcer medication, or (2) using a Cox-2 inhibitor medication.

16% of patients on NSAIDs received 1 of the 2 recommended gastroprotective therapies. Among patients who had 2 or more risk factors for ulcer complications, 30% of these patients received 1 of the 2 gastroprotective therapies.

Quality Of Care For Primary Care Patients With Depression In Managed Care

Wells, K.B., Schoenbaum, M., Unutzer, J., Lagomasino, I.T., Rubenstein, L.V.; 1999; **Arch Fam Med**

This study used a survey of 1204 patients receiving care in 46 primary care clinics who were members of 7 managed care organizations MCOs to assess the quality of care for primary care patients with depression.

Evaluation for depression (29% to 43%) and antidepressant medication (35% to 42%) were underused.

Undertreatment Of Hyperlipidemia In The Secondary Prevention Of Coronary Artery Disease

Majumdar, S.R., Gurwitz, J.H., Soumerai, S.B.; 1999; **J Gen Intern Med**

This study analyzed records of 622 patients discharged from 37 community hospitals in Minnesota to estimate compliance with National Cholesterol Education Program (NCEP) II cholesterol guidelines.

Lipid-lowering agents were significantly underutilized in this population. Only 37% of eligible patients received these medications at discharge. Factors positively associated with prescription were age less than 75, managed care enrollee, previous smoker, prior revascularization, and use of aspirin or more than 3 other medications.

Underuse

Study

Warfarin Use Among Ambulatory Patients With Nonvalvular Atrial Fibrillation: The Anticoagulation And Risk Factors In Atrial Fibrillation (ATRIA) Study

Go, A.S., Hylek, E.M., Borowsky, L.H., Phillips, K.A., Selby, J.V., Singer, D.E.; 1999; Ann Intern Med

This study used claims data from a managed care organization to determine the probability of anticoagulation in patients with a documented diagnosis of nonvalvular atrial fibrillation.

The Lipid Treatment Assessment Project (L-TAP): A Multicenter Survey To Evaluate The Percentages Of Dyslipidemic Patients Receiving Lipid-Lowering Therapy And Achieving Low-Density Lipoprotein Cholesterol Goals

Pearson, T.A., Laurora, I., Chu, H., Kafonek, S.; 2000; Arch Intern Med

This study examined records of 4,888 patients in order to determine the percentage of patients in the multicenter Lipid Treatment Assessment Project who are achieving low-density lipoprotein cholesterol (LDL-C) goals.

Outcomes Of Inappropriate Prescribing Of Beta-Blockers After An Acute Myocardial Infarction In A Medicaid Population

Fernandes, A.W., Madhavan, S.S., Amonkar, M.M., Bell, D., Islam, S.S., Scott, V.G.; 2005; Ann Pharmacother

This study used West Virginia Medicaid data to assess the prescribing patterns for beta blockers in patients experiencing acute myocardial infarction (AMI).

Outcome

Warfarin was substantially underused in patients with atrial fibrillation in this population. Of approximately 11,000 eligible patients, only 55% received warfarin within 3 months of diagnosis. Positive predictors included previous stroke, while negative predictors included age greater than or equal to 85, and previous gastrointestinal or intracranial hemorrhage.

Large proportions of dyslipidemic patients receiving lipid-lowering therapy are not achieving target levels. Overall, only 38% of patients achieved LDL target levels. Drug therapy was more effective than non-drug therapy in all patient risk groups.

Overall, approximately 64% of patients with an MI were prescribed beta-blockers appropriately. Patients who were appropriately prescribed beta-blockers had significantly lower all-cause mortality at 1 year, but also had significantly higher health care utilization.

Underuse

Study

Physicians Underutilize Topical Retinoids In The Management Of Acne Vulgaris: Analysis Of U.S. National Practice Data

Balkrishnan, R., Fleischer, A.B., Jr., Paruthi, S., Feldman, S.R.; 2003; J Dermatolog Treat

This study used National Ambulatory Care Survey (NAMCS) data from 1990-1999 to assess whether or not topical retinoids were underutilized in the management of acne.

Quality Improvement Efforts And Hospital Performance: Rates Of Beta-Blocker Prescription After Acute Myocardial Infarction
Bradley, E.H., Herrin, J., Mattera, J.A., Holmboe, E.S., Wang, Y., Frederick, P., Roumanis, S.A., Radford, M.J., Krumholz, H.M.; 2005; Med Care

This study used data from National Registry of Myocardial Infarction 2 to estimate levels of beta-blocker prescriptions at baseline.

Oral Versus Intravenous: Rehydration Preferences Of Pediatric Emergency Medicine Fellowship Directors
Conners, G.P., Barker, W.H., Mushlin, A.I., Goepf, J.G.; 2000; Pediatr Emerg Care

This study surveyed 60 pediatric emergency medicine program directors to examine whether American Academy of Pediatrics (AAP) recommendations for oral rehydration therapy (ORT) were followed.

Outcome

Of the 54.2 million visits for acne, topical retinoids were prescribed at 35.3% visits. Dermatologists prescribed topical retinoids more often than non-dermatologists. Retinoid prescription has been increasing over the past decade, primarily among dermatologists.

The average rate for beta-blocker prescription post acute myocardial infarction (AMI) was 60%.

Compared with national guidelines, pediatric emergency medicine fellowship directors underuse ORT for children with acute gastroenteritis. 17% of interviewed doctors felt ORT was better than intravenous for all 10 clinical scenarios of mild or moderately dehydrated children. Cited barriers to the use of oral rehydration relative to intravenous included time and parental and primary care physician expectations.

Underuse

Study

Outcome

Correlates Of Underutilization Of Colorectal Cancer Screening Among U.S. Adults, Age 50 Years And Older

Cokkinides, V.E., Chao, A., Smith, R.A., Vernon, S.W., Thun, M.J.; 2003; Prev Med

This study used data from the 1999 Behavioral Risk Factor Surveillance System (BRFSS) to identify what factors are associated with not receiving screening for colorectal cancer. Screening included a fecal occult blood test (FOBT) and/or sigmoidoscopy/colonoscopy.

Among adults > age 50, 40% reported ever having a FOBT and 44% reported ever having a sigmoidoscopy or colonoscopy.

Visual Field Testing In Glaucoma Medicare Beneficiaries Before Surgery

Coleman, A.L., Yu, F., Rowe, S.; 2005; Ophthalmology

This study used Medicare claims data to estimate the percentage of seniors who had visual field (VF) testing no more than 1 year prior to cataract surgery.

The study found that about 30% of Medicare beneficiaries older than 65 do not receive VF testing in the 12 months before glaucoma surgery. There are lower rates of VF testing in non-whites, patients with diabetic retinopathy, and bilateral blindness.

Patient Factors Associated With Adherence To Immunosuppressant Therapy In Renal Transplant Recipients

Chisholm, M.A., Lance, C.E., Mulloy, L.L.; 2005; Am J Health Syst Pharm

This survey of renal transplant patients and a review of pharmacy and clinical data for a subset of these patients sought to determine factors related to compliance with immunosuppressive therapy (IST).

35% of renal transplant patients sampled were not adherent to immunosuppressant therapy regimens.

Underuse

Study

Underutilization Of Aspirin, Beta-Blockers, Angiotensin-Converting Enzyme Inhibitors, And Lipid-Lowering Drugs And Overutilization Of Calcium Channel Blockers In Older Persons With Coronary Artery Disease In An Academic Nursing Home

Ghosh, S., Ziesmer, V., Aronow, W.S.; 2002; J Gerontol A Bio Sci Med Sci

This study utilized a chart review of all residents in an academic nursing home to report the prevalence of aspirin, beta-blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin II receptor blockers (ARBs), statins, and calcium channel blockers in older people with coronary artery disease (CAD) at an academic nursing home.

Discharge Disposition From Acute Care After Traumatic Brain Injury: The Effect Of Insurance Type.

Chan, L., Doctor, J., Temkin, N., MacLehose, R.F., Esselman, P.Bell, K., Dikmen, S.; 2001; Arch Phys Med Rehabil

This study looks at whether patients with traumatic brain injury (TBI) are more likely than fee-for-service patients to go to skilled nursing facilities (SNFs) or rehabilitation facilities for Medicaid/health maintenance organization (HMO) patients.

Outcome

Aspirin, beta-blockers, ACE inhibitors, ARBs, and statins were underused, while calcium channel blockers were overused by patients in this sample. Of the 77 patients with CAD, the proportion taking one or more of these medications ranged from 21% for statins to 62% for aspirin. Despite not being a Class I recommendation for patients with CAD, 27% of patients in this sample were being prescribed calcium channel blockers.

There is an association between insurance type and postacute care site: Medicaid patients were 68% more likely, and HMO patients were 23% more likely to go to a SNF than were fee-for-service patients.

Underuse

Study

Outcome

Venous Thromboembolism Prevention In Acutely Ill Nonsurgical Patients

Brophy, D.F., Dougherty, J.A., Garrelts, J.C., Parish, R.C., Rivey, M.P., Stumpf, J.L., Taylor, C.T., Mathis, A.S.; 2005; Ann Pharmacother

This study reviewed available literature for advances in the prophylaxis of deep vein thrombosis (DVT) and venous thromboembolism (VTE) in acutely ill non-surgical patients.

Only 28-42% of acutely ill patients with risk factors for VTE received appropriate prophylaxis.

Limiting Access To Psychiatric Services Can Increase Total Health Care Costs

Horn, Susan; 2003; J Clin Psychiatry

This study used data from the Managed Care Outcomes Project to look at whether cost-containment strategies, such as limiting psychiatric referrals and tightly regulating the formulary, ultimately save or cost money, and what their impact is on the quality of care.

The study reports that cost containment measures lead to poorer care and ultimately cost more money because of additional visits, emergency room (ER) trips, or hospitalizations. For example, sites with the most restricted formularies often had twice the use of health care services than those with no formulary restrictions.

Prophylactic Anticoagulation For Venous Thromboembolic Disease In Geriatric Patients

Jacobs, Laurie, G.; 2003; J Am Geriatr Soc

This article reviews the literature regarding the indications for VTED prophylaxis, specific medical conditions appropriate for prophylaxis, and guidelines for prophylaxis, especially as related to elderly patients.

The study concluded that anticoagulation should be used in a wide variety of medical and surgical patients at risk for venous thromboembolic disease (VTED) but that literature shows that it is underused. This underuse may be due to concerns about the risks of bleeding and clinicians being unaware about all the conditions that increase risk for VTED.

