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Gestión de la Calidad Asistencial

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1. **ARTÍCULO Nº: 4222**

Ebinger M, Winter B, Wendt M, Weber JE, Waldschmidt C, Rozanski M et al. ***Effect of the use of ambulance-based thrombolysis on time to thrombolysis in acute ischemic stroke: a randomized clinical trial*** . JAMA. 2014; 311(16): 1622-1631.

IMPORTANCE: Time to thrombolysis is crucial for outcome in acute ischemic stroke. OBJECTIVE: To determine if starting thrombolysis in a specialized ambulance reduces delays. DESIGN, SETTING, AND PARTICIPANTS: In the Prehospital Acute Neurological Treatment and Optimization of Medical care in Stroke Study (PHANTOM-S), conducted in Berlin, Germany, we randomly assigned weeks with and without availability of the Stroke Emergency Mobile (STEMO) from May 1, 2011, to January 31, 2013. Berlin has an established stroke care infrastructure with 14 stroke units. We included 6182 adult patients (STEMO weeks: 44.3% male, mean [SD] age, 73.9 [15.0] y; control weeks: 45.2% male, mean [SD] age, 74.3 [14.9] y) for whom a stroke dispatch was activated. INTERVENTIONS: The intervention comprised an ambulance (STEMO) equipped with a CT scanner, point-of-care laboratory, and telemedicine connection; a stroke identification algorithm at dispatcher level; and a prehospital stroke team. Thrombolysis was started before transport to hospital if ischemic stroke was confirmed and contraindications excluded. MAIN OUTCOMES AND MEASURES: Primary outcome was alarm-to-thrombolysis time. Secondary outcomes included thrombolysis rate, secondary intracerebral hemorrhage after thrombolysis, and 7-day mortality. RESULTS: Time reduction was assessed in all patients with a stroke dispatch from the entire catchment area in STEMO weeks (3213 patients) vs control weeks (2969 patients) and in patients in whom STEMO was available and deployed (1804 patients) vs control weeks (2969 patients). Compared with thrombolysis during control weeks, there was a reduction of 15 minutes (95% CI, 11-19) in alarm-to-treatment times in the catchment area during STEMO weeks (76.3 min; 95% CI, 73.2-79.3 vs 61.4 min; 95% CI, 58.7-64.0; P < .001). Among patients for whom STEMO was deployed, mean alarm-to-treatment time (51.8 min; 95% CI, 49.0-54.6) was shorter by 25 minutes (95% CI, 20-29; P < .001) than during control weeks. Thrombolysis rates in ischemic stroke were 29% (310/1070) during STEMO weeks and 33% (200/614) after STEMO deployment vs 21% (220/1041) during control weeks (differences, 8%; 95% CI, 4%-12%; P < .001, and 12%, 95% CI, 7%-16%; P < .001, respectively). STEMO deployment incurred no increased risk for intracerebral hemorrhage (STEMO deployment: 7/200; conventional care: 22/323; adjusted odds ratio [OR], 0.42, 95% CI, 0.18-1.03; P = .06) or 7-day mortality (9/199 vs 15/323; adjusted OR, 0.76; 95% CI, 0.31-1.82; P = .53). CONCLUSIONS AND RELEVANCE: Compared with usual care, the use of ambulance-based thrombolysis resulted in decreased time to treatment without an increase in adverse events. Further studies are needed to assess the effects on clinical outcomes. TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT01382862.

Subdirección General de Planificación, Calidad e Investigación

2. **ARTÍCULO Nº: 4223**

Fonarow GC, Zhao X, Smith EE, Saver JL, Reeves MJ, Bhatt DL et al. ***Door-to-needle times for tissue plasminogen activator administration and clinical outcomes in acute ischemic stroke before and after a quality improvement initiative***. JAMA. 2014; 311(16): 1632-1640.

IMPORTANCE: The benefits of intravenous tissue plasminogen activator (tPA) in patients with acute ischemic stroke (AIS) are time dependent and guidelines recommend a door-to-needle (DTN) time of 60 minutes or less. However, studies have found that less than 30% of US patients are treated within this time window. Target: Stroke was designed as a national quality improvement initiative to improve DTN times for tPA administration in patients with AIS. OBJECTIVES: To evaluate DTN times for tPA administration and the proportion of patients with times of 60 minutes or less before and after initiation of a quality improvement initiative and to determine whether potential improvements in DTN times were associated with improvements in clinical outcomes. DESIGN, SETTING, AND PATIENTS: The Target: Stroke initiative disseminated 10 care strategies to achieve faster DTN times for tPA administration, provided clinical decision support tools, facilitated hospital participation, and encouraged sharing of best practices. This study included 71,169 patients with AIS treated with tPA (27,319 during the preintervention period from April 2003-December 2009 and 43,850 during the postintervention period from January 2010-September 2013) from 1030 Get With The Guidelines-Stroke participating hospitals (52.8% of total). MAIN OUTCOMES AND MEASURES: The DTN times for tPA administration of 60 minutes or less and in-hospital risk-adjusted mortality, symptomatic intracranial hemorrhage, ambulatory status at discharge, and discharge destination. RESULTS: Median DTN time for tPA administration declined from 77 minutes (interquartile range [IQR], 60-98 minutes) during the preintervention period to 67 minutes (IQR, 51-87 minutes) during the postintervention period (P < .001). The DTN times for tPA administration of 60 minutes or less increased from 26.5% (95% CI, 26.0%-27.1%) of patients during the preintervention period to 41.3% (95% CI, 40.8%-41.7%) during the postintervention period (P < .001). The DTN times of 60 minutes or less increased from 29.6% (95% CI, 27.8%-31.5%) of patients in the quarter immediately before the intervention (fourth quarter of 2009) to 53.3% (95% CI, 51.5%-55.2%) in the final postintervention quarter (third quarter of 2013) (P < .001). The annual rate of improvement in DTN times of 60 minutes or less increased from 1.36% (95% CI, 1.04%-1.67%) per year preintervention to 6.20% (95% CI, 5.58%-6.78%) per year postintervention (P < .001). In-hospital all-cause mortality improved significantly from the preintervention to the postintervention period (9.93% vs 8.25%, respectively; adjusted odds ratio [OR], 0.89 [95% CI, 0.83-0.94], P < .001), symptomatic intracranial hemorrhage within 36 hours was less likely to occur (5.68% vs 4.68%; adjusted OR, 0.83 [95% CI, 0.76-0.91], P < .001), and discharge to home was more frequent (37.6% vs 42.7%; adjusted OR, 1.14 [95% CI, 1.09-1.19], P < .001). CONCLUSIONS AND RELEVANCE: Implementation of a national quality improvement initiative was associated with improved timeliness of tPA administration following AIS on a national scale, and this improvement was associated with lower in-hospital mortality and intracranial hemorrhage, along with an increase in the percentage of patients discharged home.

3. **ARTÍCULO Nº: 4224**

Callaghan BC, Burke JF, Feldman EL. ***How neurologists can choose (even more) wisely: prioritizing waste reduction targets and identifying gaps in knowledge***. JAMA. 2014; 311(16): 1607-1608.

4. **ARTÍCULO Nº: 4225**

Kavousi M, Leening MJ, Nanchen D, Greenland P, Graham IM, Steyerberg EW et al. ***Comparison of application of the ACC/AHA guidelines, Adult Treatment Panel III guidelines, and European Society***

of Cardiology guidelines for cardiovascular disease prevention in a European cohort. JAMA. 2014; 311(14): 1416-1423.

IMPORTANCE: The 2013 American College of Cardiology/American Heart Association (ACC/AHA) guidelines introduced a prediction model and lowered the threshold for treatment with statins to a 7.5% 10-year hard atherosclerotic cardiovascular disease (ASCVD) risk. Implications of the new guideline's threshold and model have not been addressed in non-US populations or compared with previous guidelines. OBJECTIVE: To determine population-wide implications of the ACC/AHA, the Adult Treatment Panel III (ATP-III), and the European Society of Cardiology (ESC) guidelines using a cohort of Dutch individuals aged 55 years or older. DESIGN, SETTING, AND PARTICIPANTS: We included 4854 Rotterdam Study participants recruited in 1997-2001. We calculated 10-year risks for "hard" ASCVD events (including fatal and nonfatal coronary heart disease [CHD] and stroke) (ACC/AHA), hard CHD events (fatal and nonfatal myocardial infarction, CHD mortality) (ATP-III), and atherosclerotic CVD mortality (ESC). MAIN OUTCOMES AND MEASURES: Events were assessed until January 1, 2012. Per guideline, we calculated proportions of individuals for whom statins would be recommended and determined calibration and discrimination of risk models. RESULTS: The mean age was 65.5 (SD, 5.2) years. Statins would be recommended for 96.4% (95% CI, 95.4%-97.1%; n = 1825) of men and 65.8% (95% CI, 63.8%-67.7%; n = 1523) of women by the ACC/AHA, 52.0% (95% CI, 49.8%-54.3%; n = 985) of men and 35.5% (95% CI, 33.5%-37.5%; n = 821) of women by the ATP-III, and 66.1% (95% CI, 64.0%-68.3%; n = 1253) of men and 39.1% (95% CI, 37.1%-41.2%; n = 906) of women by ESC guidelines. With the ACC/AHA model, average predicted risk vs observed cumulative incidence of hard ASCVD events was 21.5% (95% CI, 20.9%-22.1%) vs 12.7% (95% CI, 11.1%-14.5%) for men (192 events) and 11.6% (95% CI, 11.2%-12.0%) vs 7.9% (95% CI, 6.7%-9.2%) for women (151 events). Similar overestimation occurred with the ATP-III model (98 events in men and 62 events in women) and ESC model (50 events in men and 37 events in women). The C statistic was 0.67 (95% CI, 0.63-0.71) in men and 0.68 (95% CI, 0.64-0.73) in women for hard ASCVD (ACC/AHA), 0.67 (95% CI, 0.62-0.72) in men and 0.69 (95% CI, 0.63-0.75) in women for hard CHD (ATP-III), and 0.76 (95% CI, 0.70-0.82) in men and 0.77 (95% CI, 0.71-0.83) in women for CVD mortality (ESC). CONCLUSIONS AND RELEVANCE: In this European population aged 55 years or older, proportions of individuals eligible for statins differed substantially among the guidelines. The ACC/AHA guideline would recommend statins for nearly all men and two-thirds of women, proportions exceeding those with the ATP-III or ESC guidelines. All 3 risk models provided poor calibration and moderate to good discrimination. Improving risk predictions and setting appropriate population-wide thresholds are necessary to facilitate better clinical decision making.

5. **ARTÍCULO Nº: 4226**

Navar-Boggan AM, Pencina MJ, Williams K, Sniderman AD, Peterson ED. ***Proportion of US adults potentially affected by the 2014 hypertension guideline***. JAMA. 2014; 311(14): 1424-1429.

IMPORTANCE: The new 2014 blood pressure (BP) guideline released by the panel members appointed to the Eighth Joint National Committee (JNC 8; 2014 BP guideline) proposed less restrictive BP targets for adults aged 60 years or older and for those with diabetes and chronic kidney disease. OBJECTIVE: To estimate the proportion of US adults potentially affected by recent changes in recommendations for management of hypertension. DESIGN: Cross-sectional, nationally representative survey. PARTICIPANTS: Using data from the National Health and Nutrition Examination Survey between 2005 and 2010 (n = 16,372), we evaluated hypertension control and treatment recommendations for US adults. MAIN OUTCOMES AND MEASURES: Proportion of adults estimated to meet guideline-based BP targets under the 2014 BP guideline and under the previous seventh Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) guideline. RESULTS:

The proportion of younger adults (18-59 years) with treatment-eligible hypertension under the JNC 7 guideline was 20.3% (95% CI, 19.1%-21.4%) and decreased to 19.2% (95% CI, 18.1%-20.4%) under the 2014 BP guideline. Larger declines were observed among older adults (>/=60 years), decreasing from 68.9% (95% CI, 66.9%-70.8%) under JNC 7 to 61.2% (95% CI, 59.3%-63.0%) under the 2014 BP guideline. The proportion of adults with treatment-eligible hypertension who met BP goals increased slightly for younger adults, from 41.2% (95% CI, 38.1%-44.3%) under JNC 7 to 47.5% (95% CI, 44.4%-50.6%) under the 2014 BP guideline, and more substantially for older adults, from 40.0% (95% CI, 37.8%-42.3%) under JNC 7 to 65.8% (95% CI, 63.7%-67.9%) under the 2014 BP guideline. Overall, 1.6% (95% CI, 1.3%-1.9%) of US adults aged 18-59 years and 27.6% (95% CI, 25.9%-29.3%) of adults aged 60 years or older were receiving BP-lowering medication and meeting more stringent JNC 7 targets. These patients may be eligible for less stringent or no BP therapy with the 2014 BP guideline. CONCLUSIONS AND RELEVANCE: Compared with the JNC 7 guideline, the 2014 BP guideline from the panel members appointed to the JNC 8 was associated with a reduction in the proportion of US adults recommended for hypertension treatment and a substantial increase in the proportion of adults considered to have achieved goal BP, primarily in older adults.

