EMCA Gestión de la Calidad Asistencial

Boletín de Artículos Científicos

Enero 2014
Número 77

1. **ARTÍCULO Nº: 3801**

Kontos MC, Wang Y, Chaudhry SI, Vetrovec GW, Curtis J, Messenger J. ***Lower hospital volume is associated with higher in-hospital mortality in patients undergoing primary percutaneous coronary intervention for ST-segment-elevation myocardial infarction: A report from the NCDR***. Circ.Cardiovasc.Qual.Outcomes. 2013; 6(6): 659-667.

BACKGROUND: Current guidelines recommend >36 primary percutaneous coronary interventions (PCIs) per hospital per year. Whether these standards remain valid when routine coronary stenting and newer pharmacological agents are used is unclear. METHODS AND RESULTS: We analyzed patients who underwent primary PCI from July 2006 through June 2009 included in the CathPCI Registry. Hospitals were separated into 3 groups: low (</=36 primary PCIs/y, current guideline recommendation), intermediate (>36-60 primary PCIs/y), and high volume (>60 primary PCIs/y). In-hospital mortality and door-to-balloon time were examined for each group. A total of 87 324 patient visits for 86 044 patients from 738 hospitals were included. There were 278 low- (38%), 236 (32%) intermediate-, and 224 (30%) high-volume hospitals. The majority of patients with primary PCI (54%) were treated at high-volume hospitals, with 15% at low-volume hospitals. Unadjusted mortality was significantly higher in low-volume hospitals compared with high-volume hospitals (5.6% versus 4.8%; P<0.001), which was maintained after multivariate adjustment (1.20; 95% confidence interval, 1.08-1.33; P=0.001). In contrast, mortality was not significantly different between intermediate-volume and high-volume hospitals (4.8% versus 4.8%; adjusted odds ratio, 1.02; 95% confidence interval, 0.94-1.11; P=0.61). Door-to-balloon times were significantly shorter in high-volume hospitals compared with low-volume hospitals (median, 72 minutes; interquartile range, [53-91] versus 77 [57-100] minutes; P<0.0001). CONCLUSIONS: Higher annual hospital volume of primary PCI continues to be associated with lower mortality, with higher mortality in hospitals performing </=36 primary PCIs/y.

2. **ARTÍCULO Nº: 3802**

Bilimoria KY, Chung J, Ju MH, Haut ER, Bentrem DJ, Ko CY et al. ***Evaluation of surveillance bias and the validity of the venous thromboembolism quality measure***. JAMA. 2013; 310(14): 1482-1489.

IMPORTANCE: Postoperative venous thromboembolism (VTE) rates are widely reported quality metrics soon to be used in pay-for-performance programs. Surveillance bias occurs when some clinicians use imaging studies to detect VTE more frequently than other clinicians. Because they look more, they find more VTE events, paradoxically worsening their hospital's VTE quality measure performance. A surveillance bias may influence VTE measurement if (1) greater hospital VTE prophylaxis adherence fails to result in lower measured VTE rates, (2) hospitals with characteristics suggestive of higher quality (eg, more

accreditations) have greater VTE prophylaxis adherence rates but worse VTE event rates, and (3) higher hospital VTE imaging utilization use rates are associated with higher measured VTE event rates. OBJECTIVE: To examine whether a surveillance bias influences the validity of reported VTE rates. DESIGN, SETTING, AND PARTICIPANTS: 2010 Hospital Compare and American Hospital Association data from 2838 hospitals were merged. Next, 2009-2010 Medicare claims data for 954,926 surgical patient discharges from 2786 hospitals who were undergoing 1 of 11 major operations were used to calculate VTE imaging (duplex ultrasonography, chest computed tomography/magnetic resonance imaging, and ventilation-perfusion scans) and VTE event rates. MAIN OUTCOMES AND MEASURES: The association between hospital VTE prophylaxis adherence and risk-adjusted VTE event rates was examined. The relationship between a summary score of hospital structural characteristics reflecting quality (hospital size, numbers of accreditations/quality initiatives) and performance on VTE prophylaxis and risk-adjusted VTE measures was examined. Hospital-level VTE event rates were compared across VTE diagnostic imaging rate quartiles and with a quantile regression. RESULTS: Greater hospital VTE prophylaxis adherence rates were weakly associated with worse risk-adjusted VTE event rates (r2 = 4.2%; P = .03). Hospitals with increasing structural quality scores had higher VTE prophylaxis adherence rates (93.3% vs 95.5%, lowest vs highest quality quartile; P < .001) but worse risk-adjusted VTE rates (4.8 vs 6.4 per 1000, lowest vs highest quality quartile; P < .001). Mean VTE diagnostic imaging rates ranged from 32 studies per 1000 in the lowest imaging use quartile to 167 per 1000 in the highest quartile (P < .001). Risk-adjusted VTE rates increased significantly with VTE imaging use rates in a stepwise fashion, from 5.0 per 1000 in the lowest quartile to 13.5 per 1000 in the highest quartile (P < .001). CONCLUSIONS AND RELEVANCE: Hospitals with higher quality scores had higher VTE prophylaxis rates but worse risk-adjusted VTE rates. Increased hospital VTE event rates were associated with increasing hospital VTE imaging use rates. Surveillance bias limits the usefulness of the VTE quality measure for hospitals working to improve quality and patients seeking to identify a high-quality hospital.

3. **ARTÍCULO Nº: 3803**

Livingston EH. ***Postoperative venous thromboembolic disease: prevention, public reporting, and patient protection***. JAMA. 2013; 310(14): 1453-1454.

4. **ARTÍCULO Nº: 3804**

Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE, Jr., Drazner MH et al. ***2013 ACCF/AHA guideline for the management of heart failure: executive summary: a report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines***. Circulation. 2013; 128(16): 1810-1852.

5. **ARTÍCULO Nº: 3805**

Yancy CW, Jessup M, Bozkurt B, Butler J, Casey DE, Jr., Drazner MH et al. ***2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology Foundation/American Heart Association Task Force on practice guidelines***. Circulation. 2013; 128(16): e240-e319.

6. **ARTÍCULO Nº: 3806**

Lemmens KM, Lemmens LC, Boom JH, Drewes HW, Meeuwissen JA, Steuten LM et al. ***Chronic care management for patients with COPD: a critical review of available evidence***. J.Eval.Clin.Pract. 2013; 19(5): 734-752.

RATIONALE, AIMS AND OBJECTIVES: Clinical diversity and methodological heterogeneity exists between studies on chronic care management. This study aimed to examine the effectiveness of chronic care management in chronic obstructive pulmonary disease (COPD) while taking heterogeneity into account, enabling the understanding of and the decision making about such programmes. Three investigated sources of heterogeneity were study quality, length of follow-up, and number of intervention components. METHODS: We performed a review of previously published reviews and meta-analyses on COPD chronic care management. Their primary studies that were analyzed as statistical, clinical and methodological heterogeneity were present. Meta-regression analyses were performed to explain the variances among the primary studies. RESULTS: Generally, the included reviews showed positive results on quality of life and hospitalizations. Inconclusive effects were found on emergency department visits and no effects on mortality. Pooled effects on hospitalizations, emergency department visits and quality of life of primary studies did not reach significant improvement. No effects were found on mortality. Meta-regression showed that the number of components of chronic care management programmes explained present heterogeneity for hospitalizations and emergency department visits. Four components showed significant effects on hospitalizations, whereas two components had significant effects on emergency department visits. Methodological study quality and length of follow-up did not significantly explain heterogeneity. CONCLUSIONS: This study demonstrated that COPD chronic care management has the potential to improve outcomes of care; heterogeneity in outcomes was explained. Further research is needed to elucidate the diversity between COPD chronic care management studies in terms of the effects measured and strengthen the support for chronic care management.

7. **ARTÍCULO Nº: 3807**

Elissen AM, Steuten LM, Lemmens LC, Drewes HW, Lemmens KM, Meeuwissen JA et al. ***Meta-analysis of the effectiveness of chronic care management for diabetes: investigating heterogeneity in outcomes***. J.Eval.Clin.Pract. 2013; 19(5): 753-762.

PURPOSE: The study aims to support decision making on how best to redesign diabetes care by investigating three potential sources of heterogeneity in effectiveness across trials of diabetes care management. METHODS: Medline, CINAHL and PsycInfo were searched for systematic reviews and empirical studies focusing on: (1) diabetes mellitus; (2) adult patients; and (3) interventions consisting of at least two components of the chronic care model (CCM). Systematic reviews were analysed descriptively; empirical studies were meta-analysed. Pooled effect measures were estimated using a meta-regression model that incorporated study quality, length of follow-up and number of intervention components as potential predictors of heterogeneity in effects. RESULTS: Overall, reviews (n = 15) of diabetes care programmes report modest improvements in glycaemic control. Empirical studies (n = 61) show wide-ranging results on HbA1c, systolic blood pressure and guideline adherence. Differences between studies in methodological quality cannot explain this heterogeneity in effects. Variety in length of follow-up can explain (part of) the variability, yet not across all outcomes. Diversity in the number of included intervention components can explain 8-12% of the heterogeneity in effects on HbA1c and systolic blood pressure. CONCLUSIONS: The outcomes of chronic care management for diabetes are generally positive, yet differ considerably across trials. The most promising results are attained in studies with limited follow-up (<1 year) and by programmes including more than two CCM components. These factors can, however, explain only part of the heterogeneity in effectiveness between studies. Other potential sources of heterogeneity should be investigated to ensure implementation of evidence-based improvements in diabetes care.

8. **ARTÍCULO Nº: 3808**

Tandjung R, Senn O, Rosemann T, Loy M. ***Diagnosis and management of acute coronary syndrome in an outpatient setting: good guideline adherence in Swiss primary care***. J.Eval.Clin.Pract. 2013; 19(5): 819-824.

BACKGROUND: Switzerland lacks of national guidelines for the initial treatment of an acute coronary syndrome (ACS). ACS is not as frequent in an outpatient setting as in an emergency department; nevertheless, missing an ACS is associated with high morbidity and mortality. We wanted to observe actual infrastructure and performance based on case vignettes in outpatient general practitioners (GPs) and cardiologists (CAs); as a second outcome, we wanted to compare GPs to CAs. METHODS: We conducted a postal vignette-based survey to investigate the management of outpatients presenting with acute chest pain by doctors in private practice. The use of troponin and cardiac stress testing for the evaluation of acute chest pain as well as referral practice and use of antiplatelet agents were assessed and compared between GPs and CAs. RESULTS: There were 507 of the 571 respondents (response rate 39.7%) who were CAs (36) or GPs (471) and were included in the analysis. Whereas all CAs were equipped with electrocardiogram (ECG), cardiac stress testing and troponin assays, the majority of GPs had an ECG (97.8%) and applied troponin testing (76.3%), and 38.7% performed cardiac stress testing. The vast majority responded to directly refer a STEMI to the next catheter lab (87.7%), or in the case of a troponin-positive NSTEMI, to an inpatient ward (94.1%) with no difference between GPs and CAs. A majority of the GPs responded to use antiplatelet agents in the case of a STEMI (89.6%) and reported further workup with cardiac stress testing in the case of a troponin-negative acute chest pain (78.7%), which was lower compared to CAs who applied antiplatelet agents and cardiac stress testing in 100% and 97.0%. CONCLUSIONS: We could show that international guideline adherence in ACS of GPs is high and GPs perform as well as CAs. Nevertheless there is room for optimization in the antiplatelet therapy and the use of cardiac stress testing in a low-risk population. National guidelines for treatment of an ACS in an outpatient setting are indicated.

9. **ARTÍCULO Nº: 3809**

Honeybul S, Ho KM. ***The influence of clinical evidence on surgical practice***. J.Eval.Clin.Pract. 2013; 19(5): 825-828.

Given the considerable interest in the use of evidence-based medicine to guide clinical practice, it is surprising that the results of a recent randomized controlled trial have been met with such a limited response. The DECompressive CRAniectomy study investigators have recently published the results of a landmark trial in neurosurgery, comparing early decompressive craniectomy with standard medical therapy in patients who developed intracranial hypertension after diffuse closed traumatic brain injury (TBI). This is the first ever randomized controlled trial investigating the surgical management of adult patients with severe TBI. The trial clearly demonstrated that early decompression did not provide clinical benefit; however, rather than having a significant impact on clinical practice, it has been almost uniformly criticized. While there were some problems with randomization and crossover, we feel that the trial has been somewhat misinterpreted and in this article we address some of the key issues.

10. **ARTÍCULO Nº: 3810**

Gunningberg L, Hommel A, Baath C, Idvall E. ***The first national pressure ulcer prevalence survey in county council and municipality settings in Sweden***. J.Eval.Clin.Pract. 2013; 19(5): 862-867.

AIM: To report data from the first national pressure ulcer prevalence survey in Sweden on prevalence, pressure ulcer categories, locations and preventive interventions for persons at risk for developing pressure ulcers. METHODS: A cross-sectional research design was used in a total sample of 35,058 persons in hospitals and nursing homes. The methodology used was that recommended by the European Pressure Ulcer Advisory Panel. RESULTS: The prevalence of pressure ulcers was 16.6% in hospitals and 14.5% in nursing homes. Many persons at risk for developing pressure ulcers did not receive a pressure-reducing mattress (23.3-27.9%) or planned repositioning in bed (50.2-57.5%). CONCLUSIONS: Despite great effort on the national level to encourage the prevention of pressure ulcers, the prevalence is high. Public reporting and benchmarking are now available, evidence-based guidelines have been disseminated and national goals have been set. Strategies for implementing practices outlined in the guidelines, meeting goals and changing attitudes must be further developed.

11. **ARTÍCULO Nº: 3811**

Locke R, Scallan S, Leach C, Rickenbach M. ***Identifying poor performance among doctors in NHS organizations***. J.Eval.Clin.Pract. 2013; 19(5): 882-888.

AIM: To account for the means by which poor performance among career doctors is identified by National Health Service organizations, whether the tools are considered effective and how these processes may be strengthened in the light of revalidation and the requirement for doctors to demonstrate their fitness to practice. METHOD: This study sought to look beyond the 'doctor as individual'; as well as considering the typical approaches to managing the practice of an individual, the systems within which the doctor is working were reviewed, as these are also relevant to standards of performance. A qualitative review was undertaken consisting of a literature review of current practice, a policy review of current documentation from 15 trusts in one deanery locality, and 14 semi-structured interviews with respondents with an overview of processes in use. The framework for the analysis of the data considered tools at three levels: individual, team and organizational. RESULTS: Tools are, in the main, reactive--with an individual focus. They rely on colleagues and others to speak out, so their effectiveness is hindered by a reluctance to do so. Tools can lack an evidence base for their use, and there is limited linking of data across contexts and tools. CONCLUSIONS: There is more work to be done in evaluating current tools and developing stronger processes. Linkage between data sources needs to be improved and proactive tools at the organizational level need further development to help with the early identification of performance issues. This would also assist in balancing a wider systems approach with a current over emphasis on individual doctors.

