EMCA
Gestión de la Calidad Asistencial

Boletín de Artículos Científicos

Febrero 2014
Número 78

1. **ARTÍCULO Nº: 3882**

Ramos-Morcillo AJ, Martinez-Lopez EJ, Fernandez-Salazar S, del-Pino-Casado R. ***[Design and validation of a questionnaire on attitudes to prevention and health promotion in primary care (CAPPAP)]***. Aten.Primaria. 2013; 45(10): 514-521.

OBJECTIVE: To develop and validate a questionnaire to measure attitudes towards prevention and health promotion. DESIGN: Cross-sectional study for the validation of a questionnaire. LOCATION: Primary Health Care (autonomous community of Andalusia, Spain). PARTICIPANTS: 282 professionals (nurses and doctors) belonging to the Public Health System. MAIN MEASUREMENTS: Content validation by experts, ceiling effects and floor effects, correlation between items, internal consistency, stability and exploratory factor analysis. RESULTS: The 56 items of the tool (CAPPAP) obtained, including those from the review of other tools and the contributions of the experts, were grouped into 5 dimensions. The percentage of expert agreement was over 70% on all items, and a high concordance between prevention and promotion item was obtained, thus, duplicates were removed leaving a final tool with 44 items. The internal consistency, measured by Cronbach's alpha, was 0.888. The test retest indicated concordance from substantial to almost perfect. Exploratory factor analysis identified five factors that accounted for 48.92% of the variance. CONCLUSIONS: CAPPAP is a tool that is quick and easy to administer, that is well accepted by professionals, and that has acceptable psychometric results, both globally and at the level of each dimension.

2. **ARTÍCULO Nº: 3883**

Zeitlin J, Mohangoo AD, Delnord M, Cuttini M. ***The second European Perinatal Health Report: documenting changes over 6 years in the health of mothers and babies in Europe***. J.Epidemiol.Community Health. 2013; 67(12): 983-985.

3. **ARTÍCULO Nº: 3884**

Schellenberg ES, Dryden DM, Vandermeer B, Ha C, Korownyk C. ***Lifestyle interventions for patients with and at risk for type 2 diabetes: a systematic review and meta-analysis***. Ann.Intern.Med. 2013; 159(8): 543-551.

BACKGROUND: The effect of multifaceted lifestyle interventions on clinically oriented outcomes across a spectrum of metabolic risk factors and abnormal glucose is unclear. PURPOSE: To systematically review the effectiveness of lifestyle interventions on minimizing progression to diabetes in high-risk patients or progression to clinical outcomes (such as cardiovascular disease and death) in patients with type 2 diabetes. DATA SOURCES: 5 electronic databases (1980 to June 2013), reference lists, and gray literature. STUDY SELECTION: Two reviewers independently identified randomized, controlled trials of lifestyle interventions (>/=3 months' duration) that included exercise, diet, and at least 1

other component; the comparator was standard care. DATA EXTRACTION: One reviewer extracted and a second verified data. Two reviewers independently assessed methodological quality. DATA SYNTHESIS: Nine randomized, controlled trials with patients who were at risk for diabetes and 11 with patients who had diabetes were included. Seven studies reported that lifestyle interventions decreased the risk for diabetes from the end of intervention up to 10 years after it. In patients with diabetes, 2 randomized, controlled trials (which included pharmacotherapy) reported no improvement in all-cause mortality (risk ratio, 0.75 [95% CI, 0.53 to 1.06]). Composite outcomes for cardiovascular disease were too heterogeneous to pool. One trial reported improvement in microvascular outcomes at 13-year follow-up. LIMITATION: Most trials focused on surrogate measures (such as weight change, blood pressure, and lipids) for which clinical relevance was unclear. CONCLUSION: Comprehensive lifestyle interventions effectively decrease the incidence of type 2 diabetes in high-risk patients. In patients who already have type 2 diabetes, there is no evidence of reduced all-cause mortality and insufficient evidence to suggest benefit on cardiovascular and microvascular outcomes. PRIMARY FUNDING SOURCE: Agency for Healthcare Research and Quality.

4. **ARTÍCULO Nº: 3885**

Colais P, Pinnarelli L, Fusco D, Davoli M, Braga M, Perucci CA. ***The impact of a pay-for-performance system on timing to hip fracture surgery: experience from the Lazio Region (Italy)***. BMC.Health Serv.Res. 2013; 13: 393

BACKGROUND: A tariff modulation mechanisms has been introduced in some Italian regions with the aim of reducing inappropriate admissions and improving quality of care. In response to a regional act, hospitals in Lazio adopted a clinical pathway for elderly patients with hip fracture and introduced a compensation system based on the quality of health care, as in a pay-for-performance model. The objective of the present study was to compare the proportion of surgery for hip fracture performed within 48 hours of admission among Lazio hospitals according to different payment systems, before and after the implementation of the regional act. METHODS: A retrospective cohort study of patients aged 65 years and over, residing in the Lazio region and admitted to an acute care hospital for hip fracture before (1 July 2.

5. **ARTÍCULO Nº: 3886**

Schellart AJ, Zwerver F, Anema JR, van der Beek AJ. ***Relationships between the intention to use guidelines, behaviour of insurance physicians and their determinants***. BMC.Health Serv.Res. 2013; 13: 400BACKGROUND: We studied the intention of a group of insurance physicians to use the guidelines for depression, and their behaviour in disability assessments. We considered attitude, social norm and self-efficacy, knowledge/skills and stimuli, based on the Attitude-Social norm-self-Efficacy model (ASE model) as possible determinants of both intention and behaviour.The aim of this study was to understand the determinants of insurance physicians' behaviour when they are expected to use guidelines in daily practice. METHOD: A representative sample of 42 insurance physicians participated in this study. Cross-sectional data were collected by means of a questionnaire based on the ASE model. We developed the questionnaire on the basis of literature and ascertained the content validity of it. Behaviour was made to comprise both "use of the guidelines" and "change in disability assessment behaviour" by the insurance physicians. Reliability analyses were performed to form additive scales of the ASE constructs. These scales were analysed with structural equations modelling (LISREL), by modifying a start model into a final model with a good fit, within theoretical constraints. In these analyses special attention was paid to the fact that the sample size was small. RESULTS: The most important determinants of the intention and the self-reported use of the guidelines, were: the influence of colleagues, the self-efficacy of the insurance physicians in their use of the guidelines, and

the way the guidelines were implemented. The intention to use the guidelines for depression was not associated with the self-reported use of these guidelines, but there proved to be a faint, positive association with the self-reported change in assessment behaviour. CONCLUSIONS: Almost all the insurance physicians in this study intended to use at least elements of the guidelines. Their intention, self reported use of the guidelines and self-reported change in assessment behaviour were explored with help of the ASE model. The model suggested relationships between intention, self reported use of the guidelines and self-reported change in assessment behaviour on the on the one hand and various determinants on the other hand. Be that as it may, we see opportunities to improve insurance physicians' guideline adherence by offering them a multifaceted training in which they learn to apply the guidelines for depression.

6. **ARTÍCULO Nº: 3887**

Helder O, Kornelisse R, van der SC, Tibboel D, Looman C, Wijnen R et al. ***Implementation of a children's hospital-wide central venous catheter insertion and maintenance bundle***. BMC.Health Serv.Res. 2013; 13: 417

BACKGROUND: Central venous catheter-associated bloodstream infections in children are an increasingly recognized serious safety problem worldwide, but are often preventable. Central venous catheter bundles have proved effective to prevent such infections. Successful implementation requires changes in the hospital system as well as in healthcare professionals' behaviour. The aim of the study is to evaluate process and outcome of implementation of a state-of-the-art central venous catheter insertion and maintenance bundle in a large university children's hospital. METHODS/DESIGN: An interrupted time series design will be used; the study will encompass all children who need a central venous catheter. New state-of-the-art central venous catheter bundles will be developed. The Pronovost-model will guide the implementation process. We developed a tailored multifaceted implementation strategy consisting of reminders, feedback, management support, local opinion leaders, and education. Primary outcome measure is the number of catheter-associated infections per 1000 line-days. The process outcome is degree of adherence to use of these central venous catheter bundles is the secondary outcome. A cost-effectiveness analysis is part of the study. Outcomes will be monitored during three periods: baseline, pre-intervention, and post-intervention for over 48 months. DISCUSSION: This model-based implementation strategy will reveal the challenges of implementing a hospital-wide safety program. This work will add to the body of knowledge in the field of implementation. We postulate that healthcare workers' willingness to shift from providing habitual care to state-of-the-art care may reflect the need for consistent care improvement. Trial registration: Dutch trials registry, trial # 3635. TRIAL REGISTRATION: Dutch trials registry (http://www.trialregister.nl), trial # 3635.

7. **ARTÍCULO Nº: 3888**

Violan C, Plana-Ripoll O, Foguet-Boreu Q, Bolibar B, Aguado A, Navarro-Artieda R et al. ***Relationship between efficiency and clinical effectiveness indicators in an adjusted model of resource consumption: a cross-sectional study***. BMC.Health Serv.Res. 2013; 13: 421

BACKGROUND: Adjusted clinical groups (ACG(R)) have been widely used to adjust resource distribution; however, the relationship with effectiveness has been questioned. The purpose of the study was to measure the relationship between efficiency assessed by ACG(R) and a clinical effectiveness indicator in adults attended in Primary Health Care Centres (PHCs). METHODS: Research design: cross-sectional study. Subjects: 196, 593 patients aged >14 years in 13 PHCs in Catalonia (Spain). Measures: Age, sex, PHC, basic care team (BCT), visits, episodes (diagnoses), and total direct

costs of PHC care and co-morbidity as measured by ACG(R) indicators: Efficiency indices for costs, visits, and episodes (costs EI, visits EI, episodes EI); a complexity or risk index (RI); and effectiveness measured by a general synthetic index (SI). The relationship between EI, RI, and SI in each PHC and BCT was measured by multiple correlation coefficients (r). RESULTS: In total, 56 of the 106 defined ACG(R) were present in the study population, with five corresponding to 44.5% of the patients, 11 to 68.0% of patients, and 30 present in less than 0.5% of the sample. The RI in each PHC ranged from 0.9 to 1.1. Costs, visits, and episodes had similar trends for efficiency in six PHCs. There was moderate correlation between costs EI and visits EI (r = 0.59). SI correlation with episodes EI and costs EI was moderate (r = 0.48 and r = -0.34, respectively) and was r = -0.14 for visits EI. Correlation between RI and SI was r = 0.29. CONCLUSIONS: The Efficiency and Effectiveness ACG(R) indicators permit a comparison of primary care processes between PHCs. Acceptable correlation exists between effectiveness and indicators of efficiency in episodes and costs.

8. **ARTÍCULO Nº: 3889**

Willems M, Schroder C, Post M, van der WT, Visser-Meily A. ***Do knowledge brokers facilitate implementation of the stroke guideline in clinical practice?*** BMC.Health Serv.Res. 2013; 13: 434

BACKGROUND: The implementation of clinical practice guidelines in rehabilitation practice is often troublesome and incomplete. An intervention to enhance the implementation of guidelines is the knowledge transfer program built around the activities of a knowledge broker (KB).This study investigates the use of KBs to implement guideline recommendations for intensive therapy and physical activity for patients post-stroke in 22 stroke units in hospitals and rehabilitation centers in The Netherlands. METHODS/DESIGN: This study includes a quantitative evaluation with a non controlled pre-post intervention design and a mixed methods process evaluation. From each stroke unit, enterprising nurses and therapists will be recruited and trained as KB. The KB will work for one year on the implementation of the guideline recommendations in their team. To evaluate the effectiveness of the KB, a questionnaire will be administered to patients, health professionals and KBs at baseline (T0) and after one year (T1). Furthermore, semi structured interviews with 5 KBs will be performed at T1.The primary outcome of this implementation project will be the support health professionals give patients to exercise and be physically active, as reported by patients and health professionals themselves. The support immediately after the intervention is compared with the support at the start of the intervention.Additionally we will explore the influence of socio-demographic characteristics of health professionals and determinants identified in the Theory of Planned Behavior (intention, attitude, subjective norm and perceived behavioral control) on the change of supportive behavior of health professionals. Finally, KBs will complete a questionnaire on their own psychological and social demographic characteristics and on organizational conditions needed for health-care improvement such as time, workforce, sponsoring and support from management. DISCUSSION: With this study we will gain insight in when and why knowledge brokers seem to be effective. Also we will identify determinants that predict which health professionals are susceptible to change their behavior. This study will provide guidance how to implement guidelines and will help to improve stroke rehabilitation services.

9. **ARTÍCULO Nº: 3890**

Hinchcliff R, Greenfield D, Westbrook JI, Pawsey M, Mumford V, Braithwaite J. ***Stakeholder perspectives on implementing accreditation programs: a qualitative study of enabling factors***. BMC.Health Serv.Res. 2013; 13: 437

BACKGROUND: Accreditation programs are complex, system-wide quality and safety interventions. Despite their international popularity, evidence of their effectiveness is weak and contradictory. This may be due to variable implementation in different contexts. However, there is limited research that informs implementation strategies. We aimed to advance knowledge in this area by identifying factors that enable effective implementation of accreditation programs across different healthcare settings. METHODS: We conducted 39 focus groups and eight interviews between 2011 and 2012, involving 258 diverse healthcare stakeholders from every Australian State and Territory. Interviews were semi-structured and focused on the aims, implementation and consequences of three prominent accreditation programs in the aged, primary and acute care sectors. Data were thematically analysed to distil and categorise facilitators of effective implementation. RESULTS: Four factors were identified as critical enablers of effective implementation: the accreditation program is collaborative, valid and uses relevant standards; accreditation is favourably received by health professionals; healthcare organisations are capable of embracing accreditation; and accreditation is appropriately aligned with other regulatory initiatives and supported by relevant incentives. CONCLUSIONS: Strategic implementation of accreditation programs should target the four factors emerging from this study, which may increase the likelihood of accreditation being implemented successfully.

10. **ARTÍCULO Nº: 3891**

Etxeberria A, Perez I, Alcorta I, Emparanza JI, Ruiz d, V, Iglesias MT et al. ***The CLUES study: a cluster randomized clinical trial for the evaluation of cardiovascular guideline implementation in primary care.*** BMC.Health Serv.Res. 2013; 13: 438

BACKGROUND: The appropriate care for people with cardiovascular risk factors can reduce morbidity and mortality. One strategy for improving the care for these patients involves the implementation of evidence-based guidelines. To date, little research concerning the impact of such implementation strategies in our setting has been published. Aims. To evaluate the effectiveness of a multifaceted tailored intervention in the implementation of three cardiovascular risk-related guidelines (hypertension, type 2 diabetes and dyslipidemia) in primary care in the Basque Health Service compared with usual implementation. METHODS/DESIGN: A two-year cluster randomized clinical trial in primary care in two districts in the Basque Health Service. All primary care units are randomized. Data from all patients with diabetes, hypertension and those susceptible to coronary risk screening will be analyzed.Interventions. The control group will receive standard implementation. The experimental group will receive a multifaceted tailored implementation strategy, including a specific web page and workshops for family physicians and nurses.Endpoints. Primary endpoints: annual request for glycosylated hemoglobin, basic laboratory tests for hypertension, cardiovascular risk screening (women between 45-74 and men between 40-74 years old). Secondary endpoints: other process and clinical guideline indicators.Analysis: Data will be extracted from centralized computerized medical records. Analysis will be performed at a primary care unit level weighted by cluster size. DISCUSSION: The main contribution of our study is that it seeks to identify an effective strategy for cardiovascular guideline implementation in primary care in our setting. TRIAL REGISTRATION: Current Controlled Trials, ISRCTN88876909.