Underuse

Study

Outcome

U.S. Adolescents Receive Suboptimal Preventive Counseling During Ambulatory Care

Ma, J., Wang, Y., Stafford, R.S.; 2005; J Adolesc Health

This study used data from The National Ambulatory Medical Care Survey (AMCS) and National Hospital Ambulatory Medical Care Survey (NHAMCS) to determine U.S. adolescents' (age 13-18) utilization of ambulatory care and the likelihood of receiving preventive counseling from 1993 through 2000.

Counseling services were documented for 39% of all adolescent general medical examination (GME) visits. These rates represented minimal improvements from 1993-1996.

Examination Of The Treatment And Follow-Up Care For Adolescents Who Test Positive For Chlamydia Trachomatis Infection

Hwang, L.Y., Tebb, K.P., Shafer, M.A., Pantell, R.H.; 2005; Arch Pediatr

This study provides a chart review of 122 cases of adolescent chlamydia infections at an health maintenance organization (HMO) in California to document and describe how chlamydia was managed in this population.

97% of patients were treated with appropriate antibiotics, but only 36% were tested for other sexually transmitted diseases (STDs) and only 10% received recommended chlamydia retesting.

Healthcare Access And Utilization Among Women 40 And Older At The U.S.-Mexico Border: Predictors Of A Routine Check-Up

Hunter, J.B., de Zapien, J.G., Denman, C.A., Moncada, E., Papenfuss, M., Wallace, D., Giuliano, A.R.; 2003; J Community Health

This study used population-based surveys to study access and utilization barriers in two U.S.-Mexico border communities. Household surveys were administered to U.S. and Mexican women 40 years of age and older.

Healthcare utilization was not significantly different for Mexican and U.S. residents living on the border. Pap smear rates for U.S. and Mexican women were 22% and 9.3% respectively, and mammography rates 2.5% and 16%.

Underuse

Study

Racial Differences In Lipid-Lowering Agent Use In Medicaid Patients With Cardiovascular Disease

Litaker, D., Koroukian, S.M.; 2004; Med Care

This study used a retrospective study of Ohio Medicaid claims data to assess the association between race and lipid-lowering agent use.

Use And Persistence Of Pharmacotherapy For Elementary School Students With Attention Deficit/Hyperactivity Disorder

Bussing, R., Zima, B.T., Mason, D., Hou, W., Garvan, C.W., Forness, S.; 2005; J Child Adolesc Psychopharmacol

This study interviewed 220 parents and students identified by school district screening for attention deficit/hyperactivity disorder (ADHD) to examine rates of pharmacologic treatment and district provided social service uptake.

Opioid Analgesic Drugs In Older People

Fine, P.G.; 2001; Clin Geriatr Med

This article reviews literature pertaining to chronic pain management in older adults.

Outcome

Only 26.4% with a new diagnosis of cardiovascular disease (CVD) received a lipid-lowering agent during the 24-month period surrounding the new CVD claim.

Minorities were less likely to have previously used a drug, received a new prescription, or refilled a prescription.

About a third (35%) of the children received ADHD medications over 2 years; boys were more than twice as likely to receive medications than girls. About a quarter (28%) received school services over 2 years.

Older patients, especially the cognitively impaired, are at risk for under-treatment of pain, although increasing attention to quality of life is correcting this underuse.

Underuse

Study

Outcome

Are Stimulants Overprescribed? Treatment Of ADHD In Four U.S. Communities

Jensen, P.S., Kettle, L., Roper, M.T., Sloan, M.T., Dulcan, M.K., Hoven, C., Bird, H.R., Bauermeister, J.J., Payne, J.D.; 1999; J Am Acad Child Adolesc Psychiatry

This study analyzed survey data obtained from 1,285 students and their parents in 4 communities to determine the prevalence of attention deficit/hyperactivity disorder (ADHD) and pharmacologic treatment rates.

Medication is underused in children with ADHD. 5% of a community sample met criteria for ADHD, and only 12.5% were receiving medication. School services and psychological services were used more frequently in children with ADHD than those without.

Identification And Management Of Hepatitis C Patients In Primary Care Clinics

Shehab, T.M., Orrego, M., Chunduri, R.Lok, A.S.; 2003: Am J Gastroenterol

This study sought to determine: (1) the level of care of hepatitis C-positive patients, and (2) the compliance of primary care physicians with hepatitis C screening guidelines. The study examined the primary care medical records of 229 hepatitis C antibody-positive patients and 229 patients not tested for hepatitis C antibody.

The study suggests that primary care physicians and clinics do less hepatitis C screening and testing than they should. The study found that only 16% of patients who were hepatitis C antibody-positive had been tested for hepatitis C based on risk factor. Only 1% of patients who did not receive hepatitis C antibody testing had documented discussion of hepatitis C risk factors during their initial visit with a primary care physician. 77% of hepatitis C ribonucleic acid (RNA)-positive patients with elevated liver function tests were referred to subspecialty care.

An Investigation Of Why Eligible Patients Do Not Receive HAART

Maisels, L., Steinberg, J., Tobias, C.; 2001; AIDS Patient Care STDS

For a sample of AIDS patients receiving care at a single community health center, medical record reviews and patient interviews were conducted to estimate the percentage of eligible patients receiving highly active antiretroviral therapy (HAART).

Of 88 patients eligible for HAART, 69% were prescribed it. Of those who did not receive HAART, it was recommended in 68% of cases.

Underuse

Study

Outcome

Detection And Documentation Of Actual And Potential Medication Adherence Problems In Patients Receiving Combination Therapies
Servellen, Gwen; 2002; J Assoc Nurses AIDS Care

This study used chart reviews of patients attending an HIV clinic to assess adherence to retroviral regimens.

Providers are not fully documenting adherence to AIDS regimens and not following up with patients. The study found that the current antiretroviral medication regimen was clearly documented in 91% of the cases. Antiretroviral adherence problems were clearly noted in 34% of the charts, medication history in 31% of the charts, and problems with missed clinic appointments in 31% of the charts.

Vaccination Practices In U.S. Emergency Departments, 1992-2000
Pallin, D.J., Muennig, P.A., Emond, J.A., Kim, S.Camargo, C.A., Jr.; 2004; Vaccine

This study analyzed National Hospital Ambulatory Medical Care Survey (NHAMCS) data to determine the frequency of influenza and pneumonia immunizations in emergency departments (EDs).

Over 27 million immunizations were administered during the study period in EDs, but 93% were for tetanus. ED patients are rarely vaccinated against influenza or pneumonia.

Identifying Factors Associated With Disability-Related Differences In Breast Cancer Screening (United States)
Schootman, M., Jeffe, D.B.; 2003; Cancer Causes Control

This study used 1996 Medical Expenditure Panel Survey (MEPS) data to identify factors that could explain breast cancer underutilization among women age 40 and older with disabilities.

Women with long-term limitations in their Activities of Daily Living (ADLs) or Instrumental Activities of Daily Living (IADLs) were less likely to be screened for breast cancer compared to those without such limitations.

Underuse

Study

Outcome

Nonsteroidal Anti-Inflammatory Drugs, Aspirin, And Gastrointestinal Prophylaxis: An Ounce Of Prevention

Scheiman, J. M.; 2005; Rev Gastroenterol Disord

This study reviews the literature regarding gastrointestinal prophylaxis for patients on nonsteroidal anti-inflammatory drugs (NSAIDs) or aspirin.

Gastro-protective therapy with a proton pump inhibitor is beneficial to patients receiving NSAIDs, but despite current treatment recommendations, is underused for patients at risk.

Underuse Of Procedures For Diagnosing Osteoporosis And Of Therapies For Osteoporosis In Older Nursing Home Residents

Gupta, G., Aronow, W.S.; 2003; J Am Med Dir Assoc

A chart review of 136 women in an academic nursing home to determine the prevalence of osteoporosis, the prevalence of utilization of bone density test for diagnosing osteoporosis, and the prevalence of osteoporosis-related medications (including calcium, vitamin D, and bisphosphonates).

The study found that postmenopausal women at the academic nursing home studied had a low prevalence of bone density testing, and underuse of calcium, vitamin D, and bisphosphonate therapy. Out of all women in the nursing home, 49% had bone density testing. Out of those with osteoporosis, 55% were taking calcium carbonate, 42% were taking Vitamin D, and 61% were taking bisphosphonates. Out of the women who were on medications that increase the risk of osteoporosis, only 20% had bone mineral testing.

Income-Related Differences In The Use Of Evidence-Based Therapies In Older Persons With Diabetes Mellitus In For-Profit Managed Care

Brown, A.F., Gross, A.G., Gutierrez, P.R., Jiang, L., Shapiro, M.F., Mangione, C.M.; 2003; J Am Geriatr Soc

This study used interviews and clinical examinations in 301 patients to determine whether differences in income were associated with medication use among diabetics in managed care who have the same prescription drug benefit.

Statin use was observed in 57% of higher-income versus 30% of lower-income respondents. There were no differences by income in the rates of aspirin or angiotensin-converting enzyme (ACE) inhibitor use.

Underuse

Study

Outcome

Evaluation Of Angiotensin-Converting Enzyme Inhibitor Use In Patients With Type 2 Diabetes In A State Managed Care Plan

Timpe, E.M., Amarshi, N., Reed, P.J.; 2004; Am J Manag Care

This study examined data from a drug utilization review database of a state managed care plan in order to compare ACE inhibitor use in patients with type 2 diabetes at 1 year and 3 years after guidelines were published.

Although ACE inhibitor use improved, fewer than 50% of patients received appropriate therapy. The proportion of patients with diabetes and hypertension who were taking an ACE inhibitor increased by 10 percentage points over the 2 years; however, ACE inhibitors were only used in 46% of those patients in 2000.

Outpatient Utilization Of Angiotensin-Converting Enzyme Inhibitors Among Heart Failure Patients After Hospital Discharge

Butler, J., Arbogast, P.G., Daugherty, J., Jain, M.K., Ray, W.A., Griffin, M.R.; 2004; J Am Coll Cardiol

This study followed 960 patients for 1 year after hospitalization for heart failure to assess the factors associated with utilization of an angiotensin-converting enzyme (ACE) inhibitor after hospitalization.

ACE inhibitors were prescribed at discharge for 67% of survivors with low ejection fraction (EF). For survivors who did not have a discharge script for ACE inhibitors, only 12.7% of appropriate patients filled a prescription by 30 days and 12.5% were still adherent at one year.