12. **ARTÍCULO Nº: 3812**

Kapp S ***Successful implementation of clinical practice guidelines for pressure risk management in a home nursing setting***. J.Eval.Clin.Pract. 2013; 19(5): 895-901.

RATIONALE: This paper reports an initiative which promoted evidence-based practice in pressure risk assessment and management among home nursing clients in Melbourne, Australia. AIM AND OBJECTIVES: The aim of this study was to evaluate the introduction and uptake of the Australian Wound Management Association Guidelines for the Prediction and Prevention of Pressure Ulcers. METHOD: In 2007 a pilot study was conducted. Nurse perspectives (n=21) were obtained via survey and a client profile (n=218) was generated. Audit of the uptake and continued use of the pressure risk screening tool, during the pilot study and later once implemented as standard practice organizational wide, was conducted. RESULTS: Nurses at the pilot site successfully implemented the practice guidelines, pressure risk screening was adopted and supporting resources were well received. Most clients were at low risk of pressure ulcer development. The pilot site maintained and extended their

pilot study success, ensuring more than 90% of clients were screened for pressure risk over the 18 months which followed. All other sites performed less well initially, however subsequently improved, meeting the pilot sites success after 18 months. Two years later, the organization continues to screen more than 90% of all clients for pressure risk. CONCLUSION: Implementation of clinical practice guidelines was successful in the pilot project and pressure risk screening became a well-adopted practice. Success continued following organizational wide implementation. Pilot study findings suggest it may be prudent to monitor the pressure ulcer risk status of low risk clients so as to prevent increasing risk and pressure ulcer development among this group.

13. **ARTÍCULO Nº: 3813**

Lin FJ, Lee TA, Wong PS, Pickard AS. ***Evaluation of changes in guidelines for medication management of stable chronic obstructive pulmonary disease.*** J.Eval.Clin.Pract. 2013; 19(5): 953-960.

RATIONALE, AIMS AND OBJECTIVES: The Global Initiative for Chronic Obstructive Lung Disease (GOLD) guidelines are well-known international clinical practice guidelines for chronic obstructive pulmonary disease (COPD). The objective of this study was to examine how treatment recommendations and the quality of supporting evidence for pharmacologic management of stable COPD have evolved since the initial guidance issued in 2001. METHODS: Recommendations in the 2001 and 2011 GOLD guidelines, along with the evidence grades (i.e. A, B, C, D), were identified and abstracted. We determined the distribution and evolution of recommendations across levels of evidence and treatment categories over time. RESULTS: There were 35 and 54 recommendations identified in the 2001 and 2011 guidelines, respectively. Twenty-six recommendations were common to the 2001 and 2011 guidelines, with eight having the same evidence grade in both versions and three having a grade change (one upgraded and two downgraded). Twenty-eight new recommendations were added in 2011. Bronchodilators, glucocorticosteroids, and phosphodiesterase-4 inhibitors are the classes of pharmacologic treatment with the most prominent changes regarding emerging evidence and the number of recommendations. Approximately 45% of the graded recommendations were supported by well-designed randomized controlled trials, i.e. grade A. CONCLUSIONS: The GOLD guideline recommendations have changed considerably over the past 11 years, which reflects a dynamic evidence base and perhaps a change in the way guideline developers view the evidence to inform recommendations. Given the large number of recommendations with lower grade levels, there continues to be substantial opportunity to inform gaps in the evidence base with high-quality studies.

14. **ARTÍCULO Nº: 3814**

Bradley EH, Yakusheva O, Horwitz LI, Sipsma H, Fletcher J. ***Identifying patients at increased risk for unplanned readmission.*** Med.Care. 2013; 51(9): 761-766.

BACKGROUND: Reducing readmissions is a national priority, but many hospitals lack practical tools to identify patients at increased risk of unplanned readmission. OBJECTIVE: To estimate the association between a composite measure of patient condition at discharge, the Rothman Index (RI), and unplanned readmission within 30 days of discharge. SUBJECTS: Adult medical and surgical patients in a major teaching hospital in 2011. MEASURES: The RI is a composite measure updated regularly from the electronic medical record based on changes in vital signs, nursing assessments, Braden score, cardiac rhythms, and laboratory test results. We developed 4 categories of RI and tested its association with readmission within 30 days, using logistic regression, adjusted for patient age, sex, insurance status, service assignment (medical or surgical), and primary discharge diagnosis. RESULTS: Sixteen percent of the sample patients (N=2730) had an unplanned readmission within 30 days of discharge. The risk of readmission for a patient in the highest risk category (RI<70) was >1 in 5 while

the risk of readmission for patients in the lowest risk category was about 1 in 10. In multivariable analysis, patients with an RI<70 (the highest risk category) or 70-79 (medium risk category) had 2.65 (95% confidence interval, 1.72-4.07) and 2.40 (95% confidence interval, 1.57-3.67) times higher odds of unplanned readmission, respectively, compared with patients in the lowest risk category. CONCLUSION: Clinicians can use the RI to help target hospital programs and supports to patients at highest risk of readmission.

15. **ARTÍCULO Nº: 3815**

Chen LM, Staiger DO, Birkmeyer JD, Ryan AM, Zhang W, Dimick JB. ***Composite quality measures for common inpatient medical conditions***. Med.Care. 2013; 51(9): 832-837.

BACKGROUND: Public reporting on quality aims to help patients select better hospitals. However, individual quality measures are suboptimal in identifying superior and inferior hospitals based on outcome performance. OBJECTIVE: To combine structure, process, and outcome measures into an empirically derived composite quality measure for heart failure (HF), acute myocardial infarction (AMI), and pneumonia (PNA). To assess how well the composite measure predicts future high and low performers, and explains variance in future hospital mortality. RESEARCH DESIGN: Using national Medicare data, we created a cohort of older patients treated at an acute care hospital for HF (n=1,203,595), AMI (n=625,595), or PNA (n=1,234,299). We ranked hospitals on the basis of their July 2005 to June 2008 performance on the composite. We then estimated the odds of future (July to December 2009) 30-day, risk-adjusted mortality at the worst versus best quintile of hospitals. We repeated this analysis using 2005-2008 performance on existing quality indicators, including mortality. RESULTS: The composite (vs. Hospital Compare) explained 68% (vs. 39%) of variation in future AMI mortality rates. In 2009, if an AMI patient had chosen a hospital in the worst versus best quintile of performance using 2005-2008 composite (vs. Hospital Compare) rankings, he or she would have had 1.61 (vs. 1.39) times the odds of dying in 30 days (P-value for difference <0.001). Results were similar for HF and PNA. CONCLUSIONS: Composite measures of quality for HF, AMI, and PNA performed better than existing measures at explaining variation in future mortality and predicting future high and low performers.

16. **ARTÍCULO Nº: 3816**

Zrelak PA, Romano PS, Tancredi DJ, Geppert JJ, Utter GH. ***Validity of the AHRQ patient safety indicator for postoperative physiologic and metabolic derangement based on a national sample of medical records***. Med.Care. 2013; 51(9): 806-811.

OBJECTIVE: The Agency for Healthcare Research and Quality Patient Safety Indicator (PSI) 10, "Postoperative Physiologic and Metabolic Derangement" (PPMD), uses administrative data to detect postoperative acute kidney injury (AKI) requiring dialysis and diabetes-related complications. We sought to evaluate the indicator's criterion validity. RESEARCH DESIGN: We conducted a retrospective cross-sectional study of hospitalization records flagged positive and negative by PSI 10 from a diverse set of 35 hospitals between February 1, 2006 and June 30, 2009. Trained nurse abstractors reviewed medical records. We determined the indicator's sensitivity, specificity, and positive and negative predictive values. RESULTS: Of 94 records flagged by PSI 10 (87 for AKI, 7 for diabetic complications, 1 for both), 69 (73%) involved an accurately coded event; 60 (64%; 95% CI, 46%-79%) represented true PPMD from a clinical perspective. Two of 8 records flagged for diabetic complications were true events. Nineteen false positives involved preoperative renal failure. Three of 230 records flagged negative (enriched with questionably negative records) represented true PPMD. The indicator's sensitivity was 66% (20%-94%), specificity 99.9% (99.5%-100%), and negative predictive value 99.9%

(99.4%-100%). Considering dialysis access procedures tantamount to dialysis and excluding records with lower urinary tract obstruction might increase the sensitivity and positive predictive value to 98% (87%-100%) and 72% (50%-87%), respectively. CONCLUSIONS: PSI 10 mostly concerns AKI and currently has moderate criterion validity, which might improve with increased use of "present on admission" coding, abandonment of the diabetes criteria, and adjustments to the indicator specifications regarding dialysis access and urinary tract obstruction.

17. **ARTÍCULO Nº: 3817**

Miller CJ, Grogan-Kaylor A, Perron BE, Kilbourne AM, Woltmann E, Bauer MS. ***Collaborative chronic care models for mental health conditions: cumulative meta-analysis and metaregression to guide future research and implementation.*** Med.Care. 2013; 51(10): 922-930.

OBJECTIVE: Prior meta-analysis indicates that collaborative chronic care models (CCMs) improve mental and physical health outcomes for individuals with mental disorders. This study aimed to investigate the stability of evidence over time and identify patient and intervention factors associated with CCM effects to facilitate implementation and sustainability of CCMs in clinical practice. METHODS: We reviewed 53 CCM trials that analyzed depression, mental quality of life (QOL), or physical QOL outcomes. Cumulative meta-analysis and metaregression were supplemented by descriptive investigations across and within trials. RESULTS: Most trials targeted depression in the primary care setting, and cumulative meta-analysis indicated that effect sizes favoring CCM quickly achieved significance for depression outcomes, and more recently achieved significance for mental and physical QOL. Four of 6 CCM elements (patient self-management support, clinical information systems, system redesign, and provider decision support) were common among reviewed trials, whereas 2 elements (health care organization support and linkages to community resources) were rare. No single CCM element was statistically associated with the success of the model. Similarly, metaregression did not identify specific factors associated with CCM effectiveness. Nonetheless, results within individual trials suggest that increased illness severity predicts CCM outcomes. CONCLUSIONS: Significant CCM trials have been derived primarily from 4 original CCM elements. Nonetheless, implementing and sustaining this established model will require health care organization support. Although CCMs have typically been tested as population-based interventions, evidence supports stepped care application to more severely ill individuals. Future priorities include developing implementation strategies to support adoption and sustainability of the model in clinical settings while maximizing fit of this multicomponent framework to local contextual factors.

18. **ARTÍCULO Nº: 3818**

Lopez A, Costa J. ***[Consensus guideline on the contents of clinical trial protocols].*** Med.Clin.(Barc.). 2013; 141(4): 161-162.

19. **ARTÍCULO Nº: 3819**

Cabello JB, Emparanza JI, Burls AJ. ***[Clinical teaching in the 21st century--the curriculum for evidence-based practice].*** Med.Clin.(Barc.). 2013; 141(5): 221-226.

20. **ARTÍCULO Nº: 3820**

Adam P, Permanyer-Miralda G. ***[Research in health sciences, co-responsibility and social impact].*** Med.Clin.(Barc.). 2013; 141(6): 254-256.

21. **ARTÍCULO Nº: 3821**

Díez-Manglano J***[Economic analysis of the treatment of heart failure with beta-blockers]***. Med.Clin.(Barc.). 2013; 141(6): 265-270.

22. **ARTÍCULO Nº: 3822**

Barbieri JS, Fuchs BD, Fishman N, Cutilli CC, Umscheid CA, Kean C et al. ***The Mortality Review Committee: a novel and scalable approach to reducing inpatient mortality***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(9): 387-395.

BACKGROUND: Despite the importance of reducing inpatient mortality, little has been reported about establishing a hospitalwide, systematic process to review and address inpatient deaths. In 2006 the University of Pennsylvania Health System's Mortality Review Committee was established and charged with reducing inpatient mortality as measured by the mortality index--observed/expected mortality. METHODS: Between 2006 and 2012, through interdisciplinary meetings and analysis of administrative data and chart reviews, the Mortality Review Committee identified a number of opportunities for improvement in the quality of patient care. Several programmatic interventions, such as those aimed at improving sepsis and delirium recognition and management, were initiated through the committee. RESULTS: During the committee's first six years of activity, the University HealthSystem Consortium (UHC) mortality index decreased from 1.08 to 0.53, with observed mortality decreasing from 2.45% to 1.62%. Interventions aimed at improving sepsis management implemented between 2007 and 2008 were associated with increases in severe sepsis survival from 40% to 56% and septic shock survival from 42% to 54%. The mortality index for sepsis decreased from 2.45 to 0.88. Efforts aimed at improving delirium management implemented between 2008 and 2009 were associated with an increase in the proportion of patients receiving a "timely" intervention from 18% to 57% and with a twofold increase in the percentage of patients discharged to home. DISCUSSION: The establishment of a mortality review committee was associated with a significant reduction in the mortality index. Keys to success include interdisciplinary membership, partnerships with local providers, and a multipronged approach to identifying important clinical opportunities and to implementing effective interventions.

23. **ARTÍCULO Nº: 3823**

Taylor AM, Chuo J, Figueroa-Altmann A, DiTaranto S, Shaw KN. ***Using four-phased unit-based patient safety walkrounds to uncover correctable system flaws***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(9): 396-403.

BACKGROUND: A unit-based Patient Safety Leadership Walkrounds (PSWR) model was deployed in six medical/surgical units at The Children's Hospital of Philadelphia to identify patient safety issues in the clinical microsystem. Specific objectives of PSWR were to (1) provide a forum for frontline staff to freely report and discuss patient safety problems with unit local leaders, (2) improve teamwork and communication within and across units, and (3) develop a supportive environment in which staff and leaders brainstorm on potential solutions. METHODS: Baseline data collection and discussion with leaders and staff from the pilot units were used to create a standard set of safety tools and questions. Through multiple Plan-Do-Study-Act cycles, safety tools and questions were refined, while the process of walkrounds in each of the six pilot units was customized. RESULTS: Leaders in all six pilot units indicated that PSWR helped them to uncover previously unidentified safety concerns. Top-impact areas included nurse-medical team relationship, work-flow flaws, equipment defects, staff education, and medication safety. The project engaged 149 individuals across all disciplines, including 33 physicians, and entailed 34 PSWR in its first year. Information from these pilot units initiated safety changes that spread across multiple units, with identification of hospital-wide quality and patient

safety issues. CONCLUSIONS: For participating units, the PSWR process is a situational awareness tool that helps management periodically assess new or unresolved vulnerabilities that may affect safety and care quality on the unit. Unit-based PSWR help identify safety concerns at the microsystem level while improving communication about safety events across units and to hospital leaders in the macrosystem.