11. **ARTÍCULO Nº: 3892**

Davies SM, Saynina O, McDonald KM, Baker LC. ***Limitations of using same-hospital readmission metrics.*** Int.J.Qual.Health Care. 2013; 25(6): 633-639.

OBJECTIVE: To quantify the limitations associated with restricting readmission metrics to same-hospital only readmission. DESIGN: Using 2000-2009 California Office of Statewide Health

Planning and Development Patient Discharge Data Nonpublic file, we identified the proportion of 7-, 15- and 30-day readmissions occurring to the same hospital as the initial admission using All-cause Readmission (ACR) and 3M Corporation Potentially Preventable Readmissions (PPR) Metric. We examined the correlation between performance using same and different hospital readmission, the percent of hospitals remaining in the extreme deciles when utilizing different metrics, agreement in identifying outliers and differences in longitudinal performance. Using logistic regression, we examined the factors associated with admission to the same hospital. RESULTS: 68% of 30-day ACR and 70% of 30-day PPR occurred to the same hospital. Abdominopelvic procedures had higher proportions of same-hospital readmissions (87.4-88.9%), cardiac surgery had lower (72.5-74.9%) and medical DRGs were lower than surgical DRGs (67.1 vs. 71.1%). Correlation and agreement in identifying high- and low-performing hospitals was weak to moderate, except for 7-day metrics where agreement was stronger (r = 0.23-0.80, Kappa = 0.38-0.76). Agreement for within-hospital significant (P < 0.05) longitudinal change was weak (Kappa = 0.05-0.11). Beyond all patient refined-diagnostic related groups, payer was the most predictive factor with Medicare and MediCal patients having a higher likelihood of same-hospital readmission (OR 1.62, 1.73). CONCLUSIONS: Same-hospital readmission metrics are limited for all tested applications. Caution should be used when conducting research, quality improvement or comparative applications that do not account for readmissions to other hospitals.

12. **ARTÍCULO Nº: 3893**

Kramer CK, Zinman B, Retnakaran R. ***Are metabolically healthy overweight and obesity benign conditions?: A systematic review and meta-analysis***. Ann.Intern.Med. 2013; 159(11): 758-769.

BACKGROUND: Recent interest has focused on a unique subgroup of overweight and obese individuals who have normal metabolic features despite increased adiposity. Normal-weight individuals with adverse metabolic status have also been described. However, it remains unclear whether metabolic phenotype modifies the morbidity and mortality associated with higher body mass index (BMI). PURPOSE: To determine the effect of metabolic status on all-cause mortality and cardiovascular events in normal-weight, overweight, and obese persons. DATA SOURCES: Studies were identified from electronic databases. STUDY SELECTION: Included studies evaluated all-cause mortality or cardiovascular events (or both) and clinical characteristics of 6 patient groups defined by BMI category (normal weight/overweight/obesity) and metabolic status (healthy/unhealthy), as defined by the presence or absence of components of the metabolic syndrome by Adult Treatment Panel III or International Diabetes Federation criteria. DATA EXTRACTION: Two independent reviewers extracted the data. Metabolically healthy people of normal weight made up the reference group. DATA SYNTHESIS: Eight studies (n = 61 386; 3988 events) evaluated participants for all-cause mortality and/or cardiovascular events. Metabolically healthy obese individuals (relative risk [RR], 1.24; 95% CI, 1.02 to 1.55) had increased risk for events compared with metabolically healthy normal-weight individuals when only studies with 10 or more years of follow-up were considered. All metabolically unhealthy groups had a similarly elevated risk: normal weight (RR, 3.14; CI, 2.36 to 3.93), overweight (RR, 2.70; CI, 2.08 to 3.30), and obese (RR, 2.65; CI, 2.18 to 3.12). LIMITATION: Duration of exposure to the metabolic-BMI phenotypes was not described in the studies and could partially affect the estimates. CONCLUSION: Compared with metabolically healthy normal-weight individuals, obese persons are at increased risk for adverse long-term outcomes even in the absence of metabolic abnormalities, suggesting that there is no healthy pattern of increased weight. PRIMARY FUNDING SOURCE: Intramural funds from the Leadership Sinai Centre for Diabetes.

13. **ARTÍCULO Nº: 3894**

Pieper B, Kirsner RS. ***Pressure ulcers: even the grading of facilities fails***. Ann.Intern.Med. 2013; 159(8): 571-572.

14. **ARTÍCULO Nº: 3895**

Goldzweig CL, Orshansky G, Paige NM, Towfigh AA, Haggstrom DA, Miake-Lye I et al. ***Electronic patient portals: evidence on health outcomes, satisfaction, efficiency, and attitudes: a systematic review***. Ann.Intern.Med. 2013; 159(10): 677-687.

BACKGROUND: Patient portals tied to provider electronic health record (EHR) systems are increasingly popular. PURPOSE: To systematically review the literature reporting the effect of patient portals on clinical care. DATA SOURCES: PubMed and Web of Science searches from 1 January 1990 to 24 January 2013. STUDY SELECTION: Hypothesis-testing or quantitative studies of patient portals tethered to a provider EHR that addressed patient outcomes, satisfaction, adherence, efficiency, utilization, attitudes, and patient characteristics, as well as qualitative studies of barriers or facilitators, were included. DATA EXTRACTION: Two reviewers independently extracted data and addressed discrepancies through consensus discussion. DATA SYNTHESIS: From 6508 titles, 14 randomized, controlled trials; 21 observational, hypothesis-testing studies; 5 quantitative, descriptive studies; and 6 qualitative studies were included. Evidence is mixed about the effect of portals on patient outcomes and satisfaction, although they may be more effective when used with case management. The effect of portals on utilization and efficiency is unclear, although patient race and ethnicity, education level or literacy, and degree of comorbid conditions may influence use. LIMITATION: Limited data for most outcomes and an absence of reporting on organizational and provider context and implementation processes. CONCLUSION: Evidence that patient portals improve health outcomes, cost, or utilization is insufficient. Patient attitudes are generally positive, but more widespread use may require efforts to overcome racial, ethnic, and literacy barriers. Portals represent a new technology with benefits that are still unclear. Better understanding requires studies that include details about context, implementation factors, and cost.

15. **ARTÍCULO Nº: 3896**

Hannam JA, Glass L, Kwon J, Windsor J, Stapelberg F, Callaghan K et al. ***A prospective, observational study of the effects of implementation strategy on compliance with a surgical safety checklist***. BMJ Qual.Saf. 2013; 22(11): 940-947.

BACKGROUND: The reported benefits of using the WHO Surgical Safety Checklist (SSC) are likely to depend on compliance with its correct use. Compliance with SSC administration in centres that have introduced the checklist under a research protocol may differ from centres where the SSC is introduced independently. OBJECTIVE: To compare compliance with SSC administration at an original WHO pilot study centre (Hospital 1) with that at a similar neighbouring hospital (Hospital 2) that independently integrated the SSC with pre-existing practice. METHODS: This was a prospective, observational study. One hundred operations were observed at each hospital. We recorded: compliance with administration of SSC domains (Sign In, Time Out and Sign Out) and individual domain items; timing of domain administration; and operating room team engagement during administration. RESULTS: Domain compliance at Hospital 1 and Hospital 2, respectively, was: 96% and 31% ($p<0.0005$) for Sign In; 99% and 48% ($p<0.0005$) for Time Out and 22% and 9% ($p=0.008$) for Sign Out. Engagement of two or more teams during Sign In and Time Out occurred more frequently at Hospital 2 than at Hospital 1. DISCUSSION: Compliance with administration of SSC domains was lower at Hospital 2 which introduced the SSC outside the context of a strict study protocol. This finding

mandates caution in extrapolation of benefits identified in SSC studies to non-study hospitals. Staff engagement was better at Hospital 2 where checklist administration leadership is strategically shared among anaesthetic, surgical and nursing team members as compared with exclusive nursing leadership at Hospital 1. STUDY REGISTRY NUMBER: Australian and New Zealand Clinical Trials Registry: Ref: ACTRN12612000135819, http://www.anzctr.org.au/trial_view.aspx?ID=362007.

16. **ARTÍCULO Nº: 3897**

Meddings JA, Reichert H, Hofer T, McMahon LF, Jr. ***Hospital report cards for hospital-acquired pressure ulcers: how good are the grades?*** Ann.Intern.Med. 2013; 159(8): 505-513.

BACKGROUND: Value-based purchasing programs use administrative data to compare hospitals by rates of hospital-acquired pressure ulcers (HAPUs) for public reporting and financial penalties. However, validation of these data is lacking. OBJECTIVE: To assess the validity of the administrative data used to generate HAPU rates by comparing the rates generated from these data with those generated from surveillance data. DESIGN: Retrospective analysis of 2 million all-payer administrative records from 448 California hospitals and quarterly hospitalwide surveillance data from 213 hospitals from the Collaborative Alliance for Nursing Outcomes (as publicly reported on the CalHospitalCompare Web site). SETTING: 196 acute care hospitals with at least 6 months of available administrative and surveillance data. PATIENTS: Nonobstetric adults discharged in 2009. MEASUREMENTS: Hospital-specific HAPU rates were computed as the percentage of discharged adults (from administrative data) or examined adults (from surveillance data) with at least 1 stage II or greater HAPU (HAPU2+). Categorization of hospital performance based on administrative data was compared with the grade assigned when surveillance data were used. RESULTS: When administrative data were used, the mean hospital-specific HAPU2+ rate was 0.15% (95% CI, 0.13% to 0.17%); when surveillance data were used, the rate was 2.0% (CI, 1.8% to 2.2%). Among the 49 hospitals with HAPU2+ rates in the highest (worst) quartile from administrative data, use of the surveillance data set resulted in performance grades of "superior" for 3 of these hospitals, "above average" for 14, "average" for 15, and "below average" for 17. LIMITATION: Data are from 1 state and 1 year. CONCLUSION: Hospital performance scores generated from HAPU2+ rates varied considerably according to whether administrative or surveillance data were used, suggesting that administrative data may not be appropriate for comparing hospitals. PRIMARY FUNDING SOURCE: Agency for Healthcare Research and Quality.

17. **ARTÍCULO Nº: 3898**

Wang TY, Eguale T, Tamblyn R. ***Guidelines adherence in the treatment of patients with newly diagnosed type 2 diabetes: a historical cohort comparing the use of metformin in Quebec pre and post-Canadian Diabetes Association guidelines.*** BMC.Health Serv.Res. 2013; 13: 442

BACKGROUND: Given the high prevalence of diabetes, guidelines are updated frequently to reflect optimal treatment recommendations. Our study aims to measure the response of primary care physicians to changes in choice of initial therapy for patients with type 2 diabetes in relationship to a change in Canadian Diabetes Association (CDA) Guidelines in 2008. We also assessed patients' and physicians' factors which may affect this change. METHODS: Historical cohort study of primary care physicians' participating in an electronic medical record research network in Quebec, Canada. 111 primary care physicians and 1279 newly treated patients with diabetes with a prescription of an oral hypoglycemic agent (OHA) between January 20 2003 and December 29 2011 were included. Multivariate GEE logistic regression was used to estimate the impact of guideline change on treatment choice controlling for patients' and physicians' characteristics. RESULTS: After the new CDA guidelines,

there was an increase in incident use of metformin from 89.7% to 94.6% (OR 1.86, 95% CI 1.20-2.90) with an accompanying reduction in the use of thiazolidinediones (OR 0.21, 95% CI 0.08-0.55), and reduction in the initiation of sulfonylureas (OR 0.78, 95% CI 0.43-1.09). Physicians' attitudes to evidence-based practice did not significantly modify response to a change in guidelines recommendations. However, older patients and those with renal failure were less likely to receive metformin. CONCLUSIONS: Metformin initiation in newly diagnosed diabetes patients has increased post 2008 CDA guidelines. However, due to the nature of the study design, we can not determine whether the observed change in metformin prescribing was causally related to the change in the guideline.

18. **ARTÍCULO Nº: 3899**

Beckman A, Anell A. ***Changes in health care utilisation following a reform involving choice and privatisation in Swedish primary care: a five-year follow-up of GP-visits***. BMC.Health Serv.Res. 2013; 13: 452

BACKGROUND: The organisation of Swedish primary health care has changed following introduction of free choice of provider for the population in combination with freedom of establishment for private primary care providers. Our aim was to investigate changes in individual health care utilisation following choice and privatisation in Swedish primary care from an equity perspective, in subgroups defined by age, gender and family income. METHODS: The study is based on register data years 2.

19. **ARTÍCULO Nº: 3900**

Krol MW, de BD, Rademakers JJ, Delnoij DM. ***Overall scores as an alternative to global ratings in patient experience surveys; a comparison of four methods***. BMC.Health Serv.Res. 2013; 13: 479

BACKGROUND: Global ratings of healthcare by patients are a popular way of summarizing patients' experiences. Summary scores can be used for comparing healthcare provider performance and provider rankings. As an alternative, overall scores from actual patient experiences can be constructed as summary scores. This paper addresses the statistical and practical characteristics of overall scores as an alternative to a global rating in summarizing patient survey results. METHODS: Data from a 2010 patient experience survey for approximately 12,000 nursing home residents (7.5% of all Dutch nursing home residents at the time) from 464 nursing homes in the Netherlands (25% of the Dutch nursing homes) was used. Data was collected through specifically designed standardized interview surveys. The respondents' scores for 15 established quality indicators (or composites) for nursing home care were used to calculate overall scores for each nursing home, using four different strategies. The characteristics of the overall scores were compared against each other and with the respondents' global rating. RESULTS: The individual indicators showed stronger associations with each of the four overall strategies than with the global ratings. Furthermore, the dispersion of the overall scores across nursing homes was greater. Differences between overall scores appeared limited. CONCLUSIONS: Overall scores proved more valid than global ratings as a summary of the indicator scores, and also showed more pronounced differences between nursing homes. Because of the limited statistical differences between the strategies, and for practical reasons, a straightforward averaging of quality indicator scores may be preferred as an overall score.

