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1. **ARTÍCULO Nº: 4510**
Knottnerus JA, Tugwell P. ***Improving the quality of quality of care research.*** J.Clin.Epidemiol. 2013; 66(12): 1317-1318.

2. **ARTÍCULO Nº: 4511**
Cals JW, Kotz D. ***Effective writing and publishing scientific papers, part IX: authorship.*** J.Clin.Epidemiol. 2013; 66(12): 1319

3. **ARTÍCULO Nº: 4512**
Stelfox HT, Straus SE. ***Measuring quality of care: considering measurement frameworks and needs assessment to guide quality indicator development.*** J.Clin.Epidemiol. 2013; 66(12): 1320-1327.

OBJECTIVE: In this article, we describe one approach for evaluating the value of developing quality indicators (QIs). STUDY DESIGN AND SETTING: We focus on describing how to develop a conceptual measurement framework and how to evaluate the need to develop QIs. A recent process to develop QIs for injury care is used for illustration. RESULTS: Key steps to perform before developing QIs include creating a conceptual measurement framework, determining stakeholder perspectives, and performing a QI needs assessment. QI development is likely to be most beneficial for medical problems for which quality measures have not been previously developed or are inadequate and that have a large burden of illness to justify quality measurement and improvement efforts, are characterized by variable or substandard care such that opportunities for improvement exist, and have evidence that improving quality of care will improve patient health. CONCLUSION: By developing a conceptual measurement framework and performing a QI needs assessment, developers and users of QIs can target their efforts.

4. **ARTÍCULO Nº: 4513**
Stelfox HT, Straus SE. ***Measuring quality of care: considering conceptual approaches to quality indicator development and evaluation.*** J.Clin.Epidemiol. 2013; 66(12): 1328-1337.

OBJECTIVE: In this article, we describe one approach for developing and evaluating quality indicators. STUDY DESIGN AND SETTING: We focus on describing different conceptual approaches to quality indicator development, review one approach for developing quality indicators, outline how to evaluate quality indicators once developed, and discuss quality indicator maintenance. RESULTS: The key steps for developing quality indicators include specifying a clear goal for the indicators; using methodologies to incorporate evidence, expertise, and patient perspectives; and considering contextual factors and logistics of implementation. The Strategic Framework Board and the National Quality Measure

Clearinghouse have developed criteria for evaluating quality indicators that complement traditional psychometric evaluations. Optimal strategies for quality indicator maintenance and dissemination have not been determined, but experiences with clinical guideline maintenance may be informative. CONCLUSION: For quality indicators to effectively guide quality improvement efforts, they must be developed, evaluated, maintained, and implemented using rigorous evidence-informed practices.

5. **ARTÍCULO Nº: 4514**

Shekelle PG. ***Quality indicators and performance measures: methods for development need more standardization***. J.Clin.Epidemiol. 2013; 66(12): 1338-1339.

6. **ARTÍCULO Nº: 4515**

Strom JB, Wimmer NJ, Wasfy JH, Kennedy K, Yeh RW. ***Association between operator procedure volume and patient outcomes in percutaneous coronary intervention: a systematic review and meta-analysis***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(4): 560-566.

BACKGROUND: The growth of centers capable of performing percutaneous coronary intervention (PCI) has outpaced population growth despite declining incidence of myocardial infarction and prevalence of coronary artery disease, potentially increasing the proportion of operators falling below minimal yearly volume standards set by professional societies. METHODS AND RESULTS: Electronic literature search of MEDLINE and the Cochrane Library for English-language articles published between 1977 and November 2012 was performed. Title and abstract review followed by full-text and references review were performed by 2 authors independently to identify studies examining the association between operator volume and outcomes in PCI. Using a standardized form, 2 authors abstracted information on study design, methods, outcomes, statistical methods, and conclusions. Studies were categorized according to methodological quality and outcomes. Meta-analyses were performed by outcome using a random-effects model. Of the 23 studies included in the analysis, 14 (61%) evaluated mortality, 7 (30%) evaluated major adverse cardiac events, and 2 (9%) evaluated angiographic success. In total, the studies evaluated 15 907 operators performing 205 214 PCIs on 1 109 103 patients at 2456 centers with a mean follow-up of 2.8 years. Eleven (48%) were considered higher quality. Studies with higher methodological quality and large sample sizes more often showed a relationship between operator volume and outcomes in PCI. Higher volume was associated with improved major adverse cardiac events at every threshold, regardless of the threshold evaluated. CONCLUSIONS: Mortality and major adverse cardiac events increase as operator volumes decrease in PCI. Among studies showing a relationship, high-volume operators were defined variably, with annual PCIs ranging from >11 to >270, with no clear evidence of a threshold effect within the ranges studied.

7. **ARTÍCULO Nº: 4516**

Kumamaru H, Judd SE, Curtis JR, Ramachandran R, Hardy NC, Rhodes JD et al. ***Validity of claims-based stroke algorithms in contemporary Medicare data: reasons for geographic and racial differences in stroke (REGARDS) study linked with medicare claims***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(4): 611-619.

BACKGROUND: The accuracy of stroke diagnosis in administrative claims for a contemporary population of Medicare enrollees has not been studied. We assessed the validity of diagnostic coding algorithms for identifying stroke in the Medicare population by linking data from the REasons for Geographic And Racial Differences in Stroke (REGARDS) Study to Medicare claims. METHODS AND RESULTS: The REGARDS Study enrolled 30 239 participants >/=45 years in the United States between 2003 and 2007. Stroke experts adjudicated suspected strokes, using retrieved medical records. We

linked data for participants enrolled in fee-for-service Medicare to claims files from 2003 through 2009. Using adjudicated strokes as the gold standard, we calculated accuracy measures for algorithms to identify incident and recurrent strokes. We linked data for 15 089 participants, among whom 422 participants had adjudicated strokes during follow-up. An algorithm using primary discharge diagnosis codes for acute ischemic or hemorrhagic stroke (International Classification of Diseases, Ninth Revision, Clinical Modification codes: 430, 431, 433.x1, 434.x1, 436) had a positive predictive value of 92.6% (95% confidence interval, 88.8%-96.4%), a specificity of 99.8% (99.6%-99.9%), and a sensitivity of 59.5% (53.8%-65.1%). An algorithm using only acute ischemic stroke codes (433.x1, 434.x1, 436) had a positive predictive value of 91.1% (95% confidence interval, 86.6%-95.5%), a specificity of 99.8% (99.7%-99.9%), and a sensitivity of 58.6% (52.4%-64.7%). CONCLUSIONS: Claims-based algorithms to identify stroke in a contemporary Medicare cohort had high positive predictive value and specificity, supporting their use as outcomes for etiologic and comparative effectiveness studies in similar populations. These inpatient algorithms are unsuitable for estimating stroke incidence because of low sensitivity.

8. **ARTÍCULO Nº: 4517**

Sepucha KR, Scholl I. ***Measuring shared decision making: a review of constructs, measures, and opportunities for cardiovascular care***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(4): 620-626.

9. **ARTÍCULO Nº: 4518**

Spivack SB, Bernheim SM, Forman HP, Drye EE, Krumholz HM. ***Hospital cardiovascular outcome measures in federal pay-for-reporting and pay-for-performance programs: a brief overview of current efforts***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(5): 627-633.

10. **ARTÍCULO Nº: 4519**

Bradley SM. ***The routine clinical capture of patient-reported outcomes: how competition on value will lead to change***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(5): 635-636.

11. **ARTÍCULO Nº: 4520**

Jneid H. ***Interplay between time of presentation, timeliness of reperfusion, and outcome after ST-segment-elevation myocardial infarction***. Circ.Cardiovasc.Qual.Outcomes. 2014; 7(5): 637-639.

12. **ARTÍCULO Nº: 4521**

Dasari TW, Roe MT, Chen AY, Peterson ED, Giugliano RP, Fonarow GC et al. ***Impact of time of presentation on process performance and outcomes in ST-segment-elevation myocardial infarction: a report from the American Heart Association: Mission Lifeline program***. Circ. Cardiovasc. Qual. Outcomes. 2014; 7(5): 656-663.

BACKGROUND: Prior studies demonstrated that patients with ST-segment-elevation myocardial infarction presenting during off-hours (weeknights, weekends, and holidays) have slower reperfusion times. Recent nationwide initiatives have emphasized 24/7 quality care in ST-segment-elevation myocardial infarction. It remains unclear whether patients presenting off-hours versus on-hours receive similar quality care in contemporary practice. METHODS AND RESULTS: Using Acute Coronary Treatment and Intervention Outcomes Network-Get With The Guidelines (ACTION-GWTG) database, we examined ST-segment-elevation myocardial infarction performance measures in patients presenting off-hours (n=27 270) versus on-hours (n=15 972; January 2007 to September 2010) at 447 US centers. Key quality measures assessed were aspirin use within first 24 hours, door-to-balloon time, door-to-ECG time, and door-to-needle time. In-hospital risk-adjusted all-cause mortality was

calculated. Baseline demographic and clinical characteristics were similar. Aspirin use within 24 hours approached 99% in both groups. Among patients undergoing primary percutaneous coronary intervention (n=41 979; 97.1%), median door-to-balloon times were 56 versus 72 minutes (P<0.0001) for on-hours versus off-hours. The proportion of patients achieving door-to-balloon time </=90 minutes was 87.8% versus 79.2% (P<0.0001), respectively. There were no differences attaining door-to-ECG time </=10 minutes (73.4% versus 74.3%, P=0.09) and door-to-needle time </=30 minutes (62.3% versus 58.7%; P=0.44) between on-hours versus off-hours. Although in-hospital all-cause mortality was similar (4.2%) in both groups, the risk-adjusted all-cause mortality was higher for patients presenting off-hours (odds ratio, 1.13; 95% confidence interval, 1.02-1.26). CONCLUSIONS: In contemporary community practice, achievement of quality performance measures in patients presenting with ST-segment-elevation myocardial infarction was high, regardless of time of presentation. Door-to-balloon time was, however, slightly delayed (by an average of 16 minutes), and risk-adjusted in-hospital mortality was 13% higher in patients presenting off-hours.

13. **ARTÍCULO Nº: 4522**

Goyal M, Almekhlafi MA, Fan L, Menon BK, Demchuk AM, Yeatts SD et al. ***Evaluation of interval times from onset to reperfusion in patients undergoing endovascular therapy in the Interventional Management of Stroke III trial.*** Circulation. 2014; 130(3): 265-272.

