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Gestión de la Calidad Asistencial

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1. **ARTÍCULO Nº: 4372**

Granados-Matute AE, Cejudo-López A, Vega-Fernández VM. ***Variabilidad en la práctica clínica para el cuidado de las heridas.*** Evidentia. 2014; 11(45)

Objetivo: Determinar la variabilidad en la práctica clínica para el cuidado de las heridas.
Método: Estudio descriptivo transversal en 90 profesionales de enfermería médico-quirúrgica. Variables: edad, sexo, tiempo de profesión, unidad trabajo, procedimiento ante duda, existencia de protocolos, producto utilizado para limpiar heridas, uso de escala para medir dolor.
Resultados: edad media 36.8 años, más de 15 años de profesión 43.3%, formación previa 92%; consultan a compañera 73.3%, usan 51.1% guías de práctica clínica, 26.7% Internet, prueban diferentes productos 8.9% y 6.7% aplican tratamiento indicado por médico/a; conocen protocolo UPP 58.9%, úlceras miembros inferiores 33%, heridas tumorales 15.6%.
Discusión: Existe gran variabilidad para curar las heridas, la formación es mayoritaria y existen guías de práctica clínica, excepto en heridas tumorales. Hay barreras importantes para utilizar evidencia científica, una buena forma de hacerlo sería incorporar las recomendaciones que surgen de revisiones sistemáticas, de forma que sean instrucciones claras y manejables.

2. **ARTÍCULO Nº: 4373**

Salinas-Perez V, Rogero-Anaya P, Labajos-Manzanares MT. ***Valoraciones conceptuales del proceso salud-enfermedad para la práctica asistencial: una mirada hacia la enfermedad crónica.*** Evidentia. 2014; 11(45)

Desde la diagnosis médica del paradigma antiguo, hasta nuestros días en el paradigma moderno, informatizado y tecnológico del diagnóstico médico en la praxis clínica, la presencia de enfermedad se valora solo y exclusivamente por la presencia de un diagnóstico médico, algo que resulta una interpretación unidimensional del concepto de enfermar. A través de lo que diferentes autores nos han aportado, desarrollamos una retrospectiva en la valoración conceptual del proceso salud-enfermedad, con base en la antropología médica, social y del cuidado, que va a permitir reflexionar sobre la respuesta de los enfermos con la experiencia de enfermedad. Las condiciones subjetivas, socio-culturales y simbólicas de las diferentes patologías y muy especialmente en la interpretación de los procesos crónicos, explican esa multidimensionalidad del proceso.

3. **ARTÍCULO Nº: 4374**

Guenoun-Sanz M, Molina-Mula J. ***Los cuidados enfermeros del paciente crónico en hemodiálisis: rutina, dependencia y falta de creatividad.*** Evidentia. 2014; 11(45)

Subdirección General de Planificación, Calidad e Investigación

El análisis de la rutina laboral enfermera en el cuidado del paciente crónico en hemodiálisis es escaso en la escena científica. Los resultados de la búsqueda bibliográfica muestran el reducido número de artículos disponibles en la comunidad científica española. La literatura brasileña es la que mejor evidencia los efectos positivos del ocio y de la música en hemodiálisis. Estas herramientas están infrautilizadas a pesar de los importantes resultados en el estado de salud del paciente en hemodiálisis. En general, los cuidados enfermeros son rutinarios y crean una dependencia del paciente hacia el profesional. Esta repetición de patrones laborales inhibe el desarrollo de una actitud creativa en el profesional evidenciándose una infrautilización de las actividades recreativas en la sala. Esta revisión de la literatura evidencia el impacto positivo de dichas actividades en la salud del paciente y la necesidad de cambiar el paradigma biomédico adoptado por la enfermería.

4. **ARTÍCULO Nº: 4375**

Gonzalez-Navarro SM. ***¿Cómo conciben los profesionales de enfermería el trabajo en equipo en las unidades de hospitalización?*** Evidentia. 2014; 11(45)

Justificación. El trabajo de equipo en enfermería es de gran importancia y de su buen funcionamiento se derivan practicas eficaces y eficientes, aumenta la productividad y la seguridad, disminuyen los errores y los pacientes se muestran más satisfechos con la atención recibida. Este estudio intenta clarificar si el marco conceptual definido por Salas, para los equipos de críticos y urgencias, se podría aplicar a las unidades de hospitalización de agudos. Salas define esencialmente cinco componentes: el liderazgo del equipo, la cohesión entre los profesionales, la supervisión mutua del rendimiento, el comportamiento de copia de seguridad y la capacidad de adaptación de los miembros. Los escasos trabajos existentes en estas unidades justifica la realización de esta investigación.
Objetivo. El propósito de esta investigación es determinar si el marco conceptual definido por Salas, se puede utilizar para captar y describir el trabajo en equipo en las unidades de hospitalización de agudos.
Diseño. Investigación evaluativa cualitativa (grupo focal).
Lugar. Unidades asistenciales hospitalarias en Michigan.
Sujetos. Participaron un total de 116 enfermeras, 7 enfermeras prácticas con licencia, 28 auxiliares de enfermería y 19 secretarias. Fueron entrevistados en 34 grupos y se dividieron según el puesto de trabajo y las funciones que realizaba cada profesional. La participación fue voluntaria. El grupo de enfoque de enfermeras tenía una edad media de 42 años, 97% eran mujeres con unos 18,4 años de experiencia laboral y con una media de 9,8 años de servicio en su unidad. Las enfermeras con licencia presentaban una edad media de 46 años, eran todas mujeres, con una media de 25 años de experiencia laboral y 23 años de servicio en sus unidades actuales. Las auxiliares de enfermería tenían una edad media de 25,2 años, fueron un 94% mujeres, con 6,7 años de experiencia laboral y con 5,8 años de servicio en sus unidades.
Métodos. En este estudio cualitativo se utilizaron entrevistas en grupos focales con el personal de enfermería. Fueron seleccionados de distintas unidades: una unidad de hospital de agudos, de maternidad /ginecología, médico-quirúrgicas y cuidados intensivos. El tamaño de las unidades oscilaba entre los 30 y 90 profesionales de plantilla.

5. **ARTÍCULO Nº: 4376**

Shreay S, Ma M, McCluskey J, Mittelhammer RC, Gitlin M, Stephens JM. ***Efficiency of U.S. dialysis centers: an updated examination of facility characteristics that influence production of dialysis treatments.*** Health Serv.Res. 2014; 49(3): 838-857.

OBJECTIVE: To explore the relative efficiency of dialysis facilities in the United States and identify factors that are associated with efficiency in the production of dialysis treatments. DATA SOURCES/STUDY SETTING: Medicare cost report data from 4,343 free-standing dialysis facilities in the United States that offered in-center hemodialysis in 2010. STUDY DESIGN: A cross-sectional, facility-level retrospective database analysis, utilizing data envelopment analysis (DEA) to estimate facility efficiency. DATA COLLECTION/EXTRACTION METHODS: Treatment data and cost and labor inputs of dialysis treatments were obtained from 2010 Medicare Renal Cost Reports. Demographic data were obtained from the 2010 U.S. Census. PRINCIPAL FINDINGS: Only 26.6 percent of facilities were technically efficient. Neither the intensity of market competition nor the profit status of the facility had a significant effect on efficiency. Facilities that were members of large chains were less likely to be efficient. Cost and labor savings due to changes in drug protocols had little effect on overall dialysis center efficiency. CONCLUSIONS: The majority of free-standing dialysis facilities in the United States were functioning in a technically inefficient manner. As payment systems increasingly employ capitation and bundling provisions, these institutions will need to evaluate their efficiency to remain competitive.

6. **ARTÍCULO Nº: 4377**

Paddock SM. ***Statistical benchmarks for health care provider performance assessment: a comparison of standard approaches to a hierarchical Bayesian histogram-based method.*** Health Serv.Res. 2014; 49(3): 1056-1073.

OBJECTIVE: Examine how widely used statistical benchmarks of health care provider performance compare with histogram-based statistical benchmarks obtained via hierarchical Bayesian modeling. DATA SOURCES: Publicly available data from 3,240 hospitals during April 2009-March 2010 on two process-of-care measures reported on the Medicare Hospital Compare website. STUDY DESIGN: Secondary data analyses of two process-of-care measures comparing statistical benchmark estimates and threshold exceedance determinations under various combinations of hospital performance measure estimates and benchmarking approaches. PRINCIPAL FINDINGS: Statistical benchmarking approaches for determining top 10 percent performance varied with respect to which hospitals exceeded the performance benchmark; such differences were not found at the 50 percent threshold. Benchmarks derived from the histogram of provider performance under hierarchical Bayesian modeling provide a compromise between benchmarks based on direct (raw) estimates, which are overdispersed relative to the true distribution of provider performance and prone to high variance for small providers, and posterior mean provider performance, for which over-shrinkage and under-dispersion relative to the true provider performance distribution is a concern. CONCLUSIONS: Given the rewards and penalties associated with characterizing top performance, the ability of statistical benchmarks to summarize key features of the provider performance distribution should be examined.

7. **ARTÍCULO Nº: 4378**

Lee A, Mills PD, Neily J, Hemphill RR. ***Root cause analysis of serious adverse events among older patients in the Veterans Health Administration.*** Jt.Comm J.Qual.Patient.Saf. 2014; 40(6): 253-262.

BACKGROUND: Preventable adverse events are more likely to occur among older patients because of the clinical complexity of their care. The Veterans Health Administration (VHA) National Center for Patient Safety (NCPS) stores data about serious adverse events when a root cause analysis (RCA) has been performed. A primary objective of this study was to describe the types of adverse events occurring among older patients (age > or = 65 years) in Department of Veterans Affairs (VA) hospitals. Secondary objectives were to determine the underlying reasons for the occurrence of these events

and report on effective action plans that have been implemented in VA hospitals. METHODS: In a retrospective, cross-sectional review, RCA reports were reviewed and outcomes reported using descriptive statistics for all VA hospitals that conducted an RCA for a serious geriatric adverse event from January 2010 to January 2011 that resulted in sustained injury or death. RESULTS: The search produced 325 RCA reports on VA patients (age > or = 65 years). Falls (34.8%), delays in diagnosis and/or treatment (11.7%), unexpected death (9.9%), and medication errors (9.0%) were the most commonly reported adverse events among older VA patients. Communication was the most common underlying reason for these events, representing 43.9% of reported root causes. Approximately 40% of implemented action plans were judged by local staff to be effective. CONCLUSION: The RCA process identified falls and communication as important themes in serious adverse events. Concrete actions, such as process standardization and changes to communication, were reported by teams to yield some improvement. However, fewer than half of the action plans were reported to be effective. Further research is needed to guide development and implementation of effective action plans.

8. **ARTÍCULO Nº: 4379**

Tarrago R, Nowak JE, Leonard CS, Payne NR. ***Reductions in invasive device use and care costs after institution of a daily safety checklist in a pediatric critical care unit***. Jt.Comm J.Qual.Patient.Saf. 2014; 40(6): 270-278.

BACKGROUND: In the critical care unit, complexity of care can contribute to both medical errors and increased costs, particularly when clinicians are forced to rely on memory. Checklists can be used to improve safety and reduce cost. A number of omission-related adverse events in 2010 prompted the development of a checklist to reduce the possibility of similar future events. METHODS: The PICU Safety Checklist was implemented in the pediatric ICU (PICU) at Children's Hospitals and Clinics of Minnesota. During a 21-month period, the checklist was used to prompt the care team to address quality and safety items during rounds. The initial checklist was paper, with two subsequent versions being incorporated into the electronic medical record (EMR). RESULTS: The daily safety checklist was successfully implemented in the PICU. Work-flow improvements based on regular multidisciplinary feedback led to more consistent use of the checklist. Improvements on all quality and safety metrics were identified, including invasive device use, medication costs, antibiotic and laboratory test use, and compliance with standards of care. Staff satisfaction rates were > 80% for safety, communication, and collaboration. CONCLUSION: By using a daily safety checklist in the pediatric critical care unit, we improved quality and safety, as well as the collaborative culture among all clinicians. Incorporating the checklist into the EMR improved compliance and accountability, ensuring its application to all patients. Clinicians now often individually address many checklist items outside the formal rounding process, indicating that the checklist content has become part of their usual practice. A successful implementation showing tangible clinical improvements can lead to interest and adoption in other clinical areas within the institution.

9. **ARTÍCULO Nº: 4380**

Hall TC, Garcea G, Webb MA, Al-Leswas D, Metcalfe MS, Dennison AR. ***The socio-economic impact of chronic pancreatitis: a systematic review***. J.Eval.Clin.Pract. 2014; 20(3): 203-207.

RATIONALE, AIMS AND OBJECTIVES: Chronic pancreatitis (CP) is a progressive inflammatory disorder with pain being the most frequent symptom. It is associated with loss of function, pancreatogenic diabetes and digestive enzyme deficiency. The impact of local complications and loss of pancreatic function results in unknown and unreported costs. This study attempts to identify both the direct and indirect costs associated with CP. METHODS: A MEDLINE literature review was performed for all

relevant articles relating to any aspect of direct and indirect costs as a result of CP. RESULTS: In the UK, there are 12,000 admissions per annum of patients with CP at an estimated cost of pound55.8 million. The costs for loss of pancreatic function are estimated at pound45-90 million and $75.1 million for endocrine and exocrine function, respectively. Chronic pain contributes $638 million per year in costs. The protracted course of CP and paucity of monetary data make quantifying direct and indirect costs difficult. An estimate of direct and indirect costs is at pound285.3 million per year. This equates to pound79,000 per person per year. CONCLUSIONS: Patients with CP consume a disproportionately high volume of resources.

10. **ARTÍCULO Nº: 4381**

Vos HM, Adan IM, Schellevis FG, Lagro-Janssen AL. ***Prevention in primary care: facilitators and barriers to transform prevention from a random coincidence to a systematic approach***. J.Eval.Clin.Pract. 2014; 20(3): 208-215.

RATIONALE, AIMS AND OBJECTIVES: The Dutch general practitioner (GP) plays a substantial role in prevention. At the same time, many GPs hesitate to incorporate large-scale cardiovascular risk management (CVRM) programmes into their daily practice. By exploring facilitators and barriers occurring during the past three decades, we wish to find clues on how to motivate professionals to adopt and implement prevention programmes. METHODS: A witness seminar was organized in September 2011, inviting key figures to discuss the decision-making process of the implementation of systematic prevention programmes in the Netherlands in the past, thereby adding new perspectives on past events. The extensive discussion was fully audiotaped. The transcript was content-analysed. RESULTS: We came across four different transitional stages: (1) the conversion from GPs disputing prevention to the implementation of systematic influenza vaccination; (2) the transition from systematic influenza vaccination to planning CVRM programmes; (3) the transition from planning and piloting CVRM programmes to cancelling the large-scale implementation of the CVRM programme; and (4) the reinforcement of prevention. CONCLUSIONS: The GPs' fear to lose the domain of prevention to other health care professionals and financial and logistical support are the main facilitators for implementing prevention programmes in primary care. The main barriers for implementing prevention are the combination of insecurity about reimbursement and lack of scientific evidence. It appears that the ethical view of GPs that everyone should have the same right to obtain preventive care gradually takes over the inclination to hold on to evidence-based prevention.

11. **ARTÍCULO Nº: 4382**

Kotzeva A, Guillamon I, Gracia J, az del CP, Gich I, Calderon E et al. ***Use of clinical practice guidelines and factors related to their uptake: a survey of health professionals in Spain***. J.Eval.Clin.Pract. 2014; 20(3): 216-224.

RATIONALE, AIMS AND OBJECTIVE: This study aims to assess the use of clinical practice guidelines (CPGs) among health professionals and factors related to their uptake in clinical practice. METHODS: Cross-sectional study based on an online survey conducted among primary care (PC) and hospital-based care (HC) doctors in Spain in 2011. Questionnaire development included adaptation of similar surveys and contextualization through a qualitative study. After a pilot study and review, the final survey contained five domains: demographics, involvement in CPGs, consultation of CPGs, perceptions and attitudes regarding CPGs and Spanish NHS CPGs Programme. Professionals from selected health care centres in seven regions were contacted by email with an invitation and link to the Web-based questionnaire. We analysed between-group differences and explored potential predictors of CPGs use by means of a logistic regression. RESULTS: Six hundred seventy-six doctors responded to the survey

(27.7% response rate). 47.1% were PC and 49.5% were HC doctors. 32.5% stated previous involvement in CPGs and 56.5% stated training in research methodology. 67.5% of the surveyed professionals reported using CPGs more than one time per week. The use of a system for classifying the quality of evidence (62.3%) and for grading the strength of the recommendations (58.6%), as well as the use of a rigorous methodology (49.6%), were the most frequently reported aspects related to CPG credibility. The lack of time (56.4%), especially in PC (65.3% versus 49.5% in HC; $P < 0.001$), and the absence of brief and easily accessible format (42.2%) were the main reported barriers to using CPGs. None of the studied factors showed statistically significant association in the logistic regression model. CONCLUSIONS: Study results suggest that, in general, Spanish doctors trust and use CPGs frequently. To improve uptake by health professionals and to overcome existing barriers, CPGs should be rigorously developed and made accessible at the point-of-care in user-friendly electronic formats. Due to the low response rate, findings should be extrapolated with caution.

12. **ARTÍCULO Nº: 4383**

Day L, Trotter MJ, Hill KD, Haines TP, Thompson C. ***Implementation of evidence-based falls prevention in clinical services for high-risk clients***. J.Eval.Clin.Pract. 2014; 20(3): 255-259.

RATIONALE, AIMS AND OBJECTIVES: The extent to which best practice for falls prevention is being routinely delivered by health care providers for community-dwelling older adults is unclear. We investigated falls prevention practice among Hospital Admission Risk Programs (HARP) that provide and coordinate specialized health care for people at high risk of hospitalization. METHOD: Cross-sectional survey of all HARP services in Victoria, excluding one paediatric programme (n = 34). The questionnaire focused upon medication review and exercise prescription, as these are the evidence-based falls interventions with a good fit with HARP services. RESULTS: Completed questionnaires were received from 24 programmes (70.6%) that service 15,250 older clients (60+ years). All except one programme screened for medicine use; however, a lower proportion (65% of those that screen) target falls risk medications. Among the 17 programmes responding to the exercise prescription question, all routinely include strengthening exercises, and almost all (n = 15) include flexibility, endurance training and movement of the centre of gravity. A lesser proportion (71%) includes reducing the need for upper limb support. The majority of services (88%) undertake falls risk assessments, and all of these either make referral appointments for clients or refer to other services that make referral appointments for clients. Follow-up of appointments and the resulting recommendations was high. CONCLUSION: Screening for falls risk medications could be improved and staff training in exercise prescription for balance challenge in this high-risk group may be needed. Although evidence-based falls prevention practice within Victorian HARP services appears strong, the effect on falls risk may not be as high as that achieved in randomized trials.

13. **ARTÍCULO Nº: 4384**

Pinto JM, Schairer JL, Petrova A. ***Comparative effectiveness of implementation of a nursing-driven protocol in reducing bronchodilator utilization for hospitalized children with bronchiolitis***. J.Eval.Clin.Pract. 2014; 20(3): 267-272.

OBJECTIVE: The goal of our study was to determine whether the administration of bronchodilators is affected by implementation of a nursing-driven protocol in the care of children hospitalized with bronchiolitis. METHODS: We included children less than 2 years old, hospitalized with bronchiolitis, but without chronic lung problems, immunodeficiencies or congenital heart disease in the 1-year periods before, during and after implementation of a nursing-driven bronchiolitis protocol. The protocol is based on nursing assessments of respiratory status prior to initiation and continuation of

bronchodilator therapy. Utilization rates of bronchodilators were compared with respect to implementation of the nursing-driven protocol using Chi-square, analysis of variance, and regression analysis that is presented as adjusted odds ratio (OR) and 95% confidence interval (95% CI) of the OR. RESULTS: Among the 80 children who were hospitalized before, 63 during and 89 after the implementation of the nursing-driven bronchiolitis protocol, 70.0, 60.3, and 29.2%, respectively, received treatment with bronchodilators ($P < 0.0001$). Reduction in the use of bronchodilators in association with the implementation of the nursing-driven bronchiolitis protocol was also observed after controlling for the child's age and evidence of pneumonia (OR 0.68, 95% CI 0.61-0.79). The mean number of bronchodilator doses administered among patients in the three groups who received at least one treatment was comparable. CONCLUSIONS: Implementation of a nursing-driven bronchiolitis protocol was associated with significant reduction in initiation of bronchodilator treatments, which suggests a benefit from nursing involvement in the promotion of evidence-based recommendations in the management of children hospitalized with bronchiolitis.

14. **ARTÍCULO Nº: 4385**

Rajasingam D, Harding K. ***NICE's draft guideline on intrapartum care***. BMJ. 2014; 348: g4279

15. **ARTÍCULO Nº: 4386**

Yi SH, Baggs J, Gould CV, Scott RD, Jernigan JA. ***Medicare reimbursement attributable to catheter-associated urinary tract infection in the inpatient setting: a retrospective cohort analysis***. Med Care. 2014; 52(6): 469-478.

BACKGROUND: Most catheter-associated urinary tract infections (CAUTIs) are considered preventable and thus a potential target for health care quality improvement and cost savings. OBJECTIVES: We sought to estimate excess Medicare reimbursement, length of stay, and inpatient death associated with CAUTI among hospitalized beneficiaries. RESEARCH DESIGN: Using a retrospective cohort design with linked Medicare inpatient claims and National Healthcare Safety Network data from 2009, we compared Medicare reimbursement between Medicare beneficiaries with and without CAUTIs. SUBJECTS: Fee-for-service Medicare beneficiaries aged 65 years or older with continuous coverage of parts A (hospital insurance) and B (supplementary medical insurance). RESULTS: We found that beneficiaries with CAUTI had higher median Medicare reimbursement [intensive care unit (ICU): $8548, non-ICU: $1479) and length of stay (ICU: 8.1 d, non-ICU: 3.6 d) compared with those without CAUTI controlling for potential confounding factors. Odds of inpatient death were higher among beneficiaries with versus without CAUTI only among those with an ICU stay (ICU: odds ratio 1.37). CONCLUSIONS: Beneficiaries with CAUTI had increased Medicare reimbursement and length of stay compared with those without CAUTI after adjusting for potential confounders.

16. **ARTÍCULO Nº: 4387**

Bradley CJ, Dahman B, Anscher M. ***Prostate cancer treatment and survival: evidence for men with prevalent comorbid conditions***. Med Care. 2014; 52(6): 482-489.

BACKGROUND: The absence of evidence-based guidelines for prostate cancer treatment led the Institute of Medicine to include localized prostate cancer treatment among the 25 most important topics for comparative effectiveness research. OBJECTIVE: This study compared prostate cancer treatment and survival in men with and without prevalent comorbid conditions. RESEARCH DESIGN: The sample comprised elderly men, aged 66 years and older, extracted from SEER-Medicare data, between 2004 and 2009 (N=73,563). Treatment and survival for men with at least 1 of 4 prevalent comorbid conditions were compared with men who did not have any of the 12 Charlson comorbid

conditions. The sample was stratified by comorbid condition and low-risk, intermediate-risk, and high-risk disease. RESULTS: Over half of men received some form of cancer-directed treatment, irrespective of comorbid condition. Men who have congestive heart failure (CHF) or multiple comorbid conditions were less likely to be treated, whereas men with diabetes were more likely to be treated. With the exception of men with CHF, men with comorbid conditions and low-risk disease received no survival benefit from any type of treatment. CONCLUSIONS: Most men received treatment, particularly radiation therapy, regardless of comorbid condition. The evidence suggests more caution should be used when treating men with low-risk disease and comorbid conditions as they are at risk for adverse events and additional medical costs, without a survival benefit.

17. **ARTÍCULO Nº: 4388**

Clark RE, Clements KM. ***Not paying for catheter-associated urinary tract infections: more difficult than it seems?*** Med Care. 2014; 52(6): 479-481.

18. **ARTÍCULO Nº: 4389**

Tan A, Kuo YF, Goodwin JS. ***Potential overuse of screening mammography and its association with access to primary care.*** Med Care. 2014; 52(6): 490-495.

BACKGROUND: Cancer screening in individuals with limited life expectancy increases the risk of diagnosis and treatment of cancer that otherwise would not have become clinically apparent. OBJECTIVE: To estimate screening mammography use in women with limited life expectancy, its geographic variation, and association with access to primary care and mammographic resources. METHODS: We assessed screening mammography use in 2008-2009 in 106,737 women aged 66 years or older with an estimated life expectancy of <7 years using a 5% national sample of Medicare beneficiaries. Descriptive statistics were used to estimate the screening mammography utilization, by access to primary care. RESULTS: Among women with a life expectancy of <7 years, 28.5% received screening mammography during 2008-2009. The screening rates were 34.6% versus 20.5% for women with and without an identifiable primary care physician, respectively. The screening rates were higher among women who saw >1 generalist physician and who had more visits to generalist physicians. There was substantial geographic variation across the United States, with an average rate of 39.5% in the hospital referral regions (HRRs) in the top decile of screening versus 19.5% in the HRRs in the bottom decile. The screening rates were higher among HRRs with more primary care physicians ($r=0.14$, $P=0.02$), mammography facilities ($r=0.12$, $P=0.04$), and radiologists ($r=0.22$, $P<0.001$). CONCLUSIONS: Substantial proportions of women with limited life expectancy receive screening mammography. Results presented sound a cautionary note that greater access to primary care and mammographic resources is also associated with higher overuse.

19. **ARTÍCULO Nº: 4390**

Piette JD, Aikens JE, Rosland AM, Sussman JB. ***Rethinking the frequency of between-visit monitoring for patients with diabetes.*** Med Care. 2014; 52(6): 511-518.

BACKGROUND: Health systems increasingly look to mobile health tools to monitor patients cost-effectively between visits. The frequency of assessment services such as interactive voice response (IVR) calls is typically arbitrary, and no approaches have been proposed to tailor assessment schedules based on evidence regarding which measures actually provide new information about patients' status. METHODS: We analyzed longitudinal data from over 5000 weekly IVR monitoring calls to 298 diabetes patients using logistic models to determine the predictability of IVR-reported physiological results, perceived health indicators, and self-care behaviors. We also determined the implications for

assessment burden and problem detection of omitting assessment items that had no more than a 5% predicted probability of a problem report. RESULTS: Assuming weekly IVR assessments, episodes of hyperglycemia were difficult to predict [area under the curve (AUC)=69.7; 95% confidence interval (CI), 50.2-89.2] based on patients' prior assessment responses. Hypoglycemic symptoms and fair/poor perceived health were more predictable, and self-care behaviors such as problems with medication adherence (AUC=92.1; 95% CI, 89.6-94.6) and foot care (AUC=98.4; 95% CI, 97.0-99.8) were highly predictable. Even if patients were only asked about foot inspection behavior when they had >5% chance of a problem report, 94% of foot inspection assessments could be omitted while still identifying 91% of reported problems. CONCLUSIONS: Mobile health monitoring systems could be made more efficient by taking patients' reporting history into account. Avoiding redundant information requests could make services more patient centered and might increase engagement. Time saved by decreasing redundancy could be better spent educating patients or assessing other clinical problems.

20. **ARTÍCULO Nº: 4391**

Tung YC, Chang GM, Chien KL, Tu YK. ***The relationships among physician and hospital volume, processes, and outcomes of care for acute myocardial infarction***. Med Care. 2014; 52(6): 519-527.

BACKGROUND: A volume-outcome relationship has been found for acute myocardial infarction (AMI); however, the mechanisms underlying the relationship remain unclear. In particular, it is not known whether processes of care are mediators of the volume-outcome relationship, that is, whether the mechanisms underlying the relationship are through processes of care. OBJECTIVE: We used nationwide population-based data to examine the mediating effects of processes of care on the relationships of physician and hospital volume with AMI mortality. METHODS: We analyzed all 6838 ST-elevation myocardial infarction (STEMI) patients admitted in 2008, treated by 740 physicians in 142 hospitals through Taiwan's National Health Insurance Research Database. Multilevel meditational models were performed after adjustment for patient, physician, and hospital characteristics to test the relationships among physician and hospital volume, processes of care, and 30-day STEMI mortality. RESULTS: Physicians with higher volume had higher use of percutaneous coronary intervention and aspirin, and lower mortality in the following year, and the processes of care were mediators of the relationship between physician volume and mortality. Low-volume hospitals had higher mortality in the following year than medium-volume hospitals. In stratified analyses the relationships only existed in nonlarge hospitals. CONCLUSIONS: Physicians with high volume perform better on certain processes of care than those with medium and low volume, and have better outcomes for patients with AMI. The processes of care could partly explain the relationship between physician volume and AMI mortality. However, the relationships existed in nonlarge hospitals but not in large hospitals.

21. **ARTÍCULO Nº: 4392**

Gonzalez-Clemente JM, Font B, Lahoz R, Llaurado G, Gambus G. ***[INERTIA study: Clinical inertia in non-insulinized patients on oral hypoglycemic treatment. A study in Spanish primary and specialty care settings]***. Med Clin.(Barc.). 2014; 142(11): 478-484.

BACKGROUND AND OBJECTIVE: To study clinical inertia in the management of oral hypoglycemic agents (OHA) in non-insulin treated patients with type 2 diabetes mellitus (T2DM) in Spain. PATIENTS AND METHOD: Epidemiological, cross-sectional, retrospective (2 years), multicenter study. Clinical inertia was measured as the total number of patients without OHA treatment intensification divided by the total number of patients with inadequate HbA1c values (>/=7%), multiplied by 100. Total

clinical inertia (TCI) was the absence of OHA treatment intensification in all visits with a HbA1c>/=7% values in the previous 2 years; partial clinical inertia (PCI) occurred when this absence only occurred in some of these visits. We assessed OHA treatment compliance with the Morisky-Green test. RESULTS: We included 2,971 patients, 1,416 adequately controlled (HbA1c<7%) and 1,555 inadequately controlled (HbA1c>/=7%). PCI prevalence was 52.5%(95% confidence interval [95% CI] 52.4-52.6%) while TCI prevalence was 12.8% (95% CI 12.2-13.8%). PCI was lower in patients adequately controlled as compared with those inadequately controlled (31.4% vs. 71.8%; P<.001). PCI was associated with sedentary lifestyle, hypertension and higher prevalence of micro and macrovascular complications. Only 38.0% of patients were compliant with the OHA treatment, being this percentage even lower in subjects with ICP. Two variables were independently associated with ICP: female sex (odds ratio [OR] 1.43; 95% CI 1.09-1.86%) and a shorter duration of DM2 (OR 0.98; 95% CI 0.95-0.99). CONCLUSIONS: One out of 2 patients with T2DM and treated with OHA without insulin suffer from PCI. Only 4 out of 10 patients are compliant with OHA treatment. Female sex and a shorter duration of T2DM are independently associated with PCI.

22. **ARTÍCULO Nº: 4393**

Gomis R, Artola S, Conthe P, Vidal J, Casamor R, Font B. ***[Prevalence of type 2 diabetes mellitus in overweight or obese outpatients in Spain. OBEDIA Study]***. Med Clin.(Barc.). 2014; 142(11): 485-492.

BACKGROUND AND OBJECTIVE: The increase in the prevalence of type 2 diabetes mellitus (T2DM) is related to the increase of obesity. We aimed to determine the Spanish prevalence of T2DM in patients with overweight or obesity attended by either family or specialist physicians. PATIENTS AND METHOD: Cross-sectional, multicenter and simultaneous 2-phase design, performed under clinical conditions. Phase A was designed to determine T2DM prevalence: 169,023 patients were recruited. Phase B was designed to define socio-demographic, clinical and metabolic profile of T2DM according to the body mass index (BMI): 7,754 patients were included. RESULTS: T2DM prevalence in overweight or obese patients was 23.6%; 17.8% of overweight patients were diabetic and T2DM was present in 34.8% of obese people. According to sex, 20.2% of men and 16.4% of women had T2DM. Overall, the mean of risk factors related to T2DM was 4.4 (SD 0,8); out of them, 92.6% patients had dyslipidemia, 73.7% hypertension and 62.5% performed a low physical activity. 37.8% of diabetic patients had vascular involvement. Only 43.1% of patients showed a proper metabolic control of T2DM (glycosilated hemoglobin<7%). CONCLUSIONS: T2DM is related to overweight and obesity and higher the BMI is, higher the T2DM prevalence. Dyslipidemia, hypertension and a low physical activity in diabetic patients are more frequent when BMI increases. Patients with inadequate metabolic control have a higher BMI.

23. **ARTÍCULO Nº: 4394**

Limon-Ramirez R, Gea-Velazquez de Castro MT, ranaz-Andres JM. ***[Design of a multimodal strategy including health marketing for the improvement of hand hygiene fulfillment]***. Med Clin.(Barc.). 2014; 142(11): 505-511.

24. **ARTÍCULO Nº: 4395**

Martin-Ramiro JJ, varez-Martin E, Gil-Prieto R. ***[Mortality attributable to excess weight in Spain]***. Med Clin.(Barc.). 2014; 142(12): 526-530.

BACKGROUND AND OBJECTIVE: Estimate the mortality attributable to higher than optimal body mass index in the Spanish population in 2006. PATIENTS AND METHOD: Excess body weight prevalence data were obtained from the 2006 National Health Survey, while data on associated mortality were

extracted from the National Statistic Institute. Population attributable fractions were applied and mortality attributable to higher than optimal body mass index was calculated for people between 35 and 79 years. RESULTS: In 2006, among the Spanish population aged 35-79 years, 25,671 lives (16,405 males and 9,266 women) were lost due to higher than optimal body mass index. Mortality attributable was 15.8% of total deaths in males and 14.8% in women, but if we refer to those causes where excess body weight is a risk factor, it is about a 30% of mortality (31.6% in men and 28% in women). The most important individual cause was cardiovascular disease (58%), followed by cancer. The individual cause with a major contribution to deaths was type 2 diabetes; nearly 70% in males and 80% in women. Overweight accounted for 54.9% deaths in men and 48.6% in women. CONCLUSIONS: Excess body weight is a major public health problem, with an important associated mortality. Attributable deaths are a useful tool to know the real situation and to monitor for disease control interventions.

25. **ARTÍCULO Nº: 4396**

Catala-Lopez F, Hutton B, Moher D. ***[Declaration of transparency for scientific publications]***. Med Clin.(Barc.). 2014; 142(12): 554-555.

26. **ARTÍCULO Nº: 4397**

Ferreira-Gonzalez I. ***Basis for the Interpretation of Noninferiority Studies: Considering the ROCKET-AF, RE-LY, and ARISTOTLE Studies***. Rev.Esp.Cardiol. 2014; 67(6): 432-435.

27. **ARTÍCULO Nº: 4398**

Valdes S, Garcia-Torres F, Maldonado-Araque C, Goday A, Calle-Pascual A, Soriguer F et al. ***Prevalence of Obesity, Diabetes and Other Cardiovascular Risk Factors in Andalusia (Southern Spain). Comparison With National Prevalence Data. The Di@bet.es Study***. Rev.Esp.Cardiol. 2014; 67(6): 442-448.

INTRODUCTION AND OBJECTIVES: The aim of this study was to compare the prevalences of obesity, diabetes and other cardiovascular risk factors in the region of Andalusia with those in the rest of Spain. METHODS: The Di@bet.es study is a national, cross-sectional, population-based survey of cardiometabolic risk factors and their association with lifestyle. The sample consisted of 5103 participants >/= 18 years. The variables analyzed were clinical, demographic and lifestyle survey, physical examination, and oral glucose tolerance test. The prevalence of cardiovascular risk factors in Andalusia (n=1517) was compared with that for the rest of Spain (n=3586). RESULTS: In data adjusted to the Spanish population, the prevalence of diabetes (World Health Organization, 1999), hypertension (blood pressure >/= 140/90mmHg), high-sensitivity C-reactive protein levels (>/= 3mg/L) and obesity (body mass index >/= 30kg/m2) were 16.3%, 43.9%, 32.0%, and 37.0% in Andalusia compared with 12.5%, 39.9%, 28.3%, and 26.6% in the rest of Spain (P<.001 for differences except P=.01 for the difference in high-sensitivity C-reactive protein levels). The corresponding figures for the Andalusia data adjusted to the Andalusian population were 15.3%, 42.3%, 31.4%, and 34.0%, respectively. Differences in diabetes, hypertension and high-sensitivity C-reactive protein were not significant in models adjusted for age, sex, and adiposity measurements. Differences in obesity were not significant in models adjusted for age, sex, educational level, marital status, work status, and physical activity (P=.086) CONCLUSIONS: This study contributes information from a national study perspective and shows a higher prevalence of cardiovascular risk factors in southern Spain, in close relation to obesity, a sedentary lifestyle, and markers of socioeconomic disadvantage. Full English text available from:www.revespcardiol.org/en.

28. **ARTÍCULO Nº: 4399**

riza-Sole A, Formiga F, Lorente V, Sanchez-Salado JC, Sanchez-Elvira G, Roura G et al. ***Efficacy of Bleeding Risk Scores in Elderly Patients With Acute Coronary Syndromes***. Rev.Esp.Cardiol. 2014; 67(6): 463-470.

INTRODUCTION AND OBJECTIVES: The incidence of acute coronary syndromes is high in the elderly population. Bleeding is associated with a poorer prognosis in this clinical setting. The available bleeding risk scores have not been validated specifically in the elderly. Our aim was to assess predictive ability of the most important bleeding risk scores in patients with acute coronary syndrome aged >/= 75 years. METHODS: We prospectively included consecutive acute coronary syndromes patients. Baseline characteristics, laboratory findings, and hemodynamic data were collected. In-hospital bleeding was defined according to CRUSADE, Mehran, ACTION, and BARC definitions. CRUSADE, Mehran, and ACTION bleeding risk scores were calculated for each patient. The ability of these scores to predict major bleeding was assessed by binary logistic regression, receiver operating characteristic curves, and area under the curves. RESULTS: We included 2036 patients, with mean age of 62.1 years; 369 patients (18.1%) were >/= 75 years. Older patients had higher bleeding risk (CRUSADE, 42 vs 22; Mehran, 25 vs 15; ACTION, 36 vs 28; P<.001) and a slightly higher incidence of major bleeding events (CRUSADE bleeding, 5.1% vs 3.8%; P=.250). The predictive ability of these 3 scores was lower in the elderly (area under the curve, CRUSADE: 0.63 in older patients, 0.81 in young patients; P=.027; Mehran: 0.67 in older patients, 0.73 in younger patients; P=.340; ACTION: 0.58 in older patients, 0.75 in younger patients; P=.041). CONCLUSIONS: Current bleeding risk scores showed poorer predictive performance in elderly patients with acute coronary syndromes than in younger patients. Full English text available from:www.revespcardiol.org/en.

29. **ARTÍCULO Nº: 4400**

Consuegra-Sanchez L, Melgarejo-Moreno A, Galcera-Tomas J, onso-Fernandez N, az-Pastor A, Escudero-Garcia G et al. ***Impact of Previous Vascular Burden on In-hospital and Long-term Mortality in Patients With ST-segment Elevation Myocardial Infarction***. Rev.Esp.Cardiol. 2014; 67(6): 471-478.

INTRODUCTION AND OBJECTIVES: Patients with a current acute coronary syndrome and previous ischemic heart disease, peripheral arterial disease, or cerebrovascular disease are reported to have a poorer outcome than those without these previous conditions. It is uncertain whether this association with outcome is observed at long-term follow-up. METHODS: Prospective observational study, including 4247 patients with ST-segment elevation myocardial infarction. Detailed clinical data and information on previous ischemic heart disease, peripheral arterial disease, and cerebrovascular disease (<<vascular burden>>) were recorded. Multivariate models were performed for in-hospital and long-term (median, 7.2 years) all-cause mortality. RESULTS: One vascular territory was affected in 1131 (26.6%) patients and >/= 2 territories in 221 (5.2%). The total in-hospital mortality rate was 12.3% and the long-term incidence density was 3.5 deaths per 100 patient-years. A background of previous ischemic heart disease (odds ratio = 0.83; P = .35), peripheral arterial disease (odds ratio = 1.30; P=.34), or cerebrovascular disease (stroke) (odds ratio = 1.15; P = .59) was not independently predictive of in-hospital death. In an adjusted model, previous cerebrovascular disease and previous peripheral arterial disease were both predictors of mortality at long-term follow-up (hazard ratio = 1.57; P < .001; and hazard ratio = 1.34; P = .001; respectively). Patients with >/= 2 diseased vascular territories showed higher long-term mortality (hazard ratio = 2.35; P < .001), but not higher in-hospital mortality (odds ratio = 1.07; P = .844). CONCLUSIONS: In patients with a diagnosis of ST-segment elevation acute myocardial infarction, the previous vascular burden determines greater long-term mortality. Considered individually, previous cerebrovascular disease and peripheral arterial disease

were predictors of mortality at long-term after hospital discharge. Full English text available from: www.revespcardiol.org/en.

30. **ARTÍCULO Nº: 4401**

Roland M, Campbell S. ***Successes and failures of pay for performance in the United Kingdom.*** N.Engl.J.Med. 2014; 370(20): 1944-1949.

31. **ARTÍCULO Nº: 4402**

Biller-Andorno N, Juni P. ***Abolishing mammography screening programs? A view from the Swiss Medical Board.*** N.Engl.J.Med. 2014; 370(21): 1965-1967.

32. **ARTÍCULO Nº: 4403**

Liang TJ, Ghany MG. ***Therapy of hepatitis C--back to the future.*** N.Engl.J.Med. 2014; 370(21): 2043-2047.

33. **ARTÍCULO Nº: 4404**

Zimmermann C, Swami N, Krzyzanowska M, Hannon B, Leighl N, Oza A et al. ***Early palliative care for patients with advanced cancer: a cluster-randomised controlled trial.*** Lancet. 2014; 383(9930): 1721-1730.

BACKGROUND: Patients with advanced cancer have reduced quality of life, which tends to worsen towards the end of life. We assessed the effect of early palliative care in patients with advanced cancer on several aspects of quality of life. METHODS: The study took place at the Princess Margaret Cancer Centre (Toronto, ON, Canada), between Dec 1, 2006, and Feb 28, 2011. 24 medical oncology clinics were cluster randomised (in a 1:1 ratio, using a computer-generated sequence, stratified by clinic size and tumour site [four lung, eight gastrointestinal, four genitourinary, six breast, two gynaecological]), to consultation and follow-up (at least monthly) by a palliative care team or to standard cancer care. Complete masking of interventions was not possible; however, patients provided written informed consent to participate in their own study group, without being informed of the existence of another group. Eligible patients had advanced cancer, European Cooperative Oncology Group performance status of 0-2, and a clinical prognosis of 6-24 months. Quality of life (Functional Assessment of Chronic Illness Therapy--Spiritual Well-Being [FACIT-Sp] scale and Quality of Life at the End of Life [QUAL-E] scale), symptom severity (Edmonton Symptom Assessment System [ESAS]), satisfaction with care (FAMCARE-P16), and problems with medical interactions (Cancer Rehabilitation Evaluation System Medical Interaction Subscale [CARES-MIS]) were measured at baseline and monthly for 4 months. The primary outcome was change score for FACIT-Sp at 3 months. Secondary endpoints included change score for FACIT-Sp at 4 months and change scores for other scales at 3 and 4 months. This trial is registered with ClinicalTrials.gov, number NCT01248624. FINDINGS: 461 patients completed baseline measures (228 intervention, 233 control); 393 completed at least one follow-up assessment. At 3-months, there was a non-significant difference in change score for FACIT-Sp between intervention and control groups (3.56 points [95% CI -0.27 to 7.40], p=0.07), a significant difference in QUAL-E (2.25 [0.01 to 4.49], p=0.05) and FAMCARE-P16 (3.79 [1.74 to 5.85], p=0.0003), and no difference in ESAS (-1.70 [-5.26 to 1.87], p=0.33) or CARES-MIS (-0.66 [-2.25 to 0.94], p=0.40). At 4 months, there were significant differences in change scores for all outcomes except CARES-MIS. All differences favoured the intervention group. INTERPRETATION: Although the difference in quality of life was non-significant at the primary endpoint, this trial shows promising findings that support early palliative care for patients with advanced cancer. FUNDING: Canadian Cancer Society, Ontario Ministry of Health and Long Term Care.

34. **ARTÍCULO Nº: 4405**

Aiken LH, Sloane DM, Bruyneel L, Van den HK, Griffiths P, Busse R et al. ***Nurse staffing and education and hospital mortality in nine European countries: a retrospective observational study***. Lancet. 2014; 383(9931): 1824-1830.

BACKGROUND: Austerity measures and health-system redesign to minimise hospital expenditures risk adversely affecting patient outcomes. The RN4CAST study was designed to inform decision making about nursing, one of the largest components of hospital operating expenses. We aimed to assess whether differences in patient to nurse ratios and nurses' educational qualifications in nine of the 12 RN4CAST countries with similar patient discharge data were associated with variation in hospital mortality after common surgical procedures. METHODS: For this observational study, we obtained discharge data for 422,730 patients aged 50 years or older who underwent common surgeries in 300 hospitals in nine European countries. Administrative data were coded with a standard protocol (variants of the ninth or tenth versions of the International Classification of Diseases) to estimate 30 day in-hospital mortality by use of risk adjustment measures including age, sex, admission type, 43 dummy variables suggesting surgery type, and 17 dummy variables suggesting comorbidities present at admission. Surveys of 26,516 nurses practising in study hospitals were used to measure nurse staffing and nurse education. We used generalised estimating equations to assess the effects of nursing factors on the likelihood of surgical patients dying within 30 days of admission, before and after adjusting for other hospital and patient characteristics. FINDINGS: An increase in a nurses' workload by one patient increased the likelihood of an inpatient dying within 30 days of admission by 7% (odds ratio 1.068, 95% CI 1.031-1.106), and every 10% increase in bachelor's degree nurses was associated with a decrease in this likelihood by 7% (0.929, 0.886-0.973). These associations imply that patients in hospitals in which 60% of nurses had bachelor's degrees and nurses cared for an average of six patients would have almost 30% lower mortality than patients in hospitals in which only 30% of nurses had bachelor's degrees and nurses cared for an average of eight patients. INTERPRETATION: Nurse staffing cuts to save money might adversely affect patient outcomes. An increased emphasis on bachelor's education for nurses could reduce preventable hospital deaths. FUNDING: European Union's Seventh Framework Programme, National Institute of Nursing Research, National Institutes of Health, the Norwegian Nurses Organisation and the Norwegian Knowledge Centre for the Health Services, Swedish Association of Health Professionals, the regional agreement on medical training and clinical research between Stockholm County Council and Karolinska Institutet, Committee for Health and Caring Sciences and Strategic Research Program in Care Sciences at Karolinska Institutet, Spanish Ministry of Science and Innovation.

35. **ARTÍCULO Nº: 4406**

Ortiz A, Covic A, Fliser D, Fouque D, Goldsmith D, Kanbay M et al. ***Epidemiology, contributors to, and clinical trials of mortality risk in chronic kidney failure***. Lancet. 2014; 383(9931): 1831-1843.

Patients with chronic kidney failure--defined as a glomerular filtration rate persistently below 15 mL/min per 1.73 m(2)--have an unacceptably high mortality rate. In developing countries, mortality results primarily from an absence of access to renal replacement therapy. Additionally, cardiovascular and non-cardiovascular mortality are several times higher in patients on dialysis or post-renal transplantation than in the general population. Mortality of patients on renal replacement therapy is affected by a combination of socioeconomic factors, pre-existing medical disorders, renal replacement treatment modalities, and kidney failure itself. Characterisation of the key pathophysiological contributors to increased mortality and cardiorenal risk staging systems are needed for the rational design of clinical trials aimed at decreasing mortality. Policy changes to improve access to renal

replacement therapy should be combined with research into low-cost renal replacement therapy and optimum clinical care, which should include multifaceted approaches simultaneously targeting several of the putative contributors to increased mortality.

36. **ARTÍCULO Nº: 4407**

Rapsomaniki E, Timmis A, George J, Pujades-Rodriguez M, Shah AD, Denaxas S et al. ***Blood pressure and incidence of twelve cardiovascular diseases: lifetime risks, healthy life-years lost, and age-specific associations in 1.25 million people.*** Lancet. 2014; 383(9932): 1899-1911.

BACKGROUND: The associations of blood pressure with the different manifestations of incident cardiovascular disease in a contemporary population have not been compared. In this study, we aimed to analyse the associations of blood pressure with 12 different presentations of cardiovascular disease. METHODS: We used linked electronic health records from 1997 to 2010 in the CALIBER (CArdiovascular research using LInked Bespoke studies and Electronic health Records) programme to assemble a cohort of 1.25 million patients, 30 years of age or older and initially free from cardiovascular disease, a fifth of whom received blood pressure-lowering treatments. We studied the heterogeneity in the age-specific associations of clinically measured blood pressure with 12 acute and chronic cardiovascular diseases, and estimated the lifetime risks (up to 95 years of age) and cardiovascular disease-free life-years lost adjusted for other risk factors at index ages 30, 60, and 80 years. This study is registered at ClinicalTrials.gov, number NCT01164371. FINDINGS: During 5.2 years median follow-up, we recorded 83,098 initial cardiovascular disease presentations. In each age group, the lowest risk for cardiovascular disease was in people with systolic blood pressure of 90-114 mm Hg and diastolic blood pressure of 60-74 mm Hg, with no evidence of a J-shaped increased risk at lower blood pressures. The effect of high blood pressure varied by cardiovascular disease endpoint, from strongly positive to no effect. Associations with high systolic blood pressure were strongest for intracerebral haemorrhage (hazard ratio 1.44 [95% CI 1.32-1.58]), subarachnoid haemorrhage (1.43 [1.25-1.63]), and stable angina (1.41 [1.36-1.46]), and weakest for abdominal aortic aneurysm (1.08 [1.00-1.17]). Compared with diastolic blood pressure, raised systolic blood pressure had a greater effect on angina, myocardial infarction, and peripheral arterial disease, whereas raised diastolic blood pressure had a greater effect on abdominal aortic aneurysm than did raised systolic pressure. Pulse pressure associations were inverse for abdominal aortic aneurysm (HR per 10 mm Hg 0.91 [95% CI 0.86-0.98]) and strongest for peripheral arterial disease (1.23 [1.20-1.27]). People with hypertension (blood pressure >/=140/90 mm Hg or those receiving blood pressure-lowering drugs) had a lifetime risk of overall cardiovascular disease at 30 years of age of 63.3% (95% CI 62.9-63.8) compared with 46.1% (45.5-46.8) for those with normal blood pressure, and developed cardiovascular disease 5.0 years earlier (95% CI 4.8-5.2). Stable and unstable angina accounted for most (43%) of the cardiovascular disease-free years of life lost associated with hypertension from index age 30 years, whereas heart failure and stable angina accounted for the largest proportion (19% each) of years of life lost from index age 80 years. INTERPRETATION: The widely held assumptions that blood pressure has strong associations with the occurrence of all cardiovascular diseases across a wide age range, and that diastolic and systolic associations are concordant, are not supported by the findings of this high-resolution study. Despite modern treatments, the lifetime burden of hypertension is substantial. These findings emphasise the need for new blood pressure-lowering strategies, and will help to inform the design of randomised trials to assess them. FUNDING: Medical Research Council, National Institute for Health Research, and Wellcome Trust.

37. **ARTÍCULO Nº: 4408**

Falaschetti E, Mindell J, Knott C, Poulter N. ***Hypertension management in England: a serial cross-sectional study from 1994 to 2011***. Lancet. 2014; 383(9932): 1912-1919.

BACKGROUND: Hypertension is the leading risk factor contributing to the global burden of disease. We aimed to assess the change in blood pressure management between 1994 and 2011 in England with a series of annual surveys. METHODS: We did a serial cross-sectional study of five Health Survey for England surveys based on nationally representative samples of non-institutionalised adults (aged >/=16 years). Mean blood pressure levels and rates of awareness, treatment, and control of hypertension were assessed. Hypertension was defined as systolic blood pressure 140 mm Hg or higher, diastolic blood pressure 90 mm Hg or higher, or receiving treatment for high blood pressure. FINDINGS: The mean blood pressure levels of men and women in the general population and among patients with treated hypertension progressively improved between 1994 and 2011. In patients with treated hypertension, blood pressure improved from 150.0 (SE 0.59)/80.2 (0.27) mm Hg to 135.4 (0.58)/73.5 (0.41) mm Hg. Awareness, treatment, and control rates among men and women combined also improved significantly across each stage of this 17-year period, with the prevalence of control among treated patients almost doubling from 33% (SE 1.4) in 1994 to 63% (1.7) in 2011. Nevertheless, of all adults with survey-defined hypertension in 2011, hypertension was controlled in only 37%. INTERPRETATION: If the same systematic improvement in all aspects of hypertension management continues until 2022, 80% of patients with treated hypertension will have controlled blood pressure levels with a potential annual saving of about 50,000 major cardiovascular events. FUNDING: None.

38. **ARTÍCULO Nº: 4409**

Peters SA, Huxley RR, Woodward M. ***Diabetes as a risk factor for stroke in women compared with men: a systematic review and meta-analysis of 64 cohorts, including 775,385 individuals and 12,539 strokes*** . Lancet. 2014; 383(9933): 1973-1980.

BACKGROUND: Diabetes mellitus is a major cause of death and disability worldwide and is a strong risk factor for stroke. Whether and to what extent the excess risk of stroke conferred by diabetes differs between the sexes is unknown. We did a systematic review and meta-analysis to estimate the relative effect of diabetes on stroke risk in women compared with men. METHODS: We systematically searched PubMed for reports of prospective, population-based cohort studies published between Jan 1, 1966, and Dec 16, 2013. Studies were selected if they reported sex-specific estimates of the relative risk (RR) for stroke associated with diabetes, and its associated variability. We pooled the sex-specific RRs and their ratio comparing women with men using random-effects meta-analysis with inverse-variance weighting. FINDINGS: Data from 64 cohort studies, representing 775,385 individuals and 12,539 fatal and non-fatal strokes, were included in the analysis. The pooled maximum-adjusted RR of stroke associated with diabetes was 2.28 (95% CI 1.93-2.69) in women and 1.83 (1.60-2.08) in men. Compared with men with diabetes, women with diabetes therefore had a greater risk of stroke--the pooled ratio of RRs was 1.27 (1.10-1.46; I(2)=0%), with no evidence of publication bias. This sex differential was seen consistently across major predefined stroke, participant, and study subtypes. INTERPRETATION: The excess risk of stroke associated with diabetes is significantly higher in women than men, independent of sex differences in other major cardiovascular risk factors. These data add to the existing evidence that men and women experience diabetes-related diseases differently and suggest the need for further work to clarify the biological, behavioural, or social mechanisms involved. FUNDING: None.

39. **ARTÍCULO Nº: 4410**

Ley SH, Hamdy O, Mohan V, Hu FB. ***Prevention and management of type 2 diabetes: dietary components and nutritional strategies***. Lancet. 2014; 383(9933): 1999-2007.

In the past couple of decades, evidence from prospective observational studies and clinical trials has converged to support the importance of individual nutrients, foods, and dietary patterns in the prevention and management of type 2 diabetes. The quality of dietary fats and carbohydrates consumed is more crucial than is the quantity of these macronutrients. Diets rich in wholegrains, fruits, vegetables, legumes, and nuts; moderate in alcohol consumption; and lower in refined grains, red or processed meats, and sugar-sweetened beverages have been shown to reduce the risk of diabetes and improve glycaemic control and blood lipids in patients with diabetes. With an emphasis on overall diet quality, several dietary patterns such as Mediterranean, low glycaemic index, moderately low carbohydrate, and vegetarian diets can be tailored to personal and cultural food preferences and appropriate calorie needs for weight control and diabetes prevention and management. Although much progress has been made in development and implementation of evidence-based nutrition recommendations in developed countries, concerted worldwide efforts and policies are warranted to alleviate regional disparities.

40. **ARTÍCULO Nº: 4411**

Holman RR, Sourij H, Califf RM. ***Cardiovascular outcome trials of glucose-lowering drugs or strategies in type 2 diabetes*** . Lancet. 2014; 383(9933): 2008-2017.

Few trials of glucose-lowering drugs or strategies in people with type 2 diabetes have investigated cardiovascular outcomes, even though most patients die from cardiovascular causes despite the beneficial effects of lipid-reducing and blood pressure-lowering treatments. The evidence-based reduction in risk of microvascular disease with glucose lowering has resulted in guidelines worldwide recommending optimisation of glycosylated haemoglobin, but no trial results have shown unequivocal cardiovascular risk reduction with glucose lowering. However, results of the post-trial follow-up of the UK Prospective Diabetes Study, and of a meta-analysis of the four glucose-lowering outcome trials completed to date, suggest about a 15% cardiovascular relative risk reduction per 1% decrement in HbA1c. The 2008 US Food and Drug Administration industry guidance for licensing of antidiabetic drugs greatly increased the number of cardiovascular outcome trials in diabetes, but most trials opted for non-inferiority designs aiming primarily to show absence of cardiovascular toxicity in the shortest possible time. This unintended consequence of the new regulations has meant that the potential long-term benefits, and the possible risks of new therapies, are not being assessed effectively. Also, essential head-to-head trials of therapies for this complex progressive disease, to answer issues such as how best to achieve and maintain optimum glycaemia without promoting weight gain or hypoglycaemia, are not being undertaken. In this Series paper, we summarise randomised controlled cardiovascular outcome trials in type 2 diabetes, provide an overview of ongoing trials and their limitations, and speculate on how future trials could be made more efficient and effective.

41. **ARTÍCULO Nº: 4412**

Black N, Varaganum M, Hutchings A. ***Relationship between patient reported experience (PREMs) and patient reported outcomes (PROMs) in elