EMCA Gestión de la Calidad Asistencial

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1. **ARTÍCULO Nº: 4645**

Kruger JF, Chen AH, Rybkin A, Leeds K, Frosch DL, Goldman LE. ***Clinician perspectives on considering radiation exposure to patients when ordering imaging tests: a qualitative study***. BMJ Qual.Saf. 2014; 23(11): 893-901.

BACKGROUND AND OBJECTIVES: Increased computer tomography (CT) scan use has contributed to a rise in medically-associated radiation exposure. The extent to which clinicians consider radiation exposure when ordering imaging tests is unknown. We examined (1) outpatient clinician attitudes towards considering radiation exposure when ordering CT scans; and (2) clinician reactions to displaying radiation exposure information for CT scans at clinician electronic order entry. METHODS: We conducted nine focus groups with primary care clinicians and subspecialty physicians (nephrology, pulmonary and neurology) (n=50) who deliver outpatient care across 12 hospital-based clinics and community health centres in an urban safety-net health system, which use a common electronic order entry system. We analysed focus group transcripts using an inductive framework to identify emergent themes and illustrative quotations. FINDINGS: Clinicians felt they had limited knowledge of the clinical implications of radiation exposure. Many believed clinically relevant information such as the increased risk of malignancy from CT scans would be useful to inform decision-making and patient-clinician discussions. Clinicians noted that patient vulnerability and long wait times for tests with less radiation exposure (such as MRI or ultrasound) often acted as barriers to minimise patient radiation exposure from CT scans. Clinicians suggested providing patients' cumulative radiation exposure or formal decision aids to improve the usefulness of the radiation exposure information. CONCLUSIONS: Displaying clinically relevant radiation exposure information at order entry may improve clinician knowledge and inform patient-clinician discussions regarding risks and benefits of imaging. However, limited access to tests with lower radiation exposure in safety-net settings may trump efforts to minimise patient radiation exposure.

2. **ARTÍCULO Nº: 4646**

Chung JW, Ju MH, Kinnier CV, Haut ER, Baker DW, Bilimoria KY. ***Evaluation of hospital factors associated with hospital postoperative venous thromboembolism imaging utilisation practices***. BMJ Qual.Saf. 2014; 23(11): 947-956.

BACKGROUND: Recent research suggests that hospital rates of postoperative venous thromboembolism (VTE) are subject to surveillance bias: the more hospitals 'look for' VTE, the more VTE they find. However, little is known about what drives variation in hospital VTE imaging rates. We conducted an observational study to examine hospital and market characteristics that were associated with hospital-level rates of postoperative VTE imaging,

focusing on hospitals with particularly high rates. METHODS: For Medicare beneficiaries undergoing 11 major operations (2009-2010) at 2820 hospitals, hospital-level postoperative VTE imaging use rates were calculated. Hospital characteristics associated with hospital VTE imaging use rates were examined including case severity, size, ownership, VTE process measure adherence, accreditations, staffing, malpractice environment, and county market factors. Associations between explanatory variables and VTE imaging rates were assessed using quantile regressions at the 25th, median, 75th and 90th quantiles. RESULTS: Mean postoperative VTE imaging rates ranged from 85.26 (SD=67.38) per 1000 discharges in the lowest quartile of hospitals ranked by VTE imaging rates to 168.86 (SD=76.70) in the highest quartile. Drivers of high imaging rates at the 90th quantile were high resident-to-bed ratio (coefficient=51.35, p<0.01), Joint Commission accreditation (coefficient=19.05, p<0.01), presence of other hospitals in the same market with high imaging rates (coefficient=15.29, p<0.01), average case severity (coefficient=11.97, p<0.01), local malpractice costs (coefficient=11.29, p<0.01), and market competition (coefficient=11.03, p<0.01). CONCLUSIONS: Hospital teaching status, resident-to-bed ratio, malpractice environment and local market factors drive hospital postoperative VTE imaging use, suggesting that non-clinical forces predominantly drive hospital VTE imaging practices.

3. **ARTÍCULO Nº: 4647**

Tugwell P, Knottnerus JA. ***Should guideline panels declare nonfinancial conflicts of interest?*** J.Clin.Epidemiol. 2014; 67(11): 1179-1180.

4. **ARTÍCULO Nº: 4648**

Steel N, Abdelhamid A, Stokes T, Edwards H, Fleetcroft R, Howe A et al. ***A review of clinical practice guidelines found that they were often based on evidence of uncertain relevance to primary care patients.*** J.Clin.Epidemiol. 2014; 67(11): 1251-1257.

OBJECTIVES: Primary care patients typically have less severe illness than those in hospital and may be overtreated if clinical guideline evidence is inappropriately generalized. We aimed to assess whether guideline recommendations for primary care were based on relevant research. STUDY DESIGN AND SETTING: Literature review of all publications cited in support of National Institute for Health and Care Excellence (NICE) recommendations for primary care. The relevance to primary care of all 45 NICE clinical guidelines published in 2010 and 2011, and their recommendations, was assessed by an expert panel. RESULTS: Twenty-two of 45 NICE clinical guidelines published in 2010 and 2011 were relevant to primary care. These 22 guidelines contained 1,185 recommendations, of which 495 were relevant to primary care, and cited evidence from 1,573 research publications. Of these cited publications, 590 (38%, range by guideline 6-74%) were based on patients typical of primary care. CONCLUSION: Nearly two-third (62%) of publications cited to support primary care recommendations were of uncertain relevance to patients in primary care. Guideline development groups should more clearly identify which recommendations are intended for primary care and uncertainties about the relevance of the supporting evidence to primary care patients, to avoid potential overtreatment.

5. **ARTÍCULO Nº: 4649**

Royce TJ, Hendrix LH, Stokes WA, Allen IM, Chen RC. ***Cancer screening rates in individuals with different life expectancies.*** JAMA Intern.Med. 2014; 174(10): 1558-1565.

IMPORTANCE: Routine cancer screening has unproven net benefit for patients with limited life expectancy. OBJECTIVE: To examine the patterns of prostate, breast, cervical, and colorectal cancer screening in the United States in individuals with different life expectancies. DESIGN, SETTING, AND

PARTICIPANTS: Data from the population-based National Health Interview Survey (NHIS) from 2000 through 2010 were used and included 27 404 participants aged 65 years or older. Using a validated mortality index specific for NHIS, participants were grouped into those with low (<25%), intermediate (25%-49%), high (50%-74%), and very high (>/=75%) risks of 9-year mortality. MAIN OUTCOMES AND MEASURES: Rates of prostate, breast, cervical, and colorectal cancer screening. RESULTS: In participants with very high mortality risk, 31% to 55% received recent cancer screening, with prostate cancer screening being most common (55%). For women who had a hysterectomy for benign reasons, 34% to 56% had a Papanicolaou test within the past 3 years. On multivariate analysis, very high vs low mortality risk was associated with less screening for prostate (odds ratio [OR], 0.65 [95% CI, 0.50-0.85]), breast (OR, 0.43 [95% CI, 0.35-0.53]), and cervical (OR, 0.50 [95% CI, 0.36-0.70]) cancers. There was less screening for prostate and cervical cancers in more recent years compared with 2000, and there was no significant interaction between calendar year and mortality risk for any cancer screening (P > .05 for all cancers). Our sensitivity analysis showed that screening was also common in individuals with less than 5-year life expectancy. CONCLUSIONS AND RELEVANCE: A substantial proportion of the US population with limited life expectancy received prostate, breast, cervical, and colorectal cancer screening that is unlikely to provide net benefit. These results suggest that overscreening is common in both men and women, which not only increases health care expenditure but can lead to net patient harm.

6. **ARTÍCULO Nº: 4650**

Flanders SA, Greene MT, Grant P, Kaatz S, Paje D, Lee B et al. ***Hospital performance for pharmacologic venous thromboembolism prophylaxis and rate of venous thromboembolism : a cohort study***. JAMA Intern.Med. 2014; 174(10): 1577-1584.

IMPORTANCE: Hospitalization for acute medical illness is associated with increased risk of venous thromboembolism (VTE). Although efforts designed to increase use of pharmacologic VTE prophylaxis are intended to reduce hospital-associated VTE, whether higher rates of prophylaxis reduce VTE in medical patients is unknown. OBJECTIVE: To examine the association between pharmacologic VTE prophylaxis rates and hospital-associated VTE. DESIGN, SETTING, AND PARTICIPANTS: Retrospective, multicenter cohort study conducted at 35 Michigan hospitals participating in a statewide quality collaborative from January 1, 2011, through September 13, 2012. Trained medical record abstractors at each hospital collected data from 31 260 general medical patients. Use of VTE prophylaxis on admission, VTE risk factors, and VTE events 90 days after hospital admission were recorded using a combination of medical record review and telephone follow-up. Hospitals were grouped into tertiles of performance based on rate of pharmacologic prophylaxis use on admission for at-risk patients. MAIN OUTCOMES AND MEASURES: Association between hospital performance and time to development of VTE within 90 days of hospital admission. RESULTS: A total of 14 563 of 20 794 patients (70.0%) eligible for pharmacologic prophylaxis received prophylaxis on admission. The rates of pharmacologic prophylaxis use at hospitals in the high-, moderate-, and low-performance tertiles were 85.8%, 72.6%, and 55.5%, respectively. A total of 226 VTE events occurred during 1 765 449 days of patient follow-up. Compared with patients at hospitals in the highest-performance tertile, the hazard of VTE in patients at hospitals in moderate-performance (hazard ratio, 1.10; 95% CI, 0.74-1.62) and low-performance (hazard ratio, 0.96, 95% CI, 0.63-1.45) tertiles did not differ after adjusting for potential confounders. Results remained robust when examining mechanical prophylaxis, prophylaxis use throughout the hospitalization, and subsequent inpatient stays after discharge from the index hospitalization. CONCLUSIONS AND RELEVANCE: The occurrence of 90-day VTE in medical patients after hospitalization is low. Patients who receive care at hospitals that have lower rates of pharmacologic prophylaxis do not have higher adjusted hazards of VTE, even after accounting for

individual receipt of pharmacologic prophylaxis. Efforts to increase rates of pharmacologic VTE prophylaxis in hospitalized medical patients may not substantively reduce this adverse outcome.

7. **ARTÍCULO Nº: 4651**

Goff SL, Mazor KM, Ting HH, Kleppel R, Rothberg MB. ***How cardiologists present the benefits of percutaneous coronary interventions to patients with stable angina: a qualitative analysis***. JAMA Intern.Med. 2014; 174(10): 1614-1621.