BACKGROUND: Meaningful delays occurred in the Interventional Management of Stroke (IMS) III trial. Analysis of the work flow will identify factors contributing to the in-hospital delays. METHODS AND RESULTS: In the endovascular arm of the IMS III trial, the following time intervals were calculated: stroke onset to emergency department arrival; emergency department to computed tomography (CT); CT to intravenous tissue plasminogen activator start; intravenous tissue plasminogen activator start to randomization; randomization to groin puncture; groin puncture to thrombus identification; thrombus identification to start of endovascular therapy; and start of endovascular therapy to reperfusion. The effects of enrollment time, CT angiography use, interhospital transfers, and intubation on work flow were evaluated. Delays occurred notably in the time intervals from intravenous tissue plasminogen activator initiation to groin puncture (median 84 minutes) and start of endovascular therapy to reperfusion (median 85 minutes). The CT to groin puncture time was significantly shorter during working hours than after. Times from emergency department to reperfusion and groin puncture to reperfusion decreased over the trial period. Patients with CT angiography had shorter emergency department to reperfusion and onset to reperfusion times. Transfer of patients resulted in a longer onset to reperfusion time compared with those treated in the same center. Age, sex, National Institutes of Health Stroke Scale score, and intubation did not affect delays. CONCLUSIONS: Important delays were identified before reperfusion in the IMS III trial. Delays decreased as the trial progressed. Use of CT angiography and endovascular treatment in the same center were associated with time savings. These data may help in optimizing work flow in current and future endovascular trials. CLINICAL TRIAL REGISTRATION URL: http://www.clinicaltrials.gov. Unique identifier: NCT00359424.

14. **ARTÍCULO Nº: 4523**

Robles Perez-Monteoliva NR. ***[Hypertension guidelines: too many and discordant].*** Med Clin.(Barc.). 2014; 143(3): 115-116.

15. **ARTÍCULO Nº: 4524**

Ascaso JF. ***[Type 2 diabetes mellitus: new treatments].*** Med Clin.(Barc.). 2014; 143(3): 117-123.

The benefits and problems associated with traditional hypoglycemic drugs, such as failure of beta cells, hypoglycemia and weight gain, that lead to a worsening of diabetes, are reviewed. New hypoglycemic drugs with incretin effect (glucagon-like peptide-1 agonists and dipeptidyl peptidase 4 inhibitors), achieve, in a glucose dependent manner, an glycosylated hemoglobin reduction without hypoglycemia or increase in body weight. Recently, another group of oral hypoglycemic drugs, sodium-glucose cotransporter type 2 inhibitors, have demonstrated efficacy in diabetes control by inhibiting renal glucose reabsorption. However, long-term effects and cardiovascular prevention remain to be demonstrated. We have more and better drugs nowadays. Hypoglycemic treatment should be customized (glycosylated hemoglobin levels, risk-benefit, risk of hypoglycemia, weight changes, cardiovascular risk), with a combination of drugs being necessary in most cases. However, we do not have yet an ideal hypoglycemic drug. Moreover we must remember that an early and intensive treatment of dyslipidemia and hypertension is essential for the prevention of cardiovascular disease in patients with type 2 diabetes.

16. **ARTÍCULO Nº: 4525**

Delgado JF, Oliva J, Llano M, Pascual-Figal D, Grillo JJ, Comin-Colet J et al. ***Health care and nonhealth care costs in the treatment of patients with symptomatic chronic heart failure in Spain***. Rev.Esp.Cardiol.(Engl.Ed). 2014; 67(8): 643-650.

INTRODUCTION AND OBJECTIVES: Chronic heart failure is associated with high mortality and utilization of health care and social resources. The objective of this study was to quantify the use of health care and nonhealth care resources and identify variables that help to explain variability in their costs in Spain. METHODS: This prospective, multicenter, observational study with a 12-month follow-up period included 374 patients with symptomatic heart failure recruited from specialized cardiology clinics. Information was collected on the socioeconomic characteristics of patients and caregivers, health status, health care resources, and professional and nonprofessional caregiving. The monetary cost of the resources used in caring for the health of these patients was evaluated, differentiating among functional classes. RESULTS: The estimated total cost for the 1-year follow-up ranged from euro 12,995 to euro 18,220, depending on the scenario chosen (base year, 2010). The largest cost item was informal caregiving (59.1%-69.8% of the total cost), followed by health care costs (26.7%- 37.4%), and professional care (3.5%). Of the total health care costs, the largest item corresponded to hospital costs, followed by medication. Total costs differed significantly between patients in functional class II and those in classes III or IV. CONCLUSIONS: Heart failure is a disease that requires the mobilization of a considerable amount of resources. The largest item corresponds to informal care. Both health care and nonhealth care costs are higher in the population with more advanced disease.

17. **ARTÍCULO Nº: 4526**

Danchin N, Dos Santos TN, Puymirat E. ***Weaknesses in regional primary coronary angioplasty programs: is there still a role for a pharmaco-invasive approach?*** Rev.Esp.Cardiol.(Engl.Ed). 2014; 67(8): 659-665.

All guidelines recommend primary percutaneous coronary intervention as the default strategy for achieving reperfusion in ST-segment elevation myocardial infarction patients. These recommendations are based upon randomized trials which compared primary percutaneous coronary intervention with stand-alone intravenous fibrinolysis. Since the time these trials were performed, however, it has been shown in further trials that use of rescue percutaneous coronary intervention in patients without signs of reperfusion after lysis, and routine coronary angiography within 24 h of the administration of lysis

for all other patients, substantially improved the results of intravenous fibrinolytic treatment. This has led to proposing the pharmaco-invasive strategy as an alternative to primary percutaneous coronary intervention. Actually, it is not uncommon that circumstances prevent performing primary percutaneous coronary intervention within the recommended time limits set by the guidelines. In such cases, using a pharmaco-invasive strategy may constitute a valid alternative. Both the STREAM randomized trial and real-world experience, in particular the long-term results from the FAST-MI registry, suggest that the pharmaco-invasive strategy, when used in an appropriate population, compares favorably with primary percutaneous coronary intervention. Therefore, implementing a pharmaco-invasive strategy protocol may be an important complement to compensate for potential weaknesses in ST-segment elevation myocardial infarction networks.

18. **ARTÍCULO Nº: 4527**

Chen Q, Hanchate A, Shwartz M, Borzecki AM, Mull HJ, Shin MH et al. ***Comparison of the Agency for Healthcare Research and Quality Patient Safety Indicator Rates Among Veteran Dual Users***. Am.J.Med Qual. 2013; 29(4): 335-343.

This study compares rates of 11 Agency for Healthcare Research and Quality Patient Safety Indicators (PSIs) among 266 203 veteran dual users (ie, those with hospitalizations in both the Veterans Health Administration [VA] and the private sector through Medicare fee-for-service coverage) during 2002 to 2007. PSI risk-adjusted rates were calculated using the PSI software (version 3.1a). Rates of pressure ulcer, central venous catheter-related bloodstream infections, and postoperative sepsis, areas in which the VA has focused quality improvement efforts, were found to be significantly lower in the VA than in the private sector. VA had significantly higher rates for 7 of the remaining 8 PSIs, although the rates of only 2 PSIs (postoperative hemorrhage/hematoma and accidental puncture or laceration) remained higher in the VA after sensitivity analyses were conducted. A better understanding of system-level differences in coding practices and patient severity, poorly documented in administrative data, is needed before conclusions about differences in quality can be drawn.

19. **ARTÍCULO Nº: 4528**

Hirsch AG, Scheck MA. ***Measuring Diabetes Care Performance Using Electronic Health Record Data: The Impact of Diabetes Definitions on Performance Measure Outcomes***. Am.J.Med Qual. 2013; 29(4): 292-299.

The objective was to examine the use of electronic health record (EHR) data for diabetes performance measurement. Data were extracted from the EHR of a health system to identify patients with diabetes using 8 different EHR data-based methods of identification. These EHR-based methods were compared to the gold standard of a manual medical record review. The study team then assessed whether the method of identifying patients with diabetes could affect performance measurement scores. The sensitivity of the 8 EHR-based methods of identifying patients with diabetes ranged from moderate to high. The use of certain data elements in the EHR to identify patients with diabetes selectively identified those who had better performance measures. Diabetes performance measures are influenced by the data elements used to identify patients. As EHR data are used increasingly to measure performance, continuing to improve our understanding of how EHR data are collected and used will be critical.

20. **ARTÍCULO Nº: 4529**

Campillo AC. ***[C-Section: little but enough information to put a stop to the inadequacy]***. Rev.Esp.Salud Publica. 2014; 88(3): 311-314.

21. **ARTÍCULO Nº: 4530**

Librero J, Peiro S, Belda A, Calabuig J. ***[C-section rate in low-risk women: a useful indicator to compare hospitals attending deliveries with different risks]***. Rev.Esp.Salud Publica. 2014; 88(3): 315-326.

BACKGROUND: the C-section rate has been criticized as a performance indicator for not considering that different hospitals manage deliveries with diverse risks. In this work we explore the characteristics of a new indicator restricted to low C-section risk deliveries. METHODS: retrospective cohort of all births (n=214,611) in all public hospitals during 2005-2010 in the Valencia Region, Spain (source: minimum basic dataset). A low-risk subpopulation consisting of women under-35, no history of c-section, between 37 and 41 gestational weeks, and with a single fetus, with cephalic presentation and normal weight (2500-3999 g) was constructed. We analyzed variability in the new indicator, its correlation with the crude indicator and, using multilevel logistic regression models, the presence of residual risks. RESULTS: a total of 117 589 births (58.4% of the whole deliveries) were identified as low C-section risk. The c-section rate in these women was 11.9% (24.4% for all deliveries) ranging between hospitals from 7.0% to 28.9%. The c-section rate in low-risk and total deliveries correlated strongly (r=0.88). The remaining risks in the population of low risk did not alter the hospital effect on the c-section rate. CONCLUSION: the percentage of C-section in low risk women include a high volume of deliveries, correlated with the crude indicator and residual risks are not differentially influenced by hospitals, being a useful indicator for monitoring the quality of obstetric care in the National Health System.

22. **ARTÍCULO Nº: 4531**

Hernandez MA, Pascual Pedreno AI, Bano Garnes AB, Melero Jimenez MR, Molina AM. ***[Differences in cesarean sections between spontaneous and induced labour]***. Rev.Esp.Salud Publica. 2014; 88(3): 383-393.