24. **ARTÍCULO Nº: 3824**

Bergquist-Beringer S, Dong L, He J, Dunton N. ***Pressure ulcers and prevention among acute care hospitals in the United States***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(9): 404-414.

BACKGROUND: Most pressure ulcers can be prevented with evidence-based practice. Many studies describe the implementation of a pressure ulcer prevention program but few report the effect on outcomes across acute care facilities. METHODS: Data on hospital-acquired pressure ulcers and prevention from the National Database of Nursing Quality Indicators 2010 Pressure Ulcer Surveys were linked to hospital characteristics and nurse staffing measures within the data set. The sample consisted of 1,419 hospitals from across the United States and 710,626 patients who had been surveyed for pressure ulcers in adult critical care, step-down, medical, surgical, and medical/surgical units. Hierarchical logistic regression analysis was performed to identify study variables associated with hospital-acquired pressure ulcers among patients at risk for these ulcers. RESULTS: The rate of hospital-acquired pressure ulcers was 3.6% across all surveyed patients and 7.9% among those at risk. Patients who received a skin and pressure ulcer risk assessment on admission were less likely to develop a pressure ulcer. Additional study variables associated with lower hospital-acquired pressure ulcer rates included a recent reassessment of pressure ulcer risk, higher Braden Scale scores, a recent skin assessment, routine repositioning, and Magnet or Magnet-applicant designation. Variables associated with a higher likelihood of hospital-acquired pressure ulcers included nutritional support, moisture management, larger hospital size, and academic medical center status. CONCLUSIONS: Results provide empirical support for pressure ulcer prevention guideline recommendations on skin assessment, pressure ulcer risk assessment, and routine repositioning, but the 7.9% rate of hospital-acquired pressure ulcers among at-risk patients suggests room for improvement in pressure ulcer prevention practice.

25. **ARTÍCULO Nº: 3825**

Martin-Sanchez FJ, Marino-Genicio R, Rodriguez-Adrada E, Jacob J, Herrero P, Miro O et al. ***Management of Acute Heart Failure in Spanish Emergency Departments Based on Age***. Rev.Esp.Cardiol. 2013; 66(9): 715-720.

INTRODUCTION AND OBJECTIVES: To investigate possible age-related differences in the profile, clinical symptoms, management, and short-term outcomes of patients seen for acute heart failure in Spanish emergency departments. METHODS: We performed a multipurpose, multicenter study with prospective follow-up including all patients with acute heart failure attended in 29 Spanish emergency departments. The following variables were collected: demographic, personal history, geriatric syndromes, data of acute episode, discharge destination, in-hospital and 30-day mortality and 30-day revisit. The sample was divided into 4 age groups: <65, 65-74, 75-84, and >/=85 years. RESULTS: We included 5819 patients: 493 (8.5%) were <65 years old, 971 (16.7%) were 65-74 years old, 2407 (41.4%) were 75-84 years old, and 1948 (33.5%) were >/=85 years old; 4424 patients (76.5%) were admitted from the emergency department, 251 of whom (4.5%) died during hospitalization. Statistically significant differences were observed in relation to cardiovascular risk factors, comorbidities, geriatric syndromes, clinical presentation, and diagnostic and therapeutic procedures

based on an increase in the age of the groups. A statistically significant linear trend was observed between age group and the probability of hospital admission (P<.001), and hospital (P<.001) and 30-day mortality (P<.001). CONCLUSIONS: The management of acute heart failure in elderly patients requires a multidimensional approach which goes beyond merely cardiological aspects of treatment. Full English text available from:www.revespcardiol.org/en.

26. **ARTÍCULO Nº: 3826**

Mejia-Lancheros C, Estruch R, Martinez-Gonzalez MA, Salas-Salvado J, Corella D, Gomez-Gracia E et al. ***Socioeconomic Status and Health Inequalities for Cardiovascular Prevention Among Elderly Spaniards*** . Rev.Esp.Cardiol. 2013; 66(10): 803-811.

INTRODUCTION AND OBJECTIVES: Although it is known that social factors may introduce inequalities in cardiovascular health, data on the role of socioeconomic differences in the prescription of preventive treatment are scarce. We aimed to assess the relationship between the socioeconomic status of an elderly population at high cardiovascular risk and inequalities in receiving primary cardiovascular treatment, within the context of a universal health care system. METHODS: Cross-sectional study of 7447 individuals with high cardiovascular risk (57.5% women, mean age 67 years) who participated in the PREDIMED study, a clinical trial of nutritional interventions for cardiovascular prevention. Educational attainment was used as the indicator of socioeconomic status to evaluate differences in pharmacological treatment received for hypertension, diabetes, and dyslipidemia. RESULTS: Participants with the lowest socioeconomic status were more frequently women, older, overweight, sedentary, and less adherent to the Mediterranean dietary pattern. They were, however, less likely to smoke and drink alcohol. This socioeconomic subgroup had a higher proportion of coexisting cardiovascular risk factors. Multivariate analysis of the whole population found no differences between participants with middle and low levels of education in the drug treatment prescribed for 3 major cardiovascular risk factors (odds ratio [95% confidence interval]): hypertension (0.75 [0.56-1.00] vs 0.85 [0.65-1.10]); diabetic participants (0.86 [0.61-1.22] vs 0.90 [0.67-1.22]); and dyslipidemia (0.93 [0.75-1.15] vs 0.99 [0.82-1.19], respectively). CONCLUSIONS: In our analysis, socioeconomic differences did not affect the treatment prescribed for primary cardiovascular prevention in elderly patients in Spain. Free, universal health care based on a primary care model can be effective in reducing health inequalities related to socioeconomic status. Full English text available from:www.revespcardiol.org/en.

27. **ARTÍCULO Nº: 3827**

Antonanzas VF. ***[Non safety costs in the Spanish health care system].*** Rev.Esp.Salud Publica. 2013; 87(3): 283-292.

BACKGROUND: In the context of budgetary difficulties, the estimation of non safety costs is an additional tool that may be useful in the decision making process of the health system as well as to improve the health care management. Until now there is no study that has estimated the costs of non safety in Spain in an integral way. The objective of this article is to show a first approach to the calculation of the costs of non safety referred to the year 2011. METHOD: The study updated from the year 2005 an estimation of the costs of non safety affecting inpatients. Those costs referred to medication errors, to nosocomial infections and to surgical complications. The costs derived from the non safety related to outpatients are estimated from data obtained from the National Health Survey combined with other information of medication errors and their treatment costs that other authors calculated. RESULTS: Non safety costs were 2,474 million euros and 960 million euros for hospitalized

and non hospitalized patients respectively. CONCLUSIONS: This first estimation shows that non safety costs are about 6% of total public health expenditure.

28. **ARTÍCULO Nº: 3828**

Thompson IM, Jr., Goodman PJ, Tangen CM, Parnes HL, Minasian LM, Godley PA et al. ***Long-term survival of participants in the prostate cancer prevention trial.*** N.Engl.J.Med. 2013; 369(7): 603-610.

BACKGROUND: In the Prostate Cancer Prevention Trial (PCPT), finasteride significantly reduced the risk of prostate cancer but was associated with an increased risk of high-grade disease. With up to 18 years of follow-up, we analyzed rates of survival among all study participants and among those with prostate cancer. METHODS: We collected data on the incidence of prostate cancer among PCPT participants for an additional year after our first report was published in 2003 and searched the Social Security Death Index to assess survival status through October 31, 2011. RESULTS: Among 18,880 eligible men who underwent randomization, prostate cancer was diagnosed in 989 of 9423 (10.5%) in the finasteride group and 1412 of 9457 (14.9%) in the placebo group (relative risk in the finasteride group, 0.70; 95% confidence interval [CI], 0.65 to 0.76; P<0.001). Of the men who were evaluated, 333 (3.5%) in the finasteride group and 286 (3.0%) in the placebo group had high-grade cancer (Gleason score, 7 to 10) (relative risk, 1.17; 95% CI, 1.00 to 1.37; P=0.05). Of the men who died, 2538 were in the finasteride group and 2496 were in the placebo group, for 15-year survival rates of 78.0% and 78.2%, respectively. The unadjusted hazard ratio for death in the finasteride group was 1.02 (95% CI, 0.97 to 1.08; P=0.46). Ten-year survival rates were 83.0% in the finasteride group and 80.9% in the placebo group for men with low-grade prostate cancer and 73.0% and 73.6%, respectively, for those with high-grade prostate cancer. CONCLUSIONS: Finasteride reduced the risk of prostate cancer by about one third. High-grade prostate cancer was more common in the finasteride group than in the placebo group, but after 18 years of follow-up, there was no significant between-group difference in the rates of overall survival or survival after the diagnosis of prostate cancer. (Funded by the National Cancer Institute.).

29. **ARTÍCULO Nº: 3829**

Shaukat A, Mongin SJ, Geisser MS, Lederle FA, Bond JH, Mandel JS et al. ***Long-term mortality after screening for colorectal cancer.*** N.Engl.J.Med. 2013; 369(12): 1106-1114.

BACKGROUND: In randomized trials, fecal occult-blood testing reduces mortality from colorectal cancer. However, the duration of the benefit is unknown, as are the effects specific to age and sex. METHODS: In the Minnesota Colon Cancer Control Study, 46,551 participants, 50 to 80 years of age, were randomly assigned to usual care (control) or to annual or biennial screening with fecal occult-blood testing. Screening was performed from 1976 through 1982 and from 1986 through 1992. We used the National Death Index to obtain updated information on the vital status of participants and to determine causes of death through 2008. RESULTS: Through 30 years of follow-up, 33,020 participants (70.9%) died. A total of 732 deaths were attributed to colorectal cancer: 200 of the 11,072 deaths (1.8%) in the annual-screening group, 237 of the 11,004 deaths (2.2%) in the biennial-screening group, and 295 of the 10,944 deaths (2.7%) in the control group. Screening reduced colorectal-cancer mortality (relative risk with annual screening, 0.68; 95% confidence interval [CI], 0.56 to 0.82; relative risk with biennial screening, 0.78; 95% CI, 0.65 to 0.93) through 30 years of follow-up. No reduction was observed in all-cause mortality (relative risk with annual screening, 1.00; 95% CI, 0.99 to 1.01; relative risk with biennial screening, 0.99; 95% CI, 0.98 to 1.01). The reduction in colorectal-cancer mortality was larger for men than for women in the biennial-screening group (P=0.04 for interaction). CONCLUSIONS: The effect of screening with fecal occult-blood testing on colorectal-cancer mortality

persists after 30 years but does not influence all-cause mortality. The sustained reduction in colorectal-cancer mortality supports the effect of polypectomy. (Funded by the Veterans Affairs Merit Review Award Program and others.).

30. **ARTÍCULO Nº: 3830**

Wald DS, Morris JK, Wald NJ, Chase AJ, Edwards RJ, Hughes LO et al. ***Randomized trial of preventive angioplasty in myocardial infarction.*** N.Engl.J.Med. 2013; 369(12): 1115-1123.

BACKGROUND: In acute ST-segment elevation myocardial infarction (STEMI), the use of percutaneous coronary intervention (PCI) to treat the artery responsible for the infarct (infarct, or culprit, artery) improves prognosis. The value of PCI in noninfarct coronary arteries with major stenoses (preventive PCI) is unknown. METHODS: From 2008 through 2013, at five centers in the United Kingdom, we enrolled 465 patients with acute STEMI (including 3 patients with left bundle-branch block) who were undergoing infarct-artery PCI and randomly assigned them to either preventive PCI (234 patients) or no preventive PCI (231 patients). Subsequent PCI for angina was recommended only for refractory angina with objective evidence of ischemia. The primary outcome was a composite of death from cardiac causes, nonfatal myocardial infarction, or refractory angina. An intention-to-treat analysis was used. RESULTS: By January 2013, the results were considered conclusive by the data and safety monitoring committee, which recommended that the trial be stopped early. During a mean follow-up of 23 months, the primary outcome occurred in 21 patients assigned to preventive PCI and in 53 patients assigned to no preventive PCI (infarct-artery-only PCI), which translated into rates of 9 events per 100 patients and 23 per 100, respectively (hazard ratio in the preventive-PCI group, 0.35; 95% confidence interval [CI], 0.21 to 0.58; P<0.001). Hazard ratios for the three components of the primary outcome were 0.34 (95% CI, 0.11 to 1.08) for death from cardiac causes, 0.32 (95% CI, 0.13 to 0.75) for nonfatal myocardial infarction, and 0.35 (95% CI, 0.18 to 0.69) for refractory angina. CONCLUSIONS: In patients with STEMI and multivessel coronary artery disease undergoing infarct-artery PCI, preventive PCI in noninfarct coronary arteries with major stenoses significantly reduced the risk of adverse cardiovascular events, as compared with PCI limited to the infarct artery. (Funded by Barts and the London Charity; PRAMI Current Controlled Trials number, ISRCTN73028481.).

31. **ARTÍCULO Nº: 3831**

Tsai TC, Joynt KE, Orav EJ, Gawande AA, Jha AK. ***Variation in surgical-readmission rates and quality of hospital care.*** N.Engl.J.Med. 2013; 369(12): 1134-1142.

BACKGROUND: Reducing hospital-readmission rates is a clinical and policy priority, but little is known about variation in rates of readmission after major surgery and whether these rates at a given hospital are related to other markers of the quality of surgical care. METHODS: Using national Medicare data, we calculated 30-day readmission rates after hospitalization for coronary-artery bypass grafting, pulmonary lobectomy, endovascular repair of abdominal aortic aneurysm, open repair of abdominal aortic aneurysm, colectomy, and hip replacement. We used bivariate and multivariate techniques to assess the relationships between readmission rates and other measures of surgical quality, including adherence to surgical process measures, procedure volume, and mortality. RESULTS: For the six index procedures, there were 479,471 discharges from 3004 hospitals. The median risk-adjusted composite readmission rate at 30 days was 13.1% (interquartile range, 9.9 to 17.1). In a multivariate model adjusting for hospital characteristics, we found that hospitals in the highest quartile for surgical volume had a significantly lower composite readmission rate than hospitals in the lowest quartile (12.7% vs. 16.8%, P<0.001), and hospitals with the lowest surgical mortality rates had a significantly lower readmission rate than hospitals with the highest mortality rates (13.3% vs. 14.2%, P<0.001).

High adherence to reported surgical process measures was only marginally associated with reduced readmission rates (highest quartile vs. lowest quartile, 13.1% vs. 13.6%; P=0.02). Patterns were similar when each of the six major surgical procedures was examined individually. CONCLUSIONS: Nearly one in seven patients hospitalized for a major surgical procedure is readmitted to the hospital within 30 days after discharge. Hospitals with high surgical volume and low surgical mortality have lower rates of surgical readmission than other hospitals.

32. **ARTÍCULO Nº: 3832**

Eikelboom JW, Connolly SJ, Brueckmann M, Granger CB, Kappetein AP, Mack MJ et al. ***Dabigatran versus warfarin in patients with mechanical heart valves***. N.Engl.J.Med. 2013; 369(13): 1206-1214.

BACKGROUND: Dabigatran is an oral direct thrombin inhibitor that has been shown to be an effective alternative to warfarin in patients with atrial fibrillation. We evaluated the use of dabigatran in patients with mechanical heart valves. METHODS: In this phase 2 dose-validation study, we studied two populations of patients: those who had undergone aortic- or mitral-valve replacement within the past 7 days and those who had undergone such replacement at least 3 months earlier. Patients were randomly assigned in a 2:1 ratio to receive either dabigatran or warfarin. The selection of the initial dabigatran dose (150, 220, or 300 mg twice daily) was based on kidney function. Doses were adjusted to obtain a trough plasma level of at least 50 ng per milliliter. The warfarin dose was adjusted to obtain an international normalized ratio of 2 to 3 or 2.5 to 3.5 on the basis of thromboembolic risk. The primary end point was the trough plasma level of dabigatran. RESULTS: The trial was terminated prematurely after the enrollment of 252 patients because of an excess of thromboembolic and bleeding events among patients in the dabigatran group. In the as-treated analysis, dose adjustment or discontinuation of dabigatran was required in 52 of 162 patients (32%). Ischemic or unspecified stroke occurred in 9 patients (5%) in the dabigatran group and in no patients in the warfarin group; major bleeding occurred in 7 patients (4%) and 2 patients (2%), respectively. All patients with major bleeding had pericardial bleeding. CONCLUSIONS: The use of dabigatran in patients with mechanical heart valves was associated with increased rates of thromboembolic and bleeding complications, as compared with warfarin, thus showing no benefit and an excess risk. (Funded by Boehringer Ingelheim; ClinicalTrials.gov numbers, NCT01452347 and NCT01505881.).

33. **ARTÍCULO Nº: 3833**

Bhala N, Emberson J, Merhi A, Abramson S, Arber N, Baron JA et al. ***Vascular and upper gastrointestinal effects of non-steroidal anti-inflammatory drugs: meta-analyses of individual participant data from randomised trials***. Lancet. 2013; 382(9894): 769-779.

BACKGROUND: The vascular and gastrointestinal effects of non-steroidal anti-inflammatory drugs (NSAIDs), including selective COX-2 inhibitors (coxibs) and traditional non-steroidal anti-inflammatory drugs (tNSAIDs), are not well characterised, particularly in patients at increased risk of vascular disease. We aimed to provide such information through meta-analyses of randomised trials. METHODS: We undertook meta-analyses of 280 trials of NSAIDs versus placebo (124,513 participants, 68,342 person-years) and 474 trials of one NSAID versus another NSAID (229,296 participants, 165,456 person-years). The main outcomes were major vascular events (non-fatal myocardial infarction, non-fatal stroke, or vascular death); major coronary events (non-fatal myocardial infarction or coronary death); stroke; mortality; heart failure; and upper gastrointestinal complications (perforation, obstruction, or bleed). FINDINGS: Major vascular events were increased by about a third by a coxib (rate ratio [RR] 1.37, 95% CI 1.14-1.66; p=0.0009) or diclofenac (1.41, 1.12-1.78; p=0.0036), chiefly due to an increase in major coronary events (coxibs 1.76, 1.31-2.37; p=0.0001; diclofenac 1.70,

1.19-2.41; p=0.0032). Ibuprofen also significantly increased major coronary events (2.22, 1.10-4.48; p=0.0253), but not major vascular events (1.44, 0.89-2.33). Compared with placebo, of 1000 patients allocated to a coxib or diclofenac for a year, three more had major vascular events, one of which was fatal. Naproxen did not significantly increase major vascular events (0.93, 0.69-1.27). Vascular death was increased significantly by coxibs (1.58, 99% CI 1.00-2.49; p=0.0103) and diclofenac (1.65, 0.95-2.85, p=0.0187), non-significantly by ibuprofen (1.90, 0.56-6.41; p=0.17), but not by naproxen (1.08, 0.48-2.47, p=0.80). The proportional effects on major vascular events were independent of baseline characteristics, including vascular risk. Heart failure risk was roughly doubled by all NSAIDs. All NSAID regimens increased upper gastrointestinal complications (coxibs 1.81, 1.17-2.81, p=0.0070; diclofenac 1.89, 1.16-3.09, p=0.0106; ibuprofen 3.97, 2.22-7.10, p<0.0001; and naproxen 4.22, 2.71-6.56, p<0.0001). INTERPRETATION: The vascular risks of high-dose diclofenac, and possibly ibuprofen, are comparable to coxibs, whereas high-dose naproxen is associated with less vascular risk than other NSAIDs. Although NSAIDs increase vascular and gastrointestinal risks, the size of these risks can be predicted, which could help guide clinical decision making. FUNDING: UK Medical Research Council and British Heart Foundation.

34. **ARTÍCULO Nº: 3834**

Leucht S, Cipriani A, Spineli L, Mavridis D, Orey D, Richter F et al. ***Comparative efficacy and tolerability of 15 antipsychotic drugs in schizophrenia: a multiple-treatments meta-analysis***. Lancet. 2013; 382(9896): 951-962.

BACKGROUND: The question of which antipsychotic drug should be preferred for the treatment of schizophrenia is controversial, and conventional pairwise meta-analyses cannot provide a hierarchy based on the randomised evidence. We aimed to integrate the available evidence to create hierarchies of the comparative efficacy, risk of all-cause discontinuation, and major side-effects of antipsychotic drugs. METHODS: We did a Bayesian-framework, multiple-treatments meta-analysis (which uses both direct and indirect comparisons) of randomised controlled trials to compare 15 antipsychotic drugs and placebo in the acute treatment of schizophrenia. We searched the Cochrane Schizophrenia Group's specialised register, Medline, Embase, the Cochrane Central Register of Controlled Trials, and ClinicalTrials.gov for reports published up to Sept 1, 2012. Search results were supplemented by reports from the US Food and Drug Administration website and by data requested from pharmaceutical companies. Blinded, randomised controlled trials of patients with schizophrenia or related disorders were eligible. We excluded trials done in patients with predominant negative symptoms, concomitant medical illness, or treatment resistance, and those done in stable patients. Data for seven outcomes were independently extracted by two reviewers. The primary outcome was efficacy, as measured by mean overall change in symptoms. We also examined all-cause discontinuation, weight gain, extrapyramidal side-effects, prolactin increase, QTc prolongation, and sedation. FINDINGS: We identified 212 suitable trials, with data for 43 049 participants. All drugs were significantly more effective than placebo. The standardised mean differences with 95% credible intervals were: clozapine 0.88, 0.73-1.03; amisulpride 0.66, 0.53-0.78; olanzapine 0.59, 0.53-0.65; risperidone 0.56, 0.50-0.63; paliperidone 0.50, 0.39-0.60; zotepine 0.49, 0.31-0.66; haloperidol 0.45, 0.39-0.51; quetiapine 0.44, 0.35-0.52; aripiprazole 0.43, 0.34-0.52; sertindole 0.39, 0.26-0.52; ziprasidone 0.39, 0.30-0.49; chlorpromazine 0.38, 0.23-0.54; asenapine 0.38, 0.25-0.51; lurasidone 0.33, 0.21-0.45; and iloperidone 0.33, 0.22-0.43. Odds ratios compared with placebo for all-cause discontinuation ranged from 0.43 for the best drug (amisulpride) to 0.80 for the worst drug (haloperidol); for extrapyramidal side-effects 0.30 (clozapine) to 4.76 (haloperidol); and for sedation 1.42 (amisulpride) to 8.82 (clozapine). Standardised mean differences compared with placebo for weight gain varied from -0.09 for the best drug (haloperidol) to -0.74 for the worst drug (olanzapine),

for prolactin increase 0.22 (aripiprazole) to -1.30 (paliperidone), and for QTc prolongation 0.10 (lurasidone) to -0.90 (sertindole). Efficacy outcomes did not change substantially after removal of placebo or haloperidol groups, or when dose, percentage of withdrawals, extent of blinding, pharmaceutical industry sponsorship, study duration, chronicity, and year of publication were accounted for in meta-regressions and sensitivity analyses. INTERPRETATION: Antipsychotics differed substantially in side-effects, and small but robust differences were seen in efficacy. Our findings challenge the straightforward classification of antipsychotics into first-generation and second-generation groupings. Rather, hierarchies in the different domains should help clinicians to adapt the choice of antipsychotic drug to the needs of individual patients. These findings should be considered by mental health policy makers and in the revision of clinical practice guidelines. FUNDING: None.

35. **ARTÍCULO Nº: 3835**

Tusting LS, Willey B, Lucas H, Thompson J, Kafy HT, Smith R et al. ***Socioeconomic development as an intervention against malaria: a systematic review and meta-analysis***. Lancet. 2013; 382(9896): 963-972.

BACKGROUND: Future progress in tackling malaria mortality will probably be hampered by the development of resistance to drugs and insecticides and by the contraction of aid budgets. Historically, control was often achieved without malaria-specific interventions. Our aim was to assess whether socioeconomic development can contribute to malaria control. METHODS: We did a systematic review and meta-analysis to assess whether the risk of malaria in children aged 0-15 years is associated with socioeconomic status. We searched Medline, Web of Science, Embase, the Cochrane Database of Systematic Reviews, the Campbell Library, the Centre for Reviews and Dissemination, Health Systems Evidence, and the Evidence for Policy and Practice Information and Co-ordinating Centre evidence library for studies published in English between Jan 1, 1980, and July 12, 2011, that measured socioeconomic status and parasitologically confirmed malaria or clinical malaria in children. Unadjusted and adjusted effect estimates were combined in fixed-effects and random-effects meta-analyses, with a subgroup analysis for different measures of socioeconomic status. We used funnel plots and Egger's linear regression to test for publication bias. FINDINGS: Of 4696 studies reviewed, 20 met the criteria for inclusion in the qualitative analysis, and 15 of these reported the necessary data for inclusion in the meta-analysis. The odds of malaria infection were higher in the poorest children than in the least poor children (unadjusted odds ratio [OR] 1.66, 95% CI 1.35-2.05, p<0.001, I(2)=68%; adjusted OR 2.06, 1.42-2.97, p<0.001, I(2)=63%), an effect that was consistent across subgroups. INTERPRETATION: Although we would not recommend discontinuation of existing malaria control efforts, we believe that increased investment in interventions to support socioeconomic development is warranted, since such interventions could prove highly effective and sustainable against malaria in the long term. FUNDING: UK Department for International Development.

36. **ARTÍCULO Nº: 3836**

Hunt LP, Ben-Shlomo Y, Clark EM, Dieppe P, Judge A, MacGregor AJ et al. ***90-day mortality after 409,096 total hip replacements for osteoarthritis, from the National Joint Registry for England and Wales: a retrospective analysis***. Lancet. 2013; 382(9898): 1097-1104.

BACKGROUND: Death within 90 days after total hip replacement is rare but might be avoidable dependent on patient and treatment factors. We assessed whether a secular decrease in death caused by hip replacement has occurred in England and Wales and whether modifiable perioperative

factors exist that could reduce deaths. METHODS: We took data about hip replacements done in England and Wales between April, 2003, and December, 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 90 days of operation by Kaplan-Meier analysis and assessed the role of patient and treatment factors by Cox proportional hazards model. FINDINGS: 409,096 primary hip replacements were done to treat osteoarthritis. 1743 patients died within 90 days of surgery during 8 years, with a substantial secular decrease in mortality, from 0.56% in 2003 to 0.29% in 2011, even after adjustment for age, sex, and comorbidity. Several modifiable clinical factors were associated with decreased mortality according to an adjusted model: posterior surgical approach (hazard ratio [HR] 0.82, 95% CI 0.73-0.92; p=0.001), mechanical thromboprophylaxis (0.85, 0.74-0.99; p=0.036), chemical thromboprophylaxis with heparin with or without aspirin (0.79, 0.66-0.93; p=0.005), and spinal versus general anaesthetic (0.85, 0.74-0.97; p=0.019). Type of prosthesis was unrelated to mortality. Being overweight was associated with lower mortality (0.76, 0.62-0.92; p=0.006). INTERPRETATION: Postoperative mortality after hip joint replacement has fallen substantially. Widespread adoption of four simple clinical management strategies (posterior surgical approach, mechanical and chemical prophylaxis, and spinal anaesthesia) could, if causally related, reduce mortality further. FUNDING: National Joint Registry for England and Wales.

37. **ARTÍCULO Nº: 3837**

Birkmeyer JD, Reames BN, McCulloch P, Carr AJ, Campbell WB, Wennberg JE. ***Understanding of regional variation in the use of surgery***. Lancet. 2013; 382(9898): 1121-1129.

The use of common surgical procedures varies widely across regions. Differences in illness burden, diagnostic practices, and patient attitudes about medical intervention explain only a small degree of regional variation in surgery rates. Evidence suggests that surgical variation results mainly from differences in physician beliefs about the indications for surgery, and the extent to which patient preferences are incorporated into treatment decisions. These two components of clinical decision making help to explain the so-called surgical signatures of specific procedures, and why some consistently vary more than others. Variation in clinical decision making is, in turn, affected by broad environmental factors, including technology diffusion, supply of specialists, local training frameworks, financial incentives, and regulatory factors, which vary across countries. Better scientific evidence about the comparative effectiveness of surgical and non-surgical interventions could help to mitigate regional variation, but broader dissemination of shared decision aids will be essential to reduce variation in preference-sensitive disorders.

38. **ARTÍCULO Nº: 3838**

McCulloch P, Nagendran M, Campbell WB, Price A, Jani A, Birkmeyer JD et al. ***Strategies to reduce variation in the use of surgery***. Lancet. 2013; 382(9898): 1130-1139.

Provision rates for surgery vary widely in relation to identifiable need, suggesting that reduction of this variation might be appropriate. The definition of unwarranted variation is difficult because the boundaries of acceptable practice are wide, and information about patient preference is lacking. Very little direct research evidence exists on the modification of variations in surgery rates, so inferences must be drawn from research on the alteration of overall rates. The available evidence has large gaps, which suggests that some proposed strategies produce only marginal change. Micro-level interventions target decision making that affects individuals, whereas macro-level interventions target health-care systems with the use of financial, regulatory, or incentivisation strategies. Financial and

regulatory changes can have major effects on provision rates, but these effects are often complex and can include unintended adverse effects. The net effects of micro-level strategies (such as improvement of evidence and dissemination of evidence, and support for shared decision making) can be smaller, but better directed. Further research is needed to identify what level of variation in surgery rates is appropriate in a specific context, and how variation can be reduced where desirable.

39. **ARTÍCULO Nº: 3839**

Little P, Stuart B, Francis N, Douglas E, Tonkin-Crine S, Anthierens S et al. ***Effects of internet-based training on antibiotic prescribing rates for acute respiratory-tract infections: a multinational, cluster, randomised, factorial, controlled trial.*** Lancet. 2013; 382(9899): 1175-1182.

BACKGROUND: High-volume prescribing of antibiotics in primary care is a major driver of antibiotic resistance. Education of physicians and patients can lower prescribing levels, but it frequently relies on highly trained staff. We assessed whether internet-based training methods could alter prescribing practices in multiple health-care systems. METHODS: After a baseline audit in October to December, 2010, primary-care practices in six European countries were cluster randomised to usual care, training in the use of a C-reactive protein (CRP) test at point of care, in enhanced communication skills, or in both CRP and enhanced communication. Patients were recruited from February to May, 2011. This trial is registered, number ISRCTN99871214. RESULTS: The baseline audit, done in 259 practices, provided data for 6771 patients with lower-respiratory-tract infections (3742 [55.3%]) and upper-respiratory-tract infections (1416 [20.9%]), of whom 5355 (79.1%) were prescribed antibiotics. After randomisation, 246 practices were included and 4264 patients were recruited. The antibiotic prescribing rate was lower with CRP training than without (33% vs 48%, adjusted risk ratio 0.54, 95% CI 0.42-0.69) and with enhanced-communication training than without (36% vs 45%, 0.69, 0.54-0.87). The combined intervention was associated with the greatest reduction in prescribing rate (CRP risk ratio 0.53, 95% CI 0.36-0.74, p<0.0001; enhanced communication 0.68, 0.50-0.89, p=0.003; combined 0.38, 0.25-0.55, p<0.0001). INTERPRETATION: Internet training achieved important reductions in antibiotic prescribing for respiratory-tract infections across language and cultural boundaries. FUNDING: European Commission Framework Programme 6, National Institute for Health Research, Research Foundation Flanders.

40. **ARTÍCULO Nº: 3840**

Espuga M. ***Rutas asistenciales, ¿mejoran la atención al paciente?*** FMC. 2013; 20(9): 503-505.

41. **ARTÍCULO Nº: 3841**

Bertomeu V, Cequier A, Bernal JL, Alfonso F, Anguita MP, Muniz J et al. ***In-hospital Mortality Due to Acute Myocardial Infarction. Relevance of Type of Hospital and Care Provided. RECALCAR Study***. Rev.Esp.Cardiol. 2013; 66(12): 935-942.

INTRODUCTION AND OBJECTIVES: To investigate the relationship between in-hospital mortality due to acute myocardial infarction and type of hospital, discharge service, and treatment provided. METHODS: Retrospective analysis of 100 993 hospital discharges with a principal diagnosis of myocardial infarction in hospitals of the Spanish National Health Service. In-hospital mortality was adjusted for risk following the models of the Institute for Clinical Evaluative Sciences (Canada) and the Centers for Medicare & Medicaid Services (United States). RESULTS: Hospital characteristics are relevant to explain the variation in the individual probability of dying from myocardial infarction (median odds ratio: 1.3561). The risk-adjusted in-hospital mortality in cluster 3 and especially in cluster 4 hospitals (500 beds to 1000 beds and medium-high complexity) was significantly lower than

in hospitals with less than 200 beds. Cluster 5 (more than 1000 beds), which includes a diverse group of hospitals, had a higher mortality rate than clusters 3 and 4. The adjusted mortality in the groups with the best and worst outcomes was 6.74% (cluster 4) and 8.49% (cluster 1), respectively. Mortality was also lower when the cardiology unit was responsible for the discharge or when angioplasty had been performed. CONCLUSIONS: The typology of the hospital, treatment in a cardiology unit, and percutaneous coronary intervention are significantly associated with the survival of a patient hospitalized for myocardial infarction. We recommend that the Spanish National Health Service establish health care networks that favor percutaneous coronary intervention and the participation of cardiology units in the management of patients with acute myocardial infarction. Full English text available from:www.revespcardiol.org/en.

42. **ARTÍCULO Nº: 3842**

Van DD, Franx G, Van WB, Van Der GM, Van WJ, Slooff C et al. ***Bridging the science-to-service gap in schizophrenia care in the Netherlands: the Schizophrenia Quality Improvement Collaborative***. Int.J.Qual.Health Care. 2013; 25(6): 626-632.

OBJECTIVE: Many patients with schizophrenia are not treated in line with evidence-based guidelines. This study examines the large-scale implementation of the National Multidisciplinary Guideline for schizophrenia in the Netherlands. DESIGN: /st> Observational, prospective study, with repeated measurement. SETTING: Thirty mental healthcare teams in different regions of the Netherlands. PARTICIPANTS: Three hundred and fifty-nine clinicians with different professional backgrounds and 1489 patients suffering from schizophrenia. INTERVENTION(S): Six evidence-based interventions for schizophrenia were implemented, in the context of a quality improvement collaborative: assertive community treatment (ACT) or its adapted version functional assertive community treatment (FACT), cognitive behavioural therapy, psycho-education, family interventions, individual placement support and pharmacotherapy. MAIN OUTCOME MEASURE(S): Professional performance, social functioning and relapse rates. RESULTS: Improved professional performance, in line with guidelines. Availability of (F)ACT improved from 23 to 60%. Individual Placement Support improved from 20 to 53%. Complete care plans were composed for 38% of the patients and routine outcome monitoring was introduced in most teams. Social functioning improved slightly (HoNOS mean: from 6.2 to 5.6). Relapse rates did not improve during the course of the study. CONCLUSIONS: An intensive implementation programme can result in an improved delivery of evidence-based care, increased continuity of care and slightly improved outcomes for individuals with schizophrenia. More rigorous research designs have to confirm these findings.

43. **ARTÍCULO Nº: 3843**

Hall RE, Khan F, Bayley MT, Asllani E, Lindsay P, Hill MD et al. ***Benchmarks for acute stroke care delivery***. Int.J.Qual.Health Care. 2013; 25(6): 710-718.

OBJECTIVE: Despite widespread interest in many jurisdictions in monitoring and improving the quality of stroke care delivery, benchmarks for most stroke performance indicators have not been established. The objective of this study was to develop data-derived benchmarks for acute stroke quality indicators. DESIGN: Nine key acute stroke quality indicators were selected from the Canadian Stroke Best Practice Performance Measures Manual. PARTICIPANTS: A population-based retrospective sample of patients discharged from 142 hospitals in Ontario, Canada, between 1 April 2008 and 31 March 2009 (N = 3191) was used to calculate hospital rates of performance and benchmarks. INTERVENTION: The Achievable Benchmark of Care (ABC) methodology was used to create benchmarks based on the performance of the upper 15% of patients in the top-performing hospitals.

MAIN OUTCOME MEASURES: Benchmarks were calculated for rates of neuroimaging, carotid imaging, stroke unit admission, dysphasia screening and administration of stroke-related medications. RESULTS: The following benchmarks were derived: neuroimaging within 24 h, 98%; admission to a stroke unit, 77%; thrombolysis among patients arriving within 2.5 h, 59%; carotid imaging, 93%; dysphagia screening, 88%; antithrombotic therapy, 98%; anticoagulation for atrial fibrillation, 94%; antihypertensive therapy, 92% and lipid-lowering therapy, 77%. ABC acute stroke care benchmarks achieve or exceed the consensus-based targets required by Accreditation Canada, with the exception of dysphagia screening. CONCLUSIONS: Benchmarks for nine hospital-based acute stroke care quality indicators have been established. These can be used in the development of standards for quality improvement initiatives.

44. **ARTÍCULO Nº: 3844**

Taylor KL, Williams RM, Davis K, Luta G, Penek S, Barry S et al. ***Decision making in prostate cancer screening using decision aids vs usual care: a randomized clinical trial***. JAMA Intern.Med. 2013; 173(18): 1704-1712.

IMPORTANCE: The conflicting recommendations for prostate cancer (PCa) screening and the mixed messages communicated to the public about screening effectiveness make it critical to assist men in making informed decisions. OBJECTIVE: To assess the effectiveness of 2 decision aids in helping men make informed PCa screening decisions. DESIGN, SETTING, AND PARTICIPANTS: A racially diverse group of male outpatients aged 45 to 70 years from 3 sites were interviewed by telephone at baseline, 1 month, and 13 months, from 2007 through 2011. We conducted intention-to-treat univariate analyses and multivariable linear and logistic regression analyses, adjusting for baseline outcome measures. INTERVENTION: Random assignment to print-based decision aid (n = 628), web-based interactive decision aid (n = 625), or usual care (UC) (n = 626). MAIN OUTCOMES AND MEASURES: Prostate cancer knowledge, decisional conflict, decisional satisfaction, and whether participants underwent PCa screening. RESULTS: Of 4794 eligible men approached, 1893 were randomized. At each follow-up assessment, univariate and multivariable analyses indicated that both decision aids resulted in significantly improved PCa knowledge and reduced decisional conflict compared with UC (all P <.001). At 1 month, the standardized mean difference (Cohen's d) in knowledge for the web group vs UC was 0.74, and in the print group vs UC, 0.73. Decisional conflict was significantly lower for web vs UC (d = 0.33) and print vs UC (d = 0.36). At 13 months, these differences were smaller but remained significant. At 1 month, high satisfaction was reported by significantly more print (60.4%) than web participants (52.2%; P = .009) and significantly more web (P = .001) and print (P = .03) than UC participants (45.5%). At 13 months, differences in the proportion reporting high satisfaction among print (55.7%) compared with UC (49.8%; P = .06) and web participants (50.4%; P = .10) were not significant. Screening rates at 13 months did not differ significantly among groups. CONCLUSIONS AND RELEVANCE: Both decision aids improved participants' informed decision making about PCa screening up to 13 months later but did not affect actual screening rates. Dissemination of these decision aids may be a valuable public health tool. TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT00196807.

45. **ARTÍCULO Nº: 3845**

Horwitz LI, Moriarty JP, Chen C, Fogerty RL, Brewster UC, Kanade S et al. ***Quality of discharge practices and patient understanding at an academic medical center***. JAMA Intern.Med. 2013; 173(18): 1715-1722.

IMPORTANCE: With growing national focus on reducing readmissions, there is a need to comprehensively assess the quality of transitional care, including discharge practices, patient

perspectives, and patient understanding. OBJECTIVE: To conduct a multifaceted evaluation of transitional care from a patient-centered perspective. DESIGN: Prospective observational cohort study, May 2009 through April 2010. SETTING: Urban, academic medical center. PARTICIPANTS: Patients 65 years and older discharged home after hospitalization for acute coronary syndrome, heart failure, or pneumonia. MAIN OUTCOMES AND MEASURES: Discharge practices, including presence of follow-up appointment and patient-friendly discharge instructions; patient understanding of diagnosis and follow-up appointment; and patient perceptions of and satisfaction with discharge care. RESULTS: The 395 enrolled patients (66.7% of those eligible) had a mean age of 77.2 years. Although 349 patients (95.6%) reported understanding the reason they had been in the hospital, only 218 patients (59.6%) were able to accurately describe their diagnosis in postdischarge interviews. Discharge instructions routinely included symptoms to watch out for (98.4%), activity instructions (97.3%), and diet advice (89.7%) in lay language; however, 99 written reasons for hospitalization (26.3%) did not use language likely to be intelligible to patients. Of the 123 patients (32.6%) discharged with a scheduled primary care or cardiology appointment, 54 (43.9%) accurately recalled details of either appointment. During postdischarge interviews, 118 patients (30.0%) reported receiving less than 1 day's advance notice of discharge, and 246 (66.1%) reported that staff asked whether they would have the support they needed at home before discharge. CONCLUSIONS AND RELEVANCE: Patient perceptions of discharge care quality and self-rated understanding were high, and written discharge instructions were generally comprehensive although not consistently clear. However, follow-up appointments and advance discharge planning were deficient, and patient understanding of key aspects of postdischarge care was poor. Patient perceptions and written documentation do not adequately reflect patient understanding of discharge care.

46. **ARTÍCULO Nº: 3846**

Reuland DS, Pignone M. ***Improving the quality of decision-making processes for prostate cancer screening: progress and challenges***. JAMA Intern.Med. 2013; 173(18): 1713-1714.

47. **ARTÍCULO Nº: 3847**

Grande D, Mitra N, Shah A, Wan F, Asch DA. ***Public preferences about secondary uses of electronic health information***. JAMA Intern.Med. 2013; 173(19): 1798-1806.

IMPORTANCE: As health information technology grows, secondary uses of personal health information offer promise in advancing research, public health, and health care. Public perceptions about sharing personal health data are important for establishing and evaluating ethical and regulatory structures to oversee the use of these data. OBJECTIVE: To measure patient preferences about sharing their electronic health information for secondary purposes (other than their own health care). DESIGN, SETTING, AND PARTICIPANTS: In this conjoint analysis study, we surveyed 3336 adults (568 Hispanic, 500 non-Hispanic African American, and 2268 non-Hispanic white); participants were randomized to 6 of 18 scenarios describing secondary uses of electronic health information, constructed with 3 attributes: uses (research, quality improvement, or commercial marketing), users (university hospitals, commercial enterprises, or public health departments), and data sensitivity (whether it included genetic information about their own cancer risk). This design enabled participants to reveal their preferences for secondary uses of their personal health information. MAIN OUTCOMES AND MEASURES: Participants responded to each conjoint scenario by rating their willingness to share their electronic personal health information on a 1 to 10 scale (1 represents low willingness; 10, high willingness). Conjoint analysis yields importance weights reflecting the contribution of a dimension (use, user, or sensitivity) to willingness to share personal health information. RESULTS: The use of data was a more important factor in the conjoint analysis (importance weight, 64.3%) than the user

(importance weight, 32.6%) and data sensitivity (importance weight, 3.1%). In unadjusted linear regression models, marketing uses (beta = -1.55), quality improvement uses (beta = -0.51), drug company users (beta = -0.80), and public health department users (beta = -0.52) were associated with less willingness to share health information than research uses and university hospital users (all P < .001). Hispanics and African Americans differentiated less than whites between uses. CONCLUSIONS AND RELEVANCE: Participants cared most about the specific purpose for using their health information, although differences were smaller among racial and ethnic minorities. The user of the information was of secondary importance, and the sensitivity was not a significant factor. These preferences should be considered in policies governing secondary uses of health information.

48. **ARTÍCULO Nº: 3848**

Khan NA, Daskalopoulou SS, Karp I, Eisenberg MJ, Pelletier R, Tsadok MA et al. ***Sex differences in acute coronary syndrome symptom presentation in young patients***. JAMA Intern.Med. 2013; 173(20): 1863-1871.

IMPORTANCE: Little is known about whether sex differences in acute coronary syndrome (ACS) presentation exist in young patients and what factors determine absence of chest pain in ACS presentation. OBJECTIVES: To evaluate sex differences in ACS presentation and to estimate associations between sex, sociodemographic, gender identity, psychosocial and clinical factors, markers of coronary disease severity, and absence of chest pain in young patients with ACS. DESIGN, SETTING, PARTICIPANTS: We conducted a prospective cohort study of 1015 patients (30% women) 55 years or younger, hospitalized for ACS and enrolled in the GENESIS PRAXY (Gender and Sex Determinants of Cardiovascular Disease: From Bench to Beyond Premature Acute Coronary Syndrome) study (January 2009-September 2012). MAIN OUTCOMES AND MEASURES: The McSweeney Acute and Prodromal Myocardial Infarction Symptom Survey was administered during hospitalization. RESULTS: The median age for both sexes was 49 years. Women were more likely to have non-ST-segment elevation myocardial infarction (37.5 vs 30.7; P = .03) and present without chest pain compared with men (19.0% vs 13.7%; P = .03). Patients without chest pain reported fewer symptoms overall and no discernable pattern of non-chest pain symptoms was found. In the multivariate model, being a woman (odds ratio [OR], 1.95 [95% CI, 1.23-3.11]; P = .005) and tachycardia (OR, 2.07 [95% CI, 1.20-3.56]; P = .009) were independently associated with ACS presentation without chest pain. Patients without chest pain did not differ significantly from those with chest pain in terms of ACS type, troponin level elevation, or coronary stenosis. CONCLUSIONS AND RELEVANCE: Chest pain was the most common ACS symptom in both sexes. Although women were more likely to present without chest pain than men, absence of chest pain was not associated with markers of coronary disease severity. Strategies that explicitly incorporate assessment of common non-chest pain symptoms need to be evaluated.

49. **ARTÍCULO Nº: 3849**

Nyweide DJ, Anthony DL, Bynum JP, Strawderman RL, Weeks WB, Casalino LP et al. ***Continuity of care and the risk of preventable hospitalization in older adults***. JAMA Intern.Med. 2013; 173(20): 1879-1885.

IMPORTANCE: Preventable hospitalizations are common among older adults for reasons that are not well understood. OBJECTIVE: To determine whether Medicare patients with ambulatory visit patterns indicating higher continuity of care have a lower risk of preventable hospitalization. DESIGN: Retrospective cohort study. SETTING: Ambulatory visits and hospital admissions. PARTICIPANTS: Continuously enrolled fee-for-service Medicare beneficiaries older than 65 years with at least 4 ambulatory visits in 2008. EXPOSURES: The concentration of patient visits with physicians measured

for up to 24 months using the continuity of care score and usual provider continuity score on a scale from 0 to 1. MAIN OUTCOMES AND MEASURES: Index occurrence of any 1 of 13 preventable hospital admissions, censoring patients at the end of their 24-month follow-up period if no preventable hospital admissions occurred, or if they died. RESULTS: Of the 3,276,635 eligible patients, 12.6% had a preventable hospitalization during their 2-year observation period, most commonly for congestive heart failure (25%), bacterial pneumonia (22.7%), urinary infection (14.9%), or chronic obstructive pulmonary disease (12.5%). After adjustment for patient baseline characteristics and market-level factors, a 0.1 increase in continuity of care according to either continuity metric was associated with about a 2% lower rate of preventable hospitalization (continuity of care score hazard ratio [HR], 0.98 [95% CI, 0.98-0.99; usual provider continuity score HR, 0.98 [95% CI, 0.98-0.98). Continuity of care was not related to mortality rates. CONCLUSIONS AND RELEVANCE: Among fee-for-service Medicare beneficiaries older than 65 years, higher continuity of ambulatory care is associated with a lower rate of preventable hospitalization.

50. **ARTÍCULO Nº: 3850**

Huynh TN, Kleerup EC, Wiley JF, Savitsky TD, Guse D, Garber BJ et al. ***The frequency and cost of treatment perceived to be futile in critical care***. JAMA Intern.Med. 2013; 173(20): 1887-1894.

IMPORTANCE: Physicians often perceive as futile intensive care interventions that prolong life without achieving an effect that the patient can appreciate as a benefit. The prevalence and cost of critical care perceived to be futile have not been prospectively quantified. OBJECTIVE: To quantify the prevalence and cost of treatment perceived to be futile in adult critical care. DESIGN, SETTING, AND PARTICIPANTS: To develop a common definition of futile care, we convened a focus group of clinicians who care for critically ill patients. On a daily basis for 3 months, we surveyed critical care specialists in 5 intensive care units (ICUs) at an academic health care system to identify patients whom the physicians believed were receiving futile treatment. Using a multivariate model, we identified patient and clinician characteristics associated with patients perceived to be receiving futile treatment. We estimated the total cost of futile treatment by summing the charges of each day of receiving perceived futile treatment and converting to costs. MAIN OUTCOME AND MEASURE: Prevalence of patients perceived to be receiving futile treatment. RESULTS: During a 3-month period, there were 6916 assessments by 36 critical care specialists of 1136 patients. Of these patients, 904 (80%) were never perceived to be receiving futile treatment, 98 (8.6%) were perceived as receiving probably futile treatment, 123 (11%) were perceived as receiving futile treatment, and 11 (1%) were perceived as receiving futile treatment only on the day they transitioned to palliative care. The patients with futile treatment assessments received 464 days of treatment perceived to be futile in critical care (range, 1-58 days), accounting for 6.7% of all assessed patient days in the 5 ICUs studied. Eighty-four of the 123 patients perceived as receiving futile treatment died before hospital discharge and 20 within 6 months of ICU care (6-month mortality rate of 85%), with survivors remaining in severely compromised health states. The cost of futile treatment in critical care was estimated at $2.6 million. CONCLUSIONS AND RELEVANCE: In 1 health system, treatment in critical care that is perceived to be futile is common and the cost is substantial.

51. **ARTÍCULO Nº: 3851**

Akinkuolie AO, Mora S. ***Are there sex differences in acute coronary syndrome presentation?: a guide through the maze***. JAMA Intern.Med. 2013; 173(20): 1861-1862.

52. **ARTÍCULO Nº: 3852**

Sheehy AM, Graf B, Gangireddy S, Hoffman R, Ehlenbach M, Heidke C et al. ***Hospitalized but not admitted: characteristics of patients with "observation status" at an academic medical center***. JAMA Intern.Med. 2013; 173(21): 1991-1998.

IMPORTANCE: The Centers for Medicare & Medicaid Services (CMS) defines observation status for hospitalized patients as a "well-defined set of specific, clinically appropriate services," usually lasting less than 24 hours, and that in "only rare and exceptional cases" should last more than 48 hours. Although an increasing proportion of observation care occurs on hospital wards, studies of patients with observation status have focused on the efficiency of dedicated units. OBJECTIVE: To describe inpatient and observation care. DESIGN AND SETTING: Descriptive study of all inpatient and observation stays between July 1, 2010, and December 31, 2011, at the University of Wisconsin Hospital and Clinics, a 566-bed tertiary academic medical center. PARTICIPANTS: All patients with observation or inpatient stays during the study period. MAIN OUTCOMES AND MEASURES: Patient demographics, length of stay, difference between cost and reimbursement per stay, and percentage of patients discharged to skilled nursing facilities. RESULTS: Of 43,853 stays, 4578 (10.4%) were for observation, with 1141 distinct diagnosis codes. Mean observation length of stay was 33.3 hours, with 44.4% of stay durations less than 24 hours and 16.5% more than 48 hours. Observation care had a negative margin per stay (-$331); the inpatient margin per stay was positive (+$2163). Adult general medicine patients accounted for 2404 (52.5%) of all observation stays; 25.4% of the 9453 adult general medicine stays were for observation. The mean length of stay for general medicine observation patients was 41.1 hours, with 32.6% of stay durations less than 24 hours and 26.4% more than 48 hours. Compared with observation patients on other clinical services, adult general medicine had the highest percentage of patients older than 65 years (40.9%), highest percentage female patients (57.9%), highest percentage of patients discharged to skilled nursing facilities (11.6%), and the most negative margin per stay (-$1378). CONCLUSIONS AND RELEVANCE: In an academic medical center, observation status for hospitalized patients differed markedly from the CMS definition. Patients had a wide variety of diagnoses; lengths of stay were typically more than 24 hours and often more than 48 hours. The hospital lost money, primarily because reimbursement for general medicine patients was inadequate to cover the costs. It is uncertain what role, if any, observation status for hospitalized patients should have in the era of health care reform.

53. **ARTÍCULO Nº: 3853**

Wachter RM ***Observation status for hospitalized patients: a maddening policy begging for revision***. JAMA Intern.Med. 2013; 173(21): 1999-2000.

54. **ARTÍCULO Nº: 3854**

Shojania KG ***Conventional evaluations of improvement interventions: more trials or just more tribulations?*** BMJ Qual.Saf. 2013; 22(11): 881-884.

55. **ARTÍCULO Nº: 3855**

Danz MS, Hempel S, Lim YW, Shanman R, Motala A, Stockdale S et al. ***Incorporating evidence review into quality improvement: meeting the needs of innovators***. BMJ Qual.Saf. 2013; 22(11): 931-939.

BACKGROUND: Achieving quality improvement (QI) aims often requires local innovation. Without objective evidence review, innovators may miss previously tested approaches, rely on biased information, or use personal preferences in designing and implementing local QI programmes. AIM: To develop a practical, responsive approach to evidence review for QI innovations aimed at both

achieving the goals of the Patient Centered Medical Home (PCMH) and developing an evidence-based QI culture. DESIGN: Descriptive organisational case report. METHODS: As part of a QI initiative to develop and spread innovations for achieving the Veterans Affairs (VA) PCMH (termed Patient Aligned Care Team, or PACT), we involved a professional evidence review team (consisting of review experts, an experienced librarian, and administrative support) in responding to the evidence needs of front-line primary care innovators. The review team developed a systematic approach to responsive innovation evidence review (RIER) that focused on innovator needs in terms of time frame, type of evidence and method of communicating results. To assess uptake and usefulness of the RIERs, and to learn how the content and process could be improved, we surveyed innovation leaders. RESULTS: In the first 16 months of the QI initiative, we produced 13 RIERs on a variety of topics. These were presented as 6-15-page summaries and as slides at a QI collaborative. The RIERs focused on innovator needs (eg, topic overviews, how innovations are carried out, or contextual factors relevant to implementation). All 17 innovators who responded to the survey had read at least one RIER; 50% rated the reviews as very useful and 31%, as probably useful. CONCLUSIONS: These responsive evidence reviews appear to be a promising approach to integrating evidence review into QI processes.

56. **ARTÍCULO Nº: 3856**

Meddings J ***Interventions to reduce urinary catheter use: it worked for them, but will it work for us?*** BMJ Qual.Saf. 2013; 22(12): 967-971.

57. **ARTÍCULO Nº: 3857**

McAlister FA ***Decreasing readmissions: it can be done but one size does not fit all***. BMJ Qual.Saf. 2013; 22(12): 975-976.

58. **ARTÍCULO Nº: 3858**

Amarasingham R, Patel PC, Toto K, Nelson LL, Swanson TS, Moore BJ et al. ***Allocating scarce resources in real-time to reduce heart failure readmissions: a prospective, controlled study***. BMJ Qual.Saf. 2013; 22(12): 998-1005.

OBJECTIVE: To test a multidisciplinary approach to reduce heart failure (HF) readmissions that tailors the intensity of care transition intervention to the risk of the patient using a suite of electronic medical record (EMR)-enabled programmes. METHODS: A prospective controlled before and after study of adult inpatients admitted with HF and two concurrent control conditions (acute myocardial infarction (AMI) and pneumonia (PNA)) was performed between 1 December 2008 and 1 December 2010 at a large urban public teaching hospital. An EMR-based software platform stratified all patients admitted with HF on a daily basis by their 30-day readmission risk using a published electronic predictive model. Patients at highest risk received an intensive set of evidence-based interventions designed to reduce readmission using existing resources. The main outcome measure was readmission for any cause and to any hospital within 30 days of discharge. RESULTS: There were 834 HF admissions in the pre-intervention period and 913 in the post-intervention period. The unadjusted readmission rate declined from 26.2% in the pre-intervention period to 21.2% in the post-intervention period (p=0.01), a decline that persisted in adjusted analyses (adjusted OR (AOR)=0.73; 95% CI 0.58 to 0.93, p=0.01). In contrast, there was no significant change in the unadjusted and adjusted readmission rates for PNA and AMI over the same period. There were 45 fewer readmissions with 913 patients enrolled and 228 patients receiving intervention, resulting in a number needed to treat (NNT) ratio of 20. CONCLUSIONS: An EMR-enabled strategy that targeted scarce care transition resources to high-risk HF patients significantly reduced the risk-adjusted odds of readmission.

59. **ARTÍCULO Nº: 3859**

Katz SJ, Hawley S. ***The value of sharing treatment decision making with patients: expecting too much?*** JAMA. 2013; 310(15): 1559-1560.

60. **ARTÍCULO Nº: 3860**

Udell JA, Zawi R, Bhatt DL, Keshtkar-Jahromi M, Gaughran F, Phrommintikul A et al. ***Association between influenza vaccination and cardiovascular outcomes in high-risk patients: a meta-analysis***. JAMA. 2013; 310(16): 1711-1720.