IMPORTANCE: Patients with stable coronary artery disease (CAD) attribute greater benefit to percutaneous coronary interventions (PCI) than indicated in clinical trials. Little is known about how cardiologists' presentation of the benefits and risks may influence patients' perceptions. OBJECTIVES: To broadly describe the content of discussions between patients and cardiologists regarding angiogram and PCI for stable CAD, and to describe elements that may affect patients' understanding. DESIGN, SETTING, AND PARTICIPANTS: Qualitative content analysis of encounters between cardiologists and patients with stable CAD who participated in the Verilogue Point-of-Practice Database between March 1, 2008, and August 31, 2012. Transcripts in which angiogram and PCI were discussed were retrieved from the database. Patients were aged 44 to 88 years (median, 64 years); 25% were women; 50% reported symptoms of angina; and 6% were taking more than 1 medication to treat angina. MAIN OUTCOMES AND MEASURES: Results of conventional and directed qualitative content analysis. RESULTS: Forty encounters were analyzed. Five major categories and subcategories of factors that may affect patients' understanding of benefit were identified: (1) rationale for recommending angiogram and PCI (eg, stress test results, symptoms, and cardiologist's preferences); (2) discussion of benefits (eg, accurate discussion of benefit [5%], explicitly overstated benefit [13%], and implicitly overstated benefit [35%]); (3) discussion of risks (eg, minimization of risk); (4) cardiologist's communication style (eg, humor, teach-back, message framing, and failure to respond to patient questions); and (5) patient and family member contributions to the discussion. CONCLUSIONS AND RELEVANCE: Few cardiologists discussed the evidence-based benefits of angiogram and PCI for stable CAD, and some implicitly or explicitly overstated the benefits. The etiology of patient misunderstanding is likely multifactorial, but if future quantitative studies support the findings of this hypothesis-generating analysis, modifications to cardiologists' approach to describing the risks and benefits of the procedure may improve patient understanding.

8. **ARTÍCULO Nº: 4652**

Bradley SM, Spertus JA, Kennedy KF, Nallamothu BK, Chan PS, Patel MR et al. ***Patient selection for diagnostic coronary angiography and hospital-level percutaneous coronary intervention appropriateness: insights from the National Cardiovascular Data Registry***. JAMA Intern.Med. 2014; 174(10): 1630-1639.

IMPORTANCE: Diagnostic coronary angiography in asymptomatic patients may lead to inappropriate percutaneous coronary intervention (PCI) due to a diagnostic-therapeutic cascade. Understanding the association between patient selection for coronary angiography and PCI appropriateness may inform strategies to minimize inappropriate procedures. OBJECTIVE: To determine if hospitals that frequently perform coronary angiography in asymptomatic patients, a clinical scenario in which the benefit of angiography is less clear, are more likely to perform inappropriate PCI. DESIGN, SETTING, AND PARTICIPANTS: Multicenter observational study of 544 hospitals participating in the CathPCI Registry between July 1, 2009, and September 30, 2013. MAIN OUTCOMES AND MEASURES: Hospital proportion of asymptomatic patients at diagnostic coronary angiography and hospital rate of inappropriate PCI as defined by 2012 appropriate use criteria for coronary revascularization. RESULTS:

Of 1 225 562 patients who underwent elective coronary angiography, 308 083 (25.1%) were asymptomatic. The hospital proportion of angiography among asymptomatic patients ranged from 1.0% to 73.6% (median, 24.7%; interquartile range, 15.9%-35.9%). By hospital quartile of asymptomatic patients at angiography, hospitals with higher rates of asymptomatic patients at angiography had higher median rates of inappropriate PCI (14.8% vs 20.2% vs 24.0 vs 29.4% from lowest to highest quartile, P < .001 for trend). This outcome was attributable to more frequent use of inappropriate PCI in asymptomatic patients at hospitals with higher rates of angiography in asymptomatic patients (5.4% vs 9.9% vs 14.7% vs 21.6% from lowest to highest quartile, P < .001 for trend). Hospitals with higher rates of asymptomatic patients at angiography also had lower rates of appropriate PCI (38.7% vs 33.0% vs 32.3% vs 32.9% from lowest to highest quartile, P < .001 for trend). CONCLUSIONS AND RELEVANCE: In a national sample of hospitals, performance of coronary angiography in asymptomatic patients was associated with higher rates of inappropriate PCI and lower rates of appropriate PCI. Improving preprocedural risk stratification and thresholds for coronary angiography may be one strategy to improve the appropriateness of PCI.

9. **ARTÍCULO Nº: 4653**

Rothberg MB. ***Venous thromboembolism prophylaxis for medical patients: who needs it?*** JAMA Intern.Med. 2014; 174(10): 1585-1586.

10. **ARTÍCULO Nº: 4654**

Sox HC. ***Implementing lung cancer screening under Medicare: the last chance to get it right?*** JAMA. 2014; 312(12): 1206-1207.

11. **ARTÍCULO Nº: 4655**

Davis AM, Cifu AS. ***Lung cancer screening***. JAMA. 2014; 312(12): 1248-1249.

12. **ARTÍCULO Nº: 4656**

Hinman RS, McCrory P, Pirotta M, Relf I, Forbes A, Crossley KM et al. ***Acupuncture for chronic knee pain: a randomized clinical trial.*** JAMA. 2014; 312(13): 1313-1322.

IMPORTANCE: There is debate about benefits of acupuncture for knee pain. OBJECTIVE: To determine the efficacy of laser and needle acupuncture for chronic knee pain. DESIGN, SETTING, AND PARTICIPANTS: Zelen-design clinical trial (randomization occurred before informed consent), in Victoria, Australia (February 2010-December 2012). Community volunteers (282 patients aged >/=50 years with chronic knee pain) were treated by family physician acupuncturists. INTERVENTIONS: No acupuncture (control group, n = 71) and needle (n = 70), laser (n = 71), and sham laser (n = 70) acupuncture. Treatments were delivered for 12 weeks. Participants and acupuncturists were blinded to laser and sham laser acupuncture. Control participants were unaware of the trial. MAIN OUTCOMES AND MEASURES: Primary outcomes were average knee pain (numeric rating scale, 0 [no pain] to 10 [worst pain possible]; minimal clinically important difference [MCID], 1.8 units) and physical function (Western Ontario and McMaster Universities Osteoarthritis Index, 0 [no difficulty] to 68 [extreme difficulty]; MCID, 6 units) at 12 weeks. Secondary outcomes included other pain and function measures, quality of life, global change, and 1-year follow-up. Analyses were by intention-to-treat using multiple imputation for missing outcome data. RESULTS: At 12 weeks and 1 year, 26 (9%) and 50 (18%) participants were lost to follow-up, respectively. Analyses showed neither needle nor laser acupuncture significantly improved pain (mean difference; -0.4 units; 95% CI, -1.2 to 0.4, and -0.1; 95% CI, -0.9 to 0.7, respectively) or function (-1.7; 95% CI, -6.1 to 2.6, and 0.5; 95% CI, -3.4 to 4.4, respectively) compared with sham at 12 weeks. Compared with control, needle and laser acupuncture

resulted in modest improvements in pain (-1.1; 95% CI, -1.8 to -0.4, and -0.8; 95% CI, -1.5 to -0.1, respectively) at 12 weeks, but not at 1 year. Needle acupuncture resulted in modest improvement in function compared with control at 12 weeks (-3.9; 95% CI, -7.7 to -0.2) but was not significantly different from sham (-1.7; 95% CI, -6.1 to 2.6) and was not maintained at 1 year. There were no differences for most secondary outcomes and no serious adverse events. CONCLUSIONS AND RELEVANCE: In patients older than 50 years with moderate or severe chronic knee pain, neither laser nor needle acupuncture conferred benefit over sham for pain or function. Our findings do not support acupuncture for these patients. TRIAL REGISTRATION: anzctr.org.au Identifier: ACTRN12609001001280.

13. **ARTÍCULO Nº: 4657**

Djulbegovic B, Guyatt GH. ***Evidence-based practice is not synonymous with delivery of uniform health care***. JAMA. 2014; 312(13): 1293-1294.

14. **ARTÍCULO Nº: 4658**

Hoffmann TC, Montori VM, Del MC. ***The connection between evidence-based medicine and shared decision making***. JAMA. 2014; 312(13): 1295-1296.

15. **ARTÍCULO Nº: 4659**

McGlothlin AE, Lewis RJ. ***Minimal clinically important difference: defining what really matters to patients***. JAMA. 2014; 312(13): 1342-1343.

16. **ARTÍCULO Nº: 4660**

Chokshi DA, Chang JE. ***Preventing early readmissions***. JAMA. 2014; 312(13): 1344-1345.

17. **ARTÍCULO Nº: 4661**

Howell EA, Zeitlin J, Hebert PL, Balbierz A, Egorova N. ***Association between hospital-level obstetric quality indicators and maternal and neonatal morbidity***. JAMA. 2014; 312(15): 1531-1541.

IMPORTANCE: In an effort to improve the quality of care, several obstetric-specific quality measures are now monitored and publicly reported. The extent to which these measures are associated with maternal and neonatal morbidity is not known. OBJECTIVE: To examine whether 2 Joint Commission obstetric quality indicators are associated with maternal and neonatal morbidity. DESIGN, SETTING, AND PARTICIPANTS: Population-based observational study using linked New York City discharge and birth certificate data sets from 2010. All delivery hospitalizations were identified and 2 perinatal quality measures were calculated (elective, nonmedically indicated deliveries at 37 or more weeks of gestation and before 39 weeks of gestation; cesarean delivery performed in low-risk mothers). Published algorithms were used to identify severe maternal morbidity (delivery associated with a life-threatening complication or performance of a lifesaving procedure) and morbidity in term newborns without anomalies (births associated with complications such as birth trauma, hypoxia, and prolonged length of stay). Mixed-effects logistic regression models were used to examine the association between maternal morbidity, neonatal morbidity, and hospital-level quality measures while risk-adjusting for patient sociodemographic and clinical characteristics. MAIN OUTCOMES AND MEASURES: Individual- and hospital-level maternal and neonatal morbidity. RESULTS: Severe maternal morbidity occurred among 2372 of 115,742 deliveries (2.4%), and neonatal morbidity occurred among 8057 of 103,416 term newborns without anomalies (7.8%). Rates for elective deliveries performed before 39 weeks of gestation ranged from 15.5 to 41.9 per 100 deliveries among 41 hospitals. There were 11.7 to 39.3 cesarean deliveries per 100 deliveries performed in low-risk mothers. Maternal

morbidity ranged from 0.9 to 5.7 mothers with complications per 100 deliveries and neonatal morbidity from 3.1 to 21.3 neonates with complications per 100 births. The maternal quality indicators elective delivery before 39 weeks of gestation and cesarean delivery performed in low-risk mothers were not associated with severe maternal complications (risk ratio [RR], 1.00 [95% CI, 0.98-1.02] and RR, 0.99 [95% CI, 0.96-1.01], respectively) or neonatal morbidity (RR, 0.99 [95% CI, 0.97-1.01] and RR, 1.01 [95% CI, 0.99-1.03], respectively). CONCLUSIONS AND RELEVANCE: Rates for the quality indicators elective delivery before 39 weeks of gestation and cesarean delivery performed in low-risk mothers varied widely in New York City hospitals, as did rates of maternal and neonatal complications. However, there were no correlations between the quality indicator rates and maternal and neonatal morbidity. Current quality indicators may not be sufficiently comprehensive for guiding quality improvement in obstetric care.