BACKGROUND: The induction of labour (IOL) may be associated with complications for pregnant women. The aim was to assess the differences in the number of caesarean sections between spontaneous or induced labour. METHODS: Historical groups from 841 women with induced labour and 2,534 women with an spontaneous onset of labour over a three- year period (from 2009 to 2011). They were carried out in "Mancha Centro" Hospital (Alcazar de San Juan). It was used a multivariate analysis through binary logistic regression to control confounding variables. RESULTS: The prevalence of IOL was 22,9%. The most frequent indications were: Premature Rupture of Membranes (22,7%), bad- controlled Diabetes (22,5%). It was reported a relation between induced labour and cesarean section risk due to parity (nulliparous OR= 2.68, IC 95%: 2.15- 3.34 and multiparous OR= 2.10, IC 95%: 1.72- 2.57). Postterm pregnancy (37,1%), pathological monitor (35.3%) and hypertensive diseases of pregnancy (34%) reported the highest risks of cesarean section. The IOL was related to other factors: a long- time length first -stage of labour (OR= 6.00; IC 95%: 4.02- 8.95), use of epidural analgesia (OR= 3.10; IC 95%: 2.24- 4.29) and blood transfusion needs (OR= 3.33; IC 95%: 1.70- 9.67). CONCLUSION: Independently of parity, The IOL increases the risk to: have a longer duration first- stage, use epidural analgesia, need a blood transfusion and have a cesarean section. This relation is stronger when induction is due to postterm pregnancy, pathological monitor or hypertensive diseases. No relation was found among induced labour and second- stage duration, episiotomy, perineal tears, excessive blood loss or uterine rupture.

23. **ARTÍCULO Nº: 4532**

Porcel-Galvez AM, Martinez-Lara C, Gil-Garcia E, Grao-Cruces A. ***[G_Clinic questionnaire to assess job satisfaction in the clinical management units, Spain].*** Rev.Esp.Salud Publica. 2014; 88(3): 419-428.

BACKGROUND: Job satisfaction of nurses is a determinant factor in the quality and organizational adaptation of clinical management models in the current socio-economic context. The aim of this study was to construct and validate a questionnaire to measure job satisfaction of nurses in the Clinical Management Units in the Andalusian Public Health System. METHODS: Clinimetric and cross-sectional study with a sample of 314 nurses of two university hospitals from Seville. Nurses were surveyed in 2011, from March to June. We used the Font Roja questionnaire adapted to our study variables. We performed analyses of correlations, reliability and construct validity, using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to test the a priori model. RESULTS: The end questionnaire consists of 10 items, whose internal consistency was 0.75, with a percentage of variance explaining of 63.67%. CFA confirmed 4 dimensions (work environment, work relationships, motivation, and recognition): significant chi2 ($p < .001$); chi2/gl = 2.013; GFI= 0.958, RMR = 0.055 y RMSEA = 0.057; AGFI = 0.927, NFI = 0.878, TLI = 0.902, CFI =0.933 e IFI = 0.935; AIC = 132.486 y ECVI = 0.423. CONCLUSION: This new questionnaire (G_Clinic) improves clinimetric values of the Font Roja questionnaire, because it reduces the number of items, improves the reliability of the dimensions, increases the value of variance explained, and allows knowing job satisfaction of nurses in clinical managementt.

24. **ARTÍCULO Nº: 4533**

Mebazaa A, Spiro TE, Buller HR, Haskell L, Hu D, Hull R et al. ***Predicting the risk of venous thromboembolism in patients hospitalized with heart failure.*** Circulation. 2014; 130(5): 410-418.

BACKGROUND: Whether heart failure (HF) increases the risk of venous thromboembolism (VTE) is not well established. In the phase III MAGELLAN (Multicenter, rAndomized, parallel Group Efficacy and safety study for the prevention of venous thromboembolism in hospitalized medically iLL patients comparing rivaroxabAN with enoxaparin) trial, extended-duration rivaroxaban was compared with standard-duration enoxaparin followed by placebo for VTE prevention in 8101 hospitalized acutely ill patients with or without HF. The aim of this analysis was to evaluate the relationship between HF severity and the risk of VTE in MAGELLAN patients. METHODS AND RESULTS: Hospitalized patients diagnosed with HF were included according to New York Heart Association class III or IV at admission (n=2593). HF severity was determined by N-terminal probrain natriuretic peptide (NT-proBNP) plasma concentrations (median 1904 pg/mL). Baseline plasma D-dimer concentrations ranged from 0.6 to 1.7 mug/L for the less and more severe HF subgroups. Patients with more severe HF had a greater incidence of VTE versus patients with less severe HF, with a significant trend up to Day 10 (4.3% versus 2.2%; P=0.0108) and Day 35 (7.2% versus 4.1%; P=0.0150). Multivariable analysis confirmed that NT-proBNP concentration was associated with VTE risk up to Day 10 (P=0.017) and D-dimer concentration with VTE risk up to Day 35 (P=0.005). The association between VTE risk and HF severity that was observed in the enoxaparin/placebo group was not seen in the extended-duration rivaroxaban group. CONCLUSIONS: Patients with more severe HF, as defined by high NT-proBNP plasma concentration, were at increased risk of VTE. NT-proBNP may be useful to identify high short-term risk, whereas elevated D-dimer may be suggestive of high midterm risk. CLINICAL TRIAL REGISTRATION: URL: http://www.clinicaltrials.gov. Unique identifier: NCT00571649.

25. **ARTÍCULO Nº: 4534**

Jessup M, Antman E. ***Reducing the risk of heart attack and stroke: the American Heart Association/American College of Cardiology prevention guidelines***. Circulation. 2014; 130(6): e48-e50.

26. **ARTÍCULO Nº: 4535**

Bucholz EM, Butala NM, Rathore SS, Dreyer RP, Lansky AJ, Krumholz HM. ***Sex differences in long-term mortality after myocardial infarction: a systematic review***. Circulation. 2014; 130(9): 757-767.

BACKGROUND: Studies of sex differences in long-term mortality after acute myocardial infarction have reported mixed results. A systematic review is needed to characterize what is known about sex differences in long-term outcomes and to define gaps in knowledge. METHODS AND RESULTS: We searched the Medline database from 1966 to December 2012 to identify all studies that provided sex-based comparisons of mortality after acute myocardial infarction. Only studies with at least 5 years of follow-up were reviewed. Of the 1877 identified abstracts, 52 studies met the inclusion criteria, of which 39 were included in this review. Most studies included fewer than one-third women. There was significant heterogeneity across studies in patient populations, methodology, and risk adjustment, which produced substantial variability in risk estimates. In general, most studies reported higher unadjusted mortality for women compared with men at both 5 and 10 years after acute myocardial infarction; however, many of the differences in mortality became attenuated after adjustment for age. Multivariable models varied between studies; however, most reported a further reduction in sex differences after adjustment for covariates other than age. Few studies examined sex-by-age interactions; however, several studies reported interactions between sex and treatment whereby women have similar mortality risk as men after revascularization. CONCLUSIONS: Sex differences in long-term mortality after acute myocardial infarction are largely explained by differences in age, comorbidities, and treatment use between women and men. Future research should aim to clarify how these differences in risk factors and presentation contribute to the sex gap in mortality.

27. **ARTÍCULO Nº: 4536**

Krumholz HM, Normand SL, Wang Y. ***Trends in hospitalizations and outcomes for acute cardiovascular disease and stroke, 1999-2011***. Circulation. 2014; 130(12): 966-975.

BACKGROUND: During the past decade, efforts focused intensely on improving the quality of care for people with, or at risk for, cardiovascular disease and stroke. We sought to quantify the changes in hospitalization rates and outcomes during this period. METHODS AND RESULTS: We used national Medicare data to identify all Fee-for-Service patients >/=65 years of age who were hospitalized with unstable angina, myocardial infarction, heart failure, ischemic stroke, and all other conditions from 1999 through 2011 (2010 for 1-year mortality). For each condition, we examined trends in adjusted rates of hospitalization per patient-year and, for each hospitalization, rates of 30-day mortality, 30-day readmission, and 1-year mortality overall and by demographic subgroups and regions. Rates of adjusted hospitalization declined for cardiovascular conditions (38.0% for 2011 compared with 1999 [95% confidence interval (CI), 37.2-38.8] for myocardial infarction, 83.8% [95% CI, 83.3-84.4] for unstable angina, 30.5% [95% CI, 29.3-31.6] for heart failure, and 33.6% [95% CI, 32.9-34.4] for ischemic stroke compared with 10.2% [95% CI, 10.1-10.2] for all other conditions). Adjusted 30-day mortality rates declined 29.4% (95% CI, 28.1-30.6) for myocardial infarction, 13.1% (95% CI, 1.1-23.7) for unstable angina, 16.4% (95% CI, 15.1-17.7) for heart failure, and 4.7% (95% CI, 3.0-6.4) for ischemic stroke. There were also reductions in rates of 1-year mortality and 30-day readmission and

consistency in declines among the demographic subgroups. CONCLUSIONS: Hospitalizations for acute cardiovascular disease and stroke from 1999 through 2011 declined more rapidly than for other conditions. For these conditions, mortality and readmission outcomes improved.

28. **ARTÍCULO Nº: 4537**

Marang-van de Mheen PJ, Shojania KG. ***Simpson's paradox: how performance measurement can fail even with perfect risk adjustment***. BMJ Qual.Saf. 2014; 23(9): 701-705.

29. **ARTÍCULO Nº: 4538**

Singh H, Meyer AN, Thomas EJ. ***The frequency of diagnostic errors in outpatient care: estimations from three large observational studies involving US adult populations***. BMJ Qual.Saf. 2014; 23(9): 727-731.