The Epidemiology Of Major Depressive Disorder: Results From The National Comorbidity Survey Replication (NCS-R)

Kessler, R.C., Berglund, P., Demler, O., Jin, R., Koretz, D., Merikangas, K.R., Rush, A.J., Walters, E.E., Wang, P.S.; 2003; JAMA

This study conducted face-to-face household survey of 9,090 people in 48 states, in order to determine prevalence and correlates of major depressive disorder (MDD).

The prevalence of MDD for lifetime was 16.2%. 51.6% of 12-month cases received health care treatment for MDD. Treatment was adequate in only 41.9% of these cases.

Underuse

Study

Outcome

Compliance With Osteoporosis Medications

Sokol, M.C., McGuigan, K.A., Verbrugge, R.R., Epstein, R.S.; 2005; Arch Intern Med

This study looked at pharmacy claims of 40,002 patients taking osteoporosis medications and followed them for 5 years in order to assess the level and determinants of compliance with drugs prescribed for osteoporosis.

5 years after initiation, 52.1% of patients were not continuing to fill prescriptions for an osteoporosis medication. Predictors of compliance included: fracture, female sex, younger age, fewer comorbid conditions, using fewer nonosteoporosis medications, bone mineral density testing before and after initiating a medication.

Impact Of Medication Adherence On Hospitalization Risk And Healthcare Cost

Sokol, M.C., McGuigan, K.A., Verbrugge, R.R., Epstein, R.S.; 2005; Med Care

This study examines records from 137,277 patients with diabetes, hypertension, hypercholesterolemia, or congestive heart failure in order to determine the impact of medication adherence on healthcare utilization and costs.

For the 4 chronic diseases evaluated, adherence rates to recommended therapy ranged from 55%-73%.

Impact Of Antidepressant Drug Adherence On Comorbid Medication Use And Resource Utilization

Katon, W., Cantrell, C.R., Sokol, M.C., Chiao, E., Gdovin, J.M.; 2005; Arch Intern Med

This study used data from a claims database to study 8,040 patients on antidepressant medications in order to determine if improved antidepressant medication adherence is associated with an increased likelihood of chronic comorbid disease medication adherence and reduced medical costs.

Only 40% of patients studied were adherent to antidepressant medication, but of those who were adherence rates to medications for comorbid conditions increased twofold.

Underuse

Study

Adjuvant Radiation For Rectal Cancer: Do We Measure Up To The Standard Of Care? An Epidemiologic Analysis Of Trends Over 25 Years In The United States

Baxter, N.N., Rothenberger, D.A., Morris, A.M., Bullard, K.M.; 2005; Dis Colon Rectum

A retrospective study of 45,627 patients with nonmetastatic rectal cancer to evaluate the rate of radiation therapy and the factors affecting its delivery.

The Association Between The On-Site Availability Of Cardiac Procedures And The Utilization Of Those Services For Acute Myocardial Infarction By Payer Group. The National Registry Of Myocardial Infarction 2 Investigators

Canto, J.G. Rogers, W.J., Zhang, Y., Roseman, J.M., French, W.J., Gore, J.M., Chandra, N.C.; 1999; Clin Cardiol

This study reviewed data on 275,046 patients with acute myocardial infarction (AMI) enrolled in the National Registry of Myocardial Infarction 2 to assess the interaction of payer status and availability of on site angiography capability and utilization of those services.

Outcome

Adjuvant radiation therapy in the treatment of non-metastatic rectal cancer is under-used. In 2000, over 30% of patients with this condition did not undergo radiation therapy. Lower rates of receiving radiation therapy were associated with being female, being African American, being older, having low-grade lesions, and being from certain geographic locations.

Patients initially seen at a hospital with catheretization capabilities were about twice as likely to have a cardiac catheterization procedure than patients initially seen at a hospital without catheretization capabilities, and then later transferred out. The likelihood of having a cardiac catheterization was greater for patients with commercial insurance, and lowest for Medicaid patients.

Underuse

Study

Outcome

Providing Immunizations In A Pediatric Emergency Department: Underimmunization Rates And Parental Acceptance
Cunningham, S. J.; 1999; *Pediatr Emerg Care*

This study prospectively enrolled 9,321 children presenting to a pediatric emergency department (ED) for any reason in an ED-based immunization program to estimate the uptake of the service and parental attitudes toward the service.

59% of participating children were under-immunized. Parents who carried portable immunization cards documenting that their child was underimmunized were almost 5 times more likely to accept immunization for their child than parents who lacked documentation.

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; *Ann Allergy Asthma Immunol*

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

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.

Somatic Healthcare Utilization Among Adults With Serious Mental Illness Who Are Receiving Community Psychiatric Services

Dickerson, F.B., McNary, S.W., Brown, C.H., Kreyenbuhl, J., Goldberg, R.W., Dixon, L.B.; 2003; *Med Care*

200 outpatients being treated for schizophrenia or affective disorder were surveyed regarding their use of general health care.

Patients with schizophrenia and affective disorder were more likely to receive medical care than non-psychiatric patients, but less likely to receive dental care.

Underuse

Study

Outcome

A Population-Based, Community Estimate Of Total Colon Examination: The Impact On Compliance With Screening For Colorectal Cancer

Schoen, R.E., Weissfeld, J.L., Trauth, J.M., Ling, B.S., Hayran, M.; 2002; Am J Gastroenterol

This study conducted telephone interviews of 496 residents in two Southwestern Pennsylvania communities to determine both the rate of total colonoscopy and other colorectal screening modalities.

Colorectal cancer screening is underused. The study found that 31% of people reported fecal occult blood testing (FOBT) within one year or flexible sigmoidoscopy within 5 years. If having a total colonoscopy within the previous 5 years is added to this 31% of people, then the total percentage of patients being “compliant” increased to 39%.

Pressure Ulcers Among Patients Admitted To Home Care

Ferrell, B.A., Josephson, K., Norvid, P., Alcorn, H.; 2000; J Am Geriatr Soc

Records from 3,048 patients from 41 different home care agencies were reviewed in order to determine the prevalence of pressure ulcers among patients admitted to home-care services and to describe the characteristics associated with pressure ulcers.

9.12% had pressure injuries. Characteristics associated with pressure ulcers included recent institutional discharge, functional impairment, incontinence, and having had a previous ulcer. About 30% of subjects were at risk for new pressure ulcers.

Underutilization Of Controller And Rescue Medications Among Older Adults With Asthma Requiring Hospital Care.

Hartert, T.V., Toggias, A., Mellen, B.G., Mitchel, E.F., Snowden, M.S., Griffin, M.R.; 2000; J Am Geriatr Soc

This was a retrospective analysis of claims for dual eligibles > age 65 in Tennessee designed to assess the utilization of asthma medications prior to asthma-related hospitalizations.

Among elderly patients hospitalized for asthma, only 25% filled prescriptions for inhaled corticosteroids, and only 5% received rescue (i.e., oral) corticosteroids.

Underuse

Study

Outcome

Underuse Of Antidepressants In Major Depression: Prevalence And Correlates In A National Sample Of Young Adults
Druss, B.G., Hoff, R.A., Rosenheck, R.A.; 2000; J Clin Psychiatry

Antidepressants (ADs) were underused. Only 7.4% of people who met criteria for major depression were taking ADs. Having a primary care physician and having insurance both increased the likelihood.

As part of the National Health and Nutrition Survey (NHANES) III study, 7,589 individuals were administered the Diagnostic Interview Schedule to assess the prevalence and treatment rates of major depression.

Treatment For The Secondary Prevention Of Stroke In Older Patients: The Influence Of Dementia Status
Moroney, J.T., Tseng, C.L., Paik, M.C., Mohr, J.P., Desmond, D.W.; 1999; J Am Geriatr Soc

Patients with dementia have poorer outcomes after ischemic stroke and are less likely to receive anticoagulants as outpatients. The study found that only 11.4% of patients were discharged without either aspirin or warfarin. Patients with dementia were more likely to be in this group. It was also noted that the non-treated group had a higher rate of discharge to a nursing home, while a history of cardiac disease was associated with a higher likelihood of treatment. 1 year after discharge, 35.5% of untreated patients had an adverse outcome versus only 18.7% of treated patients. Dementia status did not change this outcome, except that patients with dementia had higher rates of adverse outcomes.

This is a prospective study of patients admitted to an academic center with a diagnosis of ischemic stroke. The study was designed to assess the influence of cognitive status (i.e., dementia) in seniors with a prescription of aspirin or warfarin at hospital discharge after acute ischemic stroke.

Underused Options For Preventing And Treating Influenza
Mossad, S.B.; 1999; Cleve Clin J Med

Influenza vaccine, the most effective preventive measure, is widely underused.

This article reviews strategies for the prevention and treatment of influenza.

Underuse

Study

Underutilization Of Angiotensin-Converting Enzyme Inhibitors In Older Patients With Q-Wave Anterior Myocardial Infarction In An Academic Hospital-Based Geriatrics Practice
Mendelson, G., Aronow, W.S.; 1998; J Am Geriatr Soc

A retrospective analysis of charts at one geriatrics practice to determine the prevalence of angiotensin-converting enzyme (ACE) inhibitors in patients who have indications for their use.

Underutilization Of Breast-Conserving Therapy In A Predominantly Rural Population: Need For Improved Surgeon And Public Education
Hokanson, P.Seshadri, R., Miller, K.D; 2000; Clin Breast Cancer

This study used a survey of 171 breast cancer survivors referred to a cancer center in Fargo, ND to determine the probability of undergoing breast-conserving therapy (BCT) and characteristics of patients who ultimately did.

Underuse Of Controller Medications Among Children With Persistent Asthma In The Ohio Medicaid Population: Evolving Differences With New Medications
Wilson, S.E., Leonard, A., Moomaw, C., Schneeweiss, S., Eckman, M.H.; 2005; Ambul Pediatr

This retrospective analysis of Ohio Medicaid claims data sought to determine the extent of underuse of asthma controller medications and to determine if there were racial differences influencing underuse.

Outcome

In the population studied there is underutilization of ACE inhibitors and therefore suboptimal quality of care. The study found that ACE inhibitors were being used by only 56 out of 161 patients who had a history of a Q-wave anterior myocardial infarction without contraindications to ACE inhibitors.

BCT was underused; only 35% of patients eligible by current guidelines received BCT. The choice of therapy was predominantly surgeon driven.

Asthma controller medications are underused among all races, though African Americans are particularly underserved. The study found that the proportion of children with claims for a controller medication increased from 53% in 1997 to 67% in 2001. Although there were no racial differences in medication claims in 1997, a smaller proportion of African American children had a claim for a controller medication in 2001. Leukotriene antagonists (LTAs) were driving this difference. Individuals residing in urban areas were significantly less likely to have claims for LTAs.