IMPORTANCE: Among nontraditional cardiovascular risk factors, recent influenzalike infection is associated with fatal and nonfatal atherothrombotic events. OBJECTIVES: To determine if influenza vaccination is associated with prevention of cardiovascular events. DATA SOURCES AND STUDY SELECTION: A systematic review and meta-analysis of MEDLINE (1946-August 2013), EMBASE (1947-August 2013), and the Cochrane Library Central Register of Controlled Trials (inception-August 2013) for randomized clinical trials (RCTs) comparing influenza vaccine vs placebo or control in patients at high risk of cardiovascular disease, reporting cardiovascular outcomes either as efficacy or safety events. DATA EXTRACTION AND SYNTHESIS: Two investigators extracted data independently on trial design, baseline characteristics, outcomes, and safety events from published manuscripts and unpublished supplemental data. High-quality studies were considered those that described an appropriate method of randomization, allocation concealment, blinding, and completeness of follow-up. MAIN OUTCOMES AND MEASURES: Random-effects Mantel-Haenszel risk ratios (RRs) and 95% CIs were derived for composite cardiovascular events, cardiovascular mortality, all-cause mortality, and individual cardiovascular events. Analyses were stratified by subgroups of patients with and without a history of acute coronary syndrome (ACS) within 1 year of randomization. RESULTS: Five published and 1 unpublished randomized clinical trials of 6735 patients (mean age, 67 years; 51.3% women; 36.2% with a cardiac history; mean follow-up time, 7.9 months) were included. Influenza vaccine was associated with a lower risk of composite cardiovascular events (2.9% vs 4.7%; RR, 0.64 [95% CI, 0.48-0.86], P = .003) in published trials. A treatment interaction was detected between patients with (RR, 0.45 [95% CI, 0.32-0.63]) and without (RR, 0.94 [95% CI, 0.55-1.61]) recent ACS (P for interaction = .02). Results were similar with the addition of unpublished data. CONCLUSIONS AND RELEVANCE: In a meta-analysis of RCTs, the use of influenza vaccine was associated with a lower risk of major adverse cardiovascular events. The greatest treatment effect was seen among the highest-risk patients with more active coronary disease. A large, adequately powered, multicenter trial is warranted to address these findings and assess individual cardiovascular end points.

61. **ARTÍCULO Nº: 3861**

Calsbeek H, Ketelaar NA, Faber MJ, Wensing M, Braspenning J. ***Performance measurements in diabetes care: the complex task of selecting quality indicators***. Int.J.Qual.Health Care. 2013; 25(6): 704-709.

PURPOSE: To review the literature on the content and development of the sets of quality indicators used in studies on the quality of diabetes care in primary care settings. DATA SOURCES: The MEDLINE (Ovid), PubMed, PsychINFO, Embase and CINAHL databases were searched for relevant articles published up to January 2011. STUDY SELECTION: and data extraction We included studies on the quality of adult diabetes care, using quality indicators. We excluded studies focusing on the hospital setting, patient subgroups, specific components of diabetes care and specific outcomes. In total, 102 studies (including 102 sets and 1494 indicators) were analyzed by two independent reviewers, using the criteria of the National Quality Measures Clearinghouse and international guidelines to document

the content and selection of the identified indicators. RESULTS OF DATA SYNTHESIS: Sets varied greatly in number, content and definitions of quality indicators. Most of the indicators concerned HbA1C, lipids, blood pressure, eye and foot examination and urinalysis. Few sets included indicators on lifestyle counseling, patient experiences, healthcare structure or access to healthcare providers. Seventy sets did not specify explicit selection criteria, and 19 of these did not report the sources of the indicators. CONCLUSIONS: Sets of quality indicators are diverse in number, content and definitions. This diversity reflects a lack of uniformity in the concept of diabetes care quality and hinders the interpretation of and comparison between quality assessments. Methodology regarding defining constructs such as the quality of diabetes care and indicator selection procedures is available and should be used more rigorously.

62. **ARTÍCULO Nº: 3862**

Pham JC, Frick KD, Pronovost PJ. ***Why don't we know whether care is safe?*** Am.J.Med.Qual. 2013; 28(6): 457-463.

Reliable data are essential to ensuring that health care is delivered safely and appropriately. Yet the availability of reliable data on safety remains surprisingly poor, as does our knowledge of what it costs (and should cost) to generate such data. The authors suggest the following as priorities: (1) develop valid and reliable measures of the common causes of preventable deaths; (2) evaluate whether a global measure of safety is valid, feasible, and useful; (3) explore the incremental value of collecting data for each patient safety measure; (4) evaluate if/how patient safety reporting systems can be used to influence outcomes at all levels; (5) explore the value-and the unintended consequences-of creating a list of reportable events; (6) evaluate the infrastructure required to monitor patient safety; and (7) explore the validity and usefulness of measurements of patient safety climate.

63. **ARTÍCULO Nº: 3863**

Moran J, Colbert CY, Song J, Hull J, Rajan S, Varghees S et al. ***Residents examine factors associated with 30-day, same-cause hospital readmissions on an internal medicine service.*** Am.J.Med.Qual. 2013; 28(6): 492-501.

In recent years, there has been increased interest in stemming the tide of hospital readmissions in an attempt to improve quality of care. This study presents the Phase I results of a resident-led quality improvement initiative to determine the percentage of and risk factors for same-cause readmissions (SCRs; defined as hospital readmission within 30 days of hospital discharge for treatment of the same condition) to the internal medicine service of a multispecialty teaching hospital in central Texas. Results indicate that patients diagnosed with chronic obstructive pulmonary disease/asthma or anemia may be at increased risk for SCRs. Those patients who are insured by Medicaid and those who require assistance from social services also demonstrated an increased risk for SCRs. This study appears to be the first resident-led initiative in the field to examine 30-day SCRs to an internal medicine service for demographic and clinical risk factors.

64. **ARTÍCULO Nº: 3864**

Garcia-Garcia C, Molina L, Subirana I, Sala J, Bruguera J, Aros F et al. ***Sex-based Differences in Clinical Features, Management, and 28-day and 7-year Prognosis of First Acute Myocardial Infarction. RESCATE II Study.*** Rev.Esp.Cardiol. 2014; 67(1): 28-35.

INTRODUCTION AND OBJECTIVES: To analyze sex-based differences in clinical characteristics, management, and 28-day and 7-year prognosis after a first myocardial infarction. METHODS: Between

2001 and 2003, 2042 first myocardial infarction patients were consecutively registered in 6 Spanish hospitals. Clinical characteristics, management, and 28-day case-fatality were prospectively recorded. Seven-year vital status was also ascertained by data linkage with the National Mortality Index. RESULTS: The registry included 449 women and 1593 men with a first myocardial infarction. Compared with men, women were older, had a higher prevalence of hypertension and diabetes, and were more likely to receive angiotensin-converting enzyme inhibitors but were less likely to receive beta-blockers or thrombolysis. No differences were observed in use of invasive procedures. More women had non-ST-segment elevation and unclassified myocardial infarction than men (37.9% vs 31.3% and 9.8% vs 6.1%, respectively; both P<.001). Case-fatality at 28 days was similar in women and men (5.57% vs 4.46%; P=.39). After multivariate adjustment, the odds ratio of 28-day mortality for men was 1.06 (95% confidence interval: 0.49-2.27; P=.883) compared with women. After multivariate adjustment, men had higher 7-year mortality than women, hazard ratio 1.93 (95% confidence interval: 1.46-2.56; P<.001). CONCLUSIONS: There are demographic and clinical differences between men and women with a first myocardial infarction. The short-term prognosis of a first myocardial infarction in this century is similar in both sexes. However, the long-term vital prognosis after a first myocardial infarction is worse in men than in women. These results are observed in both ST-segment elevation myocardial infarction and non-ST-segment elevation myocardial infarction events. Full English text available from:www.revespcardiol.org/en.

65. **ARTÍCULO Nº: 3865**

Janzen J, Buurman BM, Spanjaard L, de Reijke TM, Goossens A, Geerlings SE. ***Reduction of unnecessary use of indwelling urinary catheters***. BMJ Qual.Saf. 2013; 22(12): 984-988.

BACKGROUND: The most effective way to reduce catheter-associated urinary tract infections (CA-UTIs) is to avoid unnecessary urinary catheterisation and to minimise the duration of catheterisation. AIM: To implement and assess the effect of an intervention to reduce the duration of urinary tract catheterisation. METHODS: This quality improvement project was set up as a before-after comparison consisting of a 2-month pre-intervention period, a period in which the intervention was implemented and a 2-month post-intervention period. The intervention included educational sessions to increase physicians' awareness and the daily reassessment of catheter use. The primary endpoint was the duration of catheterisation. Secondary endpoints were the catheter utilisation ratio, the length of hospital stay, the number of hospital-acquired symptomatic CA-UTIs and the number of appropriate indications for catheterisation. RESULTS: During the total study period, 149 patients (18.3%) were catheterised at some time during their hospital stay. There was a statistically significant decrease in the duration of catheterisation (median 7 vs 5 days; p<0.01), length of hospital stay (median 13 vs 9 days; p<0.01), and number of hospital-acquired CA-UTIs (4 vs 0, p=0.04) in the pre-intervention versus post-intervention period. CONCLUSIONS: An intervention to raise more awareness of the risks of inappropriate catheterisation can reduce the duration of catheterisation along with the length of hospital stay and the number of hospital-acquired symptomatic CA- UTIs, even in a short period of time.

66. **ARTÍCULO Nº: 3866**

Jeffs L, Law MP, Straus S, Cardoso R, Lyons RF, Bell C. ***Defining quality outcomes for complex-care patients transitioning across the continuum using a structured panel process***. BMJ Qual.Saf. 2013; 22(12): 1014-1024.

BACKGROUND: No standardised set of quality measures associated with transitioning complex-care patients across the various healthcare settings and home exists. In this context, a structured panel

process was used to define quality measures for care transitions involving complex-care patients across healthcare settings. METHODS: A modified Delphi consensus technique based on the RAND method was used to develop measures of quality care transitions across the continuum of care. Specific stages included a literature review, individual rating of each measure by each of the panelists (n=11), a face-to-face consensus meeting, and final ranking by the panelists. RESULTS: The literature review produced an initial set of 119 measures. To advance to rounds 1 and 2, an aggregate rating of >75% of the measure was required. This analysis yielded 30/119 measures in round 1 and 11/30 measures in round 2. The final round of scoring yielded the following top five measures: (1) readmission rates within 30 days, (2) primary care visit within 7 days postdischarge for high-risk patients, (3) medication reconciliation completed at admission and prior to discharge, (4) readmission rates within 72 h and (5) time from discharge to homecare nursing visit for high-risk patients. CONCLUSIONS: The five measures identified through this research may be useful as indicators of overall care quality related to care transitions involving complex-care patients across different healthcare settings. Further research efforts are called for to explore the applicability and feasibility of using the quality measures to drive quality improvement across the healthcare system.

67. **ARTÍCULO Nº: 3867**

Trebble TM, Cruickshank L, Hockey PM, Heyworth N, Powell T, Clarke N. ***Individual performance review in hospital practice: the development of a framework and evaluation of doctors' attitudes to its value and implementation***. BMJ Qual.Saf. 2013; 22(11): 948-955.

BACKGROUND: Appraisal, or independent performance review (IPR) is used in human resources management in the commercial and public sectors to evaluate the performance of an employee against agreed local organisational expectations and objectives, and to identify their requirements for development and effective management. IPR for NHS consultants may provide essential information for job planning, contribute towards medical appraisal for revalidation, and facilitate productivity and quality improvement. AIMS: To develop a framework for IPR for consultants, and to determine attitudes on its value, process and content. METHOD: Information from commercial, public and voluntary sector models and published and other literature sources were used to develop an IPR framework. This was assessed through a three-cycle action research methodology involving qualitative interviews with 22 consultants (predominantly with medical management roles). RESULTS: The domains of the IPR framework included: (1) performance against objectives; (2) behaviour and leadership; (3) talent management; (4) agreed future objectives. A number of themes were identified from the consultant interviews including: ineffective current appraisal systems reflecting a lack of valid performance data and allotted time; a lack of empowerment of medical managers to address performance issues; IPR as a more explicit system, offering value in evaluating doctors performance; and the dependence of successful implementation on the engagement of the Trust executive. CONCLUSIONS: IPR may have value for performance evaluation of consultants, contributing toward job planning and complementing medical appraisal. Support by their employing organisation and engagement with medical managers in design and implementation is likely to be essential.

68. **ARTÍCULO Nº: 3868**

Vinden C, Nash DM, Rangrej J, Shariff SZ, Dixon SN, Jain AK et al. ***Complications of daytime elective laparoscopic cholecystectomies performed by surgeons who operated the night before***. JAMA. 2013; 310(17): 1837-1841.

IMPORTANCE: The effect of surgeons' disrupted sleep on patient outcomes is not clearly defined. OBJECTIVE: To assess if surgeons operating the night before have more complications of elective

surgery performed the next day. DESIGN, SETTING, AND PARTICIPANTS: Population-based, matched, retrospective cohort study using administrative health care databases in Ontario, Canada (2012 population, 13,505,900). Participants were 2078 patients who underwent elective laparoscopic cholecystectomies performed by surgeons who operated the night before, matched with 4 other elective laparoscopic cholecystectomy recipients (n = 8312). EXPOSURE: In total, 94,183 eligible elective laparoscopic cholecystectomies were performed between 2004 and 2011. Of these surgeries, there were 2078 procedures in which 331 different surgeons across 102 community hospitals had operated between midnight and 7 am the night before. Each "at-risk" surgery was randomly matched with 4 other elective laparoscopic cholecystectomies (n = 8312) performed by the same surgeon, who had no evidence of having operated the night before. MAIN OUTCOMES AND MEASURES: The primary outcome was conversion from a laparoscopic cholecystectomy to open cholecystectomy. Secondary outcomes included evidence of iatrogenic injuries or death. Risks were quantified using generalized estimating equations. RESULTS: No significant association was found in conversion rates to open operations between surgeons when they operated the night before compared with when they did not operate the previous night (46/2031 [2.2%] vs 157/8124 [1.9%]; adjusted odds ratio [OR], 1.18; 95% CI, 0.85-1.64). There was no association between operating the night before vs not operating the night before, and risk of iatrogenic injuries (14/2031 [0.7%] vs 72/8124 [0.9%]; adjusted OR, 0.77; 95% CI, 0.43-1.37) or death (</=5/2031 [</=0.2%] vs 7/8124 [0.1%]). CONCLUSIONS AND RELEVANCE: No significant association was found between operating the night before and not operating the previous night for conversion to open cholecystectomy, risk of iatrogenic complications, or death for elective daytime cholecystectomy. These findings do not support safety concerns related to surgeons operating the night before performing elective surgery.

69. **ARTÍCULO Nº: 3869**

Zinner MJ, Fresichlag JA. ***Surgeons, sleep, and patient safety***. JAMA. 2013; 310(17): 1807-1808.

70. **ARTÍCULO Nº: 3870**

Moses H, III, Matheson DH, Dorsey ER, George BP, Sadoff D, Yoshimura S. ***The anatomy of health care in the United States***. JAMA. 2013; 310(18): 1947-1963.

Health care in the United States includes a vast array of complex interrelationships among those who receive, provide, and finance care. In this article, publicly available data were used to identify trends in health care, principally from 1980 to 2011, in the source and use of funds ("economic anatomy"), the people receiving and organizations providing care, and the resulting value created and health outcomes. In 2011, US health care employed 15.7% of the workforce, with expenditures of $2.7 trillion, doubling since 1980 as a percentage of US gross domestic product (GDP) to 17.9%. Yearly growth has decreased since 1970, especially since 2002, but, at 3% per year, exceeds any other industry and GDP overall. Government funding increased from 31.1% in 1980 to 42.3% in 2011. Despite the increases in resources devoted to health care, multiple health metrics, including life expectancy at birth and survival with many diseases, shows the United States trailing peer nations. The findings from this analysis contradict several common assumptions. Since 2000, (1) price (especially of hospital charges [+4.2%/y], professional services [3.6%/y], drugs and devices [+4.0%/y], and administrative costs [+5.6%/y]), not demand for services or aging of the population, produced 91% of cost increases; (2) personal out-of-pocket spending on insurance premiums and co-payments have declined from 23% to 11%; and (3) chronic illnesses account for 84% of costs overall among the entire population, not only of the elderly. Three factors have produced the most change: (1) consolidation, with fewer general hospitals and more single-specialty hospitals and physician groups, producing financial concentration in health systems, insurers, pharmacies, and benefit managers; (2)

information technology, in which investment has occurred but value is elusive; and (3) the patient as consumer, whereby influence is sought outside traditional channels, using social media, informal networks, new public sources of information, and self-management software. These forces create tension among patient aims for choice, personal care, and attention; physician aims for professionalism and autonomy; and public and private payer aims for aggregate economic value across large populations. Measurements of cost and outcome (applied to groups) are supplanting individuals' preferences. Clinicians increasingly are expected to substitute social and economic goals for the needs of a single patient. These contradictory forces are difficult to reconcile, creating risk of growing instability and political tensions. A national conversation, guided by the best data and information, aimed at explicit understanding of choices, tradeoffs, and expectations, using broader definitions of health and value, is needed.

71. **ARTÍCULO Nº: 3871**

Panzer RJ, Gitomer RS, Greene WH, Webster PR, Landry KR, Riccobono CA. ***Increasing demands for quality measurement***. JAMA. 2013; 310(18): 1971-1980.

Measurement of health care quality and patient safety is rapidly evolving, in response to long-term needs and more recent efforts to reform the US health system around "value." Development and choice of quality measures is now guided by a national quality strategy and priorities, with a public-private partnership, the National Quality Forum, helping determine the most worthwhile measures for evaluating and rewarding quality and safety of patient care. Yet there remain a number of challenges, including diverse purposes for quality measurement, limited availability of true clinical measures leading to frequent reliance on claims data with its flaws in determining quality, fragmentation of measurement systems with redundancy and conflicting conclusions, few high-quality comprehensive measurement systems and registries, and rapid expansion of required measures with hundreds of measures straining resources. The proliferation of quality measures at the clinician, hospital, and insurer level has created challenges and logistical problems. Recommendations include raising the bar for qualtiy measurements to achieve transformational rather than incremental change in the US quality measurement system, promoting a logical set of measures for the various levels of the health system, leaving room for internal organizational improvement, harmonizing the various national and local quality measurement systems, anchoring on National Quality Forum additions and subtractions of measures to be applied, reducing reliance on and retiring claims-based measures as quickly as possible, promoting comprehensive measurement such as through registries with deep understanding of patient risk factors and outcomes, reducing attention to proprietary report cards, prompt but careful transition to measures from electronic health records, and allocation of sufficient resources to accomplish the goals of an efficient, properly focused measurement system.

72. **ARTÍCULO Nº: 3872**

Sharfstein J, Fontanarosa PB, Bauchner H. ***Critical issues in US health care: health care on the edge***. JAMA. 2013; 310(18): 1945-1946.

73. **ARTÍCULO Nº: 3873**

Deb S, Wijeysundera HC, Ko DT, Tsubota H, Hill S, Fremes SE. ***Coronary artery bypass graft surgery vs percutaneous interventions in coronary revascularization: a systematic review***. JAMA. 2013; 310(19): 2086-2095.

IMPORTANCE: Ischemic heart disease is the leading cause of death globally. Coronary artery bypass graft (CABG) surgery and percutaneous coronary intervention (PCI) are the revascularization options

for ischemic heart disease. However, the choice of the most appropriate revascularization modality is controversial in some patient subgroups. OBJECTIVE: To summarize the current evidence comparing the effectiveness of CABG surgery and PCI in patients with unprotected left main disease (ULMD, in which there is >50% left main coronary stenosis without protective bypass grafts), multivessel coronary artery disease (CAD), diabetes, or left ventricular dysfunction (LVD). EVIDENCE REVIEW: A search of OvidSP MEDLINE, EMBASE, and Cochrane databases between January 2007 and June 2013, limited to randomized clinical trials (RCTs) and meta-analysis of trials and/or observational studies comparing CABG surgery with PCI was performed. Bibliographies of relevant studies were also searched. Mortality and major adverse cardiac and cerebrovascular events (MACCE, defined as all-cause mortality, myocardial infarction, stroke, and repeat revascularization) were reported wherever possible. FINDINGS: Thirteen RCTs and 5 meta-analyses were included. CABG surgery should be recommended in patients with ULMD, multivessel CAD, or LVD, if the severity of coronary disease is deemed to be complex (SYNTAX >22) due to lower cardiac events associated with CABG surgery. In cases in which coronary disease is less complex (SYNTAX </=22) and/or the patient is a higher surgical risk, PCI should be considered. For patients with diabetes and multivessel CAD, CABG surgery should be recommended as standard therapy irrespective of the severity of coronary anatomy, given improved long-term survival and lower cardiac events (5-year MACCE, 18.7% for CABG surgery vs 26.6% for PCI; P = .005). Overall, the incidence of repeat revascularization is higher after PCI, whereas stroke is higher after CABG surgery. Current literature emphasizes the importance of a heart-team approach that should consider coronary anatomy, patient characteristics, and local expertise in revascularization options. Literature pertaining to revascularization options in LVD is scarce predominantly due to LVD being an exclusion factor in most studies. CONCLUSIONS AND RELEVANCE: Both CABG surgery and PCI are reasonable options for patients with advanced CAD. Patients with diabetes generally have better outcomes with CABG surgery than PCI. In cases of ULMD, multivessel CAD, or LVD, CABG surgery should be favored in patients with complex coronary lesions and anatomy and PCI in less complicated coronary disease or deemed a high surgical risk. A heart-team approach should evaluate coronary disease complexity, patient comorbidities, patient preferences, and local expertise.

74. **ARTÍCULO Nº: 3874**

Strath SJ, Kaminsky LA, Ainsworth BE, Ekelund U, Freedson PS, Gary RA et al. ***Guide to the assessment of physical activity: Clinical and research applications: a scientific statement from the American Heart Association.*** Circulation. 2013; 128(20): 2259-2279.

The deleterious health consequences of physical inactivity are vast, and they are of paramount clinical and research importance. Risk identification, benchmarks, efficacy, and evaluation of physical activity behavior change initiatives for clinicians and researchers all require a clear understanding of how to assess physical activity. In the present report, we have provided a clear rationale for the importance of assessing physical activity levels, and we have documented key concepts in understanding the different dimensions, domains, and terminology associated with physical activity measurement. The assessment methods presented allow for a greater understanding of the vast number of options available to clinicians and researchers when trying to assess physical activity levels in their patients or participants. The primary outcome desired is the main determining factor in the choice of physical activity assessment method. In combination with issues of feasibility/practicality, the availability of resources, and administration considerations, the desired outcome guides the choice of an appropriate assessment tool. The decision matrix, along with the accompanying tables, provides a mechanism for this selection that takes all of these factors into account. Clearly, the assessment method adopted and implemented will vary depending on circumstances, because there is no single

best instrument appropriate for every situation. In summary, physical activity assessment should be considered a vital health measure that is tracked regularly over time. All other major modifiable cardiovascular risk factors (diabetes mellitus, hypertension, hypercholesterolemia, obesity, and smoking) are assessed routinely. Physical activity status should also be assessed regularly. Multiple physical activity assessment methods provide reasonably accurate outcome measures, with choices dependent on setting-specific resources and constraints. The present scientific statement provides a guide to allow professionals to make a goal-specific selection of a meaningful physical activity assessment method.

75. **ARTÍCULO Nº: 3875**

Shan L, Saxena A, McMahon R, Newcomb A. ***Coronary artery bypass graft surgery in the elderly: a review of postoperative quality of life.*** Circulation. 2013; 128(21): 2333-2343.

76. **ARTÍCULO Nº: 3876**

Ellrodt AG, Fonarow GC, Schwamm LH, Albert N, Bhatt DL, Cannon CP et al. ***Synthesizing lessons learned from get with the guidelines: the value of disease-based registries in improving quality and outcomes.*** Circulation. 2013; 128(22): 2447-2460.

77. **ARTÍCULO Nº: 3877**

Atkins DL. ***Doing the same thing over and over, yet expecting different results.*** Circulation. 2013; 128(23): 2465-2467.

78. **ARTÍCULO Nº: 3878**

Smith SC, Jr., Chen D, Collins A, Harold JG, Jessup M, Josephson S et al. ***Moving from political declaration to action on reducing the global burden of cardiovascular diseases: a statement from the global cardiovascular disease taskforce.*** Circulation. 2013; 128(23): 2546-2548.

79. **ARTÍCULO Nº: 3879**

Calland JF. ***Surgical safety checklists are an effective means for reducing surgical morbidity and mortality, but have we gone far enough in team-building and leadership to create high reliability?*** Evid.Based.Med. 2013; 18(6): 235-236.

80. **ARTÍCULO Nº: 3880**

Curtis JR, Back AL, Ford DW, Downey L, Shannon SE, Doorenbos AZ et al. ***Effect of communication skills training for residents and nurse practitioners on quality of communication with patients with serious illness: a randomized trial.*** JAMA. 2013; 310(21): 2271-2281.

IMPORTANCE: Communication about end-of-life care is a core clinical skill. Simulation-based training improves skill acquisition, but effects on patient-reported outcomes are unknown. OBJECTIVE: To assess the effects of a communication skills intervention for internal medicine and nurse practitioner trainees on patient- and family-reported outcomes. DESIGN, SETTING, AND PARTICIPANTS: Randomized trial conducted with 391 internal medicine and 81 nurse practitioner trainees between 2007 and 2013 at the University of Washington and Medical University of South Carolina. INTERVENTION: Participants were randomized to an 8-session, simulation-based, communication skills intervention (N = 232) or usual education (N = 240). MAIN OUTCOMES AND MEASURES: Primary outcome was patient-reported quality of communication (QOC; mean rating of 17 items rated from 0-10, with 0 = poor and 10 = perfect). Secondary outcomes were patient-reported quality of end-of-life care (QEOLC; mean rating of 26 items rated from 0-10) and depressive symptoms (assessed

using the 8-item Personal Health Questionnaire [PHQ-8]; range, 0-24, higher scores worse) and family-reported QOC and QEOLC. Analyses were clustered by trainee. RESULTS: There were 1866 patient ratings (44% response) and 936 family ratings (68% response). The intervention was not associated with significant changes in QOC or QEOLC. Mean values for postintervention patient QOC and QEOLC were 6.5 (95% CI, 6.2 to 6.8) and 8.3 (95% CI, 8.1 to 8.5) respectively, compared with 6.3 (95% CI, 6.2 to 6.5) and 8.3 (95% CI, 8.1 to 8.4) for control conditions. After adjustment, comparing intervention with control, there was no significant difference in the QOC score for patients (difference, 0.4 points [95% CI, -0.1 to 0.9]; P = .15) or families (difference, 0.1 [95% CI, -0.8 to 1.0]; P = .81). There was no significant difference in QEOLC score for patients (difference, 0.3 points [95% CI, -0.3 to 0.8]; P = .34) or families (difference, 0.1 [95% CI, -0.7 to 0.8]; P = .88). The intervention was associated with significantly increased depression scores among patients of postintervention trainees (mean score, 10.0 [95% CI, 9.1 to 10.8], compared with 8.8 [95% CI, 8.4 to 9.2]) for control conditions; adjusted model showed an intervention effect of 2.2 (95% CI, 0.6 to 3.8; P = .006). CONCLUSIONS AND RELEVANCE: Among internal medicine and nurse practitioner trainees, simulation-based communication training compared with usual education did not improve quality of communication about end-of-life care or quality of end-of-life care but was associated with a small increase in patients' depressive symptoms. These findings raise questions about skills transfer from simulation training to actual patient care and the adequacy of communication skills assessment. TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT00687349.

81. **ARTÍCULO Nº: 3881**

Weinmann S, Roick C, Martin L, Willich S, Becker T. ***Development of a set of schizophrenia quality indicators for integrated care***. Epidemiol.Psichiatr.Soc. 2010; 19(1): 52-62.

AIM: We aimed at developing a prioritized set of quality indicators for schizophrenia care to be used for continuous quality monitoring. They should be evidence-based and rely on routine data. METHODS: A systematic literature search was performed to identify papers on validated quality indicators published between 1990 to April 2008 in MEDLINE, the Cochrane databases, EMBASE and PsycINFO. Databases of relevant national and international organizations were searched. Indicators were described with respect to meaningfulness, feasibility and actionability. A workshop with relevant stakeholders evaluated the measures through a structured consensus process. RESULTS: We identified 78 indicators through literature search and selected 22 quality indicators. Furthermore, 12 structural and case-mix indicators were choosen. Only five quality indicators were rated "essential indicators" (priority 1), 14 were rated "additional first choice" (priority 2), and three were rated as "additional second choice" (priority 3). Only four indicators assessed outcome quality. In the majority of indicators the evidence base supporting the indicator recommendation was weak. None of the selected indicators was validated in experimental studies. CONCLUSIONS: Evidence and validation base played only a subordinate role for indicator prioritisation by stakeholders indicating that there are discrepancies between clinical questions and requirements in schizophrenia care and scientific research.