20. **ARTÍCULO Nº: 3901**

Baines RJ, de Bruijne MC, Langelaan M, Wagner C. ***What are the safety risks for patients undergoing treatment by multiple specialties: a retrospective patient record review study***. BMC.Health Serv.Res. 2013; 13: 497

BACKGROUND: If multiple medical specialties are involved in treatment there is a danger of increasing risks to patient safety. This is due to the need for greater co-ordination and communication with other specialties, less emergency cover for individual sub-specialties, and a drop in general care and the overview of care. This study aims to determine if the number of medical specialties treating a patient is associated with the risk of experiencing harm during hospital admission. METHODS: We performed a retrospective patient record review study using a stratified sample of 20 hospitals in the Netherlands. In each hospital 200 patient admissions were included. We related the occurrence of preventable adverse events and non-preventable adverse events to the number of specialties treating a patient through a stepwise multilevel logistic regression analysis. RESULTS: Compared to patients treated by only one specialty, patients treated by three or more specialties had an odds ratio of experiencing an adverse event of 3.01 (95% CI 2.09 to 4.34), and an odds ratio of experiencing a preventable adverse event of 2.78 (95% CI 1.77 to 4.37). After adding characteristics related to the patient and the type of health care, the odds ratio for non-preventable adverse events decreased to 1.46 (95% CI 0.95 to 2.26), and for preventable adverse events to 2.31 (95% CI 1.40 to 3.81). There were no large differences found between the groups relating to the causes of preventable adverse events. However, in patients treated by three or more specialties, the greater number of preventable adverse events was related to the diagnostic process. CONCLUSIONS: The more specialties treating a patient the greater the risk of an adverse event. This finding became more pronounced for preventable adverse events than for non-preventable adverse events after corrections for the characteristics of the patient and their health care. This study highlights the importance of taking the number of specialties treating a patient into account. More research is needed to gain insight into the underlying causes of inadequate care when multiple specialties are required to treat a patient. This could result in appropriate solutions resulting in improvements to care.

21. **ARTÍCULO Nº: 3902**

Kreckler S, Morgan RD, Catchpole K, New S, Handa A, Collins G et al. ***Effective prevention of thromboembolic complications in emergency surgery patients using a quality improvement approach.*** BMJ Qual.Saf. 2013; 22(11): 916-922.

OBJECTIVE: To assess the effectiveness of a multifaceted intervention based on industrial process improvement to identify and sustainably correct deficiencies in thromboprophylaxis delivery. SUMMARY BACKGROUND DATA: Deep vein thrombosis and pulmonary embolism are major causes of morbidity and mortality in surgical patients, but effective prophylactic treatments are available. Ensuring reliable delivery of the intended thromboprophylaxis is, however, a long-standing problem. METHODS: Delivery of thromboprophylactic treatment on an emergency general surgery admissions ward was targeted during a multidisciplinary intervention to improve process reliability using industrial quality improvement approaches. Delivery was audited against guidelines before and after 3- month intervention. Clinical outcome was evaluated by reviewing all radiological investigations for suspected Deep Vein Thrombosis (DVT) or Pulmonary Embolism (PE) from patients admitted to the unit in the 1 year immediately before and that immediately after intervention. RESULTS: Delivery of thromboprophylaxis according to guidelines was improved from 35% before to 87% 3 months after intervention (chi(2)=87.412, p<0.0001) and sustained at 86% 10 months after intervention. Radiologically identified thromboembolic events occurring up to 60 days after admission in patients admitted for over 48 h fell from 23/3075 (0.75%) before to 9/3080 (0.29%) after intervention (HR 0.39, CI 0.29 to 0.53, chi(2)=6.18, p=0.01292). The risk of thromboembolism in the two groups diverged during follow-up to 60 days, before converging again. CONCLUSIONS: A quality improvement process resulted in major sustainable improvements in the delivery of thromboprophylaxis associated with a

61% reduction in radiologically detected clinical episodes of thromboembolism 2 months after admission. Further study of this approach to improving care quality is warranted.

22. **ARTÍCULO Nº: 3903**

McKee M. ***Hospital standardised mortality rates should not be used to make interhospital comparisons.*** BMJ. 2013; 347: f6155

23. **ARTÍCULO Nº: 3904**

Priebe S, Yeeles K, Bremner S, Lauber C, Eldridge S, Ashby D et al. ***Effectiveness of financial incentives to improve adherence to maintenance treatment with antipsychotics: cluster randomised controlled trial.*** BMJ. 2013; 347: f5847

OBJECTIVE: To test whether offering financial incentives to patients with psychotic disorders is effective in improving adherence to maintenance treatment with antipsychotics. DESIGN: Cluster randomised controlled trial. SETTING: Community mental health teams in secondary psychiatric care in the United Kingdom. PARTICIPANTS: Patients with a diagnosis of schizophrenia, schizoaffective disorder, or bipolar disorder, who were prescribed long acting antipsychotic (depot) injections but had received 75% or less of the prescribed injections. We randomly allocated 73 teams with a total of 141 patients. Primary outcome data were available for 35 intervention teams with 75 patients (96% of randomised) and for 31 control teams with 56 patients (89% of randomised). INTERVENTIONS: Participants in the intervention group were offered pound15 (euro17; $22) for each depot injection over a 12 month period. Participants in the control condition received treatment as usual. MAIN OUTCOME MEASURE: The primary outcome was the percentage of prescribed depot injections given during the 12 month intervention period. RESULTS: 73 teams with 141 consenting patients were randomised, and outcomes were assessed for 131 patients (93%). Average baseline adherence was 69% in the intervention group and 67% in the control group. During the 12 month trial period adherence was 85% in the intervention group and 71% in the control group. The adjusted effect estimate was 11.5% (95% confidence interval 3.9% to 19.0%, P=0.003). A secondary outcome was an adherence of >/= 95%, which was achieved in 28% of the intervention group and 5% of the control group (adjusted odds ratio 8.21, 95% confidence interval 2.00 to 33.67, P=0.003). Although differences in clinician rated clinical improvement between the groups failed to reach statistical significance, patients in the intervention group had more favourable subjective quality of life ratings (beta=0.71, 95% confidence interval 0.26 to 1.15, P=0.002). The number of admissions to hospital and adverse events were low in both groups and did not show substantial differences. CONCLUSION: Offering modest financial incentives to patients with psychotic disorders is an effective method for improving adherence to maintenance treatment with antipsychotics. TRIAL REGISTRATION: Current Controlled Trials ISRCTN77769281.

24. **ARTÍCULO Nº: 3905**

Little P, Hobbs FD, Moore M, Mant D, Williamson I, McNulty C et al. ***Clinical score and rapid antigen detection test to guide antibiotic use for sore throats: randomised controlled trial of PRISM (primary care streptococcal management).*** BMJ. 2013; 347: f5806

OBJECTIVE: To determine the effect of clinical scores that predict streptococcal infection or rapid streptococcal antigen detection tests compared with delayed antibiotic prescribing. DESIGN: Open adaptive pragmatic parallel group randomised controlled trial. SETTING: Primary care in United Kingdom. PATIENTS: Patients aged >/= 3 with acute sore throat. INTERVENTION: An internet programme randomised patients to targeted antibiotic use according to: delayed antibiotics (the

comparator group for analyses), clinical score, or antigen test used according to clinical score. During the trial a preliminary streptococcal score (score 1, n=1129) was replaced by a more consistent score (score 2, n=631; features: fever during previous 24 hours; purulence; attends rapidly (within three days after onset of symptoms); inflamed tonsils; no cough/coryza (acronym FeverPAIN). OUTCOMES: Symptom severity reported by patients on a 7 point Likert scale (mean severity of sore throat/difficulty swallowing for days two to four after the consultation (primary outcome)), duration of symptoms, use of antibiotics. RESULTS: For score 1 there were no significant differences between groups. For score 2, symptom severity was documented in 80% (168/207 (81%) in delayed antibiotics group; 168/211 (80%) in clinical score group; 166/213 (78%) in antigen test group). Reported severity of symptoms was lower in the clinical score group (-0.33, 95% confidence interval -0.64 to -0.02; P=0.04), equivalent to one in three rating sore throat a slight versus moderate problem, with a similar reduction for the antigen test group (-0.30, -0.61 to -0.00; P=0.05). Symptoms rated moderately bad or worse resolved significantly faster in the clinical score group (hazard ratio 1.30, 95% confidence interval 1.03 to 1.63) but not the antigen test group (1.11, 0.88 to 1.40). In the delayed antibiotics group, 75/164 (46%) used antibiotics. Use of antibiotics in the clinical score group (60/161) was 29% lower (adjusted risk ratio 0.71, 95% confidence interval 0.50 to 0.95; P=0.02) and in the antigen test group (58/164) was 27% lower (0.73, 0.52 to 0.98; P=0.03). There were no significant differences in complications or reconsultations. CONCLUSION: Targeted use of antibiotics for acute sore throat with a clinical score improves reported symptoms and reduces antibiotic use. Antigen tests used according to a clinical score provide similar benefits but with no clear advantages over a clinical score alone. TRIAL REGISTRATION: ISRCTN32027234.

25. **ARTÍCULO Nº: 3906**

Nicholl J, Jacques R, Campbell MJ. ***Mortality indicators used to rank hospital performance***. BMJ. 2013; 347: f5952

26. **ARTÍCULO Nº: 3907**

Gloy VL, Briel M, Bhatt DL, Kashyap SR, Schauer PR, Mingrone G et al. ***Bariatric surgery versus non-surgical treatment for obesity: a systematic review and meta-analysis of randomised controlled trials*** . BMJ. 2013; 347: f5934

OBJECTIVE: To quantify the overall effects of bariatric surgery compared with non-surgical treatment for obesity. DESIGN: Systematic review and meta-analysis based on a random effects model. DATA SOURCES: Searches of Medline, Embase, and the Cochrane Library from their inception to December 2012 regardless of language or publication status. ELIGIBILITY CRITERIA: Eligible studies were randomised controlled trials with >/= 6 months of follow-up that included individuals with a body mass index >/= 30, compared current bariatric surgery techniques with non-surgical treatment, and reported on body weight, cardiovascular risk factors, quality of life, or adverse events. RESULTS: The meta-analysis included 11 studies with 796 individuals (range of mean body mass index at baseline 30-52). Individuals allocated to bariatric surgery lost more body weight (mean difference -26 kg (95% confidence interval -31 to -21)) compared with non-surgical treatment, had a higher remission rate of type 2 diabetes (relative risk 22.1 (3.2 to 154.3) in a complete case analysis; 5.3 (1.8 to 15.8) in a conservative analysis assuming diabetes remission in all non-surgically treated individuals with missing data) and metabolic syndrome (relative risk 2.4 (1.6 to 3.6) in complete case analysis; 1.5 (0.9 to 2.3) in conservative analysis), greater improvements in quality of life and reductions in medicine use (no pooled data). Plasma triglyceride concentrations decreased more (mean difference -0.7 mmol/L (-1.0 to -0.4) and high density lipoprotein cholesterol concentrations increased more (mean difference 0.21 mmol/L (0.1 to 0.3)). Changes in blood pressure and total or low density lipoprotein cholesterol

concentrations were not significantly different. There were no cardiovascular events or deaths reported after bariatric surgery. The most common adverse events after bariatric surgery were iron deficiency anaemia (15% of individuals undergoing malabsorptive bariatric surgery) and reoperations (8%). CONCLUSIONS: Compared with non-surgical treatment of obesity, bariatric surgery leads to greater body weight loss and higher remission rates of type 2 diabetes and metabolic syndrome. However, results are limited to two years of follow-up and based on a small number of studies and individuals. SYSTEMATIC REVIEW REGISTRATION: PROSPERO CRD42012003317 (www.crd.york.ac.uk/PROSPERO).

27. **ARTÍCULO Nº: 3908**

Llor C, Moragas A, Bayona C, Morros R, Pera H, Plana-Ripoll O et al. ***Efficacy of anti-inflammatory or antibiotic treatment in patients with non-complicated acute bronchitis and discoloured sputum: randomised placebo controlled trial***. BMJ. 2013; 347: f5762

OBJECTIVE: To evaluate the efficacy of oral anti-inflammatory or antibiotic treatment compared with placebo in the resolution of cough in patients with uncomplicated acute bronchitis and discoloured sputum. DESIGN: Multicentre, parallel, single blinded placebo controlled, randomised clinical trial. SETTING: Nine primary care centres in Spain. PARTICIPANTS: Adults aged 18 to 70 presenting symptoms associated with respiratory tract infection of less than one week's duration, with cough as the predominant symptom, the presence of discoloured sputum, and at least one other symptom of lower respiratory tract infection (dyspnoea, wheezing, chest discomfort, or chest pain). INTERVENTIONS: Patients were randomised to receive either ibuprofen 600 mg three times daily, amoxicillin-clavulanic acid 500 mg/125 mg three times daily, or placebo three times daily for 10 days. The duration of symptoms was measured with a diary card. MAIN OUTCOME MEASURE: Number of days with frequent cough after the randomisation visit. RESULTS: 416 participants were randomised (136 to ibuprofen, 137 to antibiotic, and 143 to placebo) and 390 returned their symptom diaries fully completed. The median number of days with frequent cough was slightly lower among patients assigned to ibuprofen (9 days, 95% confidence interval 8 to 10 days) compared with those receiving amoxicillin-clavulanic acid (11 days, 10 to 12 days) or placebo (11 days, 8 to 14 days), albeit without statistically significant differences. Neither amoxicillin-clavulanic acid nor ibuprofen increased the probability of cough resolution (hazard ratio 1.03, 95% confidence interval 0.78 to 1.35 and 1.23, 0.93 to 1.61, respectively) compared with placebo. Adverse events were observed in 27 patients, and were more common in the antibiotic arm (12%) than ibuprofen or placebo arms (5% and 3%, respectively; P<0.01). CONCLUSION: No significant differences were observed in the number of days with cough between patients with uncomplicated acute bronchitis and discoloured sputum treated with ibuprofen, amoxicillin-clavulanic acid, or placebo. TRIAL REGISTRATION: Current Controlled Trials ISRCTN07852892.

28. **ARTÍCULO Nº: 3909**

Pouw ME, Peelen LM, Moons KG, Kalkman CJ, Lingsma HF. ***Including post-discharge mortality in calculation of hospital standardised mortality ratios: retrospective analysis of hospital episode statistics*** . BMJ. 2013; 347: f5913

OBJECTIVES: To assess the consequences of applying different mortality timeframes on standardised mortality ratios of individual hospitals and, secondarily, to evaluate the association between in-hospital standardised mortality ratios and early post-discharge mortality rate, length of hospital stay, and transfer rate. DESIGN: Retrospective analysis of routinely collected hospital data to compare observed deaths in 50 diagnostic categories with deaths predicted by a case mix adjustment method.

SETTING: 60 Dutch hospitals. PARTICIPANTS: 1 228 815 patients discharged in the period 2008 to 2010. MAIN OUTCOME MEASURES: In-hospital standardised mortality ratio, 30 days post-admission standardised mortality ratio, and 30 days post-discharge standardised mortality ratio. RESULTS: Compared with the in-hospital standardised mortality ratio, 33% of the hospitals were categorised differently with the 30 days post-admission standardised mortality ratio and 22% were categorised differently with the 30 days post-discharge standardised mortality ratio. A positive association was found between in-hospital standardised mortality ratio and length of hospital stay (Pearson correlation coefficient 0.33; P=0.01), and an inverse association was found between in-hospital standardised mortality ratio and early post-discharge mortality (Pearson correlation coefficient -0.37; P=0.004). CONCLUSIONS: Applying different mortality timeframes resulted in differences in standardised mortality ratios and differences in judgment regarding the performance of individual hospitals. Furthermore, associations between in-hospital standardised mortality rates, length of stay, and early post-discharge mortality rates were found. Combining these findings suggests that standardised mortality ratios based on in-hospital mortality are subject to so-called "discharge bias." Hence, early post-discharge mortality should be included in the calculation of standardised mortality ratios.

29. **ARTÍCULO Nº: 3910**

Heath I. ***Overdiagnosis: when good intentions meet vested interests--an essay by Iona Heath***. BMJ. 2013; 347: f6361

30. **ARTÍCULO Nº: 3911**

Marmot M, Goldblatt P. ***Importance of monitoring health inequalities***. BMJ. 2013; 347: f6576

31. **ARTÍCULO Nº: 3912**

Wu HY, Huang JW, Lin HJ, Liao WC, Peng YS, Hung KY et al. ***Comparative effectiveness of renin-angiotensin system blockers and other antihypertensive drugs in patients with diabetes: systematic review and bayesian network meta-analysis***. BMJ. 2013; 347: f6008

OBJECTIVE: To assess the effects of different classes of antihypertensive treatments, including monotherapy and combination therapy, on survival and major renal outcomes in patients with diabetes. DESIGN: Systematic review and bayesian network meta-analysis of randomised clinical trials. DATA SOURCES: Electronic literature search of PubMed, Medline, Scopus, and the Cochrane Library for studies published up to December 2011. STUDY SELECTION: Randomised clinical trials of antihypertensive therapy (angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs), alpha blockers, beta blockers, calcium channel blockers, diuretics, and their combinations) in patients with diabetes with a follow-up of at least 12 months, reporting all cause mortality, requirement for dialysis, or doubling of serum creatinine levels. DATA EXTRACTION: Bayesian network meta-analysis combined direct and indirect evidence to estimate the relative effects between treatments as well as the probabilities of ranking for treatments based on their protective effects. RESULTS: 63 trials with 36,917 participants were identified, including 2400 deaths, 766 patients who required dialysis, and 1099 patients whose serum creatinine level had doubled. Compared with placebo, only ACE inhibitors significantly reduced the doubling of serum creatinine levels (odds ratio 0.58, 95% credible interval 0.32 to 0.90), and only beta blockers showed a significant difference in mortality (odds ratio 7.13, 95% credible interval 1.37 to 41.39). Comparisons among all treatments showed no statistical significance in the outcome of dialysis. Although the beneficial effects of ACE inhibitors compared with ARBs did not reach statistical significance, ACE inhibitors consistently showed higher probabilities of being in the superior ranking positions among all three

outcomes. Although the protective effect of an ACE inhibitor plus calcium channel blocker compared with placebo was not statistically significant, the treatment ranking identified this combination therapy to have the greatest probability (73.9%) for being the best treatment on reducing mortality, followed by ACE inhibitor plus diuretic (12.5%), ACE inhibitors (2.0%), calcium channel blockers (1.2%), and ARBs (0.4%). CONCLUSIONS: Our analyses show the renoprotective effects and superiority of using ACE inhibitors in patients with diabetes, and available evidence is not able to show a better effect for ARBs compared with ACE inhibitors. Considering the cost of drugs, our findings support the use of ACE inhibitors as the first line antihypertensive agent in patients with diabetes. Calcium channel blockers might be the preferred treatment in combination with ACE inhibitors if adequate blood pressure control cannot be achieved by ACE inhibitors alone.

32. **ARTÍCULO Nº: 3913**

Pinnock H, Hanley J, McCloughan L, Todd A, Krishan A, Lewis S et al. ***Effectiveness of telemonitoring integrated into existing clinical services on hospital admission for exacerbation of chronic obstructive pulmonary disease: researcher blind, multicentre, randomised controlled trial.*** BMJ. 2013; 347: f6070

OBJECTIVE: To test the effectiveness of telemonitoring integrated into existing clinical services such that intervention and control groups have access to the same clinical care. DESIGN: Researcher blind, multicentre, randomised controlled trial. SETTING: UK primary care (Lothian, Scotland). PARTICIPANTS: Adults with at least one admission for chronic obstructive pulmonary disease (COPD) in the year before randomisation. We excluded people who had other significant lung disease, who were unable to provide informed consent or complete the study, or who had other significant social or clinical problems. INTERVENTIONS: Participants were recruited between 21 May 2009 and 28 March 2011, and centrally randomised to receive telemonitoring or conventional self monitoring. Using a touch screen, telemonitoring participants recorded a daily questionnaire about symptoms and treatment use, and monitored oxygen saturation using linked instruments. Algorithms, based on the symptom score, generated alerts if readings were omitted or breached thresholds. Both groups received similar care from existing clinical services. MAIN OUTCOME MEASURES: The primary outcome was time to hospital admission due to COPD exacerbation up to one year after randomisation. Other outcomes included number and duration of admissions, and validated questionnaire assessments of health related quality of life (using St George's respiratory questionnaire (SGRQ)), anxiety or depression (or both), self efficacy, knowledge, and adherence to treatment. Analysis was intention to treat. RESULTS: Of 256 patients completing the study, 128 patients were randomised to telemonitoring and 128 to usual care; baseline characteristics of each group were similar. The number of days to admission did not differ significantly between groups (adjusted hazard ratio 0.98, 95% confidence interval 0.66 to 1.44). Over one year, the mean number of COPD admissions was similar in both groups (telemonitoring 1.2 admissions per person (standard deviation 1.9) v control 1.1 (1.6); P=0.59). Mean duration of COPD admissions over one year was also similar between groups (9.5 days per person (standard deviation 19.1) v 8.8 days (15.9); P=0.88). The intervention had no significant effect on SGRQ scores between groups (68.2 (standard deviation 16.3) v 67.3 (17.3); adjusted mean difference 1.39 (95% confidence interval -1.57 to 4.35)), or on other questionnaire outcomes. Conclusions In participants with a history of admission for exacerbations of COPD, telemonitoring was not effective in postponing admissions and did not improve quality of life. The positive effect of telemonitoring seen in previous trials could be due to enhancement of the underpinning clinical service rather than the telemonitoring communication. TRIAL REGISTRATION: ISRCTN96634935. Funding: The trial was funded by an NHS applied research programme grant from the Chief Scientist Office of the Scottish government (ARPG/07/03). The funder had no role in study

design and the collection, analysis, and interpretation of data and the writing of the article and the decision to submit it for publication. NHS Lothian supported the telemonitoring service and the clinical services.

33. **ARTÍCULO Nº: 3914**

Smith RN, Nolan JP. ***Central venous catheters***. BMJ. 2013; 347: f6570

34. **ARTÍCULO Nº: 3915**

Jones K, Saxon L, Cunningham W, Adams P. ***Secondary prevention for patients after a myocardial infarction: summary of updated NICE guidance***. BMJ. 2013; 347: f6544

35. **ARTÍCULO Nº: 3916**

Behrman A, Offley W. ***Should influenza vaccination be mandatory for healthcare workers?*** BMJ. 2013; 347: f6705

36. **ARTÍCULO Nº: 3917**

Chappell LC, Seed PT, Myers J, Taylor RS, Kenny LC, Dekker GA et al. ***Exploration and confirmation of factors associated with uncomplicated pregnancy in nulliparous women: prospective cohort study***. BMJ. 2013; 347: f6398

OBJECTIVE: To identify factors at 15 and 20 weeks' gestation associated with a subsequent uncomplicated pregnancy. DESIGN: Prospective international multicentre observational cohort study. SETTING: Auckland, New Zealand and Adelaide, Australia (exploration and local replication dataset) and Manchester, Leeds, and London, United Kingdom, and Cork, Republic of Ireland (external confirmation dataset). PARTICIPANTS: 5628 healthy nulliparous women with a singleton pregnancy. MAIN OUTCOME MEASURE: Uncomplicated pregnancy, defined as a normotensive pregnancy delivered at >37 weeks' gestation, resulting in a liveborn baby not small for gestational age, and the absence of any other significant pregnancy complications. In a stepwise logistic regression the comparison group was women with a complicated pregnancy. RESULTS: Of the 5628 women, 3452 (61.3%) had an uncomplicated pregnancy. Factors that reduced the likelihood of an uncomplicated pregnancy included increased body mass index (relative risk 0.74, 95% confidence intervals 0.65 to 0.84), misuse of drugs in the first trimester (0.90, 0.84 to 0.97), mean diastolic blood pressure (for each 5 mm Hg increase 0.92, 0.91 to 0.94), and mean systolic blood pressure (for each 5 mm Hg increase 0.95, 0.94 to 0.96). Beneficial factors were prepregnancy fruit intake at least three times daily (1.09, 1.01 to 1.18) and being in paid employment (per eight hours' increase 1.02, 1.01 to 1.04). Detrimental factors not amenable to alteration were a history of hypertension while using oral contraception, socioeconomic index, family history of any hypertensive complications in pregnancy, vaginal bleeding during pregnancy, and increasing uterine artery resistance index. Smoking in pregnancy was noted to be a detrimental factor in the initial two datasets but did not remain in the final model. CONCLUSIONS: This study identified factors associated with normal pregnancy through adoption of a novel hypothesis generating approach, which has shifted the emphasis away from adverse outcomes towards uncomplicated pregnancies. Although confirmation in other cohorts is necessary, this study implies that individually targeted lifestyle interventions (normalising maternal weight, increasing prepregnancy fruit intake, reducing blood pressure, stopping misuse of drugs) may increase the likelihood of normal pregnancy outcomes. TRIAL REGISTRATION: Australian New Zealand Clinical Trials Registry ACTRN12607000551493.

37. **ARTÍCULO Nº: 3918**

Abdul SA, West J, Tata LJ, Fleming KM, Nelson-Piercy C, Grainge MJ. ***Risk of first venous thromboembolism in pregnant women in hospital: population based cohort study from England***. BMJ. 2013; 347: f6099

OBJECTIVE: To examine the potential for preventing venous thromboembolism during and after antepartum hospital admissions in pregnant women. DESIGN: Cohort study using linked primary (Clinical Practice Research Datalink) and secondary (Hospital Episode Statistics) care records. SETTING: Primary and secondary care centres, England. PARTICIPANTS: 206,785 women aged 15-44 who had one or more pregnancies from 1997 up to 2010. MAIN OUTCOME MEASURE: Risk of first venous thromboembolism in pregnant women admitted to hospital for one or more days for reasons other than delivery or venous thromboembolism. Risk was assessed by calculating the absolute rate of venous thromboembolism and comparing these rates with those observed during follow-up time not associated with hospital admission using a Poisson regression model to estimate incidence rate ratios. RESULTS: Admission to hospital in pregnancy was associated with an increased risk of venous thromboembolism (absolute rate 1752/100,000 person years; incidence rate ratio 17.5, 95% confidence interval 7.69 to 40.0) compared with time outside hospital. The rate of venous thromboembolism was also high during the 28 days after discharge (absolute rate 676; 6.27, 3.74 to 10.5). The rate during and after admission combined was highest in the third trimester (961; 5.57, 3.32 to 9.34) and in those aged >/= 35 years (1756; 21.7, 9.62 to 49.0). While the absolute rate in the combined period was highest for those with three or more days in hospital (1511; 12.2, 6.65 to 22.7), there was also a fourfold increase (558; 4.05, 2.23 to 7.38) in the risk of venous thromboembolism for those admitted to hospital for less than three days. CONCLUSION: The overall risk of first venous thromboembolism in pregnant women increased during admissions to hospital not related to delivery, and remained significantly higher in the 28 days after discharge. During these periods need for thromboprophylaxis should receive careful consideration.

38. **ARTÍCULO Nº: 3919**

Jones CW, Handler L, Crowell KE, Keil LG, Weaver MA, Platts-Mills TF. ***Non-publication of large randomized clinical trials: cross sectional analysis***. BMJ. 2013; 347: f6104

OBJECTIVE: To estimate the frequency with which results of large randomized clinical trials registered with ClinicalTrials.gov are not available to the public. DESIGN: Cross sectional analysis SETTING: Trials with at least 500 participants that were prospectively registered with ClinicalTrials.gov and completed prior to January 2009. DATA SOURCES: PubMed, Google Scholar, and Embase were searched to identify published manuscripts containing trial results. The final literature search occurred in November 2012. Registry entries for unpublished trials were reviewed to determine whether results for these studies were available in the ClinicalTrials.gov results database. MAIN OUTCOME MEASURES: The frequency of non-publication of trial results and, among unpublished studies, the frequency with which results are unavailable in the ClinicalTrials.gov database. RESULTS: Of 585 registered trials, 171 (29%) remained unpublished. These 171 unpublished trials had an estimated total enrollment of 299,763 study participants. The median time between study completion and the final literature search was 60 months for unpublished trials. Non-publication was more common among trials that received industry funding (150/468, 32%) than those that did not (21/117, 18%), P=0.003. Of the 171 unpublished trials, 133 (78%) had no results available in ClinicalTrials.gov. CONCLUSIONS: Among this group of large clinical trials, non-publication of results was common and the availability of results in the ClinicalTrials.gov database was limited. A substantial number of study participants were exposed

to the risks of trial participation without the societal benefits that accompany the dissemination of trial results.

39. **ARTÍCULO Nº: 3920**

Abad-Corp, Molina-Duran F, Vivo-Molina MC, Moya-Ruiz B, Martinez-Hernandez A, Romero-Pelegrin JM et al. ***[RN4CAST Study in Murcia: Hospital organizational characteristics and nursing staff profiles]***. Rev.Calid.Asist. 2013; 28(6): 345-354.