6. **ARTÍCULO Nº: 4227**

Krumholz HM. ***The new cholesterol and blood pressure guidelines: perspective on the path forward***. JAMA. 2014; 311(14): 1403-1405.

7. **ARTÍCULO Nº: 4228**

Thygesen K, Alpert JS, Jaffe AS, Simoons ML, Chaitman BR, White HD et al. ***Third universal definition of myocardial infarction***. Circulation. 2012; 126(16): 2020-2035.

8. **ARTÍCULO Nº: 4229**

Moran AE, Forouzanfar MH, Roth GA, Mensah GA, Ezzati M, Murray CJ et al. ***Temporal trends in ischemic heart disease mortality in 21 world regions, 1980 to 2010: the global burden of disease 2010 study***. Circulation. 2014; 129(14): 1483-1492.

BACKGROUND: Ischemic heart disease (IHD) is the leading cause of death worldwide. The Global Burden of Diseases, Risk Factors and Injuries 2010 Study estimated global and regional IHD mortality from 1980 to 2010. METHODS AND RESULTS: Sources for IHD mortality estimates were country-level surveillance, verbal autopsy, and vital registration data. Regional income, metabolic and nutritional risk factors, and other covariates were estimated from surveys and a systematic review. An estimation and validation process led to an ensemble model of IHD mortality for 21 world regions. Globally, age-standardized IHD mortality has declined since the 1980s, and high-income regions (especially Australasia, Western Europe, and North America) experienced the most remarkable declines. Age-standardized IHD mortality increased in former Soviet Union countries and South Asia in the 1990s and attenuated after 2000. In 2010, Eastern Europe and Central Asia had the highest age-standardized IHD mortality rates. More IHD deaths occurred in South Asia in 2010 than in any other region. On average, IHD deaths in South Asia, North Africa and the Middle East, and sub-Saharan Africa occurred at younger ages in comparison with most other regions. CONCLUSIONS: In most world regions, particularly in high-income regions, age-standardized IHD mortality rates have declined significantly since 1980. High age-standardized IHD mortality in Eastern Europe, Central Asia, and South Asia point to the need to prevent and control established risk factors in those regions and to research the unique behavioral and environmental determinants of higher IHD mortality.

9. **ARTÍCULO Nº: 4230**

Moran AE, Forouzanfar MH, Roth GA, Mensah GA, Ezzati M, Flaxman A et al. ***The global burden of ischemic heart disease in 1990 and 2010: the global burden of disease 2010 study***. Circulation. 2014; 129(14): 1493-1501.

BACKGROUND: Ischemic heart disease (IHD) burden consists of years of life lost from IHD deaths and years of disability lived with 3 nonfatal IHD sequelae: nonfatal acute myocardial infarction, angina pectoris, and ischemic heart failure. Our aim was to estimate the global and regional burden of IHD in 1990 and 2010. METHODS AND RESULTS: Global and regional estimates of acute myocardial infarction incidence and angina and heart failure prevalence by age, sex, and world region in 1990 and 2010 were estimated based on data from a systematic review and nonlinear mixed-effects meta-regression methods. Age-standardized acute myocardial infarction incidence and angina prevalence decreased globally between 1990 and 2010; ischemic heart failure prevalence increased slightly. The global burden of IHD increased by 29 million disability-adjusted life-years (29% increase) between 1990 and 2010. About 32.4% of the growth in global IHD disability-adjusted life-years between 1990 and 2010 was attributable to aging of the world population, 22.1% was attributable to population growth, and total disability-adjusted life-years were attenuated by a 25.3% decrease in per capita IHD burden (decreased rate). The number of people living with nonfatal IHD increased more than the number of IHD deaths since 1990, but >90% of IHD disability-adjusted life-years in 2010 were attributable to IHD deaths. CONCLUSIONS: Globally, age-standardized acute myocardial infarction incidence and angina prevalence have decreased, and ischemic heart failure prevalence has increased since 1990. Despite decreased age-standardized fatal and nonfatal IHD in most regions since 1990, population growth and aging led to a higher global burden of IHD in 2010.

10. **ARTÍCULO Nº: 4231**

Pezzini A, Grassi M, Lodigiani C, Patella R, Gandolfo C, Zini A et al. ***Predictors of long-term recurrent vascular events after ischemic stroke at young age: the Italian Project on Stroke in Young Adults***. Circulation. 2014; 129(16): 1668-1676.

BACKGROUND: Data on long-term risk and predictors of recurrent thrombotic events after ischemic stroke at a young age are limited. METHODS AND RESULTS: We followed 1867 patients with first-ever ischemic stroke who were 18 to 45 years of age (mean age, 36.8+/-7.1 years; women, 49.0%), as part of the Italian Project on Stroke in Young Adults (IPSYS). Median follow-up was 40 months (25th to 75th percentile, 53). The primary end point was a composite of ischemic stroke, transient ischemic attack, myocardial infarction, or other arterial events. One hundred sixty-three patients had recurrent thrombotic events (average rate, 2.26 per 100 person-years at risk). At 10 years, cumulative risk was 14.7% (95% confidence interval, 12.2%-17.9%) for primary end point, 14.0% (95% confidence interval, 11.4%-17.1%) for brain ischemia, and 0.7% (95% confidence interval, 0.4%-1.3%) for myocardial infarction or other arterial events. Familial history of stroke, migraine with aura, circulating antiphospholipid antibodies, discontinuation of antiplatelet and antihypertensive medications, and any increase of 1 traditional vascular risk factor were independent predictors of the composite end point in multivariable Cox proportional hazards analysis. A point-scoring system for each variable was generated by their beta-coefficients, and a predictive score (IPSYS score) was calculated as the sum of the weighted scores. The area under the receiver operating characteristic curve of the 0- to 5-year score was 0.66 (95% confidence interval, 0.61-0.71; mean, 10-fold internally cross-validated area under the receiver operating characteristic curve, 0.65). CONCLUSIONS: Among patients with ischemic stroke aged 18 to 45 years, the long-term risk of recurrent thrombotic events is associated with modifiable, age-specific risk factors. The IPSYS score may serve as a simple tool for risk estimation.

11. **ARTÍCULO Nº: 4232**

Waldron B, Moll S. ***Cardiology patient page. A patient's guide to recovery after deep vein thrombosis or pulmonary embolism.*** Circulation. 2014; 129(17): e477-e479.

12. **ARTÍCULO Nº: 4233**

Fearon WF. ***Percutaneous coronary intervention should be guided by fractional flow reserve measurement.*** Circulation. 2014; 129(18): 1860-1870.

13. **ARTÍCULO Nº: 4234**

Rbab-Zadeh A. ***Fractional flow reserve-guided percutaneous coronary intervention is not a valid concept.*** Circulation. 2014; 129(18): 1871-1878.

14. **ARTÍCULO Nº: 4235**

Schuur JD, Carney DP, Lyn ET, Raja AS, Michael JA, Ross NG et al. ***A top-five list for emergency medicine: a pilot project to improve the value of emergency care.*** JAMA Intern.Med. 2014; 174(4): 509-515.

IMPORTANCE The mean cost of medical care in the United States is growing at an unsustainable rate; from 2003 through 2011, the cost for an emergency department (ED) visit rose 240%, from $560 to $1354. The diagnostic tests, treatments, and hospitalizations that emergency clinicians order result in significant costs. OBJECTIVE To create a "top-five" list of tests, treatments, and disposition decisions that are of little value, are amenable to standardization, and are actionable by emergency medicine clinicians. DESIGN, SETTING, AND PARTICIPANTS Modified Delphi consensus process and survey of 283 emergency medicine clinicians (physicians, physician assistants, and nurse practitioners) from 6 EDs. INTERVENTION We assembled a technical expert panel (TEP) and conducted a modified Delphi process to identify a top-five list using a 4-step process. In phase 1, we generated a list of low-value clinical decisions from TEP brainstorming and e-mail solicitation of clinicians. In phase 2, the TEP ranked items on contribution to cost, benefit to patients, and actionability by clinicians. In phase 3, we surveyed all ordering clinicians from the 6 EDs regarding distinct aspects of each item. In phase 4, the TEP voted for a final top-five list based on survey results and discussion. MAIN OUTCOMES AND MEASURES A top-five list for emergency medicine. The TEP ranked items on contribution to cost, benefit to patients, and actionability by clinicians. The survey asked clinicians to score items on the potential benefit or harm to patients and the provider actionability of each item. Voting and surveys used 5-point Likert scales. A Pearson interdomain correlation was used. RESULTS Phase 1 identified 64 low-value items. Phase 2 narrowed this list to 7 laboratory tests, 3 medications, 4 imaging studies, and 3 disposition decisions included in the phase 3 survey (71.0% response rate). All 17 items showed a significant positive correlation between benefit and actionability (r, 0.19-0.37 [P </= .01]). One item received unanimous TEP support, 4 received majority support, and 12 received at least 1 vote. CONCLUSIONS AND RELEVANCE Our TEP identified clinical actions that are of low value and within the control of ED health care providers. This method can be used to identify additional actionable targets of overuse in emergency medicine.

15. **ARTÍCULO Nº: 4236**

Kangovi S, Mitra N, Grande D, White ML, McCollum S, Sellman J et al. ***Patient-centered community health worker intervention to improve posthospital outcomes: a randomized clinical trial.*** JAMA Intern.Med. 2014; 174(4): 535-543.

IMPORTANCE Socioeconomic and behavioral factors can negatively influence posthospital outcomes among patients of low socioeconomic status (SES). Traditional hospital personnel often lack the time, skills, and community linkages required to address these factors. OBJECTIVE To determine whether a tailored community health worker (CHW) intervention would improve posthospital outcomes among low-SES patients. DESIGN, SETTING, AND PARTICIPANTS A 2-armed, single-blind, randomized clinical trial was conducted between April 10, 2011, and October 30, 2012, at 2 urban, academically affiliated hospitals. Of 683 eligible general medical inpatients (ie, low-income, uninsured, or Medicaid) that we screened, 237 individuals (34.7%) declined to participate. The remaining 446 patients (65.3%) were enrolled and randomly assigned to study arms. Nearly equal percentages of control and intervention group patients completed the follow-up interview (86.6% vs 86.9%). INTERVENTIONS During hospital admission, CHWs worked with patients to create individualized action plans for achieving patients' stated goals for recovery. The CHWs provided support tailored to patient goals for a minimum of 2 weeks. MAIN OUTCOMES AND MEASURES The prespecified primary outcome was completion of primary care follow-up within 14 days of discharge. Prespecified secondary outcomes were quality of discharge communication, self-rated health, satisfaction, patient activation, medication adherence, and 30-day readmission rates. RESULTS Using intention-to-treat analysis, we found that intervention patients were more likely to obtain timely posthospital primary care (60.0% vs 47.9%; P = .02; adjusted odds ratio [OR], 1.52; 95% CI, 1.03-2.23), to report high-quality discharge communication (91.3% vs 78.7%; P = .002; adjusted OR, 2.94; 95% CI, 1.5-5.8), and to show greater improvements in mental health (6.7 vs 4.5; P = .02) and patient activation (3.4 vs 1.6; P = .05). There were no significant differences between groups in physical health, satisfaction with medical care, or medication adherence. Similar proportions of patients in both arms experienced at least one 30-day readmission; however, intervention patients were less likely to have multiple 30-day readmissions (2.3% vs 5.5%; P = .08; adjusted OR, 0.40; 95% CI, 0.14-1.06). Among the subgroup of 63 readmitted patients, recurrent readmission was reduced from 40.0% vs 15.2% (P = .03; adjusted OR, 0.27; 95% CI, 0.08-0.89). CONCLUSIONS AND RELEVANCE Patient-centered CHW intervention improves access to primary care and quality of discharge while controlling recurrent readmissions in a high-risk population. Health systems may leverage the CHW workforce to improve posthospital outcomes by addressing behavioral and socioeconomic drivers of disease. TRIAL REGISTRATION clinicaltrials.gov Identifier: NCT01346462.

16. **ARTÍCULO Nº: 4237**

Fu SS, van RM, Sherman SE, Burgess DJ, Noorbaloochi S, Clothier B et al. ***Proactive tobacco treatment and population-level cessation: a pragmatic randomized clinical trial***. JAMA Intern.Med. 2014; 174(5): 671-677.

IMPORTANCE: Current tobacco use treatment approaches require smokers to request treatment or depend on the provider to initiate smoking cessation care and are therefore reactive. Most smokers do not receive evidence-based treatments for tobacco use that include both behavioral counseling and pharmacotherapy. OBJECTIVE: To assess the effect of a proactive, population-based tobacco cessation care model on use of evidence-based tobacco cessation treatments and on population-level smoking cessation rates (ie, abstinence among all smokers including those who use and do not use treatment) compared with usual care among a diverse population of current smokers. DESIGN, SETTING, AND PARTICIPANTS: The Veterans Victory Over Tobacco Study, a pragmatic randomized clinical trial involving a population-based registry of current smokers aged 18 to 80 years. A total of 6400 current smokers, identified using the Department of Veterans Affairs (VA) electronic medical record, were randomized prior to contact to evaluate both the reach and effectiveness of the proactive care intervention. INTERVENTIONS: Current smokers were randomized to usual care or proactive care. Proactive care combined (1) proactive outreach and (2) offer of choice of smoking

cessation services (telephone or in-person). Proactive outreach included mailed invitations followed by telephone outreach to motivate smokers to seek treatment with choice of services. MAIN OUTCOMES AND MEASURES: The primary outcome was 6-month prolonged smoking abstinence at 1 year and was assessed by a follow-up survey among all current smokers regardless of interest in quitting or treatment utilization. RESULTS: A total of 5123 participants were included in the primary analysis. The follow-up survey response rate was 66%. The population-level, 6-month prolonged smoking abstinence rate at 1 year was 13.5% for proactive care compared with 10.9% for usual care (P = .02). Logistic regression mixed model analysis showed a significant effect of the proactive care intervention on 6-month prolonged abstinence (odds ratio [OR], 1.27 [95% CI, 1.03-1.57]). In analyses accounting for nonresponse using likelihood-based not-missing-at-random models, the effect of proactive care on 6-month prolonged abstinence persisted (OR, 1.33 [95% CI, 1.17-1.51]). CONCLUSIONS AND RELEVANCE: Proactive, population-based tobacco cessation care using proactive outreach to connect smokers to evidence-based telephone or in-person smoking cessation services is effective for increasing long-term population-level cessation rates. TRIAL REGISTRATION: clinicaltrials.gov Identifier: NCT00608426.

17. **ARTÍCULO Nº: 4238**

Del FG, Workman TE, Gorman PN. ***Clinical questions raised by clinicians at the point of care: a systematic review***. JAMA Intern.Med. 2014; 174(5): 710-718.

IMPORTANCE: In making decisions about patient care, clinicians raise questions and are unable to pursue or find answers to most of them. Unanswered questions may lead to suboptimal patient care decisions. OBJECTIVE: To systematically review studies that examined the questions clinicians raise in the context of patient care decision making. DATA SOURCES: MEDLINE (from 1966), CINAHL (from 1982), and Scopus (from 1947), all through May 26, 2011. STUDY SELECTION Studies that examined questions raised and observed by clinicians (physicians, medical residents, physician assistants, nurse practitioners, nurses, dentists, and care managers) in the context of patient care were independently screened and abstracted by 2 investigators. Of 21,710 citations, 72 met the selection criteria. DATA EXTRACTION AND SYNTHESIS: Question frequency was estimated by pooling data from studies with similar methods. MAIN OUTCOMES AND MEASURES: Frequency of questions raised, pursued, and answered and questions by type according to a taxonomy of clinical questions. Thematic analysis of barriers to information seeking and the effects of information seeking on decision making. RESULTS In 11 studies, 7012 questions were elicited through short interviews with clinicians after each patient visit. The mean frequency of questions raised was 0.57 (95% CI, 0.38-0.77) per patient seen, and clinicians pursued 51% (36%-66%) of questions and found answers to 78% (67%-88%) of those they pursued. Overall, 34% of questions concerned drug treatment, and 24% concerned potential causes of a symptom, physical finding, or diagnostic test finding. Clinicians' lack of time and doubt that a useful answer exists were the main barriers to information seeking. CONCLUSIONS AND RELEVANCE: Clinicians frequently raise questions about patient care in their practice. Although they are effective at finding answers to questions they pursue, roughly half of the questions are never pursued. This picture has been fairly stable over time despite the broad availability of online evidence resources that can answer these questions. Technology-based solutions should enable clinicians to track their questions and provide just-in-time access to high-quality evidence in the context of patient care decision making. Opportunities for improvement include the recent adoption of electronic health record systems and maintenance of certification requirements.

18. **ARTÍCULO Nº: 4239**

Reimers MS, Bastiaannet E, Langley RE, van ER, van Vlierberghe RL, Lemmens VE et al. ***Expression of HLA class I antigen, aspirin use, and survival after a diagnosis of colon cancer.*** JAMA Intern.Med. 2014; 174(5): 732-739.

IMPORTANCE: Use of aspirin (which inhibits platelet function) after a colon cancer diagnosis is associated with improved overall survival. Identifying predictive biomarkers of this effect could individualize therapy and decrease toxic effects. OBJECTIVE: To demonstrate that survival benefit associated with low-dose aspirin use after a diagnosis of colorectal cancer might depend on HLA class I antigen expression. DESIGN, SETTING, AND PARTICIPANTS: A cohort study with tumor blocks from 999 patients with colon cancer (surgically resected between 2002 and 2008), analyzed for HLA class I antigen and prostaglandin endoperoxide synthase 2 (PTGS2) expression using a tissue microarray. Mutation analysis of PIK3CA was also performed. Data on aspirin use after diagnosis were obtained from a prescription database. Parametric survival models with exponential (Poisson) distribution were used to model the survival. MAIN OUTCOMES AND MEASURES: Overall survival. RESULTS: The overall survival benefit associated with aspirin use after a diagnosis of colon cancer had an adjusted rate ratio (RR) of 0.53 (95% CI, 0.38-0.74; P < .001) when tumors expressed HLA class I antigen compared with an RR of 1.03 (0.66-1.61; P = .91) when HLA antigen expression was lost. The benefit of aspirin was similar for tumors with strong PTGS2 expression (0.68; 0.48-0.97; P = .03), weak PTGS2 expression (0.59; 0.38-0.97; P = .02), and wild-type PIK3CA tumors (0.55; 0.40-0.75; P < .001). No association was observed with mutated PIK3CA tumors (0.73; 0.33-1.63; P = .44). CONCLUSIONS AND RELEVANCE: Contrary to the original hypothesis, aspirin use after colon cancer diagnosis was associated with improved survival if tumors expressed HLA class I antigen. Increased PTGS2 expression or the presence of mutated PIK3CA did not predict benefit from aspirin. HLA class I antigen might serve as a predictive biomarker for adjuvant aspirin therapy in colon cancer.

19. **ARTÍCULO Nº: 4240**

Hussey PS, Schneider EC, Rudin RS, Fox DS, Lai J, Pollack CE. ***Continuity and the costs of care for chronic disease.*** JAMA Intern.Med. 2014; 174(5): 742-748.

IMPORTANCE: Better continuity of care is expected to improve patient outcomes and reduce health care costs, but patterns of use, costs, and clinical complications associated with the current patterns of care continuity have not been quantified. OBJECTIVE: To measure the association between care continuity, costs, and rates of hospitalizations, emergency department visits, and complications for Medicare beneficiaries with chronic disease. DESIGN, SETTING, AND PARTICIPANTS: Retrospective cohort study of insurance claims data for a 5% sample of Medicare beneficiaries experiencing a 12-month episode of care for congestive heart failure (CHF, n = 53,488), chronic obstructive pulmonary disease (COPD, n = 76,520), or type 2 diabetes mellitus (DM, n = 166,654) in 2008 and 2009. MAIN OUTCOMES AND MEASURES: Hospitalizations, emergency department visits, complications, and costs of care associated with the Bice-Boxerman continuity of care (COC) index, a measure of the outpatient COC related to conditions of interest. RESULTS: The mean (SD) COC index was 0.55 (0.31) for CHF, 0.60 (0.34) for COPD, and 0.50 (0.32) for DM. After multivariable adjustment, higher levels of continuity were associated with lower odds of inpatient hospitalization (odds ratios for a 0.1-unit increase in COC were 0.94 [95% CI, 0.93-0.95] for CHF, 0.95 [0.94-0.96] for COPD, and 0.95 [0.95-0.96] for DM), lower odds of emergency department visits (0.92 [0.91-0.92] for CHF, 0.93 [0.92-0.93] for COPD, and 0.94 [0.93-0.94] for DM), and lower odds of complications (odds ratio range, 0.92-0.96 across the 3 complication types and 3 conditions; all P < .001). For every 0.1-unit increase in the COC index, episode costs of care were 4.7% lower for CHF (95% CI, 4.4%-5.0%), 6.3% lower for COPD (6.0%-6.5%),

and 5.1% lower for DM (5.0%-5.2%) in adjusted analyses. CONCLUSIONS AND RELEVANCE: Modest differences in care continuity for Medicare beneficiaries are associated with sizable differences in costs, use, and complications.

20. **ARTÍCULO Nº: 4241**

Weissman JS, Lopez L, Schneider EC, Epstein AM, Lipsitz S, Weingart SN. ***The association of hospital quality ratings with adverse events.*** Int.J.Qual.Health Care. 2014; 26(2): 129-135.

OBJECTIVE: To understand how patient-reported quality is related to adverse events (AEs). DESIGN: Random sample telephone survey. SETTING: Sixteen acute care Massachusetts hospitals. PARTICIPANTS: Two thousand and five hundred and eight-two of 4163 (62% response rate) eligible adult patients. MAIN OUTCOME MEASURES: Patients hospitalized from 1 April 2003 to 1 October 2003 provided global quality ratings and whether they experienced AEs. Service recovery, defined as efforts by a service provider to return customers to a state of satisfaction after a lapse in service, was operationalized as high participation in one's care, timely discharge and disclosure of the circumstances of an AE. RESULTS: Of respondents, 82% rated the quality as high and 23% reported one or more AEs. Patients with no AEs gave higher quality ratings (85 vs. 77 or 62% for patients with 1 or 2+ AEs, respectively, P < 0.001). Patients were more likely to rate the quality high if they reported high participation (86 vs. 53%), or felt discharge timing was just right (85 vs. 64%); for those with AEs, ratings were higher among those reporting disclosure (82 vs. 66%) (all P < 0.01). In adjusted analyses, patients with AEs experiencing all three service recovery components rated their quality higher (86 vs. 68%, P < 0.01). CONCLUSIONS: Patients with AEs rate the quality of care lower than others. However, patients with AEs who experienced 'service recovery' as we defined it rated their quality of care at levels similar to those who did not experience AEs. Hospitals seeking to improve quality ratings might consider efforts to ensure patient safety and to address AEs in a transparent and responsive way.

21. **ARTÍCULO Nº: 4242**

Poots AJ, Green SA, Honeybourne E, Green J, Woodcock T, Barnes R et al. ***Improving mental health outcomes: achieving equity through quality improvement.*** Int.J.Qual.Health Care. 2014; 26(2): 198-204.

OBJECTIVE: To investigate equity of patient outcomes in a psychological therapy service, following increased access achieved by a quality improvement (QI) initiative. DESIGN: Retrospective service evaluation of health outcomes; data analysed by ANOVA, chi-squared and Statistical Process Control. SETTING: A psychological therapy service in Westminster, London, UK. PARTICIPANTS: People living in the Borough of Westminster, London, attending the service (from either healthcare professional or self-referral) between February 2009 and May 2012. INTERVENTION: s) Social marketing interventions were used to increase referrals, including the promotion of the service through local media and through existing social networks. MAIN OUTCOME MEASURE: s) (i) Severity of depression on entry using Patient Health Questionnaire-9 (PHQ9). (ii) Changes to severity of depression following treatment (DeltaPHQ9). (iii) Changes in attainment of a meaningful improvement in condition assessed by a key performance indicator. RESULTS: Patients from areas of high deprivation entered the service with more severe depression (M = 15.47, SD = 6.75), compared with patients from areas of low (M = 13.20, SD = 6.75) and medium (M = 14.44, SD = 6.64) deprivation. Patients in low, medium and high deprivation areas attained similar changes in depression score (DeltaPHQ9: M = -6.60, SD = 6.41). Similar proportions of patients achieved the key performance indicator across initiative phase and deprivation categories. CONCLUSIONS: QI methods improved access to mental health services;

this paper finds no evidence for differences in clinical outcomes in patients, regardless of level of deprivation, interpreted as no evidence of inequity in the service with respect to this outcome.