Underuse

Study

Outcome

Missed Cancer Screening Opportunities Among Older Women: A Provider Survey

Gulitz, E., Bustillo-Hernandez, M., Kent, E.B.; 1998; Cancer Pract

This study was a survey with data collected from a random sample of providers to ascertain whether providers performed screening tests on asymptomatic female patients over age 50, and the characteristics of providers who did not.

86% of respondents reported ordering mammograms, and 89% reported obtaining Pap smears. Predictors of not screening included provider age > 50, specialization in geriatrics, or practice in a rural setting.

Colorectal Cancer Screening Among A Sample Of Community Health Center Attendees

Christman, L.K., Abdulla, R., Jacobsen, P.B., Cantor, A.B., Mayhew, D. Y., Thompson, K.S., Krischer, J.P., Roetzheim, R.G.; 2004; J Health Care Poor Underserved

To determine the rate of colorectal cancer screening in patients attending community health centers, medical records of 1,176 patients from 8 community health centers were abstracted.

Screening was below guidelines, but better than the national average despite patients' low socioeconomic status. Among the patients studied, 43.8% of patients had undergone at least one of the 3 colorectal screening tests (fecal occult blood test, colonoscopy, or flexible sigmoidoscopy) in the recommended interval.

The Role Of Physician Communication In Improving Compliance With Mammography Screening Among Women Ages 50-79 In A Commercial HMO

MacDowell, N.M., Nitz-Weiss, M., Short, A.; 2000; Manag Care Q

This study used a commercial health maintenance organization (HMO) population of women ages 50-79 in which there are no known barriers (financial, access, or knowledge) to mammogram compliance to examine mammogram screening compliance

18-23% of women ages 50-79 enrolled in a commercial HMO failed to receive recommended screening mammography.

Underuse

Study

Pneumococcal Vaccination In The Emergency Department: An Assessment Of Need
Rudis, M.I., Stone, S.C., Goad, J.A., Lee, V.W., Chitchyan, A., Newton, K.I.; 2004; Ann Emerg Med

This article described a survey completed by 250 adults seen in an urban, tertiary care emergency department (ED) during a period of 3 days in order to determine the pneumococcal vaccination rates, willingness to be vaccinated, and reasons for nonvaccination.

Delivery Of Outpatient Cardiac Rehabilitation In A Managed Care Organization
Roblin, D.Diseker, R.A., III Orenstein, D.Wilder, M.Eley, M.; 2004; J Cardiopulm Rehabil

This study analyzed a cohort of 945 patients > age 30 in a staff model health maintenance organization (HMO) who were hospitalized with acute myocardial infarction (AMI) to estimate rates of referral to and enrollment in post-discharge cardiac rehabilitation

Racial Disparity In Primary And Adjuvant Treatment For Nonmetastatic Prostate Cancer: SEER-Medicare Trends 1991 To 1999
Zeliadt, S.B., Potosky, A.L., Etzioni, R., Ramsey, S.D., Penson, D.F.; 2004; Urology

This study analyzed 90,128 cases of prostate cancer in the Surveillance, Epidemiology, and End Results (SEER) registry in order to assess trends in the initial care of non-metastatic prostate cancer, including the use of primary and adjuvant androgen deprivation therapy (ADT) from 1991 to 1999.

Outcome

Of at risk patients (age > 65) surveyed, only 9% had ever received pneumococcal vaccination.

Cardiac rehabilitation was underused in this population. Of patients who visited a cardiologist within a year of hospitalization for coronary artery disease (CAD), 24% were referred to outpatient cardiac rehabilitation, and 7% enrolled.

Accounting for age, grade, socioeconomic status, and comorbidity, African American men were 26% less likely to receive aggressive therapy than white men.

Underuse

Study

Outcome

Stereotactic Neurosurgical Biopsy Is An Underutilized Modality

Plunkett, R., Allison, R.R., Grand, W.; 1999; Neurosurg Rev

This study analyzed the records of 141 patients undergoing stereotactic brain biopsy at a single hospital to assess clinical outcomes.

Management was altered in 40% of cases due to histology. Morbidity was 10 asymptomatic hemorrhages on post-biopsy computed tomography (CT) scans and 2 cases of clinical deterioration. Our conclusions were that stereotactic neurosurgical biopsy produces high yield with low morbidity.

Barriers To Fecal Occult Blood Testing And Sigmoidoscopy Among Older Chinese-American Women

Tang, T.S., Solomon, L.J., McCracken, L.M.; 2001; Cancer Pract

101 Chinese-American women age 60 years and older in 2 metropolitan areas on the east coast of the U.S. completed questionnaires in order to examine factors associated with fecal occult blood test (FOBT) and sigmoidoscopy screening use among Chinese-American women.

Screening is underused in this population. 25% report ever having a FOBT, and 31% a sigmoidoscopy.

Implantable Cardioverter Defibrillator Utilization Based On Discharge Diagnoses From Medicare And Managed Care Patients

Ruskin, J.N., Camm, A.J., Zipes, D.P., Hallstrom, A.P., Grory-Ussat, M.E.; 2002; J Cardiovasc Electrophysiol

Managed care and Medicare databases were analyzed to estimate the number of patients at risk of sudden death, and these results were compared to current implantable cardioverter defibrillator (ICD) usage volumes.

The analysis identified between 736 to 1,140 ICD candidates per million population. This is in contrast to the ICD usage rate of 416 per million population in the United States. Thus, authors conclude that ICDs are underutilized.

Underuse

Study

Outcome

Regular Use Of Inhaled Corticosteroids And The Long Term Prevention Of Hospitalization For Asthma

Suissa, S., Ernst, P., Kezouh, A.; 2002; Thorax

This 16 year-long cohort study followed 30,569 asthmatics in order to determine the association between long-term inhaled corticosteroid use, and rates of hospital admission and readmission.

Regular use of inhaled corticosteroids was associated with reductions of 31% in the rate of hospital admissions for asthma and 39% in the rate of readmission. Regular use of inhaled corticosteroids can potentially prevent between 5 hospital admissions and 27 readmissions per 1,000 asthma patients per year.

Underutilization Of ACE Inhibitors In Heart Failure

Luzier, A.B., DiTusa, L.; 1999; Pharmacotherapy

This article reviews the topic of the underutilization of angiotensin-converting enzyme (ACE) inhibitors in heart failure. It discusses physician practice patterns, reasons for underutilization and ways to improve the use of ACE inhibitors.

ACE inhibitors are used in 70-80 % of eligible patients, but only 15% reached their target dose.

Potential Savings From Substituting Generic Drugs For Brand-Name Drugs: Medical Expenditure Panel Survey, 1997-2000

Haas, J.S., Phillips, K.A., Gerstenberger, E.P., Seger, A.C.; 2005; Ann Intern Med

This study analyzed data from 18,474 patients in the 1997–2000 Medical Expenditure Panel Survey Household Component (MEPS-HC) to calculate the potential savings associated with substitution of generic drugs for non-generic drugs.

If a generic had been substituted for all corresponding brand-name outpatient drugs in 2000, the savings would have been \$5.9 billion for adults under 65 years old and \$2.9 billion for adults 65 years old and above. This represents 11% of drug expenditures.

Underuse

Study

Outcome

The Quality Of Early-Stage Breast Cancer Treatment: What Can We Do To Improve?

Bickell, N.A., Mendez, J., Guth, A.A.; 2005; Surg Oncol Clin N Am

This article reviews the topic of the treatment of early-stage breast cancer treatment. The article discusses the evidence that breast cancer treatments are underutilized; possible causes of underutilizations; and possible ways to correct underutilization.

There is significant underuse of therapies (including adjuvant local and systemic therapies) for early-stage breast cancer that are proven to increase survival.

Physicians' Reasons For Failing To Deliver Effective Breast Cancer Care: A Framework For Underuse

Bickell, N.A., McEvoy, M.D.; 2003; Med Care

This study used interviews of 13 surgeons to determine the cause of the underuse of therapies for early-stage breast cancer.

Out of 275 cases of early stage breast cancer, 44 cases (16%) underused effective therapies. In 52% of these 44 cases, physicians thought treatment should not occur because evidence did not support treatment.

Appropriateness Of Coronary Angiography After Myocardial Infarction Among Medicare Beneficiaries. Managed Care Versus Fee For Service

Guadagnoli, E., Landrum, M.B., Peterson, E.A., Gahart, M.T., Ryan, T.J., McNeil, B.J.; 2000; N Engl J Med

This study compared data from Medicare beneficiaries with fee-for-service coverage versus Medicare beneficiaries with managed care coverage. The goal was to determine the rates of angiography after acute myocardial infarction (MI) in the 2 groups, and determine if differences in the rates of angiography were due to differences in rates of indication for angiography.

In patients with American College of Cardiologists/American Heart Association (ACC-AHA) class I indications for angiography, more fee-for-service beneficiaries than managed-care beneficiaries underwent angiography (46% vs. 37%). The rate of angiography was low for both groups when admitted to hospitals without angiography facilities.

Underuse

Study

Outcome

Cost-Effectiveness Of Coronary Heart Disease Prevention Strategies In Adults

Brown, A.D., Garber, A.M.; 1998; Pharmacoeconomics

This article reviews the existing literature on the cost-effectiveness of coronary heart disease (CHD) prevention, with an emphasis on primary prevention.

The studies reviewed show that prevention of CHD can be cost effective. Interventions include smoking cessation, treatment of hypertension, and hormone replacement in postmenopausal women.

Disparities In Diabetes Care: Impact Of Mental Illness

Frayne, S.M., Halanych, J.H., Miller, D.R., Wang, F.Lin, H., Pogach, L., Sharkansky, E.J., Keane, T.M., Skinner, K.M., Rosen, C.S.Berlowitz, D.R.; 2005; Arch Intern Med

This study evaluated a cohort of 313,586 non institutionalized Veterans Health Administration (VHA) patients with diabetes to determine whether a concomitant diagnoses of a mental health condition impacted the intensiveness of diabetes care.

Patients with mental illness were less likely to receive recommended care for diabetes. Odds ratios for failing to receive recommended interventions ranged from 1.05 for no eye exam to 1.25 for no low-density lipoprotein testing. Disparities also existed in glycemic and lipid control.

Are Negative Appendectomies Still Acceptable?

Jones, K., Pena, A.A., Dunn, E.L., Nadalo, L., Mangram, A.J.; 2004; Am J Surg

This was a retrospective review of appendectomies performed at a single institution during a 3 year period designed to examine whether the rate of negative appendectomies has declined with the increased use of computed tomography (CT) scans.