OBJECTIVE: To determine the profile of nurses in public hospitals in Murcia and to assess how they perceive their work environment, the quality of care and their level of burnout (the RN4CAST project repetition). MATERIAL AND METHODS: A cross-sectional descriptive study was carried out in 8 hospitals in Murcia. Data were collected between 2009 and 2010 from 687 nurses (stratified by the type of unit) using a self-completed questionnaire with 149 items covering variables related to sociodemographics; work; perception of the work place (PES-NWI); burnout (Maslach Burnout Inventory); and the quality of patient care, and patient safety. Analysis: Non parametric tests, for two samples or k samples according to the comparison. RESULTS: A total of 495 questionnaires were collected (72%). Most respondents were female (80.4%) having a mean age of 34.1 (SD=7.1) years, and they had been working for 9.4 (SD=7.4) years. Just over one-quarter (25.7%) had carried out more than 300 hours of training in the previous 24 months. The patient/nurse ratio was 11.7 (SD=3.6), varying between hospitals. The nurses reported 25% of hospitals as having an unfavorable work environment, whereas 37.5% had favorable ones; large hospitals were less highly valued. Few respondents intended to give up their jobs (16.8%). Burnout levels revealed emotional exhaustion in 18.4% of respondents; depersonalization in 7.5%, and personal fulfillment in 28.8%. Perception of quality varied between centers and the perception of adverse effects was more favorable in small hospitals. CONCLUSIONS: Our professionals were generally satisfied, but given the unfavorable work environment, measures should be adopted for improving well-being and reducing weaknesses.

40. **ARTÍCULO Nº: 3921**

Lopez CJ, Cid CL, Fernandez R, V, Failde Garrido JM, Almazan OR. ***[Analysis of quality of life using the generic SF-36 questionnaire in patients with heart failure]***. Rev.Calid.Asist. 2013; 28(6): 355-360.

OBJECTIVE: Heart failure is one of the major chronic diseases that affect health related quality of life. The objective of this study was to evaluate the quality of life in patients with New York Heart Association functional class I-III using the SF-36 on a cohort of survivors of the EPICOUR Study Group and compare the quality of life with the general Spanish population of the same sex and age group. MATERIAL AND METHODS: A cohort study, observational, and prospective study was conducted on survivors of the EPICOUR Study Group, on whom a clinical-progression-outcome review was performed along with the SF-36. RESULTS: The quality of life was studied in 50 patients (60% male). The average age of men was 64.8 years and women 68.3. When analyzing the SF-36, it was observed that the results were lower in the physical dimensions than in the mental dimensions. The quality of life worsened with increasing functional class (statistically significant differences for scales of physical functioning, social functioning and borderline significance in mental health scale). When comparing patients with the general population of the same age and sex, patients with heart failure showed lower scores on all scales (significant differences in physical functioning, body pain, vitality, and social role for men, and physical function and emotional role for women). CONCLUSIONS: Heart failure causes a negative impact on quality of life, physical functioning, as well as psychosocial function, with the impairment becoming worse with increased functional class.

41. **ARTÍCULO Nº: 3922**

Font N, I, Fernandez Megia MJ, Ferrer Riquelme AJ, Balasch IP, Edo S, Poveda Andres JL. ***[Improving inpatient pharmacoterapeutic process by Lean Six Sigma methodology]***. Rev.Calid.Asist. 2013; 28(6): 370-380.

BACKGROUND: Lean Six Sigma methodology has been used to improve care processes, eliminate waste, reduce costs, and increase patient satisfaction. OBJECTIVE: To analyse the results obtained with Lean Six Sigma methodology in the diagnosis and improvement of the inpatient pharmacotherapy process during structural and organisational changes in a tertiary hospital. MATERIAL AND METHODS: Scope: 1.000 beds tertiary hospital. DESIGN: prospective observational study. The define, measure, analyse, improve and control (DMAIC), were deployed from March to September 2011. An Initial Project Charter was updated as results were obtained. Population and sample: 131 patients with treatments prescribed within 24h after admission and with 4 drugs. Variables: safety indicators (medication errors), and efficiency indicators (complaints and time delays). RESULTS: Proportion of patients with a medication error was reduced from 61.0% (25/41 patients) to 55.7% (39/70 patients) in four months. Percentage of errors (regarding the opportunities for error) decreased in the different phases of the process: Prescription: from 5.1% (19/372 opportunities) to 3.3% (19/572 opportunities); Preparation: from 2.7% (14/525 opportunities) to 1.3% (11/847 opportunities); and administration: from 4.9% (16/329 opportunities) to 3.0% (13/433 opportunities). Nursing complaints decreased from 10.0% (2119/21038 patients) to 5.7% (1779/31097 patients). The estimated economic impact was 76,800 euros saved. CONCLUSIONS: An improvement in the pharmacotherapeutic process and a positive economic impact was observed, as well as enhancing patient safety and efficiency of the organization. Standardisation and professional training are future Lean Six Sigma candidate projects.

42. **ARTÍCULO Nº: 3923**

Rodriguez D, Berenguera A, Pujol-Ribera E, Capella J, Peray JL, Roma J. ***[Current and future competencies for public health professionals]***. Gac.Sanit. 2013; 27(5): 388-397.

OBJECTIVES: To identify current and future competencies (managers and technicians) for public health professionals in Catalonia (Spain). METHODS: Qualitative research with a phenomenological approach. Between November 2009 and February 2010, 31 semistructured interviews were completed with public health professionals working in Catalonia. We purposely used a theoretical sample to include the maximum multiplicity of discourses. We conducted a thematic content analysis. RESULTS: We obtained a wide range of current professional competencies, as well as those required for the future, classified according to professional profile. The participants highlighted transversal competencies, such as the importance of sharing a general theoretical framework of the discipline and the institution. Among the most frequently reported competencies were knowledge management, communication skills, teamwork, multidisciplinary and intersectoral orientation, legal knowledge, computer skills and languages, particularly English. It was also important for individual professionals to have specific skills in their areas of activity. In terms of differences between managers and technicians, the study showed that technicians prioritize management skills concerning human and material resources, while managers emphasize organizational and professional public health expertise. CONCLUSIONS: There is a need for transversal and specific competencies in distinct areas. Public health is a multidisciplinary field, which collaborates with a wide range of professionals and organizations.

43. **ARTÍCULO Nº: 3924**

Diaz CC, Suarez AO, Fueyo GA, Mola Caballero de RP, Rancano G, I, Sanchez Fernandez AM et al. ***[Professional quality of life in the clinical governance model of Asturias (Spain)]***. Gac.Sanit. 2013; 27(6): 502-507.

OBJECTIVE: To evaluate professional quality of life in our clinical governance model by comparing differences according to the time since the model's implementation (1-3 years) and the setting (primary or hospital care). METHODS: A cross-sectional descriptive study was performed. The 35-item, anonymous, self-administered Professional Quality of Life Questionnaire, with three additional questions, was applied. A minimum sample size for each clinical governance unit/area (CGU/CGA) was calculated. Descriptive, univariate and bivariate analyses were performed using the 35 items separately. The subscales of << management support >>, << workload >> and << intrinsic motivation >> were used as dependant variables, and the setting and time since implementation of the CGU/CGA as independent variables. RESULTS: Of the study population of 2572 professionals, 1395 (54%) responded (67% in primary care and 51% in hospital care). A total of 87% had been working for 5 years or more in their positions. Thirty-three percent had worked for less than a year in clinical governance. The item with the highest score was job training (8.39 +/- 1.42) and that with the lowest was conflicts with peers (3.23 +/- 2.2). Primary healthcare professionals showed better results in management support and quality of life at work and hospital professionals in workload. The clinical governance model obtained the best scores at 3 years and the worst at 1 year. These differences were especially favorable for clinical governance in hospitals: professionals working longer perceived a lower workload and more intrinsic motivation and quality of life. CONCLUSIONS: A longer time working in the clinical governance model was associated with better perception of professional quality of life, especially in hospital care.

44. **ARTÍCULO Nº: 3925**

Delgado A, Saletti-Cuesta L, Lopez-Fernandez LA, Toro-Cardenas S. ***[Familial characteristics and self-perceived health among female and male primary care physicians in Andalusia (Spain)]***. Gac.Sanit. 2013; 27(6): 508-515.

OBJECTIVE: To determine the relationships between a group of professional and family characteristics and the components of physical and mental health in female and male primary care physicians working in health centers in Andalusia (Spain). METHODS: A descriptive, cross-sectional, multicenter study was performed. The population consisted of urban health centers in Andalusia and their physicians. The sample comprised 88 health centers and 500 physicians. Measurements consisted of sex, age, professional characteristics (postgraduate training in family medicine, position of health center manager, accreditation as a residents' tutor, and workload based on patient quota and the mean number of patients/day); family responsibilities, defined by two dimensions of the family-work relationship (support overload-family support deficit and family-work conflict); and perceived physical and mental health. The data source was a self-administered questionnaire sent by surface mail. Multiple regression analyses were performed for physical and mental health for the whole sample and by gender. RESULTS: Responses were obtained from 368 physicians (73.6%). Mental health was worse in female physicians than in male physicians; no differences were found between genders in physical health. The family-work conflict was associated with physical and mental health in physicians of both genders. Physical health deteriorated with increasing age in both genders, improved in the female tutors of residents, and decreased with increasing family-work conflict in male physicians. Mental health decreased with increasing housework on the weekends and with family-work conflict in both genders. In male physicians, mental health deteriorated with postgraduate training in family medicine

and improved if they were health center managers. CONCLUSIONS: Workload and professional characteristics have little relationship with the health of primary care physicians. Family characteristics play a greater role.

45. **ARTÍCULO Nº: 3926**

Mira JJ, Lorenzo S, Navarro I, Perez-Jover V, Vitaller J. ***[Design and validation of the CSR-Hospital-SP scale to measure corporate social responsibility]***. Gac.Sanit. 2013; 27(6): 529-532.

OBJECTIVE: To design and validate a scale (CSR-Hospital-SP) to determine health professionals' views on the approach of management to corporate social responsibility (CSR) in their hospital. METHODS: The literature was reviewed to identify the main CSR scales and select the dimensions to be evaluated. The initial version of the scale consisted of 25 items. A convenience sample of a minimum of 224 health professionals working in five public hospitals in five autonomous regions were invited to respond. Floor and ceiling effects, internal consistency, reliability, and construct validity were analyzed. RESULTS: A total of 233 health professionals responded. The CSR-Hospital-SP scale had 20 items grouped into four factors. The item-total correlation was higher than 0.30; all factor loadings were greater than 0.50; 59.57% of the variance was explained; Cronbach's alpha was 0.90; Spearman-Brown's coefficient was 0.82. CONCLUSION: The CSR-Hospital-SP scale is a tool designed for hospitals that implement accountability mechanisms and promote socially responsible management approaches.

46. **ARTÍCULO Nº: 3927**

Davies S, Saynina O, Schultz E, McDonald KM, Baker LC. ***Implications of metric choice for common applications of readmission metrics***. Health Serv.Res. 2013; 48(6 Pt 1): 1978-1995.

OBJECTIVE: To quantify the differential impact on hospital performance of three readmission metrics: all-cause readmission (ACR), 3M Potential Preventable Readmission (PPR), and Centers for Medicare and Medicaid 30-day readmission (CMS). DATA SOURCES: 2000-2009 California Office of Statewide Health Planning and Development Patient Discharge Data Nonpublic file. STUDY DESIGN: We calculated 30-day readmission rates using three metrics, for three disease groups: heart failure (HF), acute myocardial infarction (AMI), and pneumonia. Using each metric, we calculated the absolute change and correlation between performance; the percent of hospitals remaining in extreme deciles and level of agreement; and differences in longitudinal performance. PRINCIPAL FINDINGS: Average hospital rates for HF patients and the CMS metric were generally higher than for other conditions and metrics. Correlations between the ACR and CMS metrics were highest (r = 0.67-0.84). Rates calculated using the PPR and either ACR or CMS metrics were moderately correlated (r = 0.50-0.67). Between 47 and 75 percent of hospitals in an extreme decile according to one metric remained when using a different metric. Correlations among metrics were modest when measuring hospital longitudinal change. CONCLUSIONS: Different approaches to computing readmissions can produce different hospital rankings and impact pay-for-performance. Careful consideration should be placed on readmission metric choice for these applications.

47. **ARTÍCULO Nº: 3928**

Bottle A, Middleton S, Kalkman CJ, Livingston EH, Aylin P. ***Global comparators project: international comparison of hospital outcomes using administrative data***. Health Serv.Res. 2013; 48(6 Pt 1): 2081-2100.

OBJECTIVE: To produce comparable risk-adjusted outcome rates for an international sample of hospitals in a collaborative project to share outcomes and learning. DATA SOURCES: Administrative data varying in scope, format, and coding systems were pooled from each participating hospital for the years 2005-2010. STUDY DESIGN: Following reconciliation of the different coding systems in the various countries, in-hospital mortality, unplanned readmission within 30 days, and "prolonged" hospital stay (>75th percentile) were risk-adjusted via logistic regression. A web-based interface was created to facilitate outcomes analysis for individual medical centers and enable peer comparisons. Small groups of clinicians are now exploring the potential reasons for variations in outcomes in their specialty. PRINCIPAL FINDINGS: There were 6,737,211 inpatient records, including 214,622 in-hospital deaths. Although diagnostic coding depth varied appreciably by country, comorbidity weights were broadly comparable. U.S. hospitals generally had the lowest mortality rates, shortest stays, and highest readmission rates. CONCLUSIONS: Intercountry differences in outcomes may result from differences in the quality of care or in practice patterns driven by socio-economic factors. Carefully managed administrative data can be an effective resource for initiating dialog between hospitals within and across countries. Inclusion of important outcomes beyond hospital discharge would increase the value of these analyses.

48. **ARTÍCULO Nº: 3929**

Burke JF, Gelb DJ, Quint DJ, Morgenstern LB, Kerber KA. ***The impact of MRI on stroke management and outcomes: a systematic review.*** J.Eval.Clin.Pract. 2013; 19(6): 987-993.

RATIONALE, AIMS AND OBJECTIVES: Magnetic resonance imaging (MRI) is widely used in stroke evaluation and is superior to computed tomography for the detection of acute ischaemia. We sought to evaluate the evidence that conventional MRI influences doctor management or patient outcomes in routine care. METHODS: We systematically searched PubMED, EMBASE and proceedings of the International Stroke Conference. Studies were included if they included patients presenting with possible stroke syndromes and they reported MRI results and resulting changes in management or outcome. Multiple reviewers determined inclusion/exclusion for each study, abstracted study characteristics and assessed study quality. RESULTS: Of 1813 articles screened, nine studies met inclusion criteria. None were randomized controlled trials, cohort studies or case-control studies. We found little evidence that MRI affects outcomes - one single-centre case series presented three patients. The remaining articles were studies of diagnostic tests or vignette-based studies that described changes in doctor management attributed to MRI. In the studies that suggested MRI influenced management, it did so in two ways. First, MRI distinguished stroke from mimics (e.g. brain tumours), thus enabling more appropriate selection of therapies. Second, even when MRI confirmed a suspected stroke diagnosis, it sometimes provided information (on stroke mechanism, localization, timing or pathophysiology) that influenced management. CONCLUSIONS: The impact of MRI on management and outcomes in stroke patients has been inadequately studied. Further research is needed to understand how MRI may productively affect stroke management and outcomes.