18. **ARTÍCULO Nº: 4662**

Neuman MD, Wirtalla C, Werner RM. ***Association between skilled nursing facility quality indicators and hospital readmissions***. JAMA. 2014; 312(15): 1542-1551.

IMPORTANCE: Hospital readmissions are common, costly, and potentially preventable. Little is known about the association between available skilled nursing facility (SNF) performance measures and the risk of hospital readmission. OBJECTIVE: To measure the association between SNF performance measures and hospital readmissions among Medicare beneficiaries receiving postacute care at SNFs in the United States. DESIGN AND PARTICIPANTS: Using national Medicare data on fee-for-service Medicare beneficiaries discharged to a SNF after an acute care hospitalization between September 1, 2009, and August 31, 2010, we examined the association between SNF performance on publicly available metrics (SNF staffing intensity, health deficiencies identified through site inspections, and the percentages of SNF patients with delirium, moderate to severe pain, and new or worsening pressure ulcers) and the risk of readmission or death 30 days after discharge to a SNF. Adjusted analyses controlled for patient case mix, SNF facility factors, and the discharging hospital. MAIN OUTCOMES AND MEASURES: Readmission to an acute care hospital or death within 30 days of the index hospital discharge. RESULTS: Of 1,530,824 patients discharged, 357,752 (23.3%; 99% CI, 23.3%-23.5%) were readmitted or died within 30 days; 72,472 died within 30 days (4.7%; 99% CI, 4.7%-4.8%), and 321,709 were readmitted (21.0%; 99% CI, 20.9%-21.1%). The unadjusted risk of readmission or death was lower at SNFs with better staffing ratings. SNFs ranked lowest (19.2% of all SNFs) had a 30-day risk of readmission or death of 25.5% (99% CI, 25.3%-25.8%) vs 19.8% (99% CI, 19.5%-20.1%) among those ranked highest. SNFs with better facility inspection ratings also had a lower risk of readmission or death. SNFs ranked lowest (20.1% of all SNFs) had a risk of 24.9% (99% CI, 24.7%-25.1%) vs 21.5% (99% CI, 21.2%-21.7%) among those ranked highest . Adjustment for patient factors, SNF facility factors, and the discharging hospital attenuated these associations; we observed small differences in the adjusted risk of readmission or death according to SNF facility inspection ratings (lowest vs highest rating: 23.7%; 99% CI: 23.7%, 23.7%; vs 23.0%; 99% CI: 23.0%, 23.1%). Other measures did not predict clinically meaningful differences in the adjusted risk of readmission or death. CONCLUSIONS AND RELEVANCE: Among fee-for-service Medicare beneficiaries discharged to a SNF after an acute care hospitalization, available performance measures were not consistently associated with differences in the adjusted risk of readmission or death.

19. **ARTÍCULO Nº: 4663**

McGlynn EA, Adams JL. ***What makes a good quality measure?*** JAMA. 2014; 312(15): 1517-1518.

20. **ARTÍCULO Nº: 4664**

Guise JM, Chang C, Viswanathan M, Glick S, Treadwell J, Umscheid CA et al. ***Agency for Healthcare Research and Quality Evidence-based Practice Center methods for systematically reviewing complex multicomponent health care interventions***. J.Clin.Epidemiol. 2014; 67(11): 1181-1191.

OBJECTIVES: The purpose of this Agency for Healthcare Research and Quality Evidence-based Practice Center methods white paper was to outline approaches to conducting systematic reviews of complex multicomponent health care interventions. STUDY DESIGN AND SETTING: We performed a literature scan and conducted semistructured interviews with international experts who conduct research or systematic reviews of complex multicomponent interventions (CMCIs) or organizational leaders who implement CMCIs in health care. RESULTS: Challenges identified include lack of consistent terminology for such interventions (eg, complex, multicomponent, multidimensional, multifactorial); a wide range of approaches used to frame the review, from grouping interventions by common features to using more theoretical approaches; decisions regarding whether and how to quantitatively analyze the interventions, from holistic to individual component analytic approaches; and incomplete and inconsistent reporting of elements critical to understanding the success and impact of multicomponent interventions, such as methods used for implementation the context in which interventions are implemented. CONCLUSION: We provide a framework for the spectrum of conceptual and analytic approaches to synthesizing studies of multicomponent interventions and an initial list of critical reporting elements for such studies. This information is intended to help systematic reviewers understand the options and tradeoffs available for such reviews.

21. **ARTÍCULO Nº: 4665**

Bero L. ***What is in a name? Nonfinancial influences on the outcomes of systematic reviews and guidelines***. J.Clin.Epidemiol. 2014; 67(11): 1239-1241.

22. **ARTÍCULO Nº: 4666**

Ritter PL, Lorig K. ***The English and Spanish Self-Efficacy to Manage Chronic Disease Scale measures were validated using multiple studies***. J.Clin.Epidemiol. 2014; 67(11): 1265-1273.

OBJECTIVES: Self-efficacy theory, as developed by Bandura, suggests that self-efficacy is an important predictor of future behavior. The Chronic Disease Self-Management Program was designed to enhance self-efficacy as one approach to improving health behaviors and outcomes for people with varying chronic diseases. The six-item Self-Efficacy to Manage Chronic Disease Scale (SEMCD) and the four-item Spanish-language version (SEMCD-S) were developed to measure changes in self-efficacy in program participants and have been used in a numerous evaluations of chronic disease self-management programs. This study describes the development of the scales and their psychometric properties. STUDY DESIGN AND SETTING: Secondary analyses of questionnaire data from 2,866 participants in six studies are used to quantify and evaluate the SEMCD. Data from 868 participants in two studies are used for the SEMCD-S. Subjects consisted of individuals with various chronic conditions, who enrolled in chronic disease self-management programs (either small group or Internet based). Subjects came from United States, England, Canada, Mexico, and Australia. Descriptive statistics are summarized, reliability tested (Cronbach alpha), and principal component analyses applied to items. Baseline and change scores are correlated with baseline and change scores for five medical outcome variables that have been shown to be associated with self-efficacy measures in past studies. RESULTS: Principal component analyses confirmed the one-dimensional structure of the scales. The SEMCD had means ranging from 4.9 to 6.1 and the SEMCD-S 6.1 and 6.2. Internal consistency was high (Cronbach alpha, 0.88-0.95). The scales were sensitive to change and

significantly correlated with health outcomes. CONCLUSION: The SEMCD and SEMCD-S are reliable and appear to be valid instruments for assessing self-efficacy for managing chronic disease. There was remarkable consistency across a range of studies from varying countries using two languages.

23. **ARTÍCULO Nº: 4667**

Sanchez-Celaya del PM, Tranche IS. ***[Consensus document for the detection and management of chronic kidney disease: Coordination opportunity]***. Aten.Primaria. 2014; 46(9): 453-454.

24. **ARTÍCULO Nº: 4668**

Martinez-Castelao A, Gorriz JL, Bover J, Segura-de la MJ, Cebollada J, Escalada J et al. ***[Consensus document for the detection and management of chronic kidney disease]***. Aten.Primaria. 2014; 46(9): 501-519.

Chronic kidney disease (CKD) is an important global health problem, involving to 10% of the Spanish population, promoting high morbidity and mortality for the patient and an elevate consumption of the total health resources for the National Health System. This is a summary of an executive consensus document of ten scientific societies involved in the care of the renal patient, that actualizes the consensus document published in 2007. The central extended document can be consulted in the web page of each society. The aspects included in the document are: Concept, epidemiology and risk factors for CKD. Diagnostic criteria, evaluation and stages of CKD, albuminuria and glomerular filtration rate estimation. Progression factors for renal damage. Patient remission criteria. Follow-up and objectives of each speciality control. Nephrotoxicity prevention. Cardio-vascular damage detection. Diet, life-style and treatment attitudes: hypertension, dyslipidaemia, hyperglycemia, smoking, obesity, hyperuricemia, anemia, mineral and bone disorders. Multidisciplinary management for Primary Care, other specialities and Nephrology. Integrated management of CKD patient in haemodialysis, peritoneal dialysis and renal transplant patients. Management of the uremic patient in palliative care. We hope that this document may be of help for the multidisciplinary management of CKD patients by summarizing the most updated recommendations.

25. **ARTÍCULO Nº: 4669**

Llor C, Cots JM, Hernandez S, Ortega J, Arranz J, Monedero MJ et al. ***[Effectiveness of two types of intervention on antibiotic prescribing in respiratory tract infections in Primary Care in Spain. Happy Audit Study]***. Aten.Primaria. 2014; 46(9): 492-500.