BACKGROUND: The frequency of outpatient diagnostic errors is challenging to determine due to varying error definitions and the need to review data across multiple providers and care settings over time. We estimated the frequency of diagnostic errors in the US adult population by synthesising data from three previous studies of clinic-based populations that used conceptually similar definitions of diagnostic error. METHODS: Data sources included two previous studies that used electronic triggers, or algorithms, to detect unusual patterns of return visits after an initial primary care visit or lack of follow-up of abnormal clinical findings related to colorectal cancer, both suggestive of diagnostic errors. A third study examined consecutive cases of lung cancer. In all three studies, diagnostic errors were confirmed through chart review and defined as missed opportunities to make a timely or correct diagnosis based on available evidence. We extrapolated the frequency of diagnostic error obtained from our studies to the US adult population, using the primary care study to estimate rates of diagnostic error for acute conditions (and exacerbations of existing conditions) and the two cancer studies to conservatively estimate rates of missed diagnosis of colorectal and lung cancer (as proxies for other serious chronic conditions). RESULTS: Combining estimates from the three studies yielded a rate of outpatient diagnostic errors of 5.08%, or approximately 12 million US adults every year. Based upon previous work, we estimate that about half of these errors could potentially be harmful. CONCLUSIONS: Our population-based estimate suggests that diagnostic errors affect at least 1 in 20 US adults. This foundational evidence should encourage policymakers, healthcare organisations and researchers to start measuring and reducing diagnostic errors.

30. **ARTÍCULO Nº: 4539**

Tvedt C, Sjetne IS, Helgeland J, Bukholm G. ***An observational study: associations between nurse-reported hospital characteristics and estimated 30-day survival probabilities***. BMJ Qual.Saf. 2014; 23(9): 757-764.

BACKGROUND: There is a growing body of evidence for associations between the work environment and patient outcomes. A good work environment may maximise healthcare workers' efforts to avoid failures and to facilitate quality care that is focused on patient safety. Several studies use nurse-reported quality measures, but it is uncertain whether these outcomes are correlated with clinical outcomes. The aim of this study was to determine the correlations between hospital-aggregated, nurse-assessed quality and safety, and estimated probabilities for 30-day survival in and out of hospital. METHODS: In a multicentre study involving almost all Norwegian hospitals with more than 85 beds (sample size=30, information about nurses' perceptions of organisational characteristics were collected. Subscales from this survey were used to describe properties of the organisations: quality system, patient safety management, nurse-physician relationship, staffing

adequacy, quality of nursing and patient safety. The average scores for these organisational characteristics were aggregated to hospital level, and merged with estimated probabilities for 30-day survival in and out of hospital (survival probabilities) from a national database. In this observational, ecological study, the relationships between the organisational characteristics (independent variables) and clinical outcomes (survival probabilities) were examined. RESULTS: Survival probabilities were correlated with nurse-assessed quality of nursing. Furthermore, the subjective perception of staffing adequacy was correlated with overall survival. CONCLUSIONS: This study showed that perceived staffing adequacy and nurses' assessments of quality of nursing were correlated with survival probabilities. It is suggested that the way nurses characterise the microsystems they belong to, also reflects the general performance of hospitals.

31. **ARTÍCULO Nº: 4540**

Singer SJ, Tucker AL. ***The evolving literature on safety WalkRounds: emerging themes and practical messages.*** BMJ Qual.Saf. 2014; 23(10): 789-800.

32. **ARTÍCULO Nº: 4541**

Greaves F, Laverty AA, Cano DR, Moilanen K, Pulman S, Darzi A et al. ***Tweets about hospital quality: a mixed methods study.*** BMJ Qual.Saf. 2014; 23(10): 838-846.

BACKGROUND: Twitter is increasingly being used by patients to comment on their experience of healthcare. This may provide information for understanding the quality of healthcare providers and improving services. OBJECTIVE: To examine whether tweets sent to hospitals in the English National Health Service contain information about quality of care. To compare sentiment on Twitter about hospitals with established survey measures of patient experience and standardised mortality rates. DESIGN: A mixed methods study including a quantitative analysis of all 198,499 tweets sent to English hospitals over a year and a qualitative directed content analysis of 1000 random tweets. Twitter sentiment and conventional quality metrics were compared using Spearman's rank correlation coefficient. KEY RESULTS: 11% of tweets to hospitals contained information about care quality, with the most frequent topic being patient experience (8%). Comments on effectiveness or safety of care were present, but less common (3%). 77% of tweets about care quality were positive in tone. Other topics mentioned in tweets included messages of support to patients, fundraising activity, self-promotion and dissemination of health information. No associations were observed between Twitter sentiment and conventional quality metrics. CONCLUSIONS: Only a small proportion of tweets directed at hospitals discuss quality of care and there was no clear relationship between Twitter sentiment and other measures of quality, potentially limiting Twitter as a medium for quality monitoring. However, tweets did contain information useful to target quality improvement activity. Recent enthusiasm by policy makers to use social media as a quality monitoring and improvement tool needs to be carefully considered and subjected to formal evaluation.

33. **ARTÍCULO Nº: 4542**

Greenfield D, Kellner A, Townsend K, Wilkinson A, Lawrence SA. ***Health service accreditation reinforces a mindset of high-performance human resource management: lessons from an Australian study.*** Int.J.Qual.Health Care. 2014; 26(4): 372-377.

OBJECTIVE: To investigate whether an accreditation program facilitates healthcare organizations (HCOs) to evolve and maintain high-performance human resource management (HRM) systems. DESIGN: Cross-sectional multimethod study. SETTING AND PARTICIPANTS: Healthcare organizations participating in the Australian Council on Healthcare Standards Evaluation and Quality Improvement

Program (EQuIP 4) between 2007 and 2011. MAIN OUTCOME MEASURES: Ratings across the EQuIP 4 HRM criteria, a clinical performance measure, surveyor reports (HRM information) and interview data (opinions and experiences regarding HRM and accreditation). RESULTS: Healthcare organizations identified as high performing on accreditation HRM criteria seek excellence primarily because of internal motivations linked to best practice. Participation in an accreditation program is a secondary and less significant influence. Notwithstanding, the accreditation program provides the HCO opportunity for internal and external review and assessment of their performance; the accreditation activities are reflective learning and feedback events. CONCLUSIONS: This study reveals that HCOs that pursue highly performing HRM systems use participation in an accreditation program as an opportunity. Their organizational mindset is to use the program as a tool by which to reflect and obtain feedback on their performance so to maintain or improve their management of staff and delivery of care.

34. **ARTÍCULO Nº: 4543**

Backman C, Forster AJ, Vanderloo S. ***Barriers and success factors to the implementation of a multi-site prospective adverse event surveillance system.*** Int.J.Qual.Health Care. 2014; 26(4): 418-425.

OBJECTIVES: To determine the feasibility of implementing a clinical observation method for adverse event detection. METHODS: Prospective adverse event surveillance was conducted from February to April 2012. We implemented this adverse event prospective surveillance system on the general internal medicine units of five sites within two teaching institutions and one community hospital. Following surveillance, we assembled provider and decision-maker focus groups to understand the barriers and success factors related to our implementation. We used a structured interview guide with facilitated discussion. RESULTS: We performed six focus group interviews in June and July 2012. In total, 31 individual participated including senior executives (15), managers (7) and care providers (9). We identified the following success factors: the overall design of the system including the clinical observer and clinical reviewer functions; the credibility of the data and the opportunity to make changes to practice in 'real-time'. We identified the following opportunities for improvement: the need for clear guidelines on the type of information to collect for each event trigger, and for an action plan to ensure accountability and follow through on improvement efforts once the adverse event data have been analyzed. CONCLUSIONS: This work supports a conclusion that prospective surveillance is viewed as beneficial and acceptable. For this reason, healthcare organizations should consider adopting prospective adverse event surveillance to support their local quality improvement methods.

35. **ARTÍCULO Nº: 4544**

Boerebach BC, Scheepers RA, van der Leeuw RM, Heineman MJ, Arah OA, Lombarts KM. ***The impact of clinicians' personality and their interpersonal behaviors on the quality of patient care: a systematic review.*** Int.J.Qual.Health Care. 2014; 26(4): 426-481.

PURPOSE: To review systematically the impact of clinicians' personality and observed interpersonal behaviors on the quality of their patient care. DATA SOURCES: We searched MEDLINE, EMBASE and PsycINFO from inception through January 2014, using both free text words and subject headings, without language restriction. Additional hand-searching was performed. STUDY SELECTION: The PRISMA framework guided (the reporting of) study selection and data extraction. Eligible articles were selected by title, abstract and full text review subsequently. DATA EXTRACTION: Data on study setting, participants, personality traits or interpersonal behaviors, outcome measures and limitations were extracted in a systematic way. RESULTS OF DATA SYNTHESIS: Our systematic search yielded 10 476

unique hits. Ultimately, 85 studies met all inclusion criteria, 4 on clinicians' personality and 81 on their interpersonal behaviors. The studies on interpersonal behaviors reported instrumental (n = 45) and affective (n = 59) verbal behaviors or nonverbal behaviors (n = 20). Outcome measures in the studies were quality of processes of care (n = 68) and patient health outcomes (n = 35). The above categories were non-exclusive. The majority of the studies found little or no effect of clinicians' personality traits and their interpersonal behaviors on the quality of patient care. The few studies that found an effect were mostly observational studies that did not address possible uncontrolled confounding. CONCLUSIONS: There is no strong empirical evidence that specific interpersonal behaviors will lead to enhanced quality of care. These findings could imply that clinicians can adapt their interactions toward patients' needs and preferences instead of displaying certain specific behaviors per se.

36. **ARTÍCULO Nº: 4545**

Huang LC, Conley D, Lipsitz S, Wright CC, Diller TW, Edmondson L et al. ***The Surgical Safety Checklist and Teamwork Coaching Tools: a study of inter-rater reliability***. BMJ Qual.Saf. 2014; 23(8): 639-650.

OBJECTIVE: To assess the inter-rater reliability (IRR) of two novel observation tools for measuring surgical safety checklist performance and teamwork. SUMMARY BACKGROUND: Data surgical safety checklists can promote adherence to standards of care and improve teamwork in the operating room. Their use has been associated with reductions in mortality and other postoperative complications. However, checklist effectiveness depends on how well they are performed. METHODS: Authors from the Safe Surgery 2015 initiative developed a pair of novel observation tools through literature review, expert consultation and end-user testing. In one South Carolina hospital participating in the initiative, two observers jointly attended 50 surgical cases and independently rated surgical teams using both tools. We used descriptive statistics to measure checklist performance and teamwork at the hospital. We assessed IRR by measuring percent agreement, Cohen's kappa, and weighted kappa scores. RESULTS: The overall percent agreement and kappa between the two observers was 93% and 0.74 (95% CI 0.66 to 0.79), respectively, for the Checklist Coaching Tool and 86% and 0.84 (95% CI 0.77 to 0.90) for the Surgical Teamwork Tool. Percent agreement for individual sections of both tools was 79% or higher. Additionally, kappa scores for six of eight sections on the Checklist Coaching Tool and for two of five domains on the Surgical Teamwork Tool achieved the desired 0.7 threshold. However, teamwork scores were high and variation was limited. There were no significant changes in the percent agreement or kappa scores between the first 10 and last 10 cases observed. CONCLUSIONS: Both tools demonstrated substantial IRR and required limited training to use. These instruments may be used to observe checklist performance and teamwork in the operating room. However, further refinement and calibration of observer expectations, particularly in rating teamwork, could improve the utility of the tools.

37. **ARTÍCULO Nº: 4546**

Powell AA, White KM, Partin MR, Halek K, Hysong SJ, Zarling E et al. ***More than a score: a qualitative study of ancillary benefits of performance measurement***. BMJ Qual.Saf. 2014; 23(8): 651-658.

BACKGROUND: Prior research has examined clinical effects of performance measurement systems. To the extent that non-clinical effects have been researched, the focus has been on negative unintended consequences. Yet, these same systems may also have ancillary benefits for patients and providers--that is, benefits that extend beyond improvements on clinical measures. The purpose of this study is to identify and describe potential ancillary benefits of performance measures as perceived by primary care staff and facility leaders in a large US healthcare system. METHODS: In-person individual semistructured interviews were conducted with 59 primary care staff and facility leaders at

four Veterans Health Administration facilities. Transcribed interviews were coded and organised into thematic categories. RESULTS: Interviewed staff observed that local performance measurement implementation practices can result in increased patient knowledge and motivation. These effects on patients can lead to improved performance scores and additional ancillary benefits. Performance measurement implementation can also directly result in ancillary benefits for the patients and providers. Patients may experience greater satisfaction with care and psychosocial benefits associated with increased provider-patient communication. Ancillary benefits of performance measurement for providers include increased pride in individual or organisational performance and greater confidence that one's practice is grounded in evidence-based medicine. CONCLUSIONS: A comprehensive understanding of the effects of performance measurement systems needs to incorporate ancillary benefits as well as effects on clinical performance scores and negative unintended consequences. Although clinical performance has been the focus of most evaluations of performance measurement to date, both patient care and provider satisfaction may improve more rapidly if all three categories of effects are considered when designing and evaluating performance measurement systems.

38. **ARTÍCULO Nº: 4547**

Kroenke K, Krebs EE, Wu J, Yu Z, Chumbler NR, Bair MJ. ***Telecare collaborative management of chronic pain in primary care: a randomized clinical trial***. JAMA. 2014; 312(3): 240-248.

IMPORTANCE: Chronic musculoskeletal pain is among the most prevalent, costly, and disabling medical disorders. However, few clinical trials have examined interventions to improve chronic pain in primary care. OBJECTIVE: To determine the effectiveness of a telecare intervention for chronic pain. DESIGN, SETTING, AND PARTICIPANTS: The Stepped Care to Optimize Pain Care Effectiveness (SCOPE) study was a randomized trial comparing a telephone-delivered collaborative care management intervention vs usual care in 250 patients with chronic (>/=3 months) musculoskeletal pain of at least moderate intensity (Brief Pain Inventory [BPI] score >/=5). Patients were enrolled from 5 primary care clinics in a single Veterans Affairs medical center from June 2010 through May 2012, with 12-month follow-up completed by June 2013. INTERVENTIONS: Patients were randomized either to an intervention group (n = 124) or to a usual care group whose members received all pain care as usual from their primary care physicians (n = 126). The intervention group received 12 months of telecare management that coupled automated symptom monitoring with an algorithm-guided stepped care approach to optimizing analgesics. MAIN OUTCOMES AND MEASURES: Primary outcome was the BPI total score, which ranges from 0 ("no pain") to 10 ("pain as bad as you can imagine") and for which a 1-point change is considered clinically important. Secondary pain outcomes included BPI interference and severity, global pain improvement, treatment satisfaction, and use of opioids and other analgesics. RESULTS: Overall, mean (SD) baseline BPI scores in the intervention and control groups were 5.31 (1.81) and 5.12 (1.80), respectively. Compared with usual care, the intervention group had a 1.02-point lower (95% CI, -1.58 to -0.47) BPI score at 12 months (3.57 vs 4.59). Patients in the intervention group were nearly twice as likely to report at least a 30% improvement in their pain score by 12 months (51.7% vs 27.1%; relative risk, 1.9 [95% CI, 1.4 to 2.7]), with a number needed to treat of 4.1 (95% CI, 3.0 to 6.4) for a 30% improvement. Secondary pain outcomes also improved. Few patients in either group required opioid initiation or dose escalation. CONCLUSIONS AND RELEVANCE: Telecare collaborative management increased the proportion of primary care patients with improved chronic musculoskeletal pain. This was accomplished by optimizing nonopioid analgesic medications using a stepped care algorithm and monitoring. TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT00926588.

39. **ARTÍCULO Nº: 4548**

Koton S, Schneider AL, Rosamond WD, Shahar E, Sang Y, Gottesman RF et al. ***Stroke incidence and mortality trends in US communities, 1987 to 2011***. JAMA. 2014; 312(3): 259-268.

IMPORTANCE: Prior studies have shown decreases in stroke mortality over time, but data on validated stroke incidence and long-term trends by race are limited. OBJECTIVE: To study trends in stroke incidence and subsequent mortality among black and white adults in the Atherosclerosis Risk in Communities (ARIC) cohort from 1987 to 2011. DESIGN, SETTING, AND PARTICIPANTS: Prospective cohort study of 14,357 participants (282,097 person-years) free of stroke at baseline was facilitated in 4 different US communities. Participants were recruited for the purpose of studying all stroke hospitalizations and deaths and for collection of baseline information on cardiovascular risk factors (via interviews and physical examinations) in 1987-1989. Participants were followed up (via examinations, annual phone interviews, active surveillance of discharges from local hospitals, and linkage with the National Death Index) through December 31, 2011. The study physician reviewers adjudicated all possible strokes and classified them as definite or probable ischemic or hemorrhagic events. MAIN OUTCOMES AND MEASURES: Trends in rates of first-ever stroke per 10 years of calendar time were estimated using Poisson regression incidence rate ratios (IRRs), with subsequent mortality analyzed using Cox proportional hazards regression models and hazard ratios (HRs) overall and by race, sex, and age divided at 65 years. RESULTS: Among 1051 (7%) participants with incident stroke, there were 929 with incident ischemic stroke and 140 with incident hemorrhagic stroke (18 participants had both during the study period). Crude incidence rates were 3.73 (95% CI, 3.51-3.96) per 1000 person-years for total stroke, 3.29 (95% CI, 3.08-3.50) per 1000 person-years for ischemic stroke, and 0.49 (95% CI, 0.41-0.57) per 1000 person-years for hemorrhagic stroke. Stroke incidence decreased over time in white and black participants (age-adjusted IRRs per 10-year period, 0.76 [95% CI, 0.66-0.87]; absolute decrease of 0.93 per 1000 person-years overall). The decrease in age-adjusted incidence was evident in participants age 65 years and older (age-adjusted IRR per 10-year period, 0.69 [95% CI, 0.59-0.81]; absolute decrease of 1.35 per 1000 person-years) but not evident in participants younger than 65 years (age-adjusted IRR per 10-year period, 0.97 [95% CI, 0.76-1.25]; absolute decrease of 0.09 per 1000 person-years) (P = .02 for interaction). The decrease in incidence was similar by sex. Of participants with incident stroke, 614 (58%) died through 2011. The mortality rate was higher for hemorrhagic stroke (68%) than for ischemic stroke (57%). Overall, mortality after stroke decreased over time (hazard ratio [HR], 0.80 [95% CI, 0.66-0.98]; absolute decrease of 8.09 per 100 strokes after 10 years [per 10-year period]). The decrease in mortality was mostly accounted for by the decrease at younger than age 65 years (HR, 0.65 [95% CI, 0.46-0.93]; absolute decrease of 14.19 per 100 strokes after 10 years [per 10-year period]), but was similar across race and sex. CONCLUSIONS AND RELEVANCE: In a multicenter cohort of black and white adults in US communities, stroke incidence and mortality rates decreased from 1987 to 2011. The decreases varied across age groups, but were similar across sex and race, showing that improvements in stroke incidence and outcome continued to 2011.

40. **ARTÍCULO Nº: 4549**

Jorgensen ME, Torp-Pedersen C, Gislason GH, Jensen PF, Berger SM, Christiansen CB et al. ***Time elapsed after ischemic stroke and risk of adverse cardiovascular events and mortality following elective noncardiac surgery***. JAMA. 2014; 312(3): 269-277.

IMPORTANCE: The timing of surgery in patients with recent ischemic stroke is an important and inadequately addressed issue. OBJECTIVE: To assess the safety and importance of time elapsed between stroke and surgery in the risk of perioperative cardiovascular events and mortality. DESIGN,

SETTING, AND PARTICIPANTS: Danish nationwide cohort study (2005-2011) including all patients aged 20 years or older undergoing elective noncardiac surgeries (n=481,183 surgeries). EXPOSURES: Time elapsed between stroke and surgery in categories and as a continuous measure. MAIN OUTCOMES AND MEASURES: Risk of major adverse cardiovascular events (MACE; including ischemic stroke, acute myocardial infarction, and cardiovascular mortality) and all-cause mortality up to 30 days after surgery. Odds ratios (ORs) were calculated by multivariable logistic regression models. RESULTS: Crude incidence rates of MACE among patients with (n = 7137) and without (n = 474,046) prior stroke were 54.4 (95% CI, 49.1-59.9) vs 4.1 (95% CI, 3.9-4.2) per 1000 patients. Compared with patients without stroke, ORs for MACE were 14.23 (95% CI, 11.61-17.45) for stroke less than 3 months prior to surgery, 4.85 (95% CI, 3.32-7.08) for stroke 3 to less than 6 months prior, 3.04 (95% CI, 2.13-4.34) for stroke 6 to less than 12 months prior, and 2.47 (95% CI, 2.07-2.95) for stroke 12 months or more prior. MACE risks were at least as high for low-risk (OR, 9.96; 95% CI, 5.49-18.07 for stroke <3 months) and intermediate-risk (OR, 17.12; 95% CI, 13.68-21.42 for stroke <3 months) surgery compared with high-risk surgery (OR, 2.97; 95% CI, 0.98-9.01 for stroke <3 months) (P = .003 for interaction). Similar patterns were found for 30-day mortality: ORs were 3.07 (95% CI, 2.30-4.09) for stroke less than 3 months prior, 1.97 (95% CI, 1.22-3.19) for stroke 3 to less than 6 months prior, 1.45 (95% CI, 0.95-2.20) for stroke 6 to less than 12 months prior, and 1.46 (95% CI, 1.21-1.77) for stroke 12 months or more prior to surgery compared with patients without stroke. Cubic regression splines performed on the stroke subgroup supported that risk leveled off after 9 months. CONCLUSIONS AND RELEVANCE: A history of stroke was associated with adverse outcomes following surgery, in particular if time between stroke and surgery was less than 9 months. After 9 months, the associated risk appeared stable yet still increased compared with patients with no stroke. The time dependency of risk may warrant attention in future guidelines.

41. **ARTÍCULO Nº: 4550**

Sacco RL, Dong C. ***Declining stroke incidence and improving survival in US communities: evidence for success and future challenges***. JAMA. 2014; 312(3): 237-238.

42. **ARTÍCULO Nº: 4551**

Johnston BC, Kanters S, Bandayrel K, Wu P, Naji F, Siemieniuk RA et al. ***Comparison of weight loss among named diet programs in overweight and obese adults: a meta-analysis***. JAMA. 2014; 312(9): 923-933.

IMPORTANCE: Many claims have been made regarding the superiority of one diet or another for inducing weight loss. Which diet is best remains unclear. OBJECTIVE: To determine weight loss outcomes for popular diets based on diet class (macronutrient composition) and named diet. DATA SOURCES: Search of 6 electronic databases: AMED, CDSR, CENTRAL, CINAHL, EMBASE, and MEDLINE from inception of each database to April 2014. STUDY SELECTION: Overweight or obese adults (body mass index >/=25) randomized to a popular self-administered named diet and reporting weight or body mass index data at 3-month follow-up or longer. DATA EXTRACTION AND SYNTHESIS: Two reviewers independently extracted data on populations, interventions, outcomes, risk of bias, and quality of evidence. A Bayesian framework was used to perform a series of random-effects network meta-analyses with meta-regression to estimate the relative effectiveness of diet classes and programs for change in weight and body mass index from baseline. Our analyses adjusted for behavioral support and exercise. MAIN OUTCOMES AND MEASURES: Weight loss and body mass index at 6- and 12-month follow-up (+/-3 months for both periods). RESULTS: Among 59 eligible articles reporting 48 unique randomized trials (including 7286 individuals) and compared with no diet, the largest weight loss was associated with low-carbohydrate diets (8.73 kg [95% credible interval {CI},

7.27 to 10.20 kg] at 6-month follow-up and 7.25 kg [95% CI, 5.33 to 9.25 kg] at 12-month follow-up) and low-fat diets (7.99 kg [95% CI, 6.01 to 9.92 kg] at 6-month follow-up and 7.27 kg [95% CI, 5.26 to 9.34 kg] at 12-month follow-up). Weight loss differences between individual diets were minimal. For example, the Atkins diet resulted in a 1.71 kg greater weight loss than the Zone diet at 6-month follow-up. Between 6- and 12-month follow-up, the influence of behavioral support (3.23 kg [95% CI, 2.23 to 4.23 kg] at 6-month follow-up vs 1.08 kg [95% CI, -1.82 to 3.96 kg] at 12-month follow-up) and exercise (0.64 kg [95% CI, -0.35 to 1.66 kg] vs 2.13 kg [95% CI, 0.43 to 3.85 kg], respectively) on weight loss differed. CONCLUSIONS AND RELEVANCE: Significant weight loss was observed with any low-carbohydrate or low-fat diet. Weight loss differences between individual named diets were small. This supports the practice of recommending any diet that a patient will adhere to in order to lose weight.

43. **ARTÍCULO Nº: 4552**

Ebrahim S, Sohani ZN, Montoya L, Agarwal A, Thorlund K, Mills EJ et al. ***Reanalyses of randomized clinical trial data***. JAMA. 2014; 312(10): 1024-1032.

IMPORTANCE: Reanalyses of randomized clinical trial (RCT) data may help the scientific community assess the validity of reported trial results. OBJECTIVES: To identify published reanalyses of RCT data, to characterize methodological and other differences between the original trial and reanalysis, to evaluate the independence of authors performing the reanalyses, and to assess whether the reanalysis changed interpretations from the original article about the types or numbers of patients who should be treated. DESIGN: We completed an electronic search of MEDLINE from inception to March 9, 2014, to identify all published studies that completed a reanalysis of individual patient data from previously published RCTs addressing the same hypothesis as the original RCT. Four data extractors independently screened articles and extracted data. MAIN OUTCOMES AND MEASURES: Changes in direction and magnitude of treatment effect, statistical significance, and interpretation about the types or numbers of patients who should be treated. RESULTS: We identified 37 eligible reanalyses in 36 published articles, 5 of which were performed by entirely independent authors (2 based on publicly available data and 2 on data that were provided on request; data availability was unclear for 1). Reanalyses differed most commonly in statistical or analytical approaches (n = 18) and in definitions or measurements of the outcome of interest (n = 12). Four reanalyses changed the direction and 2 changed the magnitude of treatment effect, whereas 4 led to changes in statistical significance of findings. Thirteen reanalyses (35%) led to interpretations different from that of the original article, 3 (8%) showing that different patients should be treated; 1 (3%), that fewer patients should be treated; and 9 (24%), that more patients should be treated. CONCLUSIONS AND RELEVANCE: A small number of reanalyses of RCTs have been published to date. Only a few were conducted by entirely independent authors. Thirty-five percent of published reanalyses led to changes in findings that implied conclusions different from those of the original article about the types and number of patients who should be treated.

44. **ARTÍCULO Nº: 4553**

Gershon AS, Campitelli MA, Croxford R, Stanbrook MB, To T, Upshur R et al. ***Combination long-acting beta-agonists and inhaled corticosteroids compared with long-acting beta-agonists alone in older adults with chronic obstructive pulmonary disease***. JAMA. 2014; 312(11): 1114-1121.

IMPORTANCE: Chronic obstructive pulmonary disease (COPD), a manageable respiratory condition, is the third leading cause of death worldwide. Knowing which prescription medications are the most effective in improving health outcomes for people with COPD is essential to maximizing health

outcomes. OBJECTIVE: To estimate the long-term benefits of combination long-acting beta-agonists (LABAs) and inhaled corticosteroids compared with LABAs alone in a real-world setting. DESIGN, SETTING, AND PATIENTS: Population-based, longitudinal cohort study conducted in Ontario, Canada, from 2003 to 2011. All individuals aged 66 years or older who met a validated case definition of COPD on the basis of health administrative data were included. After propensity score matching, there were 8712 new users of LABA-inhaled corticosteroid combination therapy and 3160 new users of LABAs alone who were followed up for median times of 2.7 years and 2.5 years, respectively. EXPOSURES: Newly prescribed combination LABAs and inhaled corticosteroids or LABAs alone. MAIN OUTCOMES AND MEASURES: Composite outcome of death and COPD hospitalization. RESULTS: The main outcome was observed among 5594 new users of LABAs and inhaled corticosteroids (3174 deaths [36.4%]; 2420 COPD hospitalizations [27.8%]) and 2129 new users of LABAs alone (1179 deaths [37.3%]; 950 COPD hospitalizations [30.1%]). New use of LABAs and inhaled corticosteroids was associated with a modestly reduced risk of death or COPD hospitalization compared with new use of LABAs alone (difference in composite outcome at 5 years, -3.7%; 95% CI, -5.7% to -1.7%; hazard ratio [HR], 0.92; 95% CI, 0.88-0.96). The greatest difference was among COPD patients with a codiagnosis of asthma (difference in composite at 5 years, -6.5%; 95% CI, -10.3% to -2.7%; HR, 0.84; 95% CI, 0.77-0.91) and those who were not receiving inhaled long-acting anticholinergic medication (difference in composite at 5 years, -8.4%; 95% CI, -11.9% to -4.9%; HR, 0.79; 95% CI, 0.73-0.86). CONCLUSIONS AND RELEVANCE: Among older adults with COPD, particularly those with asthma and those not receiving a long-acting anticholinergic medication, newly prescribed LABA and inhaled corticosteroid combination therapy, compared with newly prescribed LABAs alone, was associated with a significantly lower risk of the composite outcome of death or COPD hospitalization.

45. **ARTÍCULO Nº: 4554**

Strandberg TE, Kolehmainen L, Vuorio A. ***Evaluation and treatment of older patients with hypercholesterolemia: a clinical review***. JAMA. 2014; 312(11): 1136-1144.

IMPORTANCE: Hypercholesterolemia is common among people older than 80 years. Substantial functional heterogeneity exists among older patients, and decision making for statin use differs in older patients relative to younger ones. OBJECTIVE: To discuss the presentation, modifying factors, and treatment of hypercholesterolemia (usually with statins) among persons older than 80 years. EVIDENCE REVIEW: MEDLINE and other sources were searched from January 1990 to June 2014. Personal libraries and a hand search of reference lists from guidelines and reviews from January 2000 to June 2014 were also used. FINDINGS: No randomized clinical trials (RCTs) of statin or any other hypocholesterolemic medication included persons older than 80 years at baseline. Findings from 75- to 80-year-old patients enrolled in RCTs and information from observational studies support statin treatment for secondary prevention of atherosclerotic cardiovascular disease (ASCVD) and probably in patients with diabetes without ASCVD. Harms from statin drugs are not increased in older patients, so the use of these agents for primary prevention is possible. Because people older than 80 years are biologically heterogeneous with varying life expectancy, may have frailty or comorbid conditions, and may take multiple medications, the decision to treat with statins must be individualized. CONCLUSIONS AND RELEVANCE: Ideally, treatment of hypercholesterolemia for patients at risk of ASCVD should start before they turn 80 years old. No RCT evidence exists to guide statin initiation after age 80 years. Decisions to use statins in older individuals are made individually and are not supported by high-quality evidence.

46. **ARTÍCULO Nº: 4555**

Byatt K. ***Overenthusiastic stroke risk factor modification in the over-80s: are we being disingenuous to ourselves, and to our oldest patients?*** Evid.Based.Med. 2014; 19(4): 121-122.

Statins and antihypertensive therapy are widely used in our oldest patients (ie, those aged over 80 years). The epidemiology suggests that, by this age, hypertension is not an attributable risk factor for stroke, and hypercholesterolaemia has little effect on stroke risk overall. The largest trials of antihypertensive therapy and statins in this age group show at best a marginal clinical reduction in stroke and very modest clinical reductions in other cardiovascular end points. Older patients have very diverse views on the relative importance of stroke and death as end points, and these differ from physicians' views. Informed consent principles (full relevant information in an accessible form, and autonomy of decision-making) suggest that these medications are greatly over-prescribed in the healthy elderly and largely irrelevant in the frail elderly, but require that the patient should be actively involved in the process.

47. **ARTÍCULO Nº: 4556**

Kistin CJ. ***Transparent reporting of missing outcome data in clinical trials: applying the general principles of CONSORT 2010***. Evid.Based.Med. 2014; 19(5): 161-162.

48. **ARTÍCULO Nº: 4557**

Pastori MM, Sarti M, Pons M, Barazzoni F. ***Assessing the impact of bibliographical support on the quality of medical care in patients admitted to an internal medicine service: a prospective clinical, open, randomised two-arm parallel study***. Evid.Based.Med. 2014; 19(5): 163-168.

To assess and quantify the impact of the literature in diagnostic decisions and treatment of patients admitted to an internal medicine service using the methodology of evidence-based medicine. From November 2012 to February 2013, patients who were hospitalised in the internal medicine service of Regional Hospital of Lugano (Switzerland) and generated questions on medical care were randomly assigned to two groups: an 'intervention group' (supported by the literature research) and a 'control group' (not supported by the literature research). The information obtained from the literature was submitted by email to all members of the medical team within 12 h after asking the question. Two hundred and one participants, from 866 patients hospitalised in the analysed period, divided into intervention (n=101) and control (n=100) groups, generated questions. In the intervention group, bibliographical research was possible for 98 participants. The medical team accepted the results and implemented the research for 90.8% of these participants (89/98). Statistical analyses were carried out on the intention-to-treat and on the per-protocol populations. Bibliographical research had a significant protective effect on transfer to an intensive care unit (relative risk (RR)=0.30; 95% CI 0.10 to 0.90; chi(2)=5.3, p=0.02) and hospital readmissions were also influenced by bibliographical research (RR=0.42; 95% CI 0.17 to 1.0; chi(2)=3.36, p=0.05) in the intention-to-treat population. Our results point out the importance of bibliographical support on the quality of medical care. In particular, they show its possible impact on clinical outcome. TRIAL REGISTRATION NUMBER: EOC Registry (registration number: 14-055).

49. **ARTÍCULO Nº: 4558**

Ullah N, Thompson MJ, Qureshi AI. ***Earlier thrombolytic treatment is associated with better outcomes following acute ischaemic stroke***. Evid.Based.Nurs. 2014; 17(4): 107

50. **ARTÍCULO Nº: 4559**

Manias E. ***Although parents are generally satisfied with their child's postoperative care, children continue to experience moderate-to-severe pain postoperatively***. Evid.Based.Nurs. 2014; 17(4): 113

51. **ARTÍCULO Nº: 4560**

Moth G. ***No difference in patient satisfaction or quality of care provided by nurses or GPs for low-complexity primary care presentations***. Evid.Based.Nurs. 2014; 17(4): 119

52. **ARTÍCULO Nº: 4561**

Frich JC, Kristoffersen ES, Lundqvist C. ***GPs' experiences with brief intervention for medication-overuse headache: a qualitative study in general practice***. Br.J.Gen.Pract. 2014; 64(626): e525-e531.

BACKGROUND: Medication-overuse headache (MOH) is common in the general population, and most patients are managed in primary health care. Brief Intervention (BI) has been used as a motivational technique for patients with drug and alcohol overuse, and may a have role in the treatment of MOH. AIM: To explore GPs' experiences using BI in the management of patients with MOH. DESIGN AND SETTING: Qualitative study in Norwegian general practice. METHOD: Data were collected through four focus group interviews with 22 GPs who participated in an intervention study on BI for MOH. Systematic text condensation was used to analyse transcripts from the focus group interviews. RESULTS: The GPs experienced challenges when trying to convince patients that the medication they used to treat and prevent headache could cause headache, but labelling MOH as a diagnosis opened up a space for change. GPs were able to use BI within the scope of a regular consultation, and they thought that the structured approach had a potential to change patients' views about their condition and medication use. Being diagnosed with medication overuse could bring about feelings of guilt in patients, and GPs emphasised that a good alliance with the patient was necessary for successful change using BI to manage MOH. CONCLUSION: GPs experience BI as a feasible strategy to treat MOH, and the technique relies on a good alliance between the doctor and patient. When using BI, GPs must be prepared to counter patients' misconceptions about medication used for headache.

53. **ARTÍCULO Nº: 4562**

Reeves D, Hann M, Rick J, Rowe K, Small N, Burt J et al. ***Care plans and care planning in the management of long-term conditions in the UK: a controlled prospective cohort study***. Br.J.Gen.Pract. 2014; 64(626): e568-e575.

BACKGROUND: In the UK, the use of care planning and written care plans has been proposed to improve the management of long-term conditions, yet there is limited evidence concerning their uptake and benefits. AIM: To explore the implementation of care plans and care planning in the UK and associations with the process and outcome of care. DESIGN AND SETTING: A controlled prospective cohort study among two groups of patients with long-term conditions who were similar in demographic and clinical characteristics, but who were registered with general practices varying in their implementation of care plans and care planning. METHOD: Implementation of care plans and care planning in general practice was assessed using the 2009-2010 GP Patient Survey, and relationships with patient outcomes (self-management and vitality) were examined using multilevel, mixed effects linear regression modelling. RESULTS: The study recruited 38 practices and 2439 patients. Practices in the two groups (high and low users of written documents) were similar in structural and population characteristics. Patients in the two groups of practices were similar in demographics and baseline health. Patients did demonstrate significant differences in reported

experiences of care planning, although the differences were modest. Very few patients in the cohort reported a written plan that could be confirmed. Analysis of outcomes suggested that most patients show limited change over time in vitality and self-management. Variation in the use of care plans at the practice level was very limited and not related to patient outcomes over time. CONCLUSION: The use of written care plans in patients with long-term conditions is uncommon and unlikely to explain a substantive amount of variation in the process and outcome of care. More proactive efforts at implementation may be required to provide a rigorous test of the potential of care plans and care planning.

54. **ARTÍCULO Nº: 4563**

Vijan S, Sussman JB, Yudkin JS, Hayward RA. ***Effect of patients' risks and preferences on health gains with plasma glucose level lowering in type 2 diabetes mellitus***. JAMA Intern.Med. 2014; 174(8): 1227-1234.

IMPORTANCE: Type 2 diabetes mellitus is common, and treatment to correct blood glucose levels is standard. However, treatment burden starts years before treatment benefits accrue. Because guidelines often ignore treatment burden, many patients with diabetes may be overtreated. OBJECTIVE: To examine how treatment burden affects the benefits of intensive vs moderate glycemic control in patients with type 2 diabetes. DESIGN, SETTING, AND PARTICIPANTS: We estimated the effects of hemoglobin A1c (HbA1c) reduction on diabetes outcomes and overall quality-adjusted life years (QALYs) using a Markov simulation model. Model probabilities were based on estimates from randomized trials and observational studies. Simulated patients were based on adult patients with type 2 diabetes drawn from the National Health and Nutrition Examination Study. INTERVENTIONS: Glucose lowering with oral agents or insulin in type 2 diabetes. MAIN OUTCOMES AND MEASURES: Main outcomes were QALYs and reduction in risk of microvascular and cardiovascular diabetes complications. RESULTS: Assuming a low treatment burden (0.001, or 0.4 lost days per year), treatment that lowered HbA1c level by 1 percentage point provided benefits ranging from 0.77 to 0.91 QALYs for simulated patients who received a diagnosis at age 45 years to 0.08 to 0.10 QALYs for those who received a diagnosis at age 75 years. An increase in treatment burden (0.01, or 3.7 days lost per year) resulted in HbA1c level lowering being associated with more harm than benefit in those aged 75 years. Across all ages, patients who viewed treatment as more burdensome (0.025-0.05 disutility) experienced a net loss in QALYs from treatments to lower HbA1c level. CONCLUSIONS AND RELEVANCE: Improving glycemic control can provide substantial benefits, especially for younger patients; however, for most patients older than 50 years with an HbA1c level less than 9% receiving metformin therapy, additional glycemic treatment usually offers at most modest benefits. Furthermore, the magnitude of benefit is sensitive to patients' views of the treatment burden, and even small treatment adverse effects result in net harm in older patients. The current approach of broadly advocating intensive glycemic control should be reconsidered; instead, treating patients with HbA1c levels less than 9% should be individualized on the basis of estimates of benefit weighed against the patient's views of the burdens of treatment.

55. **ARTÍCULO Nº: 4564**

Lee DS, Markwardt S, Goeres L, Lee CG, Eckstrom E, Williams C et al. ***Statins and physical activity in older men: the osteoporotic fractures in men study***. JAMA Intern.Med. 2014; 174(8): 1263-1270.

IMPORTANCE: Muscle pain, fatigue, and weakness are common adverse effects of statin medications and may decrease physical activity in older men. OBJECTIVE: To determine whether statin use is associated with physical activity, longitudinally and cross-sectionally. DESIGN, SETTING, AND

PARTICIPANTS: Men participating in the Osteoporotic Fractures in Men Study (N = 5994), a multicenter prospective cohort study of community-living men 65 years and older, enrolled between March 2000 and April 2002. Follow-up was conducted through 2009. EXPOSURES: Statin use as determined by an inventory of medications (taken within the last 30 days). In cross-sectional analyses (n = 4137), statin use categories were users and nonusers. In longitudinal analyses (n = 3039), categories were prevalent users (baseline use and throughout the study), new users (initiated use during the study), and nonusers (never used). MAIN OUTCOMES AND MEASURES: Self-reported physical activity at baseline and 2 follow-up visits using the Physical Activity Scale for the Elderly (PASE). At the third visit, an accelerometer measured metabolic equivalents (METs [kilocalories per kilogram per hour]) and minutes of moderate activity (METs >/=3.0), vigorous activity (METs >/=6.0), and sedentary behavior (METs </=1.5). RESULTS: At baseline, 989 men (24%) were users and 3148 (76%) were nonusers. The adjusted difference in baseline PASE between users and nonusers was -5.8 points (95% CI, -10.9 to -0.7 points). A total of 3039 men met the inclusion criteria for longitudinal analysis: 727 (24%) prevalent users, 845 (28%) new users, and 1467 (48%) nonusers. PASE score declined by a mean (95% CI) of 2.5 (2.0 to 3.0) points per year for nonusers and 2.8 (2.1 to 3.5) points per year for prevalent users, a nonstatistical difference (0.3 [-0.5 to 1.0] points). For new users, annual PASE score declined at a faster rate than nonusers (difference of 0.9 [95% CI, 0.1 to 1.7] points). A total of 3071 men had adequate accelerometry data, 1542 (50%) were statin users. Statin users expended less METs (0.03 [95% CI, 0.02-0.04] METs less) and engaged in less moderate physical activity (5.4 [95% CI, 1.9-8.8] fewer minutes per day), less vigorous activity (0.6 [95% CI, 0.1-1.1] fewer minutes per day), and more sedentary behavior (7.6 [95% CI, 2.6-12.4] greater minutes per day). CONCLUSIONS AND RELEVANCE: Statin use was associated with modestly lower physical activity among community-living men, even after accounting for medical history and other potentially confounding factors. The clinical significance of these findings deserves further investigation.

56. **ARTÍCULO Nº: 4565**

Neuman MD, Silber JH, Magaziner JS, Passarella MA, Mehta S, Werner RM. ***Survival and functional outcomes after hip fracture among nursing home residents***. JAMA Intern.Med. 2014; 174(8): 1273-1280.

IMPORTANCE: Little is known regarding outcomes after hip fracture among long-term nursing home residents. OBJECTIVE: To describe patterns and predictors of mortality and functional decline in activities of daily living (ADLs) among nursing home residents after hip fracture. DESIGN, SETTING, AND PARTICIPANTS: Retrospective cohort study of 60,111 Medicare beneficiaries residing in nursing homes who were hospitalized with hip fractures between July 1, 2005, and June 30, 2009. MAIN OUTCOMES AND MEASURES: Data sources included Medicare claims and the Nursing Home Minimum Data Set. Main outcomes included death from any cause at 180 days after fracture and a composite outcome of death or new total dependence in locomotion at the latest available assessment within 180 days. Additional analyses described within-residents changes in function in 7 ADLs before and after fracture. RESULTS: Of 60,111 patients, 21,766 (36.2%) died by 180 days after fracture; among patients not totally dependent in locomotion at baseline, 53.5% died or developed new total dependence within 180 days. Within individual patients, function declined substantially after fracture across all ADL domains assessed. In adjusted analyses, the greatest decreases in survival after fracture occurred with age older than 90 years (vs </=75 years: hazard ratio [HR], 2.17; 95% CI, 2.09-2.26 [P < .001]), nonoperative fracture management (vs internal fixation: HR for death, 2.08; 95% CI, 2.01-2.15 [P < .001]), and advanced comorbidity (Charlson score of >/=5 vs 0: HR, 1.66; 95% CI, 1.58-1.73 [P < .001]). The combined risk of death or new total dependence in locomotion within 180 days was greatest among patients with very severe cognitive impairment (vs intact cognition: relative risk [RR],

1.66; 95% CI, 1.56-1.77 [P < .001]), patients receiving nonoperative management (vs internal fixation: RR, 1.48; 95% CI, 1.45-1.51 [P < .001]), and patients older than 90 years (vs </=75 years: RR, 1.42; 95% CI, 1.37-1.46 [P < .001]). CONCLUSIONS AND RELEVANCE: Survival and functional outcomes are poor after hip fracture among nursing home residents, particularly for patients receiving nonoperative management, the oldest old, and patients with multiple comorbidities and advanced cognitive impairment. Care planning should incorporate appropriate prognostic information related to outcomes in this population.

57. **ARTÍCULO Nº: 4566**

Hoffman KE, Niu J, Shen Y, Jiang J, Davis JW, Kim J et al. ***Physician variation in management of low-risk prostate cancer: a population-based cohort study***. JAMA Intern.Med. 2014; 174(9): 1450-1459.

IMPORTANCE: Up-front treatment of older men with low-risk prostate cancer can cause morbidity without clear survival benefit; however, most such patients receive treatment instead of observation. The impact of physicians on the management approach is uncertain. OBJECTIVE: To determine the impact of physicians on the management of low-risk prostate cancer with up-front treatment vs observation. DESIGN, SETTING, AND PARTICIPANTS: Retrospective cohort of men 66 years and older with low-risk prostate cancer diagnosed from 2006 through 2009. Patient and tumor characteristics were obtained from the Surveillance, Epidemiology, and End Results cancer registries. The diagnosing urologist, consulting radiation oncologist, cancer-directed therapy, and comorbid medical conditions were determined from linked Medicare claims. Physician characteristics were obtained from the American Medical Association Physician Masterfile. Mixed-effects models were used to evaluate management variation and factors associated with observation. MAIN OUTCOMES AND MEASURES: No cancer-directed therapy within 12 months of diagnosis (observation). RESULTS: A total of 2145 urologists diagnosed low-risk prostate cancer in 12,068 men, of whom 80.1% received treatment and 19.9% were observed. The case-adjusted rate of observation varied widely across urologists, ranging from 4.5% to 64.2% of patients. The diagnosing urologist accounted for 16.1% of the variation in up-front treatment vs observation, whereas patient and tumor characteristics accounted for 7.9% of this variation. After adjustment for patient and tumor characteristics, urologists who treat non-low-risk prostate cancer (adjusted odds ratio [aOR], 0.71 [95% CI, 0.55-0.92]; P = .01) and graduated in earlier decades (P = .004) were less likely to manage low-risk disease with observation. Treated patients were more likely to undergo prostatectomy (aOR, 1.71 [95% CI, 1.45-2.01]; P < .001), cryotherapy (aOR, 28.2 [95% CI, 19.5-40.9]; P < .001), brachytherapy (aOR, 3.41 [95% CI, 2.96-3.93]; P < .001), or external-beam radiotherapy (aOR, 1.31 [95% CI, 1.08-1.58]; P = .005) if their urologist billed for that treatment. Case-adjusted rates of observation also varied across consulting radiation oncologists, ranging from 2.2% to 46.8% of patients. CONCLUSIONS AND RELEVANCE: Rates of management of low-risk prostate cancer with observation varied widely across urologists and radiation oncologists. Patients whose diagnosis was made by urologists who treated prostate cancer were more likely to receive up-front treatment and, when treated, more likely to receive a treatment that their urologist performed. Public reporting of physicians' cancer management profiles would enable informed selection of physicians to diagnose and manage prostate cancer.

58. **ARTÍCULO Nº: 4567**

Bosner S, Hartel S, Diederich J, Baum E. ***Diagnosing headache in primary care: a qualitative study of GPs' approaches***. Br.J.Gen.Pract. 2014; 64(626): e532-e537.

BACKGROUND: Headache is one of the most common symptoms in primary care. Most headaches are due to primary headaches and many headache sufferers do not receive a specific diagnosis. There is still a gap in research on how GPs diagnose and treat patients with headache. AIM: To identify GPs' diagnostic approaches in patients presenting with headache. DESIGN AND SETTING: Qualitative study with 15 GPs in urban and rural practices. METHOD: Interviews (20-40 minutes) were conducted using a semi-structured interview guideline. GPs described their individual diagnostic strategies by means of patients presenting with headache that they had prospectively identified during the previous 4 weeks. Interviews were taped and transcribed verbatim. Qualitative analysis was conducted by two independent raters. RESULTS: Regarding GPs' general diagnostic approach to patients with headache, four broad themes emerged during the interviews: 'knowing the patient and their background', 'first impression during consultation', 'intuition and personal experience' and 'application of the test of time'. Four further themes were identified regarding the management of diagnostic uncertainty: 'identification of red flags', 'use of the familiarity heuristic', 'therapeutic trial', and 'triggers for patient referral'. CONCLUSION: GPs apply different strategies in the early diagnostic phase when managing patients with headache. Identification of potential adverse outcomes accompanied by other strategies for handling uncertainty seem to be more important than an exact diagnosis. Established guidelines do not play a role in the diagnostic workup.

59. **ARTÍCULO Nº: 4568**

Taylor T, Evangelou N, Porter H, Hamilton W, Kernick D. ***Headache: two views on the right approach in general practice*** . Br.J.Gen.Pract. 2014; 64(626): 475-476.

60. **ARTÍCULO Nº: 4569**

Tugwell P, Knottnerus JA. ***When is a health-care quality indicator ready to use?*** J.Clin.Epidemiol. 2014; 67(9): 961-962.

61. **ARTÍCULO Nº: 4570**

Doggen K, Lavens A, Van C, V. ***The right indicator for the job: different levels of rigor may be appropriate for the development of quality indicators. Comment on Stelfox and Straus***. J.Clin.Epidemiol. 2014; 67(9): 963-964.

62. **ARTÍCULO Nº: 4571**

Stelfox HT, Straus SE. ***Letter reply to Kris Doggen et al.: The right indicator for the job: different levels of rigor may be appropriate for the development of quality indicators***. J.Clin.Epidemiol. 2014; 67(9): 964-965.

63. **ARTÍCULO Nº: 4572**

van WC. ***The Hospital-patient One-year Mortality Risk score accurately predicted long-term death risk in hospitalized patients***. J.Clin.Epidemiol. 2014; 67(9): 1025-1034.

OBJECTIVE: Prognostication is difficult in a diverse patient population or when outcomes depend on multiple factors. This study derived and internally validated a model to predict risk of death from any cause within 1 year of admission to hospital. STUDY DESIGN AND SETTING: The study included all adult Ontarians admitted to nonpsychiatric hospital services in 2011 (n = 640,022) and deterministically linked administrative data to identify 20 patient and admission factors. A split-sample approach was used to derive and internally validate the model. RESULTS: A total of 75,082 people (11.7%) died within 1 year of admission to hospital. The final model included one dozen patient factors (age, sex, living status, comorbidities, home oxygen status, and number of emergency room visits and hospital

admissions by ambulance in previous year) and hospitalization factors (admission service and urgency, admission to intensive care unit, whether current hospitalization was a readmission, and admission diagnostic risk score). The model in the validation cohort was highly discriminative (c-statistic 92.3), well calibrated, and used to create the Hospital-patient One-year Mortality Risk score that accurately predicted 1-year risk of death. CONCLUSION: Routinely collected administrative data can be used to accurately predict 1-year death risk in adults admitted to nonpsychiatric hospital services.