49. **ARTÍCULO Nº: 3930**

Simoens S***Cost-effectiveness of pharmacotherapy for COPD in ambulatory care: a review.*** J.Eval.Clin.Pract. 2013; 19(6): 1004-1011.

RATIONALE, AIMS AND OBJECTIVES: This article conducts a literature review about the cost-effectiveness of pharmacotherapy for chronic obstructive pulmonary disease (COPD) in ambulatory care. METHODS: Relevant economic evaluations were identified by searching Medline (PubMed) and the National Health Service (NHS) Economic Evaluation Database. The search strategy

focused on literature reviews and primary economic evaluations. Economic evaluations were included, which compared pharmacotherapy for COPD, chronic bronchitis or pulmonary emphysema with an alternative in terms of costs and health outcomes. RESULTS: The majority of economic evaluations show that pharmacotherapy for COPD in ambulatory care is cost-effective. Cost-effectiveness derives from an improvement in lung function and a reduction in the number of exacerbations, which translates into cost savings from fewer hospitalizations. Pharmacotherapy also tends to be more cost-effective in patients with more severe COPD. When applying these results to a specific country or setting, the cost-effectiveness of pharmacotherapy will depend on the distribution of COPD severity among patients, the alternative with which pharmacotherapy is compared, the impact of pharmacotherapy on exacerbations, costs and treatment patterns of exacerbations, and price of pharmacotherapy. Economic evaluations tended to suffer from short-time horizons, restricted scope of included costs and use of various health outcome measures. CONCLUSIONS: There is a case to be made in favour of economic evaluations from the societal perspective that are based on a decision-analytic model to allow for extrapolation beyond the duration of clinical trials and that use generic health outcome measures such as quality-adjusted life years.

50. **ARTÍCULO Nº: 3931**

van WC, Wong J, Forster AJ, Hawken S. ***Predicting post-discharge death or readmission: deterioration of model performance in population having multiple admissions per patient***. J.Eval.Clin.Pract. 2013; 19(6): 1012-1018.

BACKGROUND: To avoid biased estimates of standard errors in regression models, statisticians commonly limit the analytical dataset to one observation per patient. OBJECTIVE: Measure and explain changes in model performance when a model predicting 30-day risk of death or urgent readmission (derived on a dataset having one hospitalization per patient) was applied to all hospitalizations for study patients. METHODS: Using administrative data from Ontario, we identified all hospitalizations of 499,996 patients between 2004 and 2009. We calculated the expected risk for 30-day death or urgent readmission using a validated model. The observed-to-expected ratio was determined after categorizing patients into quintiles of rates for hospitalization, emergent hospitalizations, hospital day and total diagnostic risk score. RESULTS: Study patients had a total of 858,410 hospitalizations. Compared with a dataset having one hospitalization per patient, model performance declined significantly when applied to all hospitalizations [c-statistic decreased from 0.768 to 0.730; the observed-to-expected ratio increased from 0.998 (95% confidence interval 0.977-0.999) to 1.305 (1.297-1.313)]. Model deterioration was most pronounced in patients with higher hospital utilization, with the observed-to-expected ratio increasing to 1.67 in the highest quintile of emergent hospitalization rates. CONCLUSIONS: The accuracy of predicting 30-day death or urgent readmission decreased significantly when the unit of analysis changed from the patient to the hospitalization. Patients with heavy hospital utilization likely have characteristics, not adequately captured in the model, that increase the risk of death or urgent readmission after discharge from hospital. Adequately capturing the characteristics of such high-end hospital users may improve readmission models.

51. **ARTÍCULO Nº: 3932**

Ottevanger N, Hilbink M, Weenk M, Janssen R, Vrijmoeth T, de VA et al. ***Oncologic multidisciplinary team meetings: evaluation of quality criteria***. J.Eval.Clin.Pract. 2013; 19(6): 1035-1043.

RATIONALE, AIMS AND OBJECTIVES: To develop a guideline with quality criteria for an optimal structure and functioning of a multidisciplinary team meeting (MTM), and to assess to what extent the

Dutch MTMs complied with these criteria. METHOD: A literature search and expert opinions were used to develop a guideline for optimal MTMs. In order to assess adherence to the guideline, we conducted interviews with MTM chairs and observed general and tumour-specific MTMs in seven hospitals. RESULTS: The new guideline included the following domains: (i) organization of the MTMs; (ii) membership of the MTM and roles and responsibilities of the members; (iii) the meeting itself; and (iv) documentation of meeting-recommendations. We observed good adherence to the quality criteria on the organization of the MTMs. Only the required coordinator/administrative support was often absent, particularly during general MTMs. Regarding membership of MTMs and roles, the recommended average attendance of 100% of the core disciplines was never reached and particularly the role of the chair needs improvement. Regarding the meeting itself, many interruptions took place and relevant information about the diagnoses of the cases was not available in 4-5% of the cases. Concerning the documentation of meeting-recommendations, only in a quarter of the meetings a specific form was used for the documentation. CONCLUSIONS: We found a lot of diversity in the organization of MTMs. The variation in compliance with the quality criteria may decrease with better knowledge about the quality criteria around MTMs and by overcoming practical barriers for the effective organization of MTMs.

52. **ARTÍCULO Nº: 3933**

Mercuri M, Birch S, Gafni A. ***Using small-area variations to inform health care service planning: what do we 'need' to know?*** J.Eval.Clin.Pract. 2013; 19(6): 1054-1059.

RATIONALE, AIMS AND OBJECTIVES: Allocating resources on the basis of population need is a health care policy goal in many countries. Thus, resources must be allocated in accordance with need if stakeholders are to achieve policy goals. Small area methods have been presented as a means for revealing important information that can assist stakeholders in meeting policy goals. The purpose of this review is to examine the extent to which small area methods provide information relevant to meeting the goals of a needs-based health care policy. METHODS: We present a conceptual framework explaining the terms 'demand', 'need', 'use' and 'supply', as commonly used in the literature. We critically review the literature on small area methods through the lens of this framework. RESULTS: 'Use' cannot be used as a proxy or surrogate of 'need'. Thus, if the goal of health care policy is to provide equal access for equal need, then traditional small area methods are inadequate because they measure small area variations in use of services in different populations, independent of the levels of need in those populations. CONCLUSIONS: Small area methods can be modified by incorporating direct measures of relative population need from population health surveys or by adjusting population size for levels of health risks in populations such as the prevalence of smoking and low birth weight. This might improve what can be learned from studies employing small area methods if they are to inform needs-based health care policies.

53. **ARTÍCULO Nº: 3934**

Bollini P, Quack-Lotscher K. ***Guidelines-based indicators to measure quality of antenatal care.*** J.Eval.Clin.Pract. 2013; 19(6): 1060-1066.

RATIONALE, AIMS AND OBJECTIVES: No comprehensive measurement of quality of antenatal care is available. Late booking or low number of checks are often used as surrogate for poor quality, leaving uncertainty on the actual content of the care received. In order to fill this gap, we have reviewed two sets of clinical guidelines and developed corresponding indicators of quality. METHOD: A group of clinicians and methodologists reviewed the National Institute for Clinical Excellency Clinical Guidelines on antenatal care, and the list of prenatal care interventions recommended by the Research and

Development Group, both based on evidence of effectiveness of specific interventions. We identified single aspects in three domains: (1) services utilization; (2) screening; and (3) interventions. For each indicator, we defined: (1) eligibility, that is the characteristics of the women to whom the indicator applies; (2) standard, that is the situation when the target is met; and (3) moderators, that is all conditions which legitimately hamper the fulfilment of the standard. RESULTS: We developed four indicators of service utilization, 25 of screening and 17 of intervention. The respective eligibility, standard and moderators criteria were described for each indicator. While many indicators could be retrospectively evaluated from medical charts, quality of communication with provider, screening for sensible issues and counselling on behaviours to be avoided could only be obtained with a prospective data collection. CONCLUSIONS: The indicators of quality of antenatal care, complemented by measures of social position, social support and immigrant/ethnic status, allow for a careful description of the gaps in quality of care for specific groups of women.

54. **ARTÍCULO Nº: 3935**

Hannisdal E, Arianson H, Braut GS, Schlichting E, Vinnem JE. ***A risk analysis of cancer care in Norway: the top 16 patient safety hazards***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(11): 511-516.

BACKGROUND: Cancer care processes represents a number of potential threats to patient safety. A national risk analysis of Norwegian cancer care, entailing diagnosis, treatment, follow-up, palliative care, and terminal care, was conducted. METHODS: Literature review and a retrospective analysis of hazards in different national databases were combined with interviews with key health personnel in an attempt to identify 50 possible hazards. A project team from the Norwegian Board of Health Supervision (NBHS) and 23 other persons participated in the workshop in 2009. RESULTS: In a stepwise, consensus-driven process, the 23 participants discussed the 50 possible hazards and then selected the 16 that they considered most important-clustered into three groups: diagnosis and primary treatment, interactions, and complications. The NBHS distributed the risk analysis report to a variety of stakeholders and asked Norway's hospital trusts to address the hazards. The report generally met a positive reception, albeit with local and interdisciplinary differences in the extent of the perceived applicability of the respective hazards. Two follow-up studies in 2012 and 2013 showed that the hospital trusts lacked the implementation capacity to identify operational solutions to reduce the hazards. At the largest hospital trust in Norway-Oslo University Hospital-the Department of Oncology retested the national risk analysis in in 2011. Four groups, representing different parts of the patient care process. selected 9 of the 16 national hazards and identified 4 new ones. The department has established goals and appropriate activities for 3 of the hazards. CONCLUSIONS: The Ministry of Health and Care determined that hospital trusts must increase their implementation capacity regarding operational solutions to reduce the hazards.

55. **ARTÍCULO Nº: 3936**

Pronovost PJ, Demski R, Callender T, Winner L, Miller MR, Austin JM et al. ***Demonstrating high reliability on accountability measures at the Johns Hopkins Hospital***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(12): 531-544.

BACKGROUND: Patients continue to suffer preventable harm from the omission of evidence-based therapies. To remedy this, The Joint Commission developed core measures for therapies with strong evidence and, through the Top Performer on Key Quality Measures program, recognize hospitals that deliver those therapies to 95% of patients. The Johns Hopkins Medicine board of trustees committed to high reliability and to providing > or = 96% of patients with the recommended therapies. METHODS: The Armstrong Institute for Patient Safety and Quality coordinated the core measures initiative, which

targeted nine process measures for the 96% performance goal: eight Joint Commission accountability measures and one Delmarva Foundation core measure. A conceptual model for this initiative included communicating goals, building capacity with Lean Sigma methods, transparently reporting performance and establishing an accountability plan, and developing a sustainability plan. Clinicians and quality improvement staff formed one team for each targeted process measure, and Armstrong Institute staff supported the teams work. The primary performance measure was the percentage of patients who received the recommended process of care, as defined by the specifications for each of The Joint Commission's accountability measures. RESULTS: The > or = 96% performance goal was achieved for 82% of the measures in 2011 and 95% of the measures in 2012. CONCLUSIONS: With support from leadership and a conceptual model to communicate goals, use robust improvement methods, and ensure accountability, The Johns Hopkins Hospital achieved high reliability for The Joint Commission accountability measures.

56. **ARTÍCULO Nº: 3937**

Kanter MH, Lindsay G, Bellows J, Chase A. ***Complete care at Kaiser Permanente: transforming chronic and preventive care***. Jt.Comm J.Qual.Patient.Saf. 2013; 39(11): 484-494.

BACKGROUND: In 2004 Kaiser Permanente Southern California (KPSC) recognized the potential to improve the quality of care. Healthcare Effectiveness Data and Information Set (HEDIS) performance was below what regional leadership aspired to achieve, exceeding the 90th national percentile on only 15 of 34 measures. Beginning in 2005 regional leadership identified several system opportunities to enhance evidence-based, person-focused care. DEVELOPMENT OF COMPLETE CARE: KPSC developed and implemented a comprehensive delivery system redesign and expanded and integrated existing clinical information systems, decision support, work flows, and self-management support-collectively referred to as Complete Care. The goal of Complete Care is to transform care for healthy members, those with chronic conditions, and those with multiple comorbidities. To date, KPSC has applied Complete Care to 26 chronic conditions and areas of preventive and wellness care. Implemented in all care settings and optimizing the roles of all health care team members to maximal scope of practice, Complete Care provides evidence-based, person-focused care addressing a large set of protocol-based health needs for every individual during every encounter within the health care system. RESULTS: On 51 HEDIS metrics, KPSC improvement using Complete Care averaged 13.0%, compared with 5.5% improvement in the national HEDIS 50th percentile. CONCLUSION: Implementation of Complete Care at KPSC was followed by six-year quality gains that outpaced changes in the HEDIS national percentiles for many measures. Additional care gaps have been included in proactive office encounter checklists; these relate to elder care, advance directives, posthospital care, immunizations, health maintenance, and pregnancy care.

57. **ARTÍCULO Nº: 3938**

Blackman KC, Zoellner J, Berrey LM, Alexander R, Fanning J, Hill JL et al. ***Assessing the internal and external validity of mobile health physical activity promotion interventions: a systematic literature review using the RE-AIM framework***. J.Med.Internet.Res. 2013; 15(10): e224

BACKGROUND: Mobile health (mHealth) interventions are effective in promoting physical activity (PA); however, the degree to which external validity indicators are reported is unclear. OBJECTIVE: The purpose of this systematic review was to use the RE-AIM (reach, effectiveness, adoption, implementation, and maintenance) framework to determine the extent to which mHealth intervention research for promoting PA reports on factors that inform generalizability across settings and populations and to provide recommendations for investigators planning to conduct this type of

research. METHODS: Twenty articles reflecting 15 trials published between 2000 and 2012 were identified through a systematic review process (ie, queries of three online databases and reference lists of eligible articles) and met inclusion criteria (ie, implementation of mobile technologies, target physical activity, and provide original data). Two researchers coded each article using a validated RE-AIM data extraction tool (reach, efficacy/effectiveness, adoption, implementation, maintenance). Two members of the study team independently abstracted information from each article (inter-rater reliability >90%) and group meetings were used to gain consensus on discrepancies. RESULTS: The majority of studies were randomized controlled trials (n=14). The average reporting across RE-AIM indicators varied by dimension (reach=53.3%, 2.67/5; effectiveness/efficacy=60.0%, 2.4/4; adoption=11.1%, 0.7/6; implementation=24.4%, 0.7/3; maintenance=0%, 0/3). While most studies described changes in the primary outcome (effectiveness), few addressed the representativeness of participants (reach) or settings (adoption) and few reported on issues related to maintenance and degree of implementation fidelity. CONCLUSIONS: This review suggests that more focus is needed on research designs that highlight and report on both internal and external validity indicators. Specific recommendations are provided to encourage future mHealth interventionists and investigators to report on representativeness, settings, delivery agents for planned interventions, the extent to which protocol is delivered as intended, and maintenance of effects at the individual or organizational level.