22. **ARTÍCULO Nº: 4243**

Leotsakos A, Zheng H, Croteau R, Loeb JM, Sherman H, Hoffman C et al. ***Standardization in patient safety: the WHO High 5s project***. Int.J.Qual.Health Care. 2014; 26(2): 109-116.

QUALITY PROBLEM: Despite its success in other industries, process standardization in health care has been slow to gain traction or to demonstrate a positive impact on the safety of care. INTERVENTION: The High 5s project is a global patient safety initiative of the World Health Organization (WHO) to facilitate the development, implementation and evaluation of Standard Operating Protocols (SOPs) within a global learning community to achieve measurable, significant and sustainable reductions in challenging patient safety problems. GOALS: The project seeks to answer two questions: (i) Is it feasible to implement standardized health care processes in individual hospitals, among multiple hospitals within individual countries and across country boundaries? (ii) If so, what is the impact of standardization on the safety problems that the project is targeting? METHOD: The two key areas in which the High 5s project is innovative are its use of process standardization both in hospitals within a country and in multiple participating countries, and its carefully designed multi-pronged approach to evaluation. STATUS: Three SOPs-correct surgery, medication reconciliation, concentrated injectable medicines-have been developed and are being implemented and evaluated in multiple hospitals in seven participating countries. Nearly 5 years into the implementation, it is clear that this is just the beginning of what can be seen as an exercise in behavior management, asking whether health care workers can adapt their behaviors and environments to standardize care processes in widely varying hospital settings.

23. **ARTÍCULO Nº: 4244**

Slakey DP, Simms ER, Rennie KV, Garstka ME, Korndorffer JR, Jr. ***Using simulation to improve root cause analysis of adverse surgical outcomes***. Int.J.Qual.Health Care. 2014; 26(2): 144-150.

OBJECTIVE: The purpose of this study was to develop and test a simulation method of conducting investigation of the causality of adverse surgical outcomes. DESIGN: Six hundred and thirty-one closed claims of a major medical malpractice insurance company were reviewed. Each case had undergone conventional root cause analysis (RCA). Claims were categorized by comparing the predominant underlying cause documented in the case files. Three cases were selected for simulation. SETTING: All records (medical and legal) were analyzed. Simulation scenarios were developed by abstracting data from the records and then developing paper and electronic medical records, choosing appropriate STUDY PARTICIPANTS: including test subjects and confederates, scripting the simulation and choosing the appropriate simulated environment. INTERVENTION: In a simulation center, each case simulation was run 6-7 times and recorded, with participants debriefed at the conclusion. MAIN OUTCOME MEASURES: Sources of error identified during simulation were compared with those noted in the closed claims. Test subject decision-making was assessed qualitatively. RESULTS: Simulation of adverse outcomes (SAOs) identified more system errors and revealed the way complex decisions were made by test subjects. Compared with conventional RCA, SAO identified root causes less focused on errors by individuals and more on systems-based error. CONCLUSIONS: The use of simulation for investigation of adverse surgical outcomes is feasible and identifies causes that may be more amenable to effective systems changes than conventional RCA. The information that SAO provides may facilitate the implementation of corrective measures, decreasing the risk of recurrence and improving patient safety.

24. **ARTÍCULO Nº: 4245**

Staniszewska S, Boardman F, Gunn L, Roberts J, Clay D, Seers K et al. ***The Warwick Patient Experiences Framework: patient-based evidence in clinical guidelines.*** Int.J.Qual.Health Care. 2014; 26(2): 151-157.

OBJECTIVE: This paper presents the development of the Warwick Patient Experiences Framework (WaPEF) and describes how it informed the development of the NICE Guidance and Quality Standard, 'Patient experience in adult NHS services: improving the experience of care for people using adult NHS services'. DESIGN: The WaPEF was developed using a thematic qualitative overview that utilized a systematic review approach. Search strategies were developed, inclusion and exclusion criteria developed and data extracted from papers. RESULTS: The WaPEF identifies seven key generic themes that are important to a high-quality patient experience: patient as active participant, responsiveness of services, an individualized approach, lived experience, continuity of care and relationships, communication, information and support. CONCLUSIONS: The WaPEF is the first patient experiences framework with an explicit link to an underpinning patient evidence base, linking themes and sub-themes with specific references. The WaPEF informed the structure and content of the NICE Patient Experiences Guidance. The guidance, published in February 2012, will form a key part of the NHS Outcomes Framework in the UK for the future evaluation of health and social care. The proposed framework could be adapted to other country contexts and settings.

25. **ARTÍCULO Nº: 4246**

Raban MZ, Westbrook JI. ***Are interventions to reduce interruptions and errors during medication administration effective?: a systematic review.*** BMJ Qual.Saf. 2014; 23(5): 414-421.

BACKGROUND: Medication administration errors are frequent and lead to patient harm. Interruptions during medication administration have been implicated as a potential contributory factor. OBJECTIVE: To assess evidence of the effectiveness of interventions aimed at reducing interruptions during medication administration on interruption and medication administration error rates. METHODS: In September 2012 we searched MEDLINE, EMBASE, CINAHL, PsycINFO, Cochrane Effective Practice and Organisation of Care Group reviews, Google and Google Scholar, and hand searched references of included articles. Intervention studies reporting quantitative data based on direct observations of at least one outcome (interruptions, or medication administration errors) were included. RESULTS: Ten studies, eight from North America and two from Europe, met the inclusion criteria. Five measured significant changes in interruption rates pre and post interventions. Four found a significant reduction and one an increase. Three studies measured changes in medication administration error rates and showed reductions, but all implemented multiple interventions beyond those targeted at reducing interruptions. No study used a controlled design pre and post. Definitions for key outcome indicators were reported in only four studies. Only one study reported kappa scores for inter-rater reliability and none of the multi-ward studies accounted for clustering in their analyses. CONCLUSIONS: There is weak evidence of the effectiveness of interventions to significantly reduce interruption rates and very limited evidence of their effectiveness to reduce medication administration errors. Policy makers should proceed with great caution in implementing such interventions until controlled trials confirm their value. Research is also required to better understand the complex relationship between interruptions and error to support intervention design.

26. **ARTÍCULO Nº: 4247**

White CM, Statile AM, White DL, Elkeeb D, Tucker K, Herzog D et al. ***Using quality improvement to optimise paediatric discharge efficiency.*** BMJ Qual.Saf. 2014; 23(5): 428-436.

BACKGROUND: Bed capacity management is a critical issue facing hospital administrators, and inefficient discharges impact patient flow throughout the hospital. National recommendations include a focus on providing care that is timely and efficient, but a lack of standardised discharge criteria at our institution contributed to unpredictable discharge timing and lengthy delays. Our objective was to increase the percentage of Hospital Medicine patients discharged within 2 h of meeting criteria from 42% to 80%. METHODS: A multidisciplinary team collaborated to develop medically appropriate discharge criteria for 11 common inpatient diagnoses. Discharge criteria were embedded into electronic medical record (EMR) order sets at admission and could be modified throughout a patient's stay. Nurses placed an EMR time-stamp to signal when patients met all discharge goals. Strategies to improve discharge timeliness emphasised completion of discharge tasks prior to meeting criteria. Interventions focused on buy-in from key team members, pharmacy process redesign, subspecialty consult timeliness and feedback to frontline staff. A P statistical process control chart assessed the impact of interventions over time. Length of stay (LOS) and readmission rates before and after implementation of process measures were compared using the Wilcoxon rank-sum test. RESULTS: The percentage of patients discharged within 2 h significantly improved from 42% to 80% within 18 months. Patients studied had a decrease in median overall LOS (from 1.56 to 1.44 days; p=0.01), without an increase in readmission rates (4.60% to 4.21%; p=0.24). The 12-month rolling average census for the study units increased from 36.4 to 42.9, representing an 18% increase in occupancy. CONCLUSIONS: Through standardising discharge goals and implementation of high-reliability interventions, we reduced LOS without increasing readmission rates.

27. **ARTÍCULO Nº: 4248**

Selvin E, Parrinello CM, Sacks DB, Coresh J. ***Trends in prevalence and control of diabetes in the United States, 1988-1994 and 1999-2010***. Ann.Intern.Med. 2014; 160(8): 517-525.

BACKGROUND: Trends in the prevalence and control of diabetes defined by hemoglobin A1c (HbA1c) levels are important for health care policy and planning. OBJECTIVE: To update trends in the prevalence of diabetes, prediabetes, and glycemic control. DESIGN: Cross-sectional. SETTING: NHANES (National Health and Nutrition Examination Survey) in 1988-1994 and 1999-2010. PARTICIPANTS: Adults aged 20 years or older. MEASUREMENTS: We used calibrated HbA1c levels to define undiagnosed diabetes (>/=6.5%); prediabetes (5.7% to 6.4%); and, among persons with diagnosed diabetes, glycemic control (<7.0% or <8.0%). Trends in HbA1c categories were compared with fasting glucose levels (>/=7.0 mmol/L [>/=126 mg/dL] and 5.6 to 6.9 mmol/L [100 to 125 mg/dL]). RESULTS: In 2010, approximately 21 million U.S. adults aged 20 years or older had total confirmed diabetes (self-reported diabetes or diagnostic levels for both fasting glucose and calibrated HbA1c). During 2 decades, the prevalence of total confirmed diabetes increased, but the prevalence of undiagnosed diabetes remained fairly stable, reducing the proportion of total diabetes cases that are undiagnosed to 11% in 2005-2010. The prevalence of prediabetes was lower when defined by calibrated HbA1c levels than when defined by fasting glucose levels but has increased from 5.8% in 1988-1994 to 12.4% in 2005-2010 when defined by HbA1c levels. Glycemic control improved overall, but total diabetes prevalence was greater and diabetes was less controlled among non-Hispanic blacks and Mexican Americans compared with non-Hispanic whites. LIMITATION: Cross-sectional design. CONCLUSION: Over the past 2 decades, the prevalence of total diabetes has increased substantially. However, the proportion of undiagnosed diabetes cases decreased, suggesting improvements in screening and diagnosis. Among the growing number of persons with diagnosed diabetes, glycemic control improved but remains a challenge, particularly among non-Hispanic blacks and Mexican Americans. PRIMARY FUNDING SOURCE: National Institutes of Health.

28. **ARTÍCULO Nº: 4249**

Moyer VA. ***Vitamin, mineral, and multivitamin supplements for the primary prevention of cardiovascular disease and cancer: U.S. Preventive services Task Force recommendation statement***. Ann.Intern.Med. 2014; 160(8): 558-564.

DESCRIPTION: Update of the 2003 U.S. Preventive Services Task Force (USPSTF) recommendation on vitamin supplementation to prevent cardiovascular disease and cancer. METHODS: The USPSTF reviewed the evidence on the efficacy of multivitamin or mineral supplements in the general adult population for the prevention of cardiovascular disease and cancer. POPULATION: This recommendation applies to healthy adults without special nutritional needs (typically aged 50 years or older). It does not apply to children, women who are pregnant or may become pregnant, or persons who are chronically ill or hospitalized or have a known nutritional deficiency. RECOMMENDATION: The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of multivitamins for the prevention of cardiovascular disease or cancer. (I statement). The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of single- or paired-nutrient supplements (except beta-carotene and vitamin E) for the prevention of cardiovascular disease or cancer. (I statement). The USPSTF recommends against beta-carotene or vitamin E supplements for the prevention of cardiovascular disease or cancer. (D recommendation).

29. **ARTÍCULO Nº: 4250**

Middelbeek RJ, Abrahamson MJ. ***Diabetes, prediabetes, and glycemic control in the United States: challenges and opportunities***. Ann.Intern.Med. 2014; 160(8): 572-573.

30. **ARTÍCULO Nº: 4251**

Roth JA, Etzioni R, Waters TM, Pettinger M, Rossouw JE, Anderson GL et al. ***Economic return from the Women's Health Initiative estrogen plus progestin clinical trial: a modeling study***. Ann.Intern.Med. 2014; 160(9): 594-602.

BACKGROUND: The findings of the Women's Health Initiative (WHI) estrogen plus progestin (E+P) trial led to a substantial reduction in use of combined hormone therapy (cHT) among postmenopausal women in the United States. The economic effect of this shift has not been evaluated relative to the trial's $260 million cost (2012 U.S. dollars). OBJECTIVE: To estimate the economic return from the WHI E+P trial. DESIGN: Decision model to simulate health outcomes for a "WHI scenario" with observed cHT use and a "no-WHI scenario" with cHT use extrapolated from the pretrial period. DATA SOURCES: Primary analyses of WHI outcomes, peer-reviewed literature, and government sources. TARGET POPULATION: Postmenopausal women in the United States, aged 50 to 79 years, who did not have a hysterectomy. TIME HORIZON: 2003 to 2012. PERSPECTIVE: Payer. INTERVENTION: Combined hormone therapy. OUTCOME MEASURES: Disease incidence, expenditure, quality-adjusted life-years, and net economic return. RESULTS OF BASE-CASE ANALYSIS: The WHI scenario resulted in 4.3 million fewer cHT users, 126,000 fewer breast cancer cases, 76,000 fewer cardiovascular disease cases, 263,000 more fractures, 145,000 more quality-adjusted life-years, and expenditure savings of $35.2 billion. The corresponding net economic return of the trial was $37.1 billion ($140 per dollar invested in the trial) at a willingness-to-pay level of $100,000 per quality-adjusted life-year. RESULTS OF SENSITIVITY ANALYSIS: The 95% CI for the net economic return of the trial was $23.1 to $51.2 billion. LIMITATION: No evaluation of indirect costs or outcomes beyond 2012. CONCLUSION: The WHI E+P trial made high-value use of public funds with a substantial return on investment. These results can contribute to discussions about the role of public funding for large, prospective trials with high

potential for public health effects. PRIMARY FUNDING SOURCE: National Heart, Lung, and Blood Institute.

31. **ARTÍCULO Nº: 4252**

Llor C***[Drugs that kill and organized crime]***. Aten.Primaria. 2014; 46(4): 176-178.

32. **ARTÍCULO Nº: 4253**

Villar B, I, Carrillo MR, Regi BM, Marzo CM, Arcusa VN, Segundo YM. ***[Factors associated with the quality of life in patients with chronic obstructive pulmonary disease]***. Aten.Primaria. 2014; 46(4): 179-187.

OBJECTIVE: To describe the relationship between individual or combined prognostic factors in the multidimensional classifications (BODE and ADO), and health-related quality of life (HRQOL) in patients with chronic obstructive pulmonary disease (COPD). DESIGN: Cross-sectional descriptive study. SETTING: Primary care. PARTICIPANTS: Systematic random sample of 102 patients diagnosed with COPD, excluding those patients with acute exacerbation, dementia, terminal illness or those who receive home care. MAIN MEASUREMENTS: Demographics variables, smoking habits, body mass index and number of exacerbations. Comorbidity. Degree of dyspnea. Respiratory function tests. Exercise capacity. The BODE index and the ADO index. The EuroQol-5D questionnaire (EQ-5D), and visual analogue scale (VAS). RESULTS: EQ-5D: mobility: 43.9%; personal care: 13.3%; daily-life activities: 29.6%; pain/discomfort: 55.1%; anxiety/depression: 37.8%, and 34.7% VAS </= 60%. Exacerbations: Mobility, OR: 1.85 (95%CI: 1.08-3.20); personal care, OR: 2.12 (95%CI: 1.3-4.76); daily-life activities, OR: 2.35 (95%CI: 1.17-4.71); VAS, regression coefficient: -3.50 (95%CI: 6.31- -0.70). Dyspnea: mobility, OR: 4.47 (95%CI: 1.39-14.42); daily-life activities, OR: 7.71 (95%CI: 2.03-12.34); VAS, regression coefficient: -7.15 (95%CI: 11.71- -2.59). BODE: mobility, OR: 1.53 (95%CI: 1.15-2.02); personal care, OR: 2.08 (95%CI: 1.40-3.11); daily-life activities, OR: 1.97 (95%CI: 1.38-2.80); VAS, regression coefficient: -3.96 (95%CI: -5.51- -2.42). ADO: mobility, OR: 2.42 (95%CI: 1.39-4.20); personal care, OR: 3.21 (95%CI: 1.67-6.18); daily-life activities, OR: 3.17 (95%CI: 1.69-5.93); VAS, regression coefficient: -3.53 (95%CI: -5.57- -1.49). CONCLUSIONS: The BODE index and the ADO index showed a significant association with HRQOL. Exacerbations and dyspnea were the best individual factors related to HRQoL.

33. **ARTÍCULO Nº: 4254**

Grandes G, Arce V, Arietaleanizbeaskoa MS. ***[Research within the reach of Osakidetza professionals: Primary Health Care Research Program]***. Aten.Primaria. 2014; 46(4): 188-197.

OBJECTIVE: To provide information about the process and results of the Primary Health Care Research Program 2010-2011 organised by the Primary Care Research Unit of Bizkaia. DESIGN: Descriptive study. SETTING: Osakidetza primary care. PARTICIPANTS: The 107 health professionals who applied for the program from a total of 4,338 general practitioners, nurses and administrative staff who were informed about it. MAIN MEASURES: Application level, research topics classification, program evaluation by participants, projects funding and program costs. RESULTS: Percentage who applied, 2.47%; 95% CI 2.41-2.88%. Of the 28 who were selected and 19 completed. The research topics were mostly related to the more common chronic diseases (32%), and prevention and health promotion (18%). Over 90% of participants assessed the quality of the program as good or excellent, and half of them considered it as difficult or very difficult. Of the18 new projects generated, 12 received funding, with 16 grants, 10 from the Health Department of the Basque Government, 4 from the Carlos III Institute of Health of the Ministry of Health of Spain, and 2 from Kronikgune. A total of euro500,000

was obtained for these projects. This program cost euro198,327. CONCLUSIONS: This experience can be used by others interested in the promotion of research in primary care, as the program achieved its objectives, and was useful and productive.

34. **ARTÍCULO Nº: 4255**

Sanchez-Henarejos A, Fernandez-Aleman JL, Toval A, Hernandez-Hernandez I, Sanchez-Garcia AB, Carrillo de Gea JM. ***[A guide to good practice for information security in the handling of personal health data by health personnel in ambulatory care facilities]***. Aten.Primaria. 2014; 46(4): 214-222.

The appearance of electronic health records has led to the need to strengthen the security of personal health data in order to ensure privacy. Despite the large number of technical security measures and recommendations that exist to protect the security of health data, there is an increase in violations of the privacy of patients' personal data in healthcare organizations, which is in many cases caused by the mistakes or oversights of healthcare professionals. In this paper, we present a guide to good practice for information security in the handling of personal health data by health personnel, drawn from recommendations, regulations and national and international standards. The material presented in this paper can be used in the security audit of health professionals, or as a part of continuing education programs in ambulatory care facilities.

35. **ARTÍCULO Nº: 4256**

Humphries S, Stafinski T, Mumtaz Z, Menon D. ***Barriers and facilitators to evidence-use in program management: a systematic review of the literature***. BMC.Health Serv.Res. 2014; 14(1): 171

BACKGROUND: The use of evidence in decision-making at the program management level is a priority in health care organizations. The objective of this study was to identify potential barriers and facilitators experienced by managers to the use of evidence in program management within health care organizations. METHODS: The authors conducted a comprehensive search for published, peer-reviewed and grey literature that explores the use of evidence in program management. Two reviewers selected relevant studies from which data was extracted using a standard data abstraction form and tabulated for qualitative analysis. The results were summarized through narrative review. The quality of the included studies was assessed using published criteria for the critical appraisal of qualitative, quantitative and mixed methods research. RESULTS: Fourteen papers were included in the review. Barriers and facilitators were categorized into five main thematic areas: (1) Information, (2) Organization - Structure and Process, (3) Organization - Culture, (4) Individual, and (5) Interaction. CONCLUSION: This paper reviews the literature on barriers and facilitators to evidence-informed decision-making experienced by program management decision-makers within health care organizations. The multidimensional solutions required to promote evidence-informed program management can be developed through an understanding of the existing barriers and facilitators of evidence-use.

36. **ARTÍCULO Nº: 4257**

Wennberg DE, Sharp SM, Bevan G, Skinner JS, Gottlieb DJ, Wennberg JE. ***A population health approach to reducing observational intensity bias in health risk adjustment: cross sectional analysis of insurance claims***. BMJ. 2014; 348: g2392

OBJECTIVE: To compare the performance of two new approaches to risk adjustment that are free of the influence of observational intensity with methods that depend on diagnoses listed in administrative databases. SETTING: Administrative data from the US Medicare program for services

provided in 2007 among 306 US hospital referral regions. DESIGN: Cross sectional analysis. PARTICIPANTS: 20% sample of fee for service Medicare beneficiaries residing in one of 306 hospital referral regions in the United States in 2007 (n = 5,153,877). MAIN OUTCOME MEASURES: The effect of health risk adjustment on age, sex, and race adjusted mortality and spending rates among hospital referral regions using four indices: the standard Centers for Medicare and Medicaid Services--Hierarchical Condition Categories (HCC) index used by the US Medicare program (calculated from diagnoses listed in Medicare's administrative database); a visit corrected HCC index (to reduce the effects of observational intensity on frequency of diagnoses); a poverty index (based on US census); and a population health index (calculated using data on incidence of hip fractures and strokes, and responses from a population based annual survey of health from the Centers for Disease Control and Prevention). RESULTS: Estimated variation in age, sex, and race adjusted mortality rates across hospital referral regions was reduced using the indices based on population health, poverty, and visit corrected HCC, but increased using the standard HCC index. Most of the residual variation in age, sex, and race adjusted mortality was explained (in terms of weighted R2) by the population health index: R2=0.65. The other indices explained less: R2=0.20 for the visit corrected HCC index; 0.19 for the poverty index, and 0.02 for the standard HCC index. The residual variation in age, sex, race, and price adjusted spending per capita across the 306 hospital referral regions explained by the indices (in terms of weighted R2) were 0.50 for the standard HCC index, 0.21 for the population health index, 0.12 for the poverty index, and 0.07 for the visit corrected HCC index, implying that only a modest amount of the variation in spending can be explained by factors most closely related to mortality. Further, once the HCC index is visit corrected it accounts for almost none of the residual variation in age, sex, and race adjusted spending. CONCLUSION: Health risk adjustment using either the poverty index or the population health index performed substantially better in terms of explaining actual mortality than the indices that relied on diagnoses from administrative databases; the population health index explained the majority of residual variation in age, sex, and race adjusted mortality. Owing to the influence of observational intensity on diagnoses from administrative databases, the standard HCC index over-adjusts for regional differences in spending. Research to improve health risk adjustment methods should focus on developing measures of risk that do not depend on observation influenced diagnoses recorded in administrative databases.

37. **ARTÍCULO Nº: 4258**

Gough EK, Moodie EE, Prendergast AJ, Johnson SM, Humphrey JH, Stoltzfus RJ et al. ***The impact of antibiotics on growth in children in low and middle income countries: systematic review and meta-analysis of randomised controlled trials.*** BMJ. 2014; 348: g2267

OBJECTIVES: To determine whether antibiotic treatment leads to improvements in growth in prepubertal children in low and middle income countries, to determine the magnitude of improvements in growth, and to identify moderators of this treatment effect. DESIGN: Systematic review and meta-analysis. DATA SOURCES: Medline, Embase, Scopus, the Cochrane central register of controlled trials, and Web of Science. STUDY SELECTION: Randomised controlled trials conducted in low or middle income countries in which an orally administered antibacterial agent was allocated by randomisation or minimisation and growth was measured as an outcome. Participants aged 1 month to 12 years were included. Control was placebo or non-antimicrobial intervention. RESULTS: Data were pooled from 10 randomised controlled trials representing 4316 children, across a variety of antibiotics, indications for treatment, treatment regimens, and countries. In random effects models, antibiotic use increased height by 0.04 cm/month (95% confidence interval 0.00 to 0.07) and weight by 23.8 g/month (95% confidence interval 4.3 to 43.3). After adjusting for age, effects on height were larger in younger populations and effects on weight were larger in African studies compared with

other regions. CONCLUSION: Antibiotics have a growth promoting effect in prepubertal children in low and middle income countries. This effect was more pronounced for ponderal than for linear growth. The antibiotic growth promoting effect may be mediated by treatment of clinical or subclinical infections or possibly by modulation of the intestinal microbiota. Better definition of the mechanisms underlying this effect will be important to inform optimal and safe approaches to achieving healthy growth in vulnerable populations.

38. **ARTÍCULO Nº: 4259**

Lasser KE, Hanchate AD, McCormick D, Manze MG, Chu C, Kressin NR. ***The effect of Massachusetts health reform on 30 day hospital readmissions: retrospective analysis of hospital episode statistics***. BMJ. 2014; 348: g2329

OBJECTIVES: To analyse changes in overall readmission rates and disparities in such rates, among patients aged 18-64 (those most likely to have been affected by reform), using all payer inpatient discharge databases (hospital episode statistics) from Massachusetts and two control states (New York and New Jersey). DESIGN: Difference in differences analysis to identify the post-reform change, adjusted for secular changes unrelated to reform. SETTING: US hospitals in Massachusetts, New York, and New Jersey. PARTICIPANTS: Adults aged 18-64 admitted for any cause, excluding obstetrical. MAIN OUTCOME MEASURE: Readmissions at 30 days after an index admission. RESULTS: After adjustment for known confounders, including age, sex, comorbidity, hospital ownership, teaching hospital status, and nurse to census ratio, the odds of all cause readmission in Massachusetts was slightly increased compared with control states post-reform (odds ratio 1.02, 95% confidence interval 1.01 to 1.04, P<0.05). Racial and ethnic disparities in all cause readmission rates did not change in Massachusetts compared with control states. In analyses limited to Massachusetts only, there were minimal overall differences in changes in readmission rates between counties with differing baseline uninsurance rates, but black people in counties with the highest uninsurance rates had decreased odds of readmission (0.91, 0.84 to 1.00) compared with black people in counties with lower uninsurance rates. Similarly, white people in counties with the highest uninsurance rates had decreased odds of readmission (0.96, 0.94 to 0.99) compared with white people in counties with lower uninsurance rates. CONCLUSIONS: In the United States, and in Massachusetts in particular, extending health insurance coverage alone seems insufficient to improve readmission rates. Additional efforts are needed to reduce hospital readmissions and disparities in this outcome.

39. **ARTÍCULO Nº: 4260**

Wilt TJ, Dahm P. ***PSA screening for prostate cancer***. BMJ. 2014; 348: g2559

40. **ARTÍCULO Nº: 4261**

Carlsson S, Assel M, Sjoberg D, Ulmert D, Hugosson J, Lilja H et al. ***Influence of blood prostate specific antigen levels at age 60 on benefits and harms of prostate cancer screening: population based cohort study***. BMJ. 2014; 348: g2296

OBJECTIVE: To determine the relative risks of prostate cancer incidence, metastasis, and mortality associated with screening by serum prostate specific antigen (PSA) levels at age 60. DESIGN: Population based cohort study. SETTING: General male population of Sweden taking part in a screening trial in Gothenburg or participating in a cardiovascular study, the Malmo Preventive Project. PARTICIPANTS: The screened group consisted of 1756 men aged 57.5-62.5 participating in the screening arm of the Gothenburg randomized prostate cancer screening trial since 1995. The unscreened group consisted of 1162 men, born in 1921, participating in the Malmo Preventive Project,

with PSA levels measured retrospectively in stored blood samples from 1981. INTERVENTION: PSA screening versus no screening. MAIN OUTCOME MEASURES: Incidence rate ratios for the effect of screening on prostate cancer diagnosis, metastasis, and death by PSA levels at age 60. RESULTS: The distribution of PSA levels was similar between the two cohorts. Differences in benefits by baseline PSA levels were large. Among men with baseline levels measured, 71.7% (1646/2295) had a PSA level <2 ng/mL. For men aged 60 with PSA level <2 ng/mL, there was an increase in incidence of 767 cases per 10,000 without a decrease in prostate cancer mortality. For men with PSA levels >/= 2 ng/mL, the reduction in cancer mortality was large, with only 23 men needing to be screened and six diagnosed to avoid one prostate cancer death by 15 years. CONCLUSIONS: The ratio of benefits to harms of PSA screening varies noticeably with blood PSA levels at age 60. For men with a PSA level <1 ng/mL at age 60, no further screening is recommended. Continuing to screen men with PSA levels >2 ng/mL at age 60 is beneficial, with the number needed to screen and treat being extremely favourable. Screening men with a PSA level of 1-2 ng/mL is an individual decision to be based on a discussion between patient and doctor.

41. **ARTÍCULO Nº: 4262**

Brenner H, Stock C, Hoffmeister M. ***Effect of screening sigmoidoscopy and screening colonoscopy on colorectal cancer incidence and mortality: systematic review and meta-analysis of randomised controlled trials and observational studies***. BMJ. 2014; 348: g2467

OBJECTIVES: To review, summarise, and compare the evidence for effectiveness of screening sigmoidoscopy and screening colonoscopy in the prevention of colorectal cancer occurrence and deaths. DESIGN: Systematic review and meta-analysis of randomised controlled trials and observational studies. DATA SOURCES: PubMed, Embase, and Web of Science. Two investigators independently extracted characteristics and results of identified studies and performed standardised quality ratings. ELIGIBILITY CRITERIA: Randomised controlled trials and observational studies in English on the impact of screening sigmoidoscopy and screening colonoscopy on colorectal cancer incidence and mortality in the general population at average risk. RESULTS: For screening sigmoidoscopy, four randomised controlled trials and 10 observational studies were identified that consistently found a major reduction in distal but not proximal colorectal cancer incidence and mortality. Summary estimates of reduction in distal colorectal cancer incidence and mortality were 31% (95% confidence intervals 26% to 37%) and 46% (33% to 57%) in intention to screen analysis, 42% (29% to 53%) and 61% (27% to 79%) in per protocol analysis of randomised controlled trials, and 64% (50% to 74%) and 66% (38% to 81%) in observational studies. For screening colonoscopy, evidence was restricted to six observational studies, the results of which suggest tentatively an even stronger reduction in distal colorectal cancer incidence and mortality, along with a significant reduction in mortality from cancer of the proximal colon. Indirect comparisons of results of observational studies on screening sigmoidoscopy and colonoscopy suggest a 40% to 60% lower risk of incident colorectal cancer and death from colorectal cancer after screening colonoscopy even though this incremental risk reduction was statistically significant for deaths from cancer of the proximal colon only. CONCLUSIONS: Compelling and consistent evidence from randomised controlled trials and observational studies suggests that screening sigmoidoscopy and screening colonoscopy prevent most deaths from distal colorectal cancer. Observational studies suggest that colonoscopy compared with flexible sigmoidoscopy decreases mortality from cancer of the proximal colon. This added value should be examined in further research and weighed against the higher costs, discomfort, complication rates, capacities needed, and possible differences in compliance.

42. **ARTÍCULO Nº: 4263**

Stansby G, Avital L, Jones K, Marsden G. ***Prevention and management of pressure ulcers in primary and secondary care: summary of NICE guidance***. BMJ. 2014; 348: g2592

43. **ARTÍCULO Nº: 4264**

Repullo JR ***[Disinvestment in ineffective care sounds fine; does anyone eventually dance?]***. Rev.Calid.Asist. 2014; 29(2): 65-68.

44. **ARTÍCULO Nº: 4265**

Pardo-Hernandez A, Navarro-Royo C, rguedas-Sanz R, iz-Lizarraga C, Moron-Merchante J. ***[Barriers and challenges of the functional healthcare risk management units in hospitals of Madrid health service]*** . Rev.Calid.Asist. 2014; 29(2): 84-91.

OBJECTIVE: To identify the barriers and challenges for the effective development of risk management units in hospitals of the Madrid Health Service. MATERIAL AND METHODS: Descriptive cross-sectional study aimed at the management teams and members of the functional units of 31 hospitals in the Madrid Health Service. A self-administered questionnaire requesting answers in free text was used, identifying up to five barriers and challenges, and their prioritization by awarding from 1-5 points according to their importance. A discourse analysis was then conducted, grouping common themes and sorting them according to their score. RESULTS: The overall response rate was 94%. The most frequently identified barriers were lack of time (21%), inadequate safety culture (13%), lack of publication of their activities (10%), and lack of training (10%). The most important challenge was developing the training (18%), followed by improving the culture (17%), communication of safety activities (11%), and achieve leadership from the managers of the services (11%). CONCLUSIONS: According to the study conditions, the main identified barrier identified was the lack of available time, and the principal challenge found was promoting a proactive learning culture.

45. **ARTÍCULO Nº: 4266**

Machon M, Vergara I, Silvestre C, Perez P, Alias G, Vrotsou K. ***[Cross-cultural adaptation into Spanish of the Nursing Home Survey on Patient Safety Culture questionnaire]***. Rev.Calid.Asist. 2014; 29(2): 99-103.

OBJECTIVE: This article presents the first phase of a research project aimed at adapting a tool for assessing safety culture in nursing homes into Spanish. MATERIAL AND METHODS: The Nursing Home on Patient Safety Culture of the Agency for Health Care Research and Quality was translated and culturally adapted. The International Quality of Life Assessment protocol was followed, which included, translation, conceptual equivalence evaluation, back-translation, content validity and a pilot study. RESULTS: Three of the 42 items were modified with respect to the original version. The remaining modifications were introduced in the F Section, containing sociodemographic information and job related questions. CONCLUSIONS: The adapted questionnaire will help to assess the level of safety of the resident culture among healthcare professionals in these centres, to identity areas for improvement, and to analyze how to evolve when organizational changes are introduced.

46. **ARTÍCULO Nº: 4267**

Epelde F ***[Comments on the article: <<Influence of short-stay units on the quality of health care in Spain. A systematic review>>]***. Rev.Calid.Asist. 2014; 29(2): 119

47. **ARTÍCULO Nº: 4268**

Casajuana KC, Cofino R, Lopez MJ. ***[Evaluation of the Health Observatory of Asturias (Spain): web and social network metrics and health professionals' opinions]***. Gac.Sanit. 2014; 28(3): 183-189.

OBJECTIVE: To evaluate the Health Observatory of Asturias (Observatorio de Salud de Asturias [OBSA]), which collects and disseminates health data from Asturias through a website and social networks. METHOD: A cross-sectional study was conducted between 2012 and 2013. The study included a process evaluation that analyzed the reach of the OBSA's website, Facebook and Twitter accounts through web metrics and the use made by health professionals in Asturias of these media. Satisfaction was assessed through an online questionnaire. To estimate the potential effects of the OBSA, the study also included an evaluation of the results with a non-experimental design. RESULTS: The total number of visits to the website increased in 2012, with more than 37,000 visits. The questionnaire (n=43) showed that 72.1% of the health professionals knew of the OBSA and that 81.5% of them had used it. Most health professionals reported they were satisfied with the OBSA and believed that it encouraged cooperation among professionals (51.6%). CONCLUSION: The OBSA is known and consulted by most health professionals and is achieving some of its main objectives: to inform health staff and stimulate discussion. According to the results, information and communication technologies could play an important role in the presentation of health data in a more interactive and accessible way.

48. **ARTÍCULO Nº: 4269**

ngulo-Pueyo E, Ridao-Lopez M, Martinez-Lizaga N, Garcia-Armesto S, Bernal-Delgado E. ***[Variability and opportunity costs among the surgical alternatives for breast cancer]***. Gac.Sanit. 2014; 28(3): 209-214.

OBJECTIVE: To analyze medical practice variation in breast cancer surgery (either inpatient-based or day-case surgery), by comparing conservative surgery (CS) plus radiotherapy vs. non-conservative surgery (NCS). We also analyzed the opportunity costs associated with CS and NCS. METHODS: We performed an observational study of age- and sex-standardized rates of CS and NCS, performed in 199 Spanish healthcare areas in 2008-2009. Costs were calculated by using two techniques: indirectly, by using All-Patients Diagnosis Related Groups (AP-DRG) based on hospital admissions, and directly by using full costing from the Spanish Network of Hospital Costs (SNHC) data. RESULTS: Standardized surgery rates for CS and NCS were 6.84 and 4.35 per 10,000 women, with variation across areas ranging from 2.95 to 3.11 per 10,000 inhabitants. In 2009, 9% of CS was performed as day-case surgery, although a third of the health care areas did not perform this type of surgery. Taking the SNHC as a reference, the cost of CS was estimated at 7,078 euro and that of NCS was 6,161 euro. Using AP-DRG, costs amounted to 9,036 euro and 8,526 euro, respectively. However, CS had lower opportunity costs than NCS when day-case surgery was performed frequently-more than 46% of cases (following SNHC estimates) or 23% of cases (following AP-DRG estimates). CONCLUSIONS: Day-case CS for breast cancer was found to be the best option in terms of opportunity-costs beyond a specific threshold, when both CS and NCS are elective.

49. **ARTÍCULO Nº: 4270**

Abasolo I, Barber P, Gonzalez Lopez-Valcarcel B, Jimenez O. ***[Real waiting times for surgery. Proposal for an improved system for their management]***. Gac.Sanit. 2014; 28(3): 215-221.

OBJECTIVES: In Spain, official information on waiting times for surgery is based on the interval between the indication for surgery and its performance. We aimed to estimate total waiting times for

surgical procedures, including outpatient visits and diagnostic tests prior to surgery. In addition, we propose an alternative system to manage total waiting times that reduces variability and maximum waiting times without increasing the use of health care resources. This system is illustrated by three surgical procedures: cholecystectomy, carpal tunnel release and inguinal/femoral hernia repair. METHODS: Using data from two Autonomous Communities, we adjusted, through simulation, a theoretical distribution of the total waiting time assuming independence of the waiting times of each stage of the clinical procedure. We show an alternative system in which the waiting time for the second consultation is established according to the time previously waited for the first consultation. RESULTS: Average total waiting times for cholecystectomy, carpal tunnel release and inguinal/femoral hernia repair were 331, 355 and 137 days, respectively (official data are 83, 68 and 73 days, respectively). Using different negative correlations between waiting times for subsequent consultations would reduce maximum waiting times by between 2% and 15% and substantially reduce heterogeneity among patients, without generating higher resource use. CONCLUSION: Total waiting times are between two and five times higher than those officially published. The relationship between the waiting times at each stage of the medical procedure may be used to decrease variability and maximum waiting times.

50. **ARTÍCULO Nº: 4271**

Moreno X, Huerta M, Albala C. ***[Global self-rated health and mortality in older people]***. Gac.Sanit. 2014; 28(3): 246-252.

OBJECTIVE: To explore the association between global self-rated health and mortality in older people. METHODS: A systematic review was performed. The inclusion criteria were longitudinal studies that assessed self-rated health with a single general question and samples of community-dwelling persons aged 60 years or more. Electronic databases were searched and references were reviewed. RESULTS: We selected 18 studies published between 1993 and 2011. Six out of seven studies that analyzed men and women found a higher risk of dying among persons who rated their health as poor; the most frequent covariables were age, gender, chronic diseases, and functional status. Half of the studies that analyzed only men or women found a significant association. The effect of self-reported health on mortality was observed among people younger than 75 years. Results were not dependent on the length of follow-up. CONCLUSIONS: The results confirm previous findings suggesting that a negative self-rating of general health predicts mortality. The mechanisms through which this indicator may predict mortality among older people could differ in men and women and need to be elucidated. The role of depression should be investigated, considering that the effect of self-rated health on mortality was not present when depression was included.

51. **ARTÍCULO Nº: 4272**

Singh R, Mathiassen L, Switzer JA, Adams RJ. ***Assimilation of web-based urgent stroke evaluation: a qualitative study of two networks***. JMIR Med Inform. 2014; 2(1): e6

Background: Stroke is a leading cause of death and serious, long-term disability across the world. Urgent stroke care treatment is time-sensitive and requires a stroke-trained neurologist for clinical diagnosis. Rural areas, where neurologists and stroke specialists are lacking, have a high incidence of stroke-related death and disability. By virtually connecting emergency department physicians in rural hospitals to regional medical centers for consultations, specialized Web-based stroke evaluation systems (telestroke) have helped address the challenge of urgent stroke care in underserved communities. However, many rural hospitals that have deployed telestroke have not fully assimilated this technology.

Objective: The objective of this study was to explore potential sources of variations in the utilization of a Web-based telestroke system for urgent stroke evaluation and propose a telestroke assimilation model to improve stroke care performance.
Methods: An exploratory, qualitative case study of two telestroke networks, each comprising an academic stroke center (hub) and connected rural hospitals (spokes), was conducted. Data were collected from 50 semistructured interviews with 40 stakeholders, telestroke usage logs from 32 spokes, site visits, published papers, and reports.
Results: The two networks used identical technology (called Remote Evaluation of Acute isCHemic stroke, REACH) and were of similar size and complexity, but showed large variations in telestroke assimilation across spokes. Several observed hub- and spoke-related characteristics can explain these variations. The hub-related characteristics included telestroke institutionalization into stroke care, resources for the telestroke program, ongoing support for stroke readiness of spokes, telestroke performance monitoring, and continuous telestroke process improvement. The spoke-related characteristics included managerial telestroke championship, stroke center certification, dedicated telestroke coordinator, stroke committee of key stakeholders, local neurological expertise, and continuous telestroke process improvement.
Conclusions: Rural hospitals can improve their stroke readiness with use of telestroke systems. However, they need to integrate the technology into their stroke delivery processes. A telestroke assimilation model may improve stroke care performance.

52. **ARTÍCULO Nº: 4273**

Costa-Requena G, Cantarell Aixendri MC, Rodriguez UA, Seron MD. ***[Health related quality of life and kidney transplantation: a comparison with population values at 6 months post-transplant]***. Med Clin.(Barc.). 2014; 142(9): 393-396.

BACKGROUND AND OBJECTIVE: Transplantation is an effective treatment for end stage renal failure. The aim of this study was to compare patient's perceived health related quality of life (HRQoL) with population values, at one moth and 6 moths of kidney post-transplantation. PATIENTS AND METHOD: The Questionnaire of Quality of Life in Kidney Disease was administered during the first month and also at the 6 months following transplantation. A comparison with the general population was done with the generic part of the questionnaire. In the statistical analyses, typical standardized scores were used. RESULTS: In this study 72 patients were included with a median age of 57 years. At the 6 month post-transplantation, the patient's HRQoL showed values that were similar to the general population. When we compared the HRQoL at the first month and at the 6 month post-transplantation, the differences of HRQoL were significant in all dimensions, except on the General health and Emotional role. CONCLUSIONS: At 6 moths after transplantation, there was an improvement in the perceived HRQoL that was similar to the general population.

53. **ARTÍCULO Nº: 4274**

Ortega SF. ***[Health related quality of life in the kidney transplant patient]***. Med Clin.(Barc.). 2014; 142(9): 397-398.

54. **ARTÍCULO Nº: 4275**

Gomez-Acebo I, erssen-Sotos T, Llorca J. ***[Number needed to treat: Interpretation and estimation in multivariable analyses and censored data]***. Med Clin.(Barc.). 2014; 142(10): 451-456.

Number needed to treat has been recommended as an easy way to transmit results from a trial, especially controlled clinical trials. Most articles estimate it from a 2x2 table, as the inverse of the

absolute risk reduction. However, some limitations have been pointed out: The interpretation is not as easy as claimed, confidence intervals are frequently not estimated, and the estimation from 2x2 tables is inadequate when the main effect measure has been estimated adjusting for confounding factors. In this paper, we revise how to obtain point estimations and confidence intervals of number needed to treat in 4 situations: 2x2tables, logistic regression, Kaplan-Meier method, and Cox regression.

55. **ARTÍCULO Nº: 4276**

Guallar-Castillon P, Perez RF, Lopez GE, Leon-Munoz LM, Aguilera MT, Graciani A et al. ***Magnitude and Management of Metabolic Syndrome in Spain in 2008-2010: The ENRICA Study***. Rev.Esp.Cardiol. 2014; 67(5): 367-373.

INTRODUCTION AND OBJECTIVES: Few studies in Spain have reported the distribution of metabolic syndrome using the harmonized definition and that of premorbid metabolic syndrome, which consists of metabolic syndrome without diabetes mellitus or cardiovascular disease. Moreover, their regional distributions and clinical management are unknown. The present study examined the distributions and clinical management of both syndromes in Spain. METHODS: This cross-sectional study was performed from 2008 to 2010 in 11 149 representative individuals of the Spanish population aged 18 years or older. Data were obtained through standardized physical examination, and analytical measurements were done in a central laboratory. RESULTS: The prevalences (95% confidence interval) of metabolic syndrome and premorbid metabolic syndrome were 22.7% (21.7%-23.7%) and 16.9% (16.0%-17.8%), respectively. The frequency of both syndromes increased with age and was higher in men than in women up to 65 years; above this age, the frequency was higher in women. The communities of the south of Spain and the Balearic and Canary islands had the highest prevalence of both syndromes, in some regions reaching double that of the community with the lowest prevalence. About one third of patients with premorbid metabolic syndrome reported that they had not received health recommendations to improve their lifestyles; of those that did receive advice, adherence was low, particularly for reducing weight (31.9%) and salt intake (38.3%). CONCLUSIONS: The prevalence of metabolic syndrome is high in Spain and considerable geographical differences exist in its distribution. There is substantial room for improvement in the clinical management of premorbid metabolic syndrome. Full English text available from:www.revespcardiol.org/en.

56. **ARTÍCULO Nº: 4277**

Calderon GC, Mosquera M, I, Balague GL, Retolaza BA, Bacigalupe de la HA, Belaunzaran MJ et al. ***[Models for primary care and mental health collaboration in the care of people with depression: main results and methodological challenges of a systematic overview]***. Rev.Esp.Salud Publica. 2014; 88(1): 113-133.

BACKGROUND: Weaknesses in the collaboration between Primary Care (PC) and Mental Health (MH) are a relevant problem in the care of depressed patients. It is necessary to analyse and appraise the existing models of collaboration to assess their applicability to the Spanish Health System. The aim of this study is to know the main characteristics of the different models of collaboration between PC and MH in the care of patients with depression and the quality of their effectiveness evidence. METHODS: Systematic overview of secondary studies published from 2001 to 2010 in MEDLINE, PsycINFO, Embase, LILACS, IBECS, IME and The Cochrane Library. Assessment of reviews applying the AMSTAR tool. Approximative synthesis of the quality of evidences. RESULTS: A total of 69 studies were assessed. Quality of evidences is generally low or inconclusive due to the great variability among contexts and the methodological weaknesses. The most effective strategies integrate interventions for assigning responsibility for patient follow-up, redesigning management and

communication/information sharing. Overviews of secondary studies on collaborative models facilitate access to published evidence, but entail important methodological challenges. CONCLUSION: The quality of evidences on effectiveness of PC-MH collaboration models in depression care is mainly low or inconclusive, and the more simplified are the analysis of components, processes and implementation conditions, the less meaningful and applicable they are.

57. **ARTÍCULO Nº: 4278**

Meyer G, Vicaut E, Danays T, Agnelli G, Becattini C, Beyer-Westendorf J et al. ***Fibrinolysis for patients with intermediate-risk pulmonary embolism***. N.Engl.J.Med. 2014; 370(15): 1402-1411.

BACKGROUND: The role of fibrinolytic therapy in patients with intermediate-risk pulmonary embolism is controversial. METHODS: In a randomized, double-blind trial, we compared tenecteplase plus heparin with placebo plus heparin in normotensive patients with intermediate-risk pulmonary embolism. Eligible patients had right ventricular dysfunction on echocardiography or computed tomography, as well as myocardial injury as indicated by a positive test for cardiac troponin I or troponin T. The primary outcome was death or hemodynamic decompensation (or collapse) within 7 days after randomization. The main safety outcomes were major extracranial bleeding and ischemic or hemorrhagic stroke within 7 days after randomization. RESULTS: Of 1006 patients who underwent randomization, 1005 were included in the intention-to-treat analysis. Death or hemodynamic decompensation occurred in 13 of 506 patients (2.6%) in the tenecteplase group as compared with 28 of 499 (5.6%) in the placebo group (odds ratio, 0.44; 95% confidence interval, 0.23 to 0.87; P=0.02). Between randomization and day 7, a total of 6 patients (1.2%) in the tenecteplase group and 9 (1.8%) in the placebo group died (P=0.42). Extracranial bleeding occurred in 32 patients (6.3%) in the tenecteplase group and 6 patients (1.2%) in the placebo group (P<0.001). Stroke occurred in 12 patients (2.4%) in the tenecteplase group and was hemorrhagic in 10 patients; 1 patient (0.2%) in the placebo group had a stroke, which was hemorrhagic (P=0.003). By day 30, a total of 12 patients (2.4%) in the tenecteplase group and 16 patients (3.2%) in the placebo group had died (P=0.42). CONCLUSIONS: In patients with intermediate-risk pulmonary embolism, fibrinolytic therapy prevented hemodynamic decompensation but increased the risk of major hemorrhage and stroke. (Funded by the Programme Hospitalier de Recherche Clinique in France and others; PEITHO EudraCT number, 2006-005328-18; ClinicalTrials.gov number, NCT00639743.).