OBJECTIVE: To evaluate the effectiveness of two types of intervention in reducing antibiotic prescribing in respiratory tract infections (RTI). DESIGN: Before-after audit-based study. SETTING: Primary Care centres in Spain. PARTICIPANTS: General practitioners (GPs) registered all patients with RTIs for 15 days in winter 2008 (pre-intervention), and again in winter 2009 (post-intervention). INTERVENTIONS: Intervention activities included meetings, with the presentation and discussion of the results, and several training meetings on RTI guidelines, information brochures for patients, workshops on point-of-care tests - rapid antigen detection tests and C-reactive protein rapid test - and provision of these tests in the clinic. All GPs, with the exception of those in Catalonia, made up the full intervention group (FIG); conversely, Catalan doctors underwent the same intervention, except for the workshop on rapid tests (partial intervention group, PIG). Multilevel logistic regression was performed taking the prescription of antibiotics as the dependent variable. RESULTS: Out of a total of 309 GPs involved in the first register, 281 completed the intervention and the second register (90.9%), of which 210 were assigned to the FIG, and 71 to the PIG. The odds ratio of antibiotic prescribing after the intervention was 0.99 (95% CI: 0.89-1.10) among GPs assigned to PIG, and 0.50 (95% CI: 0.44-0.57,

p<0.001) among those who were allocated to FIG. The reduction in antibiotic prescribing in FIG was more marked in flu infection, common cold, acute pharyngitis, acute tonsillitis, and acute bronchitis. CONCLUSIONS: Active participation of GPs with the performance of point-of-care tests in the clinic is accompanied by a drastic reduction of antibiotic use in RTIs, primarily in infections considered as mainly viral.

26. **ARTÍCULO Nº: 4670**

Pancholy SB, Shantha GP, Patel T, Cheskin LJ. ***Sex differences in short-term and long-term all-cause mortality among patients with ST-segment elevation myocardial infarction treated by primary percutaneous intervention: a meta-analysis***. JAMA Intern.Med. 2014; 174(11): 1822-1830.

IMPORTANCE: Although outcomes in patients with ST-segment elevation myocardial infarction (STEMI) have improved in the past 2 decades, a sex disparity exists in survival, with women having higher mortality than men. OBJECTIVE: To conduct a meta-analysis of observational studies that examined differences in mortality by sex in patients with STEMI treated with primary percutaneous coronary intervention (PPCI). DATA SOURCES: MEDLINE, EMBASE, Cochrane central, and electronic databases were searched for relevant studies in all languages and without time restriction. STUDY SELECTION: Studies were included if (1) they studied patients who presented with STEMI, (2) primary percutaneous coronary intervention (PPCI) was the treatment for STEMI, (3) PPCI was performed within 12 hours of symptom onset, and (4) sex-specific in-hospital and/or 1-year mortality were reported. DATA EXTRACTION AND SYNTHESIS: Two investigators independently reviewed retrieved citations and assessed eligibility. Discrepancies were resolved by consensus. Quality of included studies was assessed using Newcastle-Ottawa Quality Assessment Scale for cohort studies. Data were pooled using a random-effects model. MAIN OUTCOMES AND MEASURES: Sex-specific in-hospital and 1-year all-cause mortality. Risk ratios (RRs) of mortality were used for these 2 time points, if reported. RESULTS: Of the 149 studies identified, 35 met inclusion criteria, representing 18 555 women and 49 981 men. In the unadjusted analyses, women were at a higher risk for in-hospital (RR, 1.93; 95% CI, 1.75-2.14 [P < .001, I2 = 14%]) and 1-year all-cause mortality (RR, 1.58; 95% CI, 1.36-1.84 [P < .001, I2 = 51%]) compared with men. However, when adjusted RRs were used, the association between women and higher risk of all-cause mortality was attenuated but still significantly elevated for in-hospital mortality (RR, 1.48; 95% CI, 1.07-2.05 [P = .02, I2 = 56%]), but the higher risk for 1-year mortality in women was no longer significant (RR, 0.90; 95% CI, 0.69-1.17 [P = .42, I2 = 58%]). CONCLUSIONS AND RELEVANCE: An increased mortality in women with STEMI treated with PPCI was detected in this large meta-analysis but is likely confounded by baseline cardiovascular risk factors and the differences in clinical profile of male and female patients with STEMI. Intensive cardiovascular risk modification efforts in women may help to reduce this sex disparity.

27. **ARTÍCULO Nº: 4671**

Gershengorn HB, Wunsch H, Scales DC, Zarychanski R, Rubenfeld G, Garland A. ***Association between arterial catheter use and hospital mortality in intensive care units***. JAMA Intern.Med. 2014; 174(11): 1746-1754.

IMPORTANCE: Arterial catheters are used frequently in intensive care units (ICUs). Clinical effectiveness and adverse events associated with the use of the catheters have not been formally evaluated in clinical studies. OBJECTIVE: To determine whether an association exists between arterial catheter use and hospital mortality in ICU patients. DESIGN, SETTING, AND PARTICIPANTS: Propensity-matched cohort analysis of data in the Project IMPACT database, from 2001 to 2008. A total of 139 ICUs in the United States were included. Participants were ICU patients 18 years or older.

EXPOSURE: Arterial catheter use. MAIN OUTCOMES AND MEASURES: Our main outcome was hospital mortality. We assessed a primary cohort of medical patients requiring mechanical ventilation and 9 secondary cohorts. We used propensity score-matched pairs as the primary analytic strategy. Sensitivity analyses included 4 alternative methods of comparison in the primary cohort: multivariate modeling without propensity adjustment, mixed-effects multivariate logistic regression without propensity adjustment, multivariate modeling with propensity adjustment, and stratification based on propensity quintiles. RESULTS: Our primary cohort consisted of 60 975 patients; 24 126 of these patients (39.6%) had an arterial catheter in place during their ICU stay, and analyses were based on 13 603 propensity score-matched pairs. We found no association between arterial catheter use and hospital mortality in medical patients requiring mechanical ventilation in the primary analysis (odds ratio [OR], 0.98; 95% CI, 0.93-1.03; P = .40) or the 4 sensitivity analyses (P >/= .58 for all). In 8 of 9 secondary cohorts we were unable to detect an association between arterial catheter use and hospital mortality. In the cohort of patients receiving vasopressors, arterial catheter use was associated with an increased odds of death (OR, 1.08; 95% CI, 1.02-1.14; P = .008). CONCLUSIONS AND RELEVANCE: In this propensity-matched cohort analysis, arterial catheters were not associated with improvements in hospital mortality in medical ICU patients requiring mechanical ventilation. Given the costs and potential harms associated with invasive catheters, randomized clinical trials are needed to further evaluate the usefulness of these frequently used devices.

28. **ARTÍCULO Nº: 4672**

Edwards ST, Prentice JC, Simon SR, Pizer SD. ***Home-based primary care and the risk of ambulatory care-sensitive condition hospitalization among older veterans with diabetes mellitus***. JAMA Intern.Med. 2014; 174(11): 1796-1803.

IMPORTANCE: Primary care services based at home have the potential to reduce the likelihood of hospitalization among older adults with multiple chronic diseases. OBJECTIVE: To characterize the association between enrollment in Home-Based Primary Care (HBPC), a national home care program operated by the US Department of Veterans Affairs (VA), and hospitalizations owing to an ambulatory care-sensitive condition among older veterans with diabetes mellitus. DESIGN AND SETTING: Retrospective cohort study. Patients admitted to VA and non-VA hospitals were followed up from January 1, 2006, through December 31, 2010. PARTICIPANTS: Veterans 67 years or older who were fee-for-service Medicare beneficiaries, were diagnosed as having diabetes mellitus and at least 1 other chronic disease, and had at least 1 admission to a VA or non-VA hospital in 2005 or 2006. EXPOSURES: Enrollment in HBPC, defined as a minimum of 2 HBPC encounters during the study period. MAIN OUTCOMES AND MEASURES: Admission to VA and non-VA hospitals owing to an ambulatory care-sensitive condition, as measured by the Agency for Healthcare Research and Quality's Prevention Quality Indicators in VA medical records and Medicare claims. Outcomes were analyzed using distance from the veteran's residence to a VA facility that provides HBPC as an instrumental variable. RESULTS: Among 56 608 veterans, 1978 enrolled in HBPC. These patients were older (mean age, 79.1 vs 77.1 years) and had more chronic diseases (eg, 59.2% vs 53.5% had congestive heart failure). Multivariable predictors for HBPC enrollment included paralysis (odds ratio [OR], 2.11; 95% CI, 1.63-2.74), depression (OR, 1.99; 95% CI, 1.70-2.34), congestive heart failure (OR, 1.36; 95% CI, 1.17-1.58), and distance from the nearest HBPC-providing VA facility (OR, 0.59; 95% CI, 0.50-0.70 for >10-30 vs <5 miles). After controlling for selection using an instrumental variable analysis, HBPC was associated with a significant reduction in the probability of experiencing a hospitalization owing to an ambulatory care-sensitive condition (hazard ratio, 0.71; 95% CI, 0.57-0.89), with an absolute reduction in the probability of hospitalization of 5.8% in 1 year. CONCLUSIONS AND RELEVANCE: Home-Based Primary Care is associated with a decreased probability of ambulatory care-sensitive condition hospitalization

among elderly veterans with diabetes mellitus. In accountable care models, HBPC may have an important role in the management of older adults with multiple chronic diseases.

29. **ARTÍCULO Nº: 4673**

Martinez-Gonzalez NA, Berchtold P, Ullman K, Busato A, Egger M. ***Integrated care programmes for adults with chronic conditions: a meta-review***. Int.J.Qual.Health Care. 2014; 26(5): 561-570.

OBJECTIVE: To review systematic reviews and meta-analyses of integrated care programmes in chronically ill patients, with a focus on methodological quality, elements of integration assessed and effects reported. DESIGN: Meta-review of systematic reviews and meta-analyses identified in Medline (1946-March 2012), Embase (1980-March 2012), CINHAL (1981-March 2012) and the Cochrane Library of Systematic Reviews (issue 1, 2012). MAIN OUTCOME MEASURES: Methodological quality assessed by the 11-item Assessment of Multiple Systematic Reviews (AMSTAR) checklist; elements of integration assessed using a published list of 10 key principles of integration; effects on patient-centred outcomes, process quality, use of healthcare and costs. RESULTS: Twenty-seven systematic reviews were identified; conditions included chronic heart failure (CHF; 12 reviews), diabetes mellitus (DM; seven reviews), chronic obstructive pulmonary disease (COPD; seven reviews) and asthma (five reviews). The median number of AMSTAR checklist items met was five: few reviewers searched for unpublished literature or described the primary studies and interventions in detail. Most reviews covered comprehensive services across the care continuum or standardization of care through inter-professional teams, but organizational culture, governance structure or financial management were rarely assessed. A majority of reviews found beneficial effects of integration, including reduced hospital admissions and re-admissions (in CHF and DM), improved adherence to treatment guidelines (DM, COPD and asthma) or quality of life (DM). Few reviews showed reductions in costs. CONCLUSIONS: Systematic reviews of integrated care programmes were of mixed quality, assessed only some components of integration of care, and showed consistent benefits for some outcomes but not others.