58. **ARTÍCULO Nº: 3939**

Mickan S, Tilson JK, Atherton H, Roberts NW, Heneghan C. ***Evidence of effectiveness of health care professionals using handheld computers: a scoping review of systematic reviews***. J.Med.Internet.Res. 2013; 15(10): e212

BACKGROUND: Handheld computers and mobile devices provide instant access to vast amounts and types of useful information for health care professionals. Their reduced size and increased processing speed has led to rapid adoption in health care. Thus, it is important to identify whether handheld computers are actually effective in clinical practice. OBJECTIVE: A scoping review of systematic reviews was designed to provide a quick overview of the documented evidence of effectiveness for health care professionals using handheld computers in their clinical work. METHODS: A detailed search, sensitive for systematic reviews was applied for Cochrane, Medline, EMBASE, PsycINFO, Allied and Complementary Medicine Database (AMED), Global Health, and Cumulative Index to Nursing and Allied Health Literature (CINAHL) databases. All outcomes that demonstrated effectiveness in clinical practice were included. Classroom learning and patient use of handheld computers were excluded. Quality was assessed using the Assessment of Multiple Systematic Reviews (AMSTAR) tool. A previously published conceptual framework was used as the basis for dual data extraction. Reported outcomes were summarized according to the primary function of the handheld computer. RESULTS: Five systematic reviews met the inclusion and quality criteria. Together, they reviewed 138 unique primary studies. Most reviewed descriptive intervention studies, where physicians, pharmacists, or medical students used personal digital assistants. Effectiveness was demonstrated across four distinct functions of handheld computers: patient documentation, patient care, information seeking, and professional work patterns. Within each of these functions, a range of positive outcomes were reported using both objective and self-report measures. The use of handheld computers improved patient documentation through more complete recording, fewer documentation errors, and increased efficiency. Handheld computers provided easy access to clinical decision support systems and patient management systems, which improved decision making for patient care. Handheld computers saved time and gave earlier access to new information. There were also reports that handheld computers enhanced work patterns and efficiency. CONCLUSIONS: This scoping review summarizes the secondary evidence for effectiveness of handheld computers and mhealth. It provides a snapshot of effective use

by health care professionals across four key functions. We identified evidence to suggest that handheld computers provide easy and timely access to information and enable accurate and complete documentation. Further, they can give health care professionals instant access to evidence-based decision support and patient management systems to improve clinical decision making. Finally, there is evidence that handheld computers allow health professionals to be more efficient in their work practices. It is anticipated that this evidence will guide clinicians and managers in implementing handheld computers in clinical practice and in designing future research.

59. **ARTÍCULO Nº: 3940**

Kitsiou S. ***Correction: Systematic Reviews and Meta-Analyses of Home Telemonitoring Interventions for Patients With Chronic Diseases: A Critical Assessment of Their Methodological Quality***. J.Med.Internet.Res. 2013; 15(11): e253

In "Systematic Reviews and Meta-Analyses of Home Telemonitoring Interventions for Patients With Chronic Diseases: A Critical Assessment of Their Methodological Quality" (J Med Internet Res 2013;15 (7):e150), there was an error in Table 6. After the second row of the subheading Clarke 2011 under the column "Low interval (95% CI)", a 0 above the value 52 was inadvertently deleted in the copyediting process of the manuscript. As a result, all the values in the subsequent rows of "Low interval (95% CI)" in Table 6 were shifted upward, for example, the 52 in the third row belongs to the fourth row of the subheading Clarke 2011 under the column "Low interval (95% CI)". In the last row of Table 6, the low interval should have been 0 and the high interval should have been 71 instead of being blank cells. These errors have been corrected in the online version of the paper on the JMIR website on November 4, 2013, together with publishing this correction notice. A correction notice has been sent to PubMed and the correct full-text has been resubmitted to Pubmed Central and other full-text repositories.

60. **ARTÍCULO Nº: 3941**

Kitsiou S, Pare G, Jaana M. ***Systematic reviews and meta-analyses of home telemonitoring interventions for patients with chronic diseases: a critical assessment of their methodological quality***. J.Med.Internet.Res. 2013; 15(7): e150

BACKGROUND: Systematic reviews and meta-analyses of home telemonitoring interventions for patients with chronic diseases have increased over the past decade and become increasingly important to a wide range of clinicians, policy makers, and other health care stakeholders. While a few criticisms about their methodological rigor and synthesis approaches have recently appeared, no formal appraisal of their quality has been conducted yet. OBJECTIVE: The primary aim of this critical review was to evaluate the methodology, quality, and reporting characteristics of prior reviews that have investigated the effects of home telemonitoring interventions in the context of chronic diseases. METHODS: Ovid MEDLINE, the Database of Abstract of Reviews of Effects (DARE), and Health Technology Assessment Database (HTA) of the Cochrane Library were electronically searched to find relevant systematic reviews, published between January 1966 and December 2012. Potential reviews were screened and assessed for inclusion independently by three reviewers. Data pertaining to the methods used were extracted from each included review and examined for accuracy by two reviewers. A validated quality assessment instrument, R-AMSTAR, was used as a framework to guide the assessment process. RESULTS: Twenty-four reviews, nine of which were meta-analyses, were identified from more than 200 citations. The bibliographic search revealed that the number of published reviews has increased substantially over the years in this area and although most reviews focus on studying the effects of home telemonitoring on patients with congestive heart failure,

researcher interest has extended to other chronic diseases as well, such as diabetes, hypertension, chronic obstructive pulmonary disease, and asthma. Nevertheless, an important number of these reviews appear to lack optimal scientific rigor due to intrinsic methodological issues. Also, the overall quality of reviews does not appear to have improved over time. While several criteria were met satisfactorily by either all or nearly all reviews, such as the establishment of an a priori design with inclusion and exclusion criteria, use of electronic searches on multiple databases, and reporting of studies characteristics, there were other important areas that needed improvement. Duplicate data extraction, manual searches of highly relevant journals, inclusion of gray and non-English literature, assessment of the methodological quality of included studies and quality of evidence were key methodological procedures that were performed infrequently. Furthermore, certain methodological limitations identified in the synthesis of study results have affected the results and conclusions of some reviews. CONCLUSIONS: Despite the availability of methodological guidelines that can be utilized to guide the proper conduct of systematic reviews and meta-analyses and eliminate potential risks of bias, this knowledge has not yet been fully integrated in the area of home telemonitoring. Further efforts should be made to improve the design, conduct, reporting, and publication of systematic reviews and meta-analyses in this area.

61. **ARTÍCULO Nº: 3942**

Shen YC, Wu VY. ***Reductions in Medicare payments and patient outcomes: an analysis of 5 leading Medicare conditions***. Med.Care. 2013; 51(11): 970-977.

BACKGROUND: The Affordable Care Act enacted significant Medicare payment reductions to providers, yet the effects of such major reductions on patients remain unclear. We used the Balanced Budget Act (BBA) of 1997 as a natural experiment to study the long-term consequence of major payment reductions on patient outcomes. OBJECTIVES: To analyze whether mortality trends diverge over the years between hospitals facing different levels of payment cuts because of the BBA for 5 leading conditions: acute myocardial infarction, congestive heart failure, stroke, pneumonia, and hip fracture. RESEARCH DESIGN: Using 100% Medicare claims between 1995 and 2005, hospital database, and published reports on BBA policy components, we compared changes in outcomes between hospitals facing small and large BBA payment reductions across 3 periods (pre-BBA, initial-BBA, and post-BBA) using instrumental variable hospital fixed-effects regression models. SETTING: All general, acute, nonrural, short-stay hospitals in the United States 1995-2005. MAIN OUTCOME MEASURES: Hospital risk-adjusted mortality rates (7, 30, 90 d, and 1 y). RESULTS: Mortality trends between hospitals in small and large payment-cut categories were similar between pre-BBA and initial-BBA periods, but diverged in the post-BBA period. Relative to the small-cut hospitals, hospitals in the large-cut category experienced smaller decline in 1-year mortality rates in the post-BBA period compared with their pre-BBA trends by 0.8-1.4 percentage points, depending on the condition ($P<0.05$ for all conditions, except for hip fracture). CONCLUSION: We found consistent evidence across multiple conditions that reductions in Medicare payments are associated with slower improvement in mortality outcomes.

62. **ARTÍCULO Nº: 3943**

Horner RD, Russ-Sellers R, Youkey JR. ***Rethinking health services research***. Med.Care. 2013; 51(12): 1031-1033.

63. **ARTÍCULO Nº: 3944**

Norcini JJ, Boulet JR, Opalek A, Dauphinee WD. ***Outcomes of cardiac surgery: associations with physician characteristics, institutional characteristics, and transfers of care***. Med.Care. 2013; 51(12): 1034-1039.

BACKGROUND: Although there are several studies of the human and system factors that influence the outcomes of cardiac surgery, it remains difficult to draw conclusions because many do not simultaneously adjust for the characteristics of patients, physicians, and institutions. The current study explores the associations between these factors and inhospital mortality, with a particular focus on whether patients had the same operating and attending physician. METHOD AND RESULTS: This is a retrospective observational study of 114,751 hospitalizations from 2003 to 2009 in Pennsylvania that included a coronary artery bypass graft, valve surgery, or both. The study included 70 teaching and nonteaching hospitals, 289 operating physicians who were also the attending physicians for 75% of the hospitalizations, and 2654 attending physicians for the remaining hospitalizations. After adjustment, there was a 38.4% decrease (95% CI, 20.3%-56.5%) in mortality when the operating and attending physician were the same. For the operator, each procedure performed was associated with a 0.05% (95% CI, 0.04%-0.06%) decrease in mortality and each year since medical school was associated with a 0.9% (95% CI, 0.02%-1.8%) increase in mortality. For the attending, each year since medical school was associated with a 0.67% (95% CI, 0.01%-1.4%) decrease in patient mortality. CONCLUSIONS: The findings indicated that an increase in the log odds of mortality was associated with the transfer of care between an attending and operating physician. Better patient outcomes were associated with an operator with higher volume who was closer to medical school graduation and an attending physician with more clinical experience.

64. **ARTÍCULO Nº: 3945**

Cote GA, Imler TD, Xu H, Teal E, French DD, Imperiale TF et al. ***Lower provider volume is associated with higher failure rates for endoscopic retrograde cholangiopancreatography***. Med.Care. 2013; 51(12): 1040-1047.

BACKGROUND: Among physicians who perform endoscopic retrograde cholangiopancreatography (ERCP), the relationship between procedure volume and outcome is unknown. OBJECTIVE: Quantify the ERCP volume-outcome relationship by measuring provider-specific failure rates, hospitalization rates, and other quality measures. RESEARCH DESIGN: Retrospective cohort. SUBJECTS: A total of 16,968 ERCPs performed by 130 physicians between 2001 and 2011, identified in the Indiana Network for Patient Care. MEASURES: Physicians were classified by their average annual Indiana Network for Patient Care volume and stratified into low (<25/y) and high (>/=25/y). Outcomes included failed procedures, defined as repeat ERCP, percutaneous transhepatic cholangiography or surgical exploration of the bile duct</=7 days after the index procedure, hospitalization rates, and 30-day mortality. RESULTS: Among 15,514 index ERCPs, there were 1163 (7.5%) failures; the failure rate was higher among low (9.5%) compared with high volume (5.7%) providers (P<0.001). A second ERCP within 7 days (a subgroup of failure rate) occurred more frequently when the original ERCP was performed by a low-volume (4.1%) versus a high-volume physician (2.3%, P=0.013). Patients were more frequently hospitalized within 24 hours when the ERCP was performed by a low-volume (28.3%) versus high-volume physician (14.8%, P=0.002). Mortality within 30 days was similar (low=1.9%, high=1.9%). Among low-volume physicians and after adjusting, the odds of having a failed procedure decreased 3.3% (95% confidence interval, 1.6%-5.0%, P<0.001) with each additional ERCP performed per year. CONCLUSIONS: Lower provider volume is associated with higher failure rate for ERCP, and greater need for postprocedure hospitalization.

65. **ARTÍCULO Nº: 3946**

Sherman KL, Gordon EJ, Mahvi DM, Chung J, Bentrem DJ, Holl JL et al. ***Surgeons' perceptions of public reporting of hospital and individual surgeon quality***. Med.Care. 2013; 51(12): 1069-1075.

BACKGROUND: Hospital-specific and surgeon-specific public reporting of performance measures is expanding largely due to calls for transparency from the public and oversight agencies. Surgeons continue to voice concerns regarding public reporting. Surgeons' perceptions of hospital-level and individual-level public reporting have not been assessed. This study (1) evaluated surgeons' perceptions of public reporting of surgical quality; and (2) identified specific barriers to surgeons' acceptance of public reporting. METHODS: All surgeons (n=185) at 4 hospitals (university, children's, 2 community hospitals), representing all surgical specialties, received a 41-item anonymous Internet-based survey. Twenty follow-up qualitative interviews were conducted to assess surgeons' interpretation of findings. RESULTS: The survey response rate was 66% (n=122). Most surgeons supported public reporting of quality metrics at the hospital level (80%), but opposed individual reporting (53%, P<0.01). Fewer surgeons expected that individual (26%) or hospital (47%) public reporting would improve outcomes (P<0.01). Few indicated that their practice would change with hospital (11%) or individual (18%) public reporting (P=0.20). Primary concerns regarding public reporting at the hospital level included patients misinterpreting data, surgeons refusing high-risk patients, and outcome metric validity. Individual-surgeon level concerns included outcome metric validity, adequate sample sizes, and patients misinterpreting data. To make public reporting more acceptable, surgeons recommended patient education, simplified data presentation, continued risk-adjustment refinement, and internal review before public reporting. CONCLUSIONS: Surgeons expressed concerns about public reporting of quality metrics, particularly reporting of individual surgeon performance. These concerns must be addressed to gain surgeons' acceptance and to use public reporting to improve health care quality.

66. **ARTÍCULO Nº: 3947**

Schroeck FR, Kaufman SR, Jacobs BL, Zhang Y, Weizer AZ, Montgomery JS et al. ***The impact of technology diffusion on treatment for prostate cancer***. Med.Care. 2013; 51(12): 1076-1084.