58. **ARTÍCULO Nº: 4279**

Pencina MJ, Navar-Boggan AM, D'Agostino RB, Sr., Williams K, Neely B, Sniderman AD et al. ***Application of new cholesterol guidelines to a population-based sample***. N.Engl.J.Med. 2014; 370(15): 1422-1431.

BACKGROUND: The 2013 guidelines of the American College of Cardiology and the American Heart Association (ACC-AHA) for the treatment of cholesterol expand the indications for statin therapy for the prevention of cardiovascular disease. METHODS: Using data from the National Health and Nutrition Examination Surveys of 2005 to 2010, we estimated the number, and summarized the risk-factor profile, of persons for whom statin therapy would be recommended (i.e., eligible persons) under the new ACC-AHA guidelines, as compared with the guidelines of the Third Adult Treatment Panel (ATP III) of the National Cholesterol Education Program, and extrapolated the results to a population of 115.4 million U.S. adults between the ages of 40 and 75 years. RESULTS: As compared with the ATP-III guidelines, the new guidelines would increase the number of U.S. adults receiving or eligible for statin therapy from 43.2 million (37.5%) to 56.0 million (48.6%). Most of this increase in numbers (10.4 million of 12.8 million) would occur among adults without cardiovascular disease.

Among adults between the ages of 60 and 75 years without cardiovascular disease who are not receiving statin therapy, the percentage who would be eligible for such therapy would increase from 30.4% to 87.4% among men and from 21.2% to 53.6% among women. This effect would be driven largely by an increased number of adults who would be classified solely on the basis of their 10-year risk of a cardiovascular event. Those who would be newly eligible for statin therapy include more men than women and persons with a higher blood pressure but a markedly lower level of low-density lipoprotein cholesterol. As compared with the ATP-III guidelines, the new guidelines would recommend statin therapy for more adults who would be expected to have future cardiovascular events (higher sensitivity) but would also include many adults who would not have future events (lower specificity). CONCLUSIONS: The new ACC-AHA guidelines for the management of cholesterol would increase the number of adults who would be eligible for statin therapy by 12.8 million, with the increase seen mostly among older adults without cardiovascular disease. (Funded by the Duke Clinical Research Institute and others.).

59. **ARTÍCULO Nº: 4280**

Gregg EW, Li Y, Wang J, Burrows NR, Ali MK, Rolka D et al. ***Changes in diabetes-related complications in the United States, 1990-2010***. N.Engl.J.Med. 2014; 370(16): 1514-1523.

BACKGROUND: Preventive care for adults with diabetes has improved substantially in recent decades. We examined trends in the incidence of diabetes-related complications in the United States from 1990 through 2010. METHODS: We used data from the National Health Interview Survey, the National Hospital Discharge Survey, the U.S. Renal Data System, and the U.S. National Vital Statistics System to compare the incidences of lower-extremity amputation, end-stage renal disease, acute myocardial infarction, stroke, and death from hyperglycemic crisis between 1990 and 2010, with age standardized to the U.S. population in the year 2000. RESULTS: Rates of all five complications declined between 1990 and 2010, with the largest relative declines in acute myocardial infarction (-67.8%; 95% confidence interval [CI], -76.2 to -59.3) and death from hyperglycemic crisis (-64.4%; 95% CI, -68.0 to -60.9), followed by stroke and amputations, which each declined by approximately half (-52.7% and -51.4%, respectively); the smallest decline was in end-stage renal disease (-28.3%; 95% CI, -34.6 to -21.6). The greatest absolute decline was in the number of cases of acute myocardial infarction (95.6 fewer cases per 10,000 persons; 95% CI, 76.6 to 114.6), and the smallest absolute decline was in the number of deaths from hyperglycemic crisis (-2.7; 95% CI, -2.4 to -3.0). Rate reductions were larger among adults with diabetes than among adults without diabetes, leading to a reduction in the relative risk of complications associated with diabetes. When expressed as rates for the overall population, in which a change in prevalence also affects complication rates, there was a decline in rates of acute myocardial infarction and death from hyperglycemic crisis (2.7 and 0.1 fewer cases per 10,000, respectively) but not in rates of amputation, stroke, or end-stage renal disease. CONCLUSIONS: Rates of diabetes-related complications have declined substantially in the past two decades, but a large burden of disease persists because of the continued increase in the prevalence of diabetes. (Funded by the Centers for Disease Control and Prevention.).

60. **ARTÍCULO Nº: 4281**

Hoofnagle JH, Sherker AH. ***Therapy for hepatitis C--the costs of success***. N.Engl.J.Med. 2014; 370(16): 1552-1553.

61. **ARTÍCULO Nº: 4282**

D'Agostino RB, Sr., Ansell BJ, Mora S, Krumholz HM. ***Clinical decisions. The guidelines battle on starting statins***. N.Engl.J.Med. 2014; 370(17): 1652-1658.

62. **ARTÍCULO Nº: 4283**

McCoy KA, Bear-Pfaffendof K, Foreman JK, Daniels T, Zabel EW, Grangaard LJ et al. ***Reducing avoidable hospital readmissions effectively: a statewide campaign***. Jt.Comm J.Qual.Patient.Saf. 2014; 40(5): 198-204.

BACKGROUND: The Reducing Avoidable Readmissions Effectively (RARE) Campaign was designed to engage hospitals and care providers in Minnesota across the continuum of care to prevent avoidable hospital readmissions within 30 days of hospital discharge. METHODS: Support for hospitals was provided on a one-on-one basis by a RARE resource consultant, as well as through the campaign website and a monthly newsletter. Hospitals had the opportunity to participate in any of three learning collaboratives-Care Transitions Intervention, Project RED (ReEngineered Discharge), or SAFE Transitions of Care. The operating and supporting partners of the RARE Campaign offered monthly webinars for sharing of best practices, and hosted Action Learning Days and celebratory events. Potentially preventable readmissions (PPRs) were tracked over time, and a ratio of actual-to-expected PPRs (A/E PPRs) was calculated for each hospital and reported quarterly. RESULTS: As of December 31, 2013, 82 hospitals were participating, with 58 (71%) taking part in at least one learning collaborative. More than 7,000 readmissions have been prevented, and patients have spent more than 28,000 nights of sleep in their own beds rather than in a hospital. By the end of September 2013, the A/E PPR ratio was reduced by 12%-from .98 to .86. CONCLUSIONS: The peer-to-peer networking and collaboration between hospitals facing similar issues, coupled with statewide resources, collaborating Operating Partners, and support for system improvements, have led to improved discharge planning, better management of care transitions and medications, engaged patients and families, and lower readmission rates.

63. **ARTÍCULO Nº: 4284**

Himmelstein DU, Ariely D, Woolhandler S. ***Pay-for-performance: toxic to quality? Insights from behavioral economics***. Int.J.Health Serv. 2014; 44(2): 203-214.

Pay-for-performance programs aim to upgrade health care quality by tailoring financial incentives for desirable behaviors. While Medicare and many private insurers are charging ahead with pay-for-performance, researchers have been unable to show that it benefits patients. Findings from the new field of behavioral economics challenge the traditional economic view that monetary reward either is the only motivator or is simply additive to intrinsic motivators such as purpose or altruism. Studies have shown that monetary rewards can undermine motivation and worsen performance on cognitively complex and intrinsically rewarding work, suggesting that pay-for-performance may backfire.

64. **ARTÍCULO Nº: 4285**

Chung SC, Gedeborg R, Nicholas O, James S, Jeppsson A, Wolfe C et al. ***Acute myocardial infarction: a comparison of short-term survival in national outcome registries in Sweden and the UK***. Lancet. 2014; 383(9925): 1305-1312.

BACKGROUND: International research for acute myocardial infarction lacks comparisons of whole health systems. We assessed time trends for care and outcomes in Sweden and the UK. METHODS: We used data from national registries on consecutive patients registered between 2004 and 2010 in all hospitals providing care for acute coronary syndrome in Sweden and the UK. The primary outcome

was all-cause mortality 30 days after admission. We compared effectiveness of treatment by indirect casemix standardisation. This study is registered with ClinicalTrials.gov, number NCT01359033. FINDINGS: We assessed data for 119,786 patients in Sweden and 391,077 in the UK. 30-day mortality was 7.6% (95% CI 7.4-7.7) in Sweden and 10.5% (10.4-10.6) in the UK. Mortality was higher in the UK in clinically relevant subgroups defined by troponin concentration, ST-segment elevation, age, sex, heart rate, systolic blood pressure, diabetes mellitus status, and smoking status. In Sweden, compared with the UK, there was earlier and more extensive uptake of primary percutaneous coronary intervention (59% vs 22%) and more frequent use of beta blockers at discharge (89% vs 78%). After casemix standardisation the 30-day mortality ratio for UK versus Sweden was 1.37 (95% CI 1.30-1.45), which corresponds to 11,263 (95% CI 9620-12,827) excess deaths, but did decline over time (from 1.47, 95% CI 1.38-1.58 in 2004 to 1.20, 1.12-1.29 in 2010; p=0.01). INTERPRETATION: We found clinically important differences between countries in acute myocardial infarction care and outcomes. International comparisons research might help to improve health systems and prevent deaths. FUNDING: Seventh Framework Programme for Research, National Institute for Health Research, Wellcome Trust (UK), Swedish Association of Local Authorities and Regions, Swedish Heart-Lung Foundation.

65. **ARTÍCULO Nº: 4286**

Morrison AP, Turkington D, Pyle M, Spencer H, Brabban A, Dunn G et al. ***Cognitive therapy for people with schizophrenia spectrum disorders not taking antipsychotic drugs: a single-blind randomised controlled trial***. Lancet. 2014; 383(9926): 1395-1403.

BACKGROUND: Antipsychotic drugs are usually the first line of treatment for schizophrenia; however, many patients refuse or discontinue their pharmacological treatment. We aimed to establish whether cognitive therapy was effective in reducing psychiatric symptoms in people with schizophrenia spectrum disorders who had chosen not to take antipsychotic drugs. METHODS: We did a single-blind randomised controlled trial at two UK centres between Feb 15, 2010, and May 30, 2013. Participants aged 16-65 years with schizophrenia spectrum disorders, who had chosen not to take antipsychotic drugs for psychosis, were randomly assigned (1:1), by a computerised system with permuted block sizes of four or six, to receive cognitive therapy plus treatment as usual, or treatment as usual alone. Randomisation was stratified by study site. Outcome assessors were masked to group allocation. Our primary outcome was total score on the positive and negative syndrome scale (PANSS), which we assessed at baseline, and at months 3, 6, 9, 12, 15, and 18. Analysis was by intention to treat, with an ANCOVA model adjusted for site, age, sex, and baseline symptoms. This study is registered as an International Standard Randomised Controlled Trial, number 29607432. FINDINGS: 74 individuals were randomly assigned to receive either cognitive therapy plus treatment as usual (n=37), or treatment as usual alone (n=37). Mean PANSS total scores were consistently lower in the cognitive therapy group than in the treatment as usual group, with an estimated between-group effect size of -6.52 (95% CI -10.79 to -2.25; p=0.003). We recorded eight serious adverse events: two in patients in the cognitive therapy group (one attempted overdose and one patient presenting risk to others, both after therapy), and six in those in the treatment as usual group (two deaths, both of which were deemed unrelated to trial participation or mental health; three compulsory admissions to hospital for treatment under the mental health act; and one attempted overdose). INTERPRETATION: Cognitive therapy significantly reduced psychiatric symptoms and seems to be a safe and acceptable alternative for people with schizophrenia spectrum disorders who have chosen not to take antipsychotic drugs. Evidence-based treatments should be available to these individuals. A larger, definitive trial is needed. FUNDING: National Institute for Health Research.