30. **ARTÍCULO Nº: 4674**

de Ferranti SD, de B, I, Fonseca V, Fox CS, Golden SH, Lavie CJ et al. ***Type 1 diabetes mellitus and cardiovascular disease: a scientific statement from the American Heart Association and American Diabetes Association***. Circulation. 2014; 130(13): 1110-1130.

31. **ARTÍCULO Nº: 4675**

Stolker JM, Spertus JA, Cohen DJ, Jones PG, Jain KK, Bamberger E et al. ***Rethinking composite end points in clinical trials: insights from patients and trialists***. Circulation. 2014; 130(15): 1254-1261.

BACKGROUND: Many clinical trials use composite end points to reduce sample size, but the relative importance of each individual end point within the composite may differ between patients and researchers. METHODS AND RESULTS: We asked 785 cardiovascular patients and 164 clinical trial authors to assign 25 "spending weights" across 5 common adverse events comprising composite end points in cardiovascular trials: death, myocardial infarction, stroke, coronary revascularization, and hospitalization for angina. We then calculated end point ratios for each participant's ratings of each nonfatal end point relative to death. Whereas patients assigned an average weight of 5 to death, equal or greater weight was assigned to myocardial infarction (mean ratio, 1.12) and stroke (ratio, 1.08). In contrast, clinical trialists were much more concerned about death (average weight, 8) than myocardial infarction (ratio, 0.63) or stroke (ratio, 0.53). Both patients and trialists considered revascularization (ratio, 0.48 and 0.20, respectively) and hospitalization (ratio, 0.28 and 0.13,

respectively) as substantially less severe than death. Differences between patient and trialist end point weights persisted after adjustment for demographic and clinical characteristics (P<0.001 for all comparisons). CONCLUSIONS: Patients and clinical trialists did not weigh individual components of a composite end point equally. Whereas trialists are most concerned about avoiding death, patients place equal or greater importance on reducing myocardial infarction or stroke. Both groups considered revascularization and hospitalization as substantially less severe. These findings suggest that equal weights in a composite clinical end point do not accurately reflect the preferences of either patients or trialists.

32. **ARTÍCULO Nº: 4676**

Badheka AO, Patel NJ, Grover P, Singh V, Patel N, Arora S et al. ***Impact of annual operator and institutional volume on percutaneous coronary intervention outcomes: a 5-year United States experience (2005-2009)***. Circulation. 2014; 130(16): 1392-1406.

BACKGROUND: The relationship between operator or institutional volume and outcomes among patients undergoing percutaneous coronary interventions (PCI) is unclear. METHODS AND RESULTS: Cross-sectional study based on the Healthcare Cost and Utilization Project's Nationwide Inpatient Sample between 2005 to 2009. Subjects were identified by International Classification of Diseases, 9(th) Revision, Clinical Modification procedure code, 36.06 and 36.07. Annual operator and institutional volumes were calculated using unique identification numbers and then divided into quartiles. Three-level hierarchical multivariate mixed models were created. The primary outcome was in-hospital mortality; secondary outcome was a composite of in-hospital mortality and peri-procedural complications. A total of 457,498 PCIs were identified representing a total of 2,243,209 PCIs performed in the United States during the study period. In-hospital, all-cause mortality was 1.08%, and the overall complication rate was 7.10%. The primary and secondary outcomes of procedures performed by operators in 4(th) [annual procedural volume; primary and secondary outcomes] [>100; 0.59% and 5.51%], 3(rd) [45-100; 0.87% and 6.40%], and 2(nd) quartile [16-44; 1.15% and 7.75%] were significantly less (P<0.001) when compared with those by operators in the 1(st) quartile [</=15; 1.68% and 10.91%]. Spline analysis also showed significant operator and institutional volume outcome relationship. Similarly operators in the higher quartiles witnessed a significant reduction in length of hospital stay and cost of hospitalization (P<0.001). CONCLUSIONS: Overall in-hospital mortality after PCI was low. An increase in operator and institutional volume of PCI was found to be associated with a decrease in adverse outcomes, length of hospital stay, and cost of hospitalization.

33. **ARTÍCULO Nº: 4677**

Dunn AG, Arachi D, Hudgins J, Tsafnat G, Coiera E, Bourgeois FT. ***Financial conflicts of interest and conclusions about neuraminidase inhibitors for influenza: an analysis of systematic reviews***. Ann.Intern.Med. 2014; 161(7): 513-518.

BACKGROUND: Industry funding and financial conflicts of interest may contribute to bias in the synthesis and interpretation of scientific evidence. OBJECTIVE: To examine the association between financial conflicts of interest and characteristics of systematic reviews of neuraminidase inhibitors. DESIGN: Retrospective analysis. SETTING: Reviews that examined the use of neuraminidase inhibitors in the prophylaxis or treatment of influenza, were published between January 2005 and May 2014, and used a systematic search protocol. MEASUREMENTS: Two investigators blinded to all information regarding the review authors independently assessed the presentation of evidence on the use of neuraminidase inhibitors as favorable or not favorable. Financial conflicts of interest were identified using the index reviews, other publications, and Web-based searches. Associations between financial

conflicts of interest, favorability assessments, and presence of critical appraisals of evidence quality were analyzed. RESULTS: Twenty-six systematic reviews were identified, of which 13 examined prophylaxis and 24 examined treatment, accounting for 37 distinct assessments. Among assessments associated with a financial conflict of interest, 7 of 8 (88%) were classified as favorable, compared with 5 of 29 (17%) among those without a financial conflict of interest. Reviewers without financial conflicts of interest were more likely to include statements about the quality of the primary studies than those with financial conflicts of interest. LIMITATIONS: The heterogeneity in populations and outcomes examined in the reviews precluded analysis of the contribution of selective inclusion of evidence on the discordance of the assessments made in the reviews. Many of the systematic reviews had overlapping authorship. CONCLUSION: Reviewers with financial conflicts of interest may be more likely to present evidence about neuraminidase inhibitors in a favorable manner and recommend the use of these drugs than reviewers without financial conflicts of interest. PRIMARY FUNDING SOURCE: Australian National Health and Medical Research Council.

34. **ARTÍCULO Nº: 4678**

Raivio R, Holmberg-Marttila D, Mattila KJ. ***Patients' assessments of the continuity of primary care in Finland: a 15-year follow-up questionnaire survey***. Br.J.Gen.Pract. 2014; 64(627): e657-e663.

BACKGROUND: Continuity of care is an essential aspect of quality in general practice. This study is the first systematic follow-up of Finnish primary care patients' assessments with regard to personal continuity of care. AIM: To ascertain whether patient-reported longitudinal personal continuity of care is related to patient characteristics and their consultation experiences, and how this had changed over the study period. DESIGN AND SETTING: A 15-year follow-up questionnaire survey that took place at Tampere University Hospital catchment area, Finland. METHOD: The survey was conducted among patients attending health centres in the Tampere University Hospital catchment area from 1998 until 2013. From a sample of 363 464 patients, a total of 157 549 responded. The responses of patients who had visited a doctor during the survey weeks (n = 97 468) were analysed. Continuity of care was assessed by asking the question: 'When visiting the health centre, do you usually see the same doctor?'; patients could answer 'yes' or 'no'. RESULTS: Approximately half of the responders had met the same doctor when visiting the healthcare centre. Personal continuity of care decreased by 15 percentage points (from 66% to 51%) during the study years. The sense of continuity was linked to several patients' experiences of the consultation. The most prominent factor contributing to the sense of continuity of care was having a doctor who was specifically appointed (odds ratio 7.28, 95% confidence interval = 6.65 to 7.96). CONCLUSION: Continuity of care was proven to enhance the experienced quality of primary care. Patients felt that continuity of care was best realised when they could consult a doctor who had been specifically appointed to them. Despite efforts of the authorities, over the past 15 years patient-reported continuity of care has declined in Finland.

35. **ARTÍCULO Nº: 4679**

Wiig S, Aase K, von PC, Burnett S, Nunes F, Weggelaar AM et al. ***Talking about quality: exploring how 'quality' is conceptualized in European hospitals and healthcare systems***. BMC.Health Serv.Res. 2014; 14: 478

BACKGROUND: Conceptualization of quality of care - in terms of what individuals, groups and organizations include in their meaning of quality, is an unexplored research area. It is important to understand how quality is conceptualised as a means to successfully implement improvement efforts and bridge potential disconnect in language about quality between system levels, professions, and clinical services. The aim is therefore to explore and compare conceptualization of quality among

national bodies (macro level), senior hospital managers (meso level), and professional groups within clinical micro systems (micro level) in a cross-national study. METHODS: This cross-national multi-level case study combines analysis of national policy documents and regulations at the macro level with semi-structured interviews (383) and non-participant observation (803 hours) of key meetings and shadowing of staff at the meso and micro levels in ten purposively sampled European hospitals (England, the Netherlands, Portugal, Sweden, and Norway). Fieldwork at the meso and micro levels was undertaken over a 12-month period (2011-2012) and different types of micro systems were included (maternity, oncology, orthopaedics, elderly care, intensive care, and geriatrics). RESULTS: The three quality dimensions clinical effectiveness, patient safety, and patient experience were incorporated in macro level policies in all countries. Senior hospital managers adopted a similar conceptualization, but also included efficiency and costs in their conceptualization of quality. 'Quality' in the forms of measuring indicators and performance management were dominant among senior hospital managers (with clinical and non-clinical background). The differential emphasis on the three quality dimensions was strongly linked to professional roles, personal ideas, and beliefs at the micro level. Clinical effectiveness was dominant among physicians (evidence-based approach), while patient experience was dominant among nurses (patient-centered care, enough time to talk with patients). Conceptualization varied between micro systems depending on the type of services provided. CONCLUSION: The quality conceptualization differed across system levels (macro-meso-micro), among professional groups (nurses, doctors, managers), and between the studied micro systems in our ten sampled European hospitals. This entails a managerial alignment challenge translating macro level quality definitions into different local contexts.