As the use of CT scan increased, the rate of negative appendectomy decreased. In 2000, 52% of patients had a CT scan prior to appendectomy. 17% of these patients had a negative appendectomy. In 2002, 86% of patients had CT scans prior to appendectomy. The negative appendectomy rate decreased to 2%.

Underuse

Study

Outcome

Factors Associated With Incidence Of “Inappropriate” Ambulance Transport In Rural Areas In Cases Of Moderate To Severe Head Injury In Children

Poltavski, D., Muus, K.; 2005; J Rural Health

This study identifies factors involved in ambulance transport of pediatric patients sustaining moderate-to-severe head injury to nondesignated trauma centers in rural North Dakota.

Children were less likely to be taken to an emergency department with a trauma facility if the distance was greater, if it was winter, and if the child was Native American.

Factors Associated With The Health Care Utilization Of Homeless Persons [Caring For The Uninsured And Underinsured]

Kushel, M.B., Vittinghoff, E., Haas, J.S.; 2001; JAMA

This study is a secondary data analysis of the National Survey of Homeless Assistance Providers and Clients (NSHAPC) to investigate the use of various health care resources (emergency department, inpatient, outpatient, medications) for homeless individuals and to investigate the factors that increase their access to care.

The homeless underuse care, and if they had better access (including registering for the Veterans Affairs benefits for which they are eligible) it would improve their health and lower emergency room costs. 62.8% of subjects had 1 or more ambulatory care visits during the preceding year, 32.2% visited an emergency department, and 23.3% had been hospitalized. However, 24.6% reported having been unable to receive necessary medical care. Of the 1,201 respondents who reported having been prescribed medication, 32.1% reported being unable to comply.

Improving The Use Of Hospice Services In Nursing Homes: A Randomized Controlled Trial

Casarett, D., Karlawish, J., Morales, K., Crowley, R., Mirsch, T., Asch, D.A.; 2005; JAMA

This study reviewed the records of patients in 3 nursing homes, identified patients who were candidates for hospice, and determined whether communication with the physician impacted either hospice enrollment or family ratings of end-of-life care.

Intervention residents were more likely than control residents to enroll in hospice within 30 days of the intervention (20% versus 1%) and within full follow-up period (25% versus 6%).

Underuse

Study

Randomized Trial Of A Daily Electronic Home Monitoring System In Patients With Advanced Heart Failure: The Weight Monitor In Heart Failure (WHARF) Trial

Goldberg, L.R., Piette, J.D., Walsh, M.N., Frank, T.A., Jaski, B.E., Smith, A.L., Rodriguez, R., Mancini, D.M., Hopton, L.A., Orav, E.J., Loh, E.; 2003; Am Heart J

This is a prospective randomized trial of Class III/IV heart failure patients being treated by cardiologists specializing in heart failure management, testing if home monitoring of weight and other parameters by an automated reporting system (telemedicine) to nurses for evaluation would reduce hospitalization. Mortality was analyzed as a secondary end-point, but the study was not designed to assess this outcome.

Outcome

There was no difference in rehospitalization rates or quality-of-life assessments between the 2 groups, but the intervention (telemedicine) group did have a statistically significant lower death rate.

A Longitudinal Study Of Schoolchildren's Experience In The North Carolina Dental Medicaid Program, 1984 Through 1992

Robison, V.A., Rozier, R.G., Weintraub, J.A.; 1998; Am J Public Health

This evaluation of a state Medicaid dental program describes dental treatment received, related treatment needed to treatment received, and describes enrollment and use over an 8-year period.

Approximately half of Medicaid-enrolled children never used dental services. Among users, only 29% had all dental needs met and 28% had partial dental needs met. Thus, 48% of children who saw a dentist had none of their dental needs met.

Underuse

Study

Relationship Between Children's Dental Needs And Dental Care Utilization: United States, 1988-1994

Vargas, C.M., Ronzio, C.R.; 2002; Am J Public Health

Dental needs and dental service utilization in children were measured and compared using National Health and Nutrition Survey III (NHANES III) data.

Tailored Interventions To Increase Influenza Vaccination In Neighborhood Health Centers Serving The Disadvantaged

Zimmerman, R.K., Nowalk, M.P., Raymund, M., Tabbarah, M., Hall, D.G., Wahrenberger, J.T., Wilson, S.A., Ricci, E.M.; 2003; Am J Public Health

To examine intervention strategies to increase influenza vaccination rates at 2 inner-city health centers in Pittsburgh with racially mixed populations; to compare reasons for getting/not getting vaccinated between patients aged 50-64 and those older than 65; and to identify any racial disparities. The 2 health centers used somewhat different interventions based on their own populations, including walk-in "flu shot" clinics, standing orders and prompts to providers, free vaccines, community posters, and physician letters.

Outcome

Dental care utilization falls short of dental care needs in this population. 37% of 2-5 year olds and 77% of 6-18 year olds had seen a dentist in the previous year.

Children from families with low educational attainment and racial/ethnic minorities were less likely to have received adequate dental care.

The study identified underuse of vaccines among Hispanics and blacks, and described an intervention that had moderate success in increasing immunization rates at one largely-minority clinic. The U.S. vaccination rate is 65% for people older than 65, and significantly lower for Hispanics (47%) and blacks (52%). According to electronic medical record (EMR) data vaccination rates were higher in the intervention year than in the previous year in the health center that had EMR. Patients older than 65 were more likely to be vaccinated than patients 50-64. Despite the interventions, neither convenience, nor free vaccinations were significant reasons for vaccination. In patients 50-64, the strongest predictor of vaccination was the belief that unvaccinated persons will contract influenza; in patients older than 65, it was the belief that friends/relatives thought they should be vaccinated.

Underuse

Study

Outcome

Underuse Of Invasive Procedures Among Medicaid Patients With Acute Myocardial Infarction

Philbin, E.F., McCullough, P.A., DiSalvo, T.G., Dec, G.W., Jenkins, P.L., Weaver, W.D.; 2001; Am J Public Health

This study used administrative data from 226 New York hospitals to examine whether patients with Medicaid who were hospitalized for an acute myocardial infarction (MI) had fewer cardiac procedures independent of other variables such as age, race, sex, income, comorbidity or location of care.

Medicaid patients receive fewer procedures (cardiac catheterization, revascularization) following acute MI than do other patients. Independent of other factors, Medicaid patients had less frequent use of cardiac catheterizaion, percutaneous transluminal coronary angioplasty, and any revascularization procedure (Percutaneous Transluminal Coronary Angioplasty and Coronary Artery Bypass Grafting [CABG] combined). The difference between CABG rates was not statistically significant. In addition, women, African Americans, and older patients were less likely to undergo procedures independent of insurance status.

Patient Education For Colon Cancer Screening: A Randomized Trial Of A Video Mailed Before A Physical Examination

Zapka, J.G., Lemon, S.C., Puleo, E., Estabrook, B., Luckmann, R., Erban, S.; 2004; Ann Intern Med

This study examined the effectiveness of an educational video about colorectal cancer screening on screening rates, particularly sigmoidoscopy.

A mailed video did not have a statistically significant effect on colorectal cancer screening rates (55% in both intervention and control groups).

Implementation Of Evidence-Based Tobacco Use Cessation Guidelines In Managed Care Organizations

Taylor, C.B., Curry, S.J.; 2004; Ann Behav Med

This study employed surveys of managed care organizations to assess the frequency of implementation of smoking cessation guidelines.

Surveys show that effective tobacco use cessation interventions remain underutilized in managed care organizations. A few studies have evaluated and shown the benefit of insurance coverage for tobacco use and dependence treatments.

Underuse

Study

Effects Of A Videotape To Increase Use Of A Poison Control Center By Low-Income And Spanish-Speaking Families; A Randomized Controlled Trial

Kelly, N.R., Huffman, L.C., Mendoza, F.S., Robinson, T.N.; 2003; Pediatrics

This randomized controlled trial (RCT) evaluated the effectiveness of a video tape to increase use of poison control centers (PCC) by low-income and minority families. Research suggests that use of a PCC can reduce health care costs by providing telephone advice that enables parents/caretakers to manage most cases of poisonings at home. There are 1 million inadvertent home poisonings in the U.S. annually.

Primary Care For The Medically Underserved: Challenges And Opportunities

Reilly, B.M., Schiff, G., Conway, T.; 1998; Dis Mon

This report reviews the current thinking about the causes of unequal health, the effects of unequal healthcare, and the special opportunities for disease prevention among socioeconomically disadvantaged people in the U.S.

Outcome

PCCs are underutilized by low income and minority families. Participants were parents of children younger than 6 enrolled at 2 Women, Infants, and Children (WIC) clinics in California who viewed a 9 minute videotape. The treatment group showed statistically significant increases in measures of knowledge regarding the use of PCCs. The treatment group was also more likely to know the telephone number for a PCC.

Underserved populations, even if insured, present specific challenges to providing high-quality primary care. Emphasis on 5 essential elements is required: 1) enlisting the patient's interest and cooperation, 2) educating the patient about illness and wellness, 3) explaining both the process and rationale for care, 4) empowering the patient to actively partner with the provider in actively maintaining health, and 5) emphasizing the patient's concerns, frustrations, failures and successes throughout the continuum. Physicians need to provide unique clinical skills, strong support systems, and a sense of community collaboration.

Underuse

Study

Outcome

Understanding The Consequences Of Access Barriers To Health Care: Experiences Of Adults With Disabilities

Neri, M.T., Kroll, T.; 2003; Disabil Rehabil

This study used structured interviews of 30 persons drawn from a longitudinal national cohort of patients with spinal cord injury (SCI), multiple sclerosis (MS), or cerebral palsy (CP) to explore the scope and nature of the consequences that adults with disabilities perceive as the result of inappropriate access to health care services, the variability of these consequences, and the inter-relatedness and multidimensionality of these consequences.

Consequences were grouped into 1 of 5 categories: social, psychological, physical, economic and independence issues. Responses differed slightly with regard to disability type, gender and health insurance type.

There was substantial overlap among consequence categories. For most respondents, negative consequences were not limited to just one area—frequently, one consequence triggered others.

Overcoming Barriers To Access And Utilization Of Hospice And Palliative Care Services In African American Communities

Winston, C.A., Leshner, P., Kramer, J., Allen, G.; 2004; Omega

This literature review was designed to examine the barriers that prevent African Americans from using hospice and palliative care services.

Only 8% of African Americans use hospice and palliative care services. The underutilization can be attributed to incompatibility between hospice philosophy and African American religious, spiritual, and cultural beliefs; health care disparities; distrust of the medical establishment; physician influence; financial disincentives, and hospice admission criteria.

Access To Mental Health Services And Health Sector Social Capital

Hendryx, M.S., Ahern, M.M.; 2001; Adm Policy Ment Health

This study uses Community Tracking Study data from 43 cities to investigate the relationship between mental health utilization and community characteristics.

Use of mental health services was greatest when public health institutions collaborated with private insurance, when communities had a high level of health insurance overall, and when there were publically funded mental health services.

Underuse

Study

Ace Inhibitor Therapy: Benefits And Underuse
Smith, Sidney C.; 1999; Am Fam Physician

Editorial that summarizes studies prior to 1998 that indicate underuse of angiotensin-converting enzyme (ACE) inhibitors in heart failure and acute myocardial infarction (MI).

Outcome

Adherence to guidelines would save lives and dollars. The direct and indirect costs of congestive heart failure (CHF) in the U.S. in 1998 was \$20.2 billion. The article cites the guidelines of the Agency of Health Care Policy & Research, the American College of Cardiology and the American Heart Association regarding the use of ACE Inhibitors in CHF and acute MI. Various studies reveal only 31-50% of eligible patients receive this therapy.

The Influence Of An Urgent Care Center On The Frequency Of ED Visits In An Urban Hospital Setting

Merritt, B., Naamon, E., Morris, S.A.; 2000; Am J Emerg Med

This study examined the effect of a visit to an Urgent Care Center (UCC) on emergency department (ED) use by patients with nonemergent complaints. A study population of 1,629 patients with no previous visit to a UCC were identified and served as their own controls. The ED and clinic usage 6 months before and 6 months after a UCC visit were examined.

The use of UCCs can significantly decrease visits to the ED, saving money and improving care. After visiting a UCC, patients' use of the ED is significantly lower. After the urgent care visit there was a 48% reduction in ED visits for adults and a 28% reduction in ED visits for children. Clinic visits increased for both populations.

Underuse

Study

Gaps In Service Utilization By Mexican Americans With Mental Health Problems

Vega, W.A., Kolody, B., Aguilar-Gaxiola, S., Catalano, R.; 1999; *Am J Psychiatry*

A random sample of 3,012 Mexican-Americans in Fresno County, CA were interviewed. 508 individuals were identified as having a mental health diagnosis. The utilization of mental health services by this cohort was determined.

Outcome

Mexican-Americans are getting too little treatment for mental illness, and too little of it comes from trained mental health providers. The overall 12-month rate of utilization of any provider by persons with diagnosed mental disorders was 28.1%. The use of mental health care providers was 8.8%. The factors associated with utilization of mental health services included female sex, higher educational attainment, unemployment, and comorbidity. Mental health care (including informal providers such as folk healers and priests) was used by fewer Mexican-American immigrants (15.4%) than U.S.-born Mexican-Americans (37.5%).

Access And Late-Stage Diagnosis Of Breast Cancer In The Military Health System

Bibb, S. C.; 2000, *Mil Med*

This retrospective review of the tumor registry at U.S. Naval Hospital San Diego reports data from 635 women with breast cancer in order to describe the “extent to which potential and realized access predict stage at diagnosis within an equal economic access health care system.”

Late-stage breast cancer was more likely to be diagnosed in African American women from low socioeconomic strata with incidental breast self-examination-discovered cancers. The most significant predictors of late-stage diagnosis were means of discovery and the length of time between discovery and diagnosis.

Prenatal Care Utilization In Hawaii: Did It Improve During The Last 16 Years?

Baruffi, G., Alexander, G.R., Perske, K.F., Fuddy, L.J., Onaka, A.T., Mor, J.M., Ward, K.L.; 1998; *Hawaii Med J*

This article examined the utilization of prenatal care in Hawaii from 1979 to 1994 in order to determine if early and adequate utilization of prenatal care has changed during this period.

The proportion of women with “inadequate” care declined (10.3%), although the proportion of women with “no care” doubled. Complete reporting of use of care through birth certificates markedly deteriorated.

Underuse

Study

Outcome

Hospice And Primary Care Physicians: Attitudes, Knowledge, And Barriers

Ogle, K., Mavis, B., Wang, T.; 2003; Am J Hosp Palliat Care

This article used a mail survey of 131 primary care physicians (PCPs) to examine their attitudes toward, knowledge about, and perceived benefits and barriers to hospice care.

PCPs perceived many benefits to hospice care and identified patient and family readiness as the major barrier to earlier hospice referrals. A significant subgroup had concerns about problems in interacting with hospices. There were very few differences between family practitioners and general internists.

Breast And Cervical Cancer Screening Among Migrant And Seasonal Farmworkers: A Review

Coughlin, S.S., Wilson, K.M.; 2002; Cancer Detect Prev

This article reviewed published studies that examined breast and cervical cancer screening in migrant and seasonal farm workers.

Underutilization of mammograms and Pap smears among migrant and seasonal farm workers may be due to: limited awareness of the importance of cancer screening, cultural beliefs, cost, lack of health insurance, lack of transportation, and child care difficulties.

Help-Seeking Behaviors By Korean Immigrants For Depression

Shin, J. K.; 2002; Issues Ment Health Nurs

The study involved 6 focus group discussions and 24 in-depth interviews with 70 Korean immigrants in New York City in order to investigate Korean immigrants' help-seeking behaviors for depression and their underutilization of mental health services.

Prolonged care within family and traditional Asian practices led to a delay in seeking mental health services. The lack of interface between formal service providers and psychiatric service providers also caused delayed treatment.

Underuse

Study

Outcome

Mammography And Clinical Breast Examination Among Korean American Women In Two California Counties

Wismer, B.A., Moskowitz, J.M., Chen, A.M., Kang, S.H., Novotny, T.E., Min, K., Lew, R., Tager, I.B.; 1998; Prev Med

This study conducted a telephone survey of 1,090 Korean Americans in California in order to determine rates of mammography, clinical breast exam, and factors that predict these interventions.

34% of Korean-American women age 50 and older had a mammogram in the past 2 years. Only 32% had a clinical breast exam (CBE) in the past 2 years. The strongest independent correlate of both mammogram and CBE was having a regular medical checkup.

Variations In Patients' Adherence To Medical Recommendations: A Quantitative Review Of 50 Years Of Research

DiMatteo, M. R.; 2004; Med Care

This is a meta-analysis of 733 studies published between 1948 and 1998, which was done in order to examine the topic of patients' adherence to medical recommendations.

The average nonadherence rate is 24.8%. Adherence is significantly higher in more recent and smaller studies and in those involving medication regimens and adult samples. Adherence is highest in HIV disease, arthritis, gastrointestinal disorders, and cancer, and lowest in pulmonary disease, diabetes, and sleep.

Breast And Cervical Cancer Screening Practices Among Asian And Pacific Islander Women In The United States, 1994-1997

Coughlin, S.S., Uhler, R.J.; 2000; Cancer Epide

This study examined rates of breast and cervical cancer screening practices among Asian (and Pacific Islander) women living in the U.S.

Breast and cervical cancer screening is underutilized by Asian-American women, though the rates of screening were not too far below published targets. 72% of women aged 50 or older had had a mammogram in the previous 2 years; 70% of women aged 40 or over had had a clinical breast exam in the prior 2 years; and 74% of eligible women had had a Pap smear in the prior 2 years. Meeting population-level goals for breast and cervical cancer screening will require outreach to ethnic populations.

Underuse

Study

Outcome

Hospice Care For Patients With Advanced Lung Disease

Abraham, J.L.; Hansen-Flaschen, J.; 2002; Chest

This article reviews hospice care in the U.S., with particular attention to hospice eligibility criteria for patients dying of advanced lung disease. It proposes 3 new guidelines that doctors can use to decide when to refer a patient to a hospice program.

This review described several reasons why hospice is underutilized by patients dying of nonmalignant lung diseases. It also proposes guidelines to help a physician to decide when to refer a patient with a non-malignant lung disease to a hospice program.

Minoxidil: An Underused Vasodilator For Resistant Or Severe Hypertension

Sica, D.A.; 2004; J Clin Hyertens (Greenwich)

This study reviews the indications and side effects of minoxidil as a medication for hypertension.

The use of minoxidil for hypertension is limited due to its side effects, but it does have a place in the treatment of resistant hypertension, especially in patients with advanced renal disease.

Cardioprotection: The Role Of Beta-Blocker Therapy

Egan, B.M., Basile, J., Chilton, R.J., Cohen, J.D.; 2005; J Clin Hyertens (Greenwich)

This paper reviews the protective role of beta blockade in the primary and secondary prevention of cardiovascular events and examines some of the potential barriers to appropriate beta-blocker use in patients with compelling indications.

Beta-blockers remain underutilized in many high-risk patients who would likely benefit from their use

Underuse

Study

Utilization Of Papanicolaou Smears By South Asian Women Living In The United States
Chaudhry, S., Fink, A., Gelberg, L., Brook, R.; 2003; J Gen Intern Med

To examine rates of cervical cancer screening practices among South Asian women living in the U.S.

Outcome

Cervical cancer screening with Pap smear is underutilized by South Asian women, though the rates of screening were not too far below published targets. 73% of women reported having a Pap smear in the previous 3 years. Significant predictive variables associated with having had a Pap smear included being married, more educated, more acculturated, and having a usual source of care.

Access Barriers To Health Care For Latino Children

Flores, G., Abreu, M., Olivar, M.A., Kastner, B.; 1998; Arch Pediatr Adolesc Med

This study was conducted to identify access barriers to health care for Latino children, as reported by their parents.

Several access barriers to health care were perceived by the parents of Latino children. In this study, 21% of parents reported routinely bringing their children to the emergency department for treatment. Parents cited, in descending order, language problems (26%), long waiting time at the physician's office (15%), no medical insurance (13%), and difficulty paying medical bills (7%) as the greatest barriers to care.

Effect Of Antiplatelet And Anticoagulant Agents On Risk Of Hospitalization For Bleeding Among A Population Of Elderly Nursing Home Stroke Survivors

Quilliam, B.J., Lapane, K.L., Eaton, C.B., Mor, V.; 2001; Stroke

Antiplatelet agents are underutilized in the nursing home setting, perhaps because trials demonstrating treatment efficacy excluded people resembling those with long-term care needs. This case-control study sought to quantify the effect of antiplatelet and anticoagulant agents on risk of hospitalization for bleeding among an elderly nursing home population of stroke survivors.

Aspirin and warfarin increase slightly the risk of nursing home patients developing cerebral bleeds.

Underuse

Study

Outcome

Trends In Screening For Colorectal Cancer - United States, 1997 And 1999

CDC, 2001; MMWR Morb Mortal Wkly Rep

This Morbidity and Mortality Weekly Report (MMWR) gives data from the Behavioral Risk Factor Surveillance System, which uses telephone surveys in order to determine what percent of Americans received colorectal cancer screening (either fecal occult blood test, or sigmoidoscopy/ colonoscopy) in 1997 and 1999.

From 1997 to 1999, the rates of fecal occult blood testing within the past year increased from 19.6% to 40.3%, and the rates of sigmoidoscopy or colonoscopy within the last 5 years increased from 30.3% to 43.8%.

Efforts to address barriers and to promote the use of colorectal cancer screening should be intensified.

Psychopharmacology: Underuse Of Evidence-Based Treatments In Psychiatry

Fayek, M., Flowers, C., Signorelli, D., Simpson, G.; 2003; Psychiatr Serv

This article is an opinion column that points to 3 treatments in psychiatry that the authors feel are underused: electroconvulsive therapy (ECT), depot (injectable) antipsychotic medication, and clozapine.

3 useful psychiatric treatments are underused. The authors cite some evidence for the benefits of the 3 treatments and their underuse, but there is no new data and no systematic review of evidence or practice patterns.

Ethnic Disparities In Use Of Public Mental Health Case Management Services Among Patients With Schizophrenia

Barrio, C., Yamada, A.M., Hough, R.L., Hawthorne, W., Garcia, P., Jeste, D.V.; 2003; Psychiatr Serv

The article's purpose is to examine the use of case management (representing high-quality care) for schizophrenic patients in various ethnic groups. The authors hypothesize that use would be lower among Latino and African American patients.

Ethnic minorities with schizophrenia are underserved compared with European-Americans. European-Americans received case management services at a higher rate (30.2%) than patients from ethnic minorities (19.3% for Latinos, 17.4% for African Americans).

Underuse

Study

Outcome

Inhaled Corticosteroids As First-Line Therapy For Asthma. Why They Work And What The Guidelines And Evidence Suggest

Laurie, S., Khan, D.; 2001; Postgrad Med

this study reviewed the justification behind the use of inhaled corticosteroids as first-line therapy for asthma; identified and described indication for the use of inhaled corticosteroids in treatment of asthma; and compared the potencies and adverse effects of the various corticosteroids available.

There is abundant evidence supporting the efficiency of inhaled steroids as first-line therapy for persistent asthma. However, these medications continue to be under-used.

Assessment Of Tuberculosis Treatment Completion In An Ethnically Diverse Population Using Two Data Sources - Implications For Treatment Interventions

Morisky, D.E., Ebin, V.J., Malotte, C.K., Coly, A., Kominski, G.; 2003; Eval Heath Prof

This paper reports the results of 2 independent assessments: (1) an assessment of surveillance data from the Los Angeles Health County Department, and (2) a prospective/retrospective medical chart review from two clinics in Los Angeles County. The goal was to try to determine what factors could predict which adolescents were less likely to complete a full 6 month course of treatment for latent TB infection (LTBI).

Patients who were younger, born in the U.S., or were of Asian ethnicity were more likely to complete the 6-month treatment course for LTBI. Latinos, African Americans, and non-U.S. born patients were more likely not to complete the treatment. Among the patients who did not complete the treatment, the average length of treatment was 13 weeks.

Underuse

Study

Outcome

The Health Economics Of The Treatment Of Hyperlipidemia And Hypertension

McMurray, J.; 1999; American Journal of Hypertension

This article reports data on the cost-effectiveness of blood-pressure medications and statins (in quality adjusted life year, and number needed to treat) using studies done in different countries.

Blood-pressure-lowering therapy for the elderly and the use of statins for hypercholesterolemia in patients at high risk of coronary heart disease (CHD) are extremely cost-effective, compared with many other routine medical interventions (such as kidney transplantation, home hemodialysis, and coronary artery bypass grafting).

Cost-Effectiveness Of Ambulatory Blood Pressure: A Reanalysis

Krakoff, Lawrence; 2006; Hypertension

This article reports a cost-effectiveness analysis for the use of 24-hour ambulatory blood pressure monitoring (ABPM).

ABPM for newly detected hypertensive subjects could potentially save 3% to 14% for cost of care for hypertension. At current reimbursement rates, the use of ABPM could save money when annual treatment costs of hypertension is as little as \$300.

Anti-Depressant Prescribing Patterns Among Prison Inmates With Depressive Disorders

Baillargeon, J., Black, S.A., Contreras, S., Grady, J., Pulvino, J.; 2002; J Affect Disord

This study reviewed the records of 5,305 state inmates with a diagnosis of a depressive disorder to examine anti-depressant prescribing patterns in correctional institutions.

Antidepressants are underused among inmates in Texas (22% did not get medication). Older, tricyclic, antidepressants were used more frequently than newer selective serotonin reuptake inhibitors (SSRIs) (50% versus 30%), which is the reverse of the pattern in non-inmates.

Underuse

Study

Prevention Methods Underused, Report Concludes

Marwick, Charles; 2003; J Natl Cancer Inst

A news story reporting the findings of the Institute of Medicine's report "Fulfilling the Potential of Cancer Prevention and Early Detection."

Outcome

The report claims that if sustained efforts were made to help people change their behavior (such as sustained efforts to help people stop smoking) and systems were in place to enable them to take advantage of cancer detection procedures, 60,000 cancer deaths and about 100,000 new cancer cases annually could be prevented by 2015. The report calls for a national strategy to be developed and coordinated by the Department of Health and Human Services to encourage lifestyle changes in the population, including helping people to stop smoking, to maintain a healthy diet, to keep their weight under control, to stimulate physical activity, and to moderate their alcohol consumption. According to the report, controlling tobacco offers the greatest opportunity to reduce cancer, and the single most effective method of reducing smoking is to raise tobacco taxes.

Cost-Effectiveness Of Cholesterol-Lowering Therapies According To Selected Patient Characteristics

Prosser, L.A., Stinnett, A.A., Goldman, P.A., Williams, L.W., Hunink, M.G., Goldman, L., Weinstein, M.C.; 2000; Ann Intern Med

This study examined cost-effectiveness of lipid-lowering treatment according to selected patient characteristics.

Statin therapy costs \$54,000/quality-adjusted life years (QALY) gained.

Underuse

Study

Outcome

Beta-Blockers After Acute Myocardial Infarction In Elderly Patients With Diabetes Mellitus: Time To Reassess

Di, Bari M., Marchionni, N., Pahor, M.; 2003; Drugs Aging

This article discusses current literature about the use of beta-blockers after acute myocardial infarction in elderly patients with diabetes mellitus.

Beta blockers are underused in clinical practice, especially in older patients with diabetes mellitus.

Use Of Angiotensin-Converting Enzyme Inhibitors In Patients With Heart Failure And Renal Insufficiency: How Concerned Should We Be By The Rise In Serum Creatinine?

Ahmed, A.; 2002; J Am Geriatr Soc

This study combined evidence from 12 clinical trials in order to determine the association between the early rise in serum creatinine levels associated with the use of angiotensin-converting enzyme (ACE) inhibitors or angiotensin II receptor blockers (ARBs) and the long-term renoprotective properties of these drugs in patients with chronic renal insufficiency.

In patients with renal insufficiency treated with angiotensin-converting enzyme (ACE) inhibitors, there is a strong association between early (within the first 2 months) and moderate (not exceeding 30% over baseline) rise in serum creatinine and a slowing of the renal disease progression in the long run.

Underuse

Study

Regional Variation In The Cost Effectiveness Of Childhood Hepatitis A Immunization

Jacobs, R.J., Greenberg, D.P., Koff, R.S., Saab, S., Meyerhoff, A.S.; 2003; *Pediatr Infect Dis J*

To evaluate the costs and benefits of potentially immunizing healthy U.S. children for hepatitis A in regions of varying hepatitis A incidences.

Outcome

The study concludes that Hepatitis A vaccination of all children in the U.S. would prevent substantial morbidity and mortality, and has similar cost effectiveness to that of other childhood immunizations that are being used. Vaccinating all healthy children throughout the U.S. for Hepatitis A would prevent more than 75,000 cases of overt hepatitis A for the "2000 birth cohort." It would cost \$9,100 per quality-adjusted life year (QALY) - from the perspective of the health system. It would cost \$14,100 per life-year saved, which is similar to the \$26,400 and \$74,800 per life-year saved of the varicella and pneumococcal vaccines that are already being used.

Hospital And Outpatient Health Services Utilization Among HIV-Infected Adults In Care 2000-2002

Fleishman, J.A., Gebo, K.A., Reilly, E.D., Conviser, R., Christopher, Mathews W., Todd, Korthuis P., Hellinger, J., Rutstein, R., Keiser, P., Rubin, H., Moore, R.D.; 2005; *Med Care*

A chart review of 11 sites in the HIV Research Network (8 academic sites), to examine resource utilization by HIV-infected adults, and to determine what variables influence both inpatient and outpatient visits and utilization.

From 2000-2002 there was no substantial change in the combined inpatient utilization by HIV-infected adults, but outpatient utilization dropped by about .5 days per person/year (from 6.06 to 5.66). Minorities and disadvantaged groups had higher hospitalization rates, and clinical costs for patients on highly active antiretroviral therapy (HAART) were not significantly different from those not on HAART. Overall, only about 18-23% of the patients were not receiving HAART. Outpatient visits were lower for uninsured patients, and highest for those with Medicare or Medicaid. Hospital admission rates were also highest for Medicare and Medicaid patients (23-25% vs. 11-16%).

Underuse

Study

Outcome

Cultural Influences On Health Care Use: Differences In Perceived Unmet Needs And Expectations Of Providers By Latino And Euro-American Parents Of Children With Special Health Care Needs.

Gannotti, M.E., Kaplan, L.C., Handwerker, W.P., Groce, N.E.; 2004; J Dev Behav Pediatr

This study compares Latino and Euro-American parents of children with special health care needs in terms of service use, perceived unmet needs, and expectations of providers.

Textual analysis of open interviews revealed that the two groups of families had different expectations of providers. Latino cultural values play a role in these differences, creating barriers for effectively communicating with providers and for meeting children's needs.

Explaining Black-White Differences In Receipt Of Recommended Colon Cancer Treatments

Baldwin, L.M., Dobie, S.A., Billingsley, K., Cai, Y., Wright, G.E., Dominitz, J.A., Barlow, W., Warren, J.L., Taplin, S.H.; 2005; J Natl Cancer Inst

To assess racial and other factors associated with receiving chemotherapy for colon cancer among fee-for service (FFS) Medicare beneficiaries.

Blacks were less like to receive chemotherapy for colon cancer (59.3% versus 70.4%), and this was particularly true for patients ages 66-70 (65.7% versus 86.3%). However, the author's analyses indicate that about half of the disparity could be explained by other study variables, such as severity of illness, social support, and environment.

Underuse Of Analgesia In Very Young Pediatric Patients With Isolated Painful Injuries

Alexander, J., Manno, M.; 2003; Ann Emerg Med

This study compared the use of analgesic agents in very young children with that in older children with isolated painful injuries.

64.6% of the time, children younger than 2 years of age received no analgesia for injury. Children younger than 2 years of age receive disproportionately less analgesia than school-age children, despite having obviously painful conditions.

Underuse

Study

Outcome

Underserved Elderly Issues In The United States: Burdens Of Oral And Medical Health Care

Greene, V. A.; 2005; Dent Clin North Am

This study reviews the topic of lack of medical and dental insurance in the elderly.

Although 10% of the elderly had no medical insurance in 2000, 78% had no dental insurance. In underserved communities, the management of the oral health and dental care needs of older Americans approaches negligence.

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.

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., angiotensin-converting enzyme [ACE] inhibitors for diabetics) was often not being prescribed (3-47% of the time, depending on condition and drug class).

Correlates Of Underutilization Of Gynecological Cancer Screening Among Lesbian And Heterosexual Women.

Matthews, A.K., Brandenburg, D.L., Johnson, T.P., Hughes, T.L.; 2004; Prev Med

Utilizing a multi-site survey study of women's health, screening rates for cervical cancer in lesbian and heterosexual women were compared.

Lesbians were less likely than heterosexual women to have had regular screening exams. Lesbians had more risk factors for cervical cancer.

Underuse

Study

Outcome

Association Of Patient Autonomy With Increased Transplantation And Survival Among New Dialysis Patients In The United States
Stack, A.G., Martin, D.R.; 2005; Am J Kidney Dis

This study assessed how autonomy in clinical decision making affects dialysis treatment selection for patients with chronic kidney disease and assessed subsequent transplantation and survival.

Chronic kidney disease patients who have greater participation in their care decisions were more likely to use peritoneal vs. hemo dialysis (66% vs. 34%), had higher survival rates, and had greater rates of transplantation. These differences were smaller, but persisted after adjusting for differences in comorbidities and socioeconomic factors, i.e., mortality for patient-led decision makers was 84% that of clinical team-led decision makers, and transplantation rates were 1.44 times greater for the patient decision makers.

Lifetime Prevalence And Age-Of-Onset Distributions Of DSM-IV Disorders In The National Comorbidity Survey Replication
Kessler, R.C., Berglund, P., Demler, O., Jin, R., Merikangas, K.R., Walters, E.E.; 2005; Arch Gen Psychiatry

This study used face-to-face household surveys of 8,282 people (in the National Comorbidity Survey Replication) in order to estimate lifetime prevalence and age-of-onset distributions of diagnostic and statistical manual of mental disorders (DSM-IV) disorders.

About half of Americans will meet the criteria for a DSM-IV sometime in their life, with first onset usually in childhood or adolescence.

Medication Non-Adherence And Asthma Treatment Costs
Bender, B.G., Rand, C.; 2004; Curr Opin Allergy Clin Immunol

This study reviews data describing the impact of asthma treatment non adherence on patients and the health care system, and to outline areas of responsibility towards improved adherence.

The total cost of treatment non compliance is estimated to be up to \$300 billion/year, although no total estimate is given for asthma-related non-compliance. It is estimated that 5.2% of hospitalizations for asthma result from non-adherence to prescribed regimens.

Underuse

Study

Outcome

Missed Appointments And Poor Glycemic Control: An Opportunity To Identify High-Risk Diabetic Patients

Karter, A.J., Parker, M.M., Moffet, H.H., Ahmed, A.T., Ferrara, A., Liu, J.Y., Selby, J.V.; 2004; Med Care

This article is an analysis of data from 84,040 diabetics in the Kaiser Permanente system to evaluate the relationship between missed appointments and glycemic control.

Missed appointments could be used to help identify diabetics who have worse diabetic control, and may benefit from case management. The study found that 12% of subjects missed more than 30% of their appointments over a 1 year period. Patients who missed more than 30% of their appointments on average had a hemoglobin A1c of between 0.70 and 0.79 higher than those who missed less than 30% of their visits. Higher rates of missed appointments were associated with poor glycemic control, even after adjusting for age, sex, clinical status, and health care utilization.

Oral Health Care Utilization By U.S. Rural Residents, National Health Interview Survey 1999

Vargas, C.M., Dye, B.A., Hayes, K.; 2003; J Public Health Dent

Data on dental care utilization from the 1999 National Health Interview Survey was used to compare the dental care utilization practices of rural and urban residents in the United States (for ages 2 years and older).

Rural residents were more likely to report that their last dental visit was because something was “bothering or hurting” and that they had unmet dental needs. Urban residents were more likely to have a dental visit in the past year and to have private dental insurance. There were no differences in most reasons given for not visiting the dentist.

Breast And Cervical Cancer Screening Practices Among Hispanic Women In The United States And Puerto Rico, 1998-1999

Coughlin, S.S., Uhler, R.J.; 2002; Prev Med

This study examined the breast and cervical cancer screening practices of Hispanic women in 50 states by examining data from over 12,000 women in the 1999 Behavioral Risk Factor Surveillance System.

68.2% of women aged 40 years or older had received a mammogram in the past 2 years. 81.4% of women aged 18 years or older had received a Pap smear in the past 3 years. Lower rates of screening were associated with low income, less education, and no insurance coverage.

Underuse

Study

Outcome

Underutilization Of Mental Health Services By Asian-Americans Residing In The United States
Herrick, C.A., Brown, H.N.; 1998;
Issues Ment Health Nurs

This article discusses the underutilization of mental health services by Asian Americans, and it provides “awareness tools” to guide mental health professionals in determining whether culturally competent care is available locally to meet the needs of this underserved population.

This article provides “awareness tools” to guide mental health professionals in determining whether culturally competent care is available locally to meet the needs of this underserved population.

A Comparison Of Asthma-Related Healthcare Use Between African-American And Caucasians Belonging To A Health Maintenance Organization.

Blixen, C.E., Havstad, S., Tilley, B.C., Zoratti, E.; 1999; J Asthma

This retrospective review of health management organization (HMO) data was designed to determine whether racial differences in patterns of asthma care persist when financial barriers to health care are minimized.

Statistically significant differences in utilization of health care services exist between African Americans and Caucasians in a managed-care environment. Differences also exist between African Americans with and without Medicaid.

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).

Underuse

Study

Outcome

The State Of Health Care Quality: 2002
National Committee for Quality Assurance; 2002

This is the 5th annual report published by the National Committee for Quality Assurance (NCQA) that attempts to describe and evaluate the state of health care quality in the U.S.

In 2002 there were improvements in the quality of health care delivered by commercial managed-care plans. Individuals enrolled in NCQA-Accredited Medicare and Medicaid health plans receive better care than those in non-accredited health plans. Reporting quality information saves lives and money.

Effectiveness And Cost-Benefit Of Influenza Vaccination Of Healthy Working Adults: A Randomized Controlled Trial
Bridges, C.B., Thompson, W.W., Meltzer, M.I., Reeve, G.R., Talamonti, W.J., Cox, N.J., Lilac, H.A., Hall, H., Klimov, A., Fukuda, K.; 2000; JAMA

This study was a randomized, placebo-controlled trial of 1,191 adults employed at one company to test the effectiveness and cost-benefit of influenza vaccine in preventing influenza-like illness (ILI), and reducing societal costs.

In 1997-1998 the vaccine virus differed from the predominant circulating viruses, and the net societal cost of the vaccine was \$66 per person. In 1998-1999 the vaccine matched the predominant circulating viruses, and the net societal cost of the vaccine was \$11 per person.

Priorities Among Recommended Clinical Preventive Services
Coffield, A.B., Maciosek, M.V., McGinnis, J.M., Harris, J.R., Caldwell, M.B., Teutsch, S.M., Atkins, D., Richland, J.H., Haddix, A.; 2001; Am J Prev Med

This study assessed the value of clinical services recommended by the U.S. Preventive Services Task Force (PSTF) based on the burden of disease prevented by each service and the cost effectiveness of each service. Opportunities for improving delivery rates were prioritized by comparing these scores with current delivery rates.

The highest ranked services with the lowest current delivery rates were providing tobacco cessation counseling, screening adults for visual defects, chlamydia, colorectal cancer, and problem drinking, and providing adults with pneumococcal vaccine.

Underuse

Study

Outcome

Economic Impact Of Influenza Vaccination In Preschool Children

**Cohen, G.M., Nettleman, M.D.; 2000
Pediatrics**

This study was a decision analysis to compare the costs of giving the influenza vaccine to preschool children in two different settings: (1) a setting where the vaccine was available during flexible hours which included after-work hours, and (2) a setting where the vaccine was available only from 8 a.m. to 5 p.m.

Vaccination resulted in a net cost savings in both settings. The net savings per vaccine recipient were \$21.28 in the flexible setting and \$1.20 in the restricted setting.

Physicians' Recommendations To Patients For Use Of Antibiotic Prophylaxis To Prevent Endocarditis

**Seto, T.B., Kwiat, D., Taira, D.A.,
Douglas, P.S., Manning, W.J.; 2000;
JAMA**

This study surveyed 218 patients who had previously undergone TTE at a major Boston teaching hospital to determine whether patients were appropriately told to take antibiotics prior to procedures known to produce bacteremia (e.g., before dental procedures) based on the results of echocardiography, as recommended by 1997 American Heart Association guidelines, and whether they did so.

Of the 108 patients who met American Heart Association recommendations for infective endocarditis prophylaxis, 71 (65.7%) reported that they were told by their physicians to take prophylaxis prior to dental work or other nonsterile procedures, including 88.9% of high-risk patients, suggesting some underuse of a guideline-based intervention (AHA 1997). In addition, among the 110 patients at negligible risk, 29 (26.4%) reported that they had been instructed to take IE prophylaxis, which represents overuse according to the guideline. Of those who were told to take antibiotics and subsequently underwent a procedure for which IE prophylaxis was indicated (n=68), nine (13.2%) elected not to follow their physician's advice to take prophylaxis.