BACKGROUND: The use of local therapy for prostate cancer may increase because of the perceived advantages of new technologies such as intensity-modulated radiotherapy (IMRT) and robotic prostatectomy. OBJECTIVE: To examine the association of market-level technological capacity with receipt of local therapy. DESIGN: Retrospective cohort. SUBJECTS: Patients with localized prostate cancer who were diagnosed between 2003 and 2007 (n=59,043) from the Surveillance Epidemiology and End Results-Medicare database. MEASURES: We measured the capacity for delivering treatment with new technology as the number of providers offering robotic prostatectomy or IMRT per population in a market (hospital referral region). The association of this measure with receipt of prostatectomy, radiotherapy, or observation was examined with multinomial logistic regression. RESULTS: For each 1000 patients diagnosed with prostate cancer, 174 underwent prostatectomy, 490 radiotherapy, and 336 were observed. Markets with high robotic prostatectomy capacity had higher use of prostatectomy (146 vs. 118 per 1000 men, P=0.008) but a trend toward decreased use of radiotherapy (574 vs. 601 per 1000 men, P=0.068), resulting in a stable rate of local therapy. High versus low IMRT capacity did not significantly impact the use of prostatectomy (129 vs. 129 per 1000 men, P=0.947) and radiotherapy (594 vs. 585 per 1000 men, P=0.579). CONCLUSIONS: Although there was a small shift from radiotherapy to prostatectomy in markets with high robotic prostatectomy capacity, increased capacity for both robotic prostatectomy and IMRT did not change the overall rate

of local therapy. Our findings temper concerns that the new technology spurs additional therapy of prostate cancer.

67. **ARTÍCULO Nº: 3948**

Duclos A, Polazzi S, Lipsitz SR, Couray-Targe S, Gawande AA, Colin C et al. ***Temporal variation in surgical mortality within French hospitals***. Med.Care. 2013; 51(12): 1085-1093.

BACKGROUND: Surgical mortality varies widely across hospitals, but the degree of temporal variation within individual hospitals remains unexplored and may reflect unsafe care. OBJECTIVES: To add a longitudinal dimension to large-scale profiling efforts for interpreting surgical mortality variations over time within individual hospitals. DESIGN: Longitudinal analysis of the French nationwide hospital database using statistical process control methodology. SUBJECTS: A total of 9,474,879 inpatient stays linked with open surgery from 2006 through 2010 in 699 hospitals. MEASURES: For each hospital, a control chart was designed to monitor inpatient mortality within 30 days of admission and mortality trend was determined. Aggregated funnel plots were also used for comparisons across hospitals. RESULTS: Over 20 successive quarters, 52 hospitals (7.4%) experienced the detection of at least 1 potential safety issue reflected by a substantial increase in mortality momentarily. Mortality variation was higher among these institutions compared with other hospitals (7.4 vs. 5.0 small variation signals, P<0.001). Also, over the 5-year period, 119 (17.0%) hospitals reduced and 36 (5.2%) increased their mortality rate. Hospitals with improved outcomes had better control of mortality variation over time than those with deteriorating trends (5.2 vs. 6.3 signals, P=0.04). Funnel plots did not match with hospitals experiencing mortality variations over time. CONCLUSIONS: Dynamic monitoring of outcomes within every hospital may detect safety issues earlier than traditional benchmarking and guide efforts to improve the value of surgical care nationwide.

68. **ARTÍCULO Nº: 3949**

Qureshi AI, Adil MM, Suri MF. ***Rate of utilization and determinants of withdrawal of care in acute ischemic stroke treated with thrombolytics in USA***. Med.Care. 2013; 51(12): 1094-1100.

BACKGROUND: Our current practices for utilization of thrombolytics are based on results of clinical trials with no or restricted use of "withdrawal of care" among treated patients. The increasing use of "withdrawal of care" in routine practice may lead to suboptimal outcomes among acute ischemic stroke patients. METHODS: We determined the frequency of "withdrawal of care" and determined demographic and clinical characteristics, and in-hospital outcomes among thrombolytic-treated ischemic stroke patients stratified by use of "withdrawal of care" using National Inpatient Sample data files from 2002 to 2010. RESULTS: "Withdrawal of care" during hospitalization was instituted in 4287 (3.3%) of the 130,437 acute ischemic stroke patients treated with thrombolytics. In the stepwise logistic regression analysis, women [odds ratio (OR) 1.2, 95% confidence interval (CI), (1.0-1.5)], presence of atrial fibrillation [OR 1.2, 95% CI, (1.0-1.5)], hemiplegia/hemiparesis [OR 1.4, 95% CI, (1.1-1.7)], aphasia [OR 1.2, 95% CI, (1.0-1.5)], and postthrombolytic intracerebral hemorrhage (OR 1.5, 95% CI, 1.1-1.8) were significant predictors of "withdrawal of care" among thrombolytic-treated ischemic stroke patient. Hospitals located in the west region [OR 1.7, 95% CI, (1.2-2.4)], and teaching hospitals [OR 1.4, 95% CI, (1.0-1.8)] were more likely to use withdrawal of care. In-hospital mortality (61% vs. 9.0%, P</=0.0001) were higher among those with "withdrawal of care." CONCLUSIONS: Several individual-related and institution-related factors were associated with the use of "withdrawal of care" among thrombolytic-treated ischemic stroke patients. The excessively high mortality and resource utilization mandates a more evidence based policy for "withdrawal of care" in these patients.

69. **ARTÍCULO Nº: 3950**

Downey LA, Zun LS, Burke T. ***Patients', nurses' and physicians' perception of delays in emergency department care***. J.Hosp.Adm. 2013; 2(4): 25-30.

Background: Patients often judge their experiences in the emergency department (ED) based upon how long they have to wait, the attitudes of staff, and the information provided them.
Objective: The objective of this study was to assess the causes in constraints to patient flow in emergency departments by comparing staff, patient, and DSS data findings.
Methods: A random sample of patients and their healthcare providers were administered a survey asking them to rank the reasons for delay during three points after triage (60, 120, 180 minutes). A comparison was then done using Spearman's rank correlations and a regression model with independent indicators collected from the hospitals Decision Support System (DSS) which included: time to be seen by doctors, time to laboratory test results, time for radiological results, wait time for hospital bed and discharge in order to compare if the perceptions of constraints are related to the actual reasons for delays in the ED. This study was approved by the Internal Review Board.
Results: There was a significant correlation in the ranking of the reason for delays within the first, second and third hours between patients, nurses and doctors. However, when comparing perceptions for delay and independent data, only nurses within the third hour were correct in their understanding of the constraints that lead to delays.
Conclusions: Overall, patients and staff view similar reasons for constraints to their timely flow through the ED. There is, however, very little correlation between the survey responses and the independent factors that did constrain the flow of the ED. A more extensive use and integration of the DSS system by staff could provide more reliable information for reasons for delay that could be communicated to the ED patients which could improve customer service.

70. **ARTÍCULO Nº: 3951**

Sierra C, Ruilope LM. ***[Effectiveness of antihypertensive treatment and control of blood pressure: is it improvable?]***. Med.Clin.(Barc.). 2013; 141(8): 343-345.

71. **ARTÍCULO Nº: 3952**

Paramo JA***[New oral anticoagulant agents: the quandary of anticoagulation in the elderly]***. Med.Clin.(Barc.). 2013; 141(8): 346-348.

72. **ARTÍCULO Nº: 3953**

Castellvi P, Ferrer M, Alonso J. ***[The patient-reported outcomes in research: definition, impact, classification, measurement and assessment]***. Med.Clin.(Barc.). 2013; 141(8): 358-365.

73. **ARTÍCULO Nº: 3954**

Pons JM, Argimon JM. ***[About parsimony in medicine]***. Med.Clin.(Barc.). 2013; 141(9): 387-389.

74. **ARTÍCULO Nº: 3955**

Reyes-Alcazar V, Cambil MJ, Herrera-Usagre M. ***[Recommendations on the safety of patients for socio-health centers: systematic review]***. Med.Clin.(Barc.). 2013; 141(9): 397-405.

We did a systematic review to find recommendations on patient safety oriented toward improving the quality of care in nursing homes, residential facilities, housing for the elderly and long-term care facilities, among others. One hundred and thirty-four articles were selected in MEDLINE, EMBASE and

CINAHL up to October 2012. Of these, 17 met inclusion criteria and 5 studies were added in the secondary search for further detailed analysis. Few studies with high or very high level of scientific evidence on the scale SIGN were identified. Analyzed studies focused primarily on nursing staff. Most of the recommendations are oriented toward medication-related issues, staff training, pressure ulcers or falls, adherence to guidelines and protocols and topics referred to organizational culture.

75. **ARTÍCULO Nº: 3956**

Carrasco-Sanchez FJ, Paez-Rubio MI, Garcia-Moreno JM, Vazquez-Garcia I, raujo-Sanabria J, Pujo-de la LE. ***[Predictive variables for mortality in elderly patients hospitalized due to heart failure with preserved ejection fraction]***. Med.Clin.(Barc.). 2013; 141(10): 423-429.

BACKGROUND AND OBJECTIVES: The prevalence of heart failure (HF) increases with age. Even though the mortality of patients >/= 80 years of age with HF and preserved left ventricle ejection fraction (LVEF) is very high, the predictor variables are not well-known. The main goal of this study was to evaluate the mortality predictor factors in this subgroup of the elderly population. PATIENTS AND METHODS: An observational and prospective study of patients hospitalized due to HF with preserved LVEF has been conducted. The demographic, clinical, functional and analytic factors were evaluated when the patients were admitted with special attention to the co-morbidities. The primary endpoint was the total mortality in the subgroup of patients >/= 80 years of age after a year of follow-up. The predictor variables were studied by means of a multivariate Cox regression model. RESULTS: From a total of 218 patients with an average age of 75.6 (+/-8.7) years of age, 75 patients (34.4%) were >/= 80 years. The mortality rate of patients >/= 80 years of age totaled 42.7%, in relation to 26.6% for the lower age group (log-rank<.001). After a multivariate analysis using the Cox regression model in patients >/= 80, the serum urea levels above the average (hazard ratio [HR] 3.93; 95% confidence interval [95% CI] 1.58-9.75; P = .003), the age (HR 1.17; 95% CI 1.07-1.28; P<.001), the hyponatremia (HR 3.19; 95% CI 1.51-6.74; P = .002) and a lower score on the Barthel index (BI) (HR 1.016; 95% CI 1.002-1.031; P = .034) were independent mortality predictors after an one-year follow-up. CONCLUSIONS: Serum urea levels, age, hyponatremia and a low BI score could be proposed as independent mortality predictors in patients >/= 80 of age hospitalized for HF with preserved LVEF.

76. **ARTÍCULO Nº: 3957**

Santiago-Ruiz JL, Manzano L. ***[Prognostic predictors in old patients with heart failure: "Sometimes the easiest is the best"]***. Med.Clin.(Barc.). 2013; 141(10): 440-441.

77. **ARTÍCULO Nº: 3958**

Frobert O, Lagerqvist B, Olivecrona GK, Omerovic E, Gudnason T, Maeng M et al. ***Thrombus aspiration during ST-segment elevation myocardial infarction***. N.Engl.J.Med. 2013; 369(17): 1587-1597.

BACKGROUND: The clinical effect of routine intracoronary thrombus aspiration before primary percutaneous coronary intervention (PCI) in patients with ST-segment elevation myocardial infarction (STEMI) is uncertain. We aimed to evaluate whether thrombus aspiration reduces mortality. METHODS: We conducted a multicenter, prospective, randomized, controlled, open-label clinical trial, with enrollment of patients from the national comprehensive Swedish Coronary Angiography and Angioplasty Registry (SCAAR) and end points evaluated through national registries. A total of 7244 patients with STEMI undergoing PCI were randomly assigned to manual thrombus aspiration followed by PCI or to PCI only. The primary end point was all-cause mortality at 30 days. RESULTS: No patients were lost to follow-up. Death from any cause occurred in 2.8% of the patients in the thrombus-aspiration group (103 of 3621), as compared with 3.0% in the PCI-only group (110 of 3623)

(hazard ratio, 0.94; 95% confidence interval [CI], 0.72 to 1.22; P=0.63). The rates of hospitalization for recurrent myocardial infarction at 30 days were 0.5% and 0.9% in the two groups, respectively (hazard ratio, 0.61; 95% CI, 0.34 to 1.07; P=0.09), and the rates of stent thrombosis were 0.2% and 0.5%, respectively (hazard ratio, 0.47; 95% CI, 0.20 to 1.02; P=0.06). There were no significant differences between the groups with respect to the rate of stroke or neurologic complications at the time of discharge (P=0.87). The results were consistent across all major prespecified subgroups, including subgroups defined according to thrombus burden and coronary flow before PCI. CONCLUSIONS: Routine thrombus aspiration before PCI as compared with PCI alone did not reduce 30-day mortality among patients with STEMI. (Funded by the Swedish Research Council and others; ClinicalTrials.gov number, NCT01093404.).

78. **ARTÍCULO Nº: 3959**

Byrne RA, Kastrati A. ***Unmet aspirations--where to now for catheter thrombectomy?*** N.Engl.J.Med. 2013; 369(17): 1649-1650.

79. **ARTÍCULO Nº: 3960**

Gordon D, Taddei-Peters W, Mascette A, Antman M, Kaufmann PG, Lauer MS. ***Publication of trials funded by the National Heart, Lung, and Blood Institute***. N.Engl.J.Med. 2013; 369(20): 1926-1934.

BACKGROUND: Rapid publication of clinical trials is essential in order for the findings to yield maximal benefits for public health and scientific progress. Factors affecting the speed of publication of the main results of government-funded trials have not been well characterized. METHODS: We analyzed 244 extramural randomized clinical trials of cardiovascular interventions that were supported by the National Heart, Lung, and Blood Institute (NHLBI). We selected trials for which data collection had been completed between January 1, 2000, and December 31, 2011. Our primary outcome measure was the time between completion of the trial and publication of the main results in a peer-reviewed journal. RESULTS: As of March 31, 2012, the main results of 156 trials (64%) had been published (Kaplan-Meier median time to publication, 25 months, with 57% published within 30 months). Trials that focused on clinical events were published more rapidly than those that focused on surrogate measures (median, 9 months vs. 31 months; P<0.001). The only independent predictors of more rapid publication were a focus on clinical events rather than surrogate end points (adjusted publication rate ratio, 2.11; 95% confidence interval, 1.26 to 3.53; P=0.004) and higher costs of conducting the trial, up to a threshold of approximately $5 million (P<0.001). The 37 trials that focused on clinical events and cost at least $5 million accounted for 67% of the funds spent on clinical trials but received 82% of the citations. After adjustment of the analysis for a focus on clinical events and for cost, trial results that were classified as positive were published more quickly than those classified as negative. CONCLUSIONS: Results of less than two thirds of NHLBI-funded randomized clinical trials of cardiovascular interventions were published within 30 months after completion of the trial. Trials that focused on clinical events were published more quickly than those that focused on surrogate end points. (Funded by the National Heart, Lung, and Blood Institute.).

80. **ARTÍCULO Nº: 3961**

Kost RG, Lee LM, Yessis J, Wesley RA, Henderson DK, Coller BS. ***Assessing participant-centered outcomes to improve clinical research***. N.Engl.J.Med. 2013; 369(23): 2179-2181.