36. **ARTÍCULO Nº: 4680**

Kvist T, Voutilainen A, Mantynen R, Vehvilainen-Julkunen K. ***The relationship between patients' perceptions of care quality and three factors: nursing staff job satisfaction, organizational characteristics and patient age***. BMC.Health Serv.Res. 2014; 14: 466

BACKGROUND: The relationship between nurses' job satisfaction and their perceptions of quality of care has been examined in previous studies. There is little evidence, however, about relationships between the job satisfaction of nursing staff and quality of care perceived by the patients. The aim of this study was to analyze, how the job satisfaction of nursing staff, organizational characteristics (hospital and unit type), and patients' age relate to patients' perceptions of the quality of care. METHODS: The study was cross-sectional and descriptive, based on a secondary analysis of survey data acquired during the At Safe study in Finland. The study included 98 units at four acute care hospitals between autumn 2008 and spring 2009. The participants were 1909 patients and 929 nursing staff. Patients' perceptions of quality of care were measured using the 42-item RHCS questionnaire. Job satisfaction of nursing staff was measured with the 37-item KUHJSS scale. Statistical analyses included descriptive statistics, principal component analysis, t-tests, analysis of variance, linear regression, and multivariate analysis of variance. RESULTS: Patients' perceptions of overall quality of care were positively related to general job satisfaction of nursing staff. Adequate numbers of staff appeared to be the clearest aspect affecting quality of care. Older patients were more satisfied with staff number than younger patients. Patients cared for in outpatient departments felt more respected than patients in wards, whereas patients in wards reported better care of basic needs (e.g., hygiene, food) than outpatients. CONCLUSIONS: The evaluation of resources by nursing staff is related to patients' perceptions of the adequacy of nursing staff levels in the unit. The results emphasize the importance of considering patients' perceptions of the quality of care and assessments by nurses of their job satisfaction at the hospital unit level when evaluating quality of care.

37. **ARTÍCULO Nº: 4681**

Bourbeau J. ***Integrated disease management for adults with chronic obstructive pulmonary disease***. BMJ. 2014; 349: g5675

38. **ARTÍCULO Nº: 4682**

Kruis AL, Boland MR, Assendelft WJ, Gussekloo J, Tsiachristas A, Stijnen T et al. ***Effectiveness of integrated disease management for primary care chronic obstructive pulmonary disease patients: results of cluster randomised trial***. BMJ. 2014; 349: g5392

OBJECTIVE: To investigate the long term effectiveness of integrated disease management delivered in primary care on quality of life in patients with chronic obstructive pulmonary disease (COPD) compared with usual care. DESIGN: 24 month, multicentre, pragmatic cluster randomised controlled trial SETTING: 40 general practices in the western part of the Netherlands PARTICIPANTS: Patients with COPD according to GOLD (Global Initiative for COPD) criteria. Exclusion criteria were terminal illness, cognitive impairment, alcohol or drug misuse, and inability to fill in Dutch questionnaires. Practices were included if they were willing to create a multidisciplinary COPD team. INTERVENTION: General practitioners, practice nurses, and specialised physiotherapists in the intervention group received a two day training course on incorporating integrated disease management in practice, including early recognition of exacerbations and self management, smoking cessation, physiotherapeutic reactivation, optimal diagnosis, and drug adherence. Additionally, the course served as a network platform and collaborating healthcare providers designed an individual practice plan to integrate integrated disease management into daily practice. The control group continued usual care (based on international guidelines). MAIN OUTCOME MEASURES: The primary outcome was difference in health status at 12 months, measured by the Clinical COPD Questionnaire (CCQ); quality of life, Medical Research Council dyspnoea, exacerbation related outcomes, self management, physical activity, and level of integrated care (PACIC) were also assessed as secondary outcomes. RESULTS: Of a total of 1086 patients from 40 clusters, 20 practices (554 patients) were randomly assigned to the intervention group and 20 clusters (532 patients) to the usual care group. No difference was seen between groups in the CCQ at 12 months (mean difference -0.01, 95% confidence interval -0.10 to 0.08; P=0.8). After 12 months, no differences were seen in secondary outcomes between groups, except for the PACIC domain "follow-up/coordination" (indicating improved integration of care) and proportion of physically active patients. Exacerbation rates as well as number of days in hospital did not differ between groups. After 24 months, no differences were seen in outcomes, except for the PACIC follow-up/coordination domain. CONCLUSION: In this pragmatic study, an integrated disease management approach delivered in primary care showed no additional benefit compared with usual care, except improved level of integrated care and a self reported higher degree of daily activities. The contradictory findings to earlier positive studies could be explained by differences between interventions (provider versus patient targeted), selective reporting of positive trials, or little room for improvement in the already well developed Dutch healthcare system. TRIAL REGISTRATION: Netherlands Trial Register NTR2268.

39. **ARTÍCULO Nº: 4683**

Hill AM. ***Centralising acute stroke services: study confounded by financial investment***. BMJ. 2014; 349: g5710

40. **ARTÍCULO Nº: 4684**

Rudd MP. ***Study on centralising acute stroke services provides no firm conclusions***. BMJ. 2014; 349: g5715

41. **ARTÍCULO Nº: 4685**

Arie S, Mahony C. ***Should patient groups be more transparent about their funding?*** BMJ. 2014; 349: g5892

42. **ARTÍCULO Nº: 4686**

Whittle J, Fyfe R, Lles RD, Wildfong J. ***Patients are overoptimistic about PCI: They should be equal partners in our efforts to improve understanding***. BMJ. 2014; 349: g5613

43. **ARTÍCULO Nº: 4687**

Kureshi F, Jones PG, Buchanan DM, Abdallah MS, Spertus JA. ***Variation in patients' perceptions of elective percutaneous coronary intervention in stable coronary artery disease: cross sectional study***. BMJ. 2014; 349: g5309

OBJECTIVES: To assess the perceptions of patients with stable coronary artery disease of the urgency and benefits of elective percutaneous coronary intervention and to examine how they vary across centers and by providers. DESIGN: Cross sectional study. SETTING: 10 US academic and community hospitals performing percutaneous coronary interventions between 2009 and 2011. PARTICIPANTS: 991 patients with stable coronary artery disease undergoing elective percutaneous coronary intervention. MAIN OUTCOME MEASURES: Patients' perceptions of the urgency and benefits of percutaneous coronary intervention, assessed by interview. Multilevel hierarchical logistic regression models examined the variation in patients' understanding across centers and operators after adjusting for patient characteristics, using median odds ratios. RESULTS: The most common reported benefits from percutaneous coronary intervention were to extend life (90%, n=892; site range 80-97%) and to prevent future heart attacks (88%, n=872; site range 79-97%). Although nearly two thirds of patients (n=661) reported improvement of symptoms as a benefit of percutaneous coronary intervention (site range 52-87%), only 1% (n=9) identified this as the only benefit. Substantial variability was noted in the ways informed consent was obtained at each site. After adjusting for patient and operator characteristics, the median odds ratios showed significant variation in patients' perceptions of percutaneous coronary intervention across sites (range 1.4-3.1) but not across operators within a site. CONCLUSION: Patients have a poor understanding of the benefits of elective percutaneous coronary intervention, with significant variation across sites. No sites had a high proportion of patients accurately understanding the benefits. Coupled with the wide variability in the ways in which hospitals obtain informed consent, these findings suggest that hospital level interventions into the structure and processes of obtaining informed consent for percutaneous coronary intervention might improve patient comprehension and understanding.

44. **ARTÍCULO Nº: 4688**

Currie CJ, Berni E, Jenkins-Jones S, Poole CD, Ouwens M, Driessen S et al. ***Antibiotic treatment failure in four common infections in UK primary care 1991-2012: longitudinal analysis***. BMJ. 2014; 349: g5493.

OBJECTIVE: To characterise failure of antibiotic treatment in primary care in the United Kingdom in four common infection classes from 1991 to 2012. DESIGN: Longitudinal analysis of failure rates for first line antibiotic monotherapies associated with diagnoses for upper and lower respiratory tract infections, skin and soft tissue infections, and acute otitis media. SETTING: Routine primary care data from the UK Clinical Practice Research Datalink (CPRD). MAIN OUTCOME MEASURES: Adjusted rates of treatment failure defined by standardised criteria and indexed to year 1 (1991=100). RESULTS: From 58 million antibiotic prescriptions in CPRD, we analysed 10,967,607 monotherapy episodes for the

four indications: 4,236,574 (38.6%) for upper respiratory tract infections; 3,148,947 (28.7%) for lower respiratory tract infections; 2,568,230 (23.4%) for skin and soft tissue infections; and 1,013,856 (9.2%) for acute otitis media. In 1991, the overall failure rate was 13.9% (12.0% for upper respiratory tract infections; 16.9% for lower respiratory tract infections; 12.8% for skin and soft tissue infections; and 13.9% for acute otitis media). By 2012, the overall failure rate was 15.4%, representing an increase of 12% compared with 1991 (adjusted value indexed to first year (1991) 112, 95% confidence interval 112 to 113). The highest rate was seen in lower respiratory tract infections (135, 134 to 136). While failure rates were below 20% for most commonly prescribed antibiotics (amoxicillin, phenoxymethylpenicillin (penicillin-V), and flucloxacillin), notable increases were seen for trimethoprim in the treatment of upper respiratory tract infections (from 29.2% in 1991-95 to 70.1% in 2008-12) and for ciprofloxacin (from 22.3% in 1991-95 to 30.8% in 2008-12) and cefalexin (from 22.0% in 1991-95 to 30.8% in 2008-12) in the treatment of lower respiratory tract infections. Failure rates for broad spectrum penicillins, macrolides, and flucloxacillin remained largely stable. CONCLUSIONS: From 1991 to 2012, more than one in 10 first line antibiotic monotherapies for the selected infections were associated with treatment failure. Overall failure rates increased by 12% over this period, with most of the increase occurring in more recent years, when antibiotic prescribing in primary care plateaued and then increased.

45. **ARTÍCULO Nº: 4689**

Dworzynski K, Roberts E, Ludman A, Mant J. ***Diagnosing and managing acute heart failure in adults: summary of NICE guidance.*** BMJ. 2014; 349: g5695

46. **ARTÍCULO Nº: 4690**

Naci H, Dias S, Ades AE. ***Industry sponsorship bias in research findings: a network meta-analysis of LDL cholesterol reduction in randomised trials of statins.*** BMJ. 2014; 349: g5741

OBJECTIVE: To explore the risk of industry sponsorship bias in a systematically identified set of placebo controlled and active comparator trials of statins. DESIGN: Systematic review and network meta-analysis. ELIGIBILITY: Open label and double blind randomised controlled trials comparing one statin with another at any dose or with control (placebo, diet, or usual care) for adults with, or at risk of developing, cardiovascular disease. Only trials that lasted longer than four weeks with more than 50 participants per trial arm were included. Two investigators assessed study eligibility. DATA SOURCES: Bibliographic databases and reference lists of relevant articles published between 1 January 1985 and 10 March 2013. DATA EXTRACTION: One investigator extracted data and another confirmed accuracy. MAIN OUTCOME MEASURE: Mean absolute change from baseline concentration of low density lipoprotein (LDL) cholesterol. DATA SYNTHESIS: Study level outcomes from randomised trials were combined using random effects network meta-analyses. RESULTS: We included 183 randomised controlled trials of statins, 103 of which were two-armed or multi-armed active comparator trials. When all of the existing randomised evidence was synthesised in network meta-analyses, there were clear differences in the LDL cholesterol lowering effects of individual statins at different doses. In general, higher doses resulted in higher reductions in baseline LDL cholesterol levels. Of a total of 146 industry sponsored trials, 64 were placebo controlled (43.8%). The corresponding number for the non-industry sponsored trials was 16 (43.2%). Of the 35 unique comparisons available in 37 non-industry sponsored trials, 31 were also available in industry sponsored trials. There were no systematic differences in magnitude between the LDL cholesterol lowering effects of individual statins observed in industry sponsored versus non-industry sponsored trials. In industry sponsored trials, the mean change from baseline LDL cholesterol level was on average 1.77 mg/dL (95% credible interval -11.12 to 7.66) lower than the change observed in non-industry sponsored trials. There was no

detectable inconsistency in the evidence network. CONCLUSIONS: Our analysis shows that the findings obtained from industry sponsored statin trials seem similar in magnitude as those in non-industry sources. There are actual differences in the effectiveness of individual statins at various doses that explain previously observed discrepancies between industry and non-industry sponsored trials.

47. **ARTÍCULO Nº: 4691**
Badia JG. ***[Privatization or professional leadership]***. Aten.Primaria. 2014; 46(8): 399-400.

48. **ARTÍCULO Nº: 4692**
Vicento-Edo MJ, Altarribas-Bolsa E. ***Implementación de protocoles de enfermería basados en la evidencia (EBE), del mito a la realidad***. Evidentia. 2014; 11(46)

49. **ARTÍCULO Nº: 4693**
Gens-Barbera M, Pareja-Rossell C, Calvet-Junoy S. ***Seguridad de los pacientes (I). Dimensión clave de la calidad asistencial. Conceptos generales. Taxonomía***. FMC. 2014; 21(8): 464-470.

En este artículo analizaremos la evolución histórica de la seguridad de los pacientes, nos preguntaremos si es necesario desarrollar estrategias para mejorarla en la atención primaria, analizaremos los diferentes niveles de planificación estratégica, conceptos según la Organización Mundial de la Salud como abordar la seguridad de los pacientes, y finalmente facilitaremos algunos recursos existentes en Internet.

50. **ARTÍCULO Nº: 4694**
Silber JH, Rosenbaum PR, Ross RN, Ludwig JM, Wang W, Niknam BA et al. ***A hospital-specific template for benchmarking its cost and quality***. Health Serv.Res. 2014; 49(5): 1475-1497.

OBJECTIVE: Develop an improved method for auditing hospital cost and quality tailored to a specific hospital's patient population. DATA SOURCES/SETTING: Medicare claims in general, gynecologic and urologic surgery, and orthopedics from Illinois, New York, and Texas between 2004 and 2006. STUDY DESIGN: A template of 300 representative patients from a single index hospital was constructed and used to match 300 patients at 43 hospitals that had a minimum of 500 patients over a 3-year study period. DATA COLLECTION/EXTRACTION METHODS: From each of 43 hospitals we chose 300 patients most resembling the template using multivariate matching. PRINCIPAL FINDINGS: We found close matches on procedures and patient characteristics, far more balanced than would be expected in a randomized trial. There were little to no differences between the index hospital's template and the 43 hospitals on most patient characteristics yet large and significant differences in mortality, failure-to-rescue, and cost. CONCLUSION: Matching can produce fair, directly standardized audits. From the perspective of the index hospital, "hospital-specific" template matching provides the fairness of direct standardization with the specific institutional relevance of indirect standardization. Using this approach, hospitals will be better able to examine their performance, and better determine why they are achieving the results they observe.

51. **ARTÍCULO Nº: 4695**
Grau M, Subirana I, Vila J, Elosua R, Ramos R, Sala J et al. ***Validation of a population coronary disease predictive system: the CASSANDRA model***. J.Epidemiol.Community Health. 2014; 68(11): 1012-1019.

BACKGROUND: The use of validated multivariate cardiovascular predictive models in a population setting is of interest for public health policy makers. We aimed to validate the estimations of the

CASSANDRA model (coronary heart disease (CHD) incidence and CHD risk distribution), considering the population changes in age, sex and CHD risk factors prevalence in a 10-year period. METHODS: We compared the projected CHD incidence estimated with CASSANDRA with that observed in the Girona Heart Registry (REGICOR) for 1995-2004 and 2000-2009 in the population of Girona (Spain) aged 35-74 years. We used official age and sex distributions for this population. Baseline cardiovascular risk factors prevalence and the distribution of cardiovascular risk were obtained from three cross-sectional studies performed in 1995, 2000 and 2005. To validate the future distribution of cardiovascular risk, we tested the yearly CHD risk variance over the study period. RESULTS: No significant differences between the estimated and observed annual CHD incidence per 100 000 men were found in 1995-2004 (CASSANDRA=457.8 and REGICOR=420.3, incidence rate ratio (IRR) (95% CI)=0.92 (0.89 to 0.96)) and in 2000-2009 (441.4 and 409.6, respectively, IRR=0.93 (0.90 to 0.96)). However, overpredictions of 18% and 22%, respectively, were observed in women (198.8 and 160.4, IRR=0.82 (0.77 to 0.86), and 197.1 and 152.8, IRR=0.78 (0.74 to 0.83), respectively). No significant differences were found in the CHD risk variance in the three different cross-sectional studies. CONCLUSIONS: The CASSANDRA model produces valid estimates, particularly in men, of the future burden of disease and in the distribution of cardiovascular risk in individuals aged 35-74 years.

52. **ARTÍCULO Nº: 4696**

Krabbe PF, Devlin NJ, Stolk EA, Shah KK, Oppe M, van HB et al. ***Multinational evidence of the applicability and robustness of discrete choice modeling for deriving EQ-5D-5L health-state values***. Med.Care. 2014; 52(11): 935-943.

AIMS: To investigate the feasibility of discrete choice experiments for valuing EQ-5D-5L states using computer-based data collection, the consistency of the estimated regression coefficients produced after modeling the preference data, and to examine the similarity of the values derived across countries. METHODS: Data were collected in Canada, England, The Netherlands, and the United States (US). Interactive software was developed to standardize the format of the choice tasks across countries, except for face-to-face interviewing in England. The choice task required respondents to choose between 2 suboptimal health states. A Bayesian design was used to generate 200 pairs of states that were randomly grouped into 20 blocks. Each respondent completed 1 block of 10 pairs. A main-effects probit model was used to estimate regression coefficients and to derive values. RESULTS: Approximately 400 respondents participated from each country. The mean time to perform 1 choice task was between 29.2 (US) and 45.2 (England) seconds. All regression coefficients were statistically significant, except level 2 for Usual Activities in The Netherlands (P=0.51). Predictions for the complete set of 3125 EQ-5D-5L health states were similar for the 4 countries. Intraclass correlation coefficients between the countries were high: from 0.80 (England vs. US) through 0.98 (Canada vs. US) CONCLUSIONS: Derivation of value sets from the general population using computer-based choice tasks for the EQ-5D-5L is feasible. Parameter estimates were generally consistent and logical, and health-state values were similar across the 4 countries.

53. **ARTÍCULO Nº: 4697**

Griffiths P, Dall'Ora C, Simon M, Ball J, Lindqvist R, Rafferty AM et al. ***Nurses' shift length and overtime working in 12 European countries: the association with perceived quality of care and patient safety***. Med.Care. 2014; 52(11): 975-981.

BACKGROUND: Despite concerns as to whether nurses can perform reliably and effectively when working longer shifts, a pattern of two 12- to 13-hour shifts per day is becoming common in many hospitals to reduce shift to shift handovers, staffing overlap, and hence costs. OBJECTIVES: To describe

shift patterns of European nurses and investigate whether shift length and working beyond contracted hours (overtime) is associated with nurse-reported care quality, safety, and care left undone. METHODS: Cross-sectional survey of 31,627 registered nurses in general medical/surgical units within 488 hospitals across 12 European countries. RESULTS: A total of 50% of nurses worked shifts of </= 8 hours, but 15% worked >/= 12 hours. Typical shift length varied between countries and within some countries. Nurses working for >/= 12 hours were more likely to report poor or failing patient safety [odds ratio (OR)=1.41; 95% confidence interval (CI), 1.13-1.76], poor/fair quality of care (OR=1.30; 95% CI, 1.10-1.53), and more care activities left undone (RR=1.13; 95% CI, 1.09-1.16). Working overtime was also associated with reports of poor or failing patient safety (OR=1.67; 95% CI, 1.51-1.86), poor/fair quality of care (OR=1.32; 95% CI, 1.23-1.42), and more care left undone (RR=1.29; 95% CI, 1.27-1.31). CONCLUSIONS: European registered nurses working shifts of >/= 12 hours and those working overtime report lower quality and safety and more care left undone. Policies to adopt a 12-hour nursing shift pattern should proceed with caution. Use of overtime working to mitigate staffing shortages or increase flexibility may also incur additional risk to quality.

54. **ARTÍCULO Nº: 4698**

Martsolf GR, Auerbach D, Benevent R, Stocks C, Jiang HJ, Pearson ML et al. ***Examining the value of inpatient nurse staffing: an assessment of quality and patient care costs***. Med.Care. 2014; 52(11): 982-988.

BACKGROUND: Inpatient quality deficits have important implications for the health and well-being of patients. They also have important financial implications for payers and hospitals by leading to longer lengths of stay and higher intensity of treatment. Many of these costly quality deficits are particularly sensitive to nursing care. OBJECTIVE: To assess the effect of nurse staffing on quality of care and inpatient care costs. DESIGN: Longitudinal analysis using hospital nurse staffing data and the Healthcare Cost and Utilization Project State Inpatient Databases from 2008 through 2011. SUBJECTS: Hospital discharges from California, Nevada, and Maryland (n=18,474,860). METHODS: A longitudinal, hospital-fixed effect model was estimated to assess the effect of nurse staffing levels and skill mix on patient care costs, length of stay, and adverse events, adjusting for patient clinical and demographic characteristics. RESULTS: Increases in nurse staffing levels were associated with reductions in nursing-sensitive adverse events and length of stay, but did not lead to increases in patient care costs. Changing skill mix by increasing the number of registered nurses, as a proportion of licensed nursing staff, led to reductions in costs. CONCLUSIONS: The study findings provide support for the value of inpatient nurse staffing as it contributes to improvements in inpatient care; increases in staff number and skill mix can lead to improved quality and reduced length of stay at no additional cost.

55. **ARTÍCULO Nº: 4699**

onso-Coello P, Martinez GL. ***[Clinical guidelines: old and new challenges]***. Med.Clin.(Barc.). 2014; 143(7): 306-308.

56. **ARTÍCULO Nº: 4700**

Danes I, Alerany C, Ferrer A, Vallano A. ***[Off-label drug use in hospitals]***. Med.Clin.(Barc.). 2014; 143(7): 327-328.

57. **ARTÍCULO Nº: 4701**

Bermudo G, Pomares X, Monton C, Bare M, Monso E. ***[Usefulness of the Chronic Obstructive Pulmonary Disease Assessment Test in chronic obstructive pulmonary disease with severe airflow limitation]***. Med.Clin.(Barc.). 2014; 143(8): 349-351.

BACKGROUND AND OBJECTIVE: To evaluate the relationship between Chronic Obstructive Pulmonary Disease Assessment Test (CAT questionnaire) and chronic obstructive pulmonary disease (COPD) severity assessed by the multidimensional BODE index in patients with severe airflow obstruction (forced expiratory volume in one second [FEV1] post-bronchodilator<50%) in a stable state. MATERIAL AND METHOD: Prospective observational study (2012). We classified the severity of COPD according to the BODE index in 3 subgroups: mild to moderate COPD (BODE<5 points), severe COPD (BODE 5-6 points) and very severe COPD (BODE >/= 7 points). RESULTS: We included 97 patients with a mean age of 67 (8) years, 96% were men. The mean FEV1 was 34.3% (9.8%) and mean BODE index was 4.8 (1.4). The mean CAT score was 20 (7.7). We found no significant differences in CAT score (total or by items) between the 3 groups of BODE assessed. CONCLUSIONS: In patients with COPD and severe airflow obstruction, the CAT score reflects a moderate to severe impact of illness and does not allow to predict COPD severity assessed by the BODE index.

58. **ARTÍCULO Nº: 4702**

Waxman DA, Greenberg MD, Ridgely MS, Kellermann AL, Heaton P. ***The effect of malpractice reform on emergency department care.*** N.Engl.J.Med. 2014; 371(16): 1518-1525.

BACKGROUND: Many believe that fear of malpractice lawsuits drives physicians to order otherwise unnecessary care and that legal reforms could reduce such wasteful spending. Emergency physicians practice in an information-poor, resource-rich environment that may lend itself to costly defensive practice. Three states, Texas (in 2003), Georgia (in 2005), and South Carolina (in 2005), enacted legislation that changed the malpractice standard for emergency care to gross negligence. We investigated whether these substantial reforms changed practice. METHODS: Using a 5% random sample of Medicare fee-for-service beneficiaries, we identified all emergency department visits to hospitals in the three reform states and in neighboring (control) states from 1997 through 2011. Using a quasi-experimental design, we compared patient-level outcomes, before and after legislation, in reform states and control states. We controlled for characteristics of the patients, time-invariant hospital characteristics, and temporal trends. Outcomes were policy-attributable changes in the use of computed tomography (CT) or magnetic resonance imaging (MRI), per-visit emergency department charges, and the rate of hospital admissions. RESULTS: For eight of the nine state-outcome combinations tested, no policy-attributable reduction in the intensity of care was detected. We found no reduction in the rates of CT or MRI utilization or hospital admission in any of the three reform states and no reduction in charges in Texas or South Carolina. In Georgia, reform was associated with a 3.6% reduction (95% confidence interval, 0.9 to 6.2) in per-visit emergency department charges. CONCLUSIONS: Legislation that substantially changed the malpractice standard for emergency physicians in three states had little effect on the intensity of practice, as measured by imaging rates, average charges, or hospital admission rates. (Funded by the Veterans Affairs Office of Academic Affiliations and others.).

59. **ARTÍCULO Nº: 4703**

Hunt LP, Ben-Shlomo Y, Clark EM, Dieppe P, Judge A, MacGregor AJ et al. ***45-day mortality after 467,779 knee replacements for osteoarthritis from the National Joint Registry for England and Wales: an observational study.*** Lancet. 2014; 384(9952): 1429-1436.

BACKGROUND: Understanding the risk factors for early death after knee replacement could help to reduce the risk of mortality after this procedure. We assessed secular trends in death within 45 days of knee replacement for osteoarthritis in England and Wales, with the aim of investigating whether

any change that we recorded could be explained by alterations in modifiable perioperative factors. METHODS: We took data for knee replacements done for osteoarthritis in England and Wales between April 1, 2003, and Dec 31, 2011, from the National Joint Registry for England and Wales. Patient identifiers were used to link these data to the national mortality database and the Hospital Episode Statistics database to obtain details of death, sociodemographics, and comorbidity. We assessed mortality within 45 days by Kaplan-Meier analysis and assessed the role of patient and treatment factors by Cox proportional hazards models. FINDINGS: 467,779 primary knee replacements were done to treat osteoarthritis during 9 years. 1183 patients died within 45 days of surgery, with a substantial secular decrease in mortality from 0.37% in 2003 to 0.20% in 2011, even after adjustment for age, sex, and comorbidity. The use of unicompartmental knee replacement was associated with substantially lower mortality than was total knee replacement (hazard ratio [HR] 0.32, 95% CI 0.19-0.54, p<0.0005). Several comorbidities were associated with increased mortality: myocardial infarction (HR 3.46, 95% CI 2.81-4.14, p<0.0005), cerebrovascular disease (3.35, 2.7-4.14, p<0.0005), moderate/severe liver disease (7.2, 3.93-13.21, p<0.0005), and renal disease (2.18, 1.76-2.69, p<0.0005). Modifiable perioperative risk factors, including surgical approach and thromboprophylaxis were not associated with mortality. INTERPRETATION: Postoperative mortality after knee replacement has fallen substantially between 2003 and 2011. Efforts to further reduce mortality should concentrate more on older patients, those who are male and those with specific comorbidities, such as myocardial infarction, cerebrovascular disease, liver disease, and renal disease. FUNDING: National Joint Registry for England and Wales.

60. **ARTÍCULO Nº: 4704**

Liddle AD, Judge A, Pandit H, Murray DW. ***Adverse outcomes after total and unicompartmental knee replacement in 101,330 matched patients: a study of data from the National Joint Registry for England and Wales***. Lancet. 2014; 384(9952): 1437-1445.

BACKGROUND: Total knee replacement (TKR) or unicompartmental knee replacement (UKR) are options for end-stage osteoarthritis. However, comparisons between the two procedures are confounded by differences in baseline characteristics of patients undergoing either procedure and by insufficient reporting of endpoints other than revision. We aimed to compare adverse outcomes for each procedure in matched patients. METHODS: With propensity score techniques, we compared matched patients undergoing TKR and UKR in the National Joint Registry for England and Wales. The National Joint Registry started collecting data in April 1, 2003, and is continuing. The last operation date in the extract of data used in our study was Aug 28, 2012. We linked data for multiple potential confounders from the National Health Service Hospital Episode Statistics database. We used regression models to compare outcomes including rates of revision, revision/reoperation, complications, readmission, mortality, and length of stay. FINDINGS: 25,334 UKRs were matched to 75,996 TKRs on the basis of propensity score. UKRs had worse implant survival both for revision (subhazard ratio [SHR] 2.12, 95% CI 1.99-2.26) and for revision/reoperation (1.38, 1.31-1.44) than TKRs at 8 years. Mortality was significantly higher for TKR at all timepoints than for UKR (30 day: hazard ratio 0.23, 95% CI 0.11-0.50; 8 year: 0.85, 0.79-0.92). Length of stay, complications (including thromboembolism, myocardial infarction, and stroke), and rate of readmission were all higher for TKR than for UKR. INTERPRETATION: In decisions about which procedure to offer, the higher revision/reoperation rate of UKR than of TKR should be balanced against a lower occurrence of complications, readmission, and mortality, together with known benefits for UKR in terms of postoperative function. If 100 patients receiving TKR received UKR instead, the result would be around one fewer death and three more reoperations in the first 4 years after surgery. FUNDING: Royal College of Surgeons of England and Arthritis Research UK.

61. **ARTÍCULO Nº: 4705**

van de SL, Langelaan M, Wagner C. ***Can preventable adverse events be predicted among hospitalized older patients? The development and validation of a predictive model.*** Int.J.Qual.Health Care. 2014; 26(5): 547-552.

OBJECTIVE: To develop and validate a predictive model for preventable adverse events (AEs) in hospitalized older patients, using clinically important risk factors that are readily available on admission. DESIGN: Data from two retrospective patient record review studies on AEs were used. Risk factors included patient characteristics as well as admission and organizational characteristics. Multilevel logistical regression analysis was used to develop the model. Backward elimination was applied to identify the most parsimonious model. SETTING: Twenty-one Dutch hospitals were included in the 2004 sample and 20 Dutch hospitals in the 2008 sample. PARTICIPANTS: A total of 3977 patients aged 70 years or over who were admitted to a Dutch hospital in 2004 and 2119 patients aged 70 years or over admitted in 2008. MAIN OUTCOME MEASURES: Identified predictors of preventable AEs in older patients. RESULTS: In 2004 predictors of preventable AEs in patients aged 70 years or over were increased age (OR 1.04, confidence interval (CI) 1.01-1.06); elective admission (OR 1.65, CI 1.14-2.40) and admission to a surgical department (OR 1.53, CI 1.08-2.16). The area under the receiver operating characteristic curve for the 2004 sample was 0.60 and for 2008, 0.59. CONCLUSIONS: This study showed that several expected risk factors for preventable AEs in older patients, including comorbidity, could not predict these events. It was not possible, using in-patient data available on admission and collected during the course of two patient record review studies, to develop a satisfactory predictive model for preventable AEs in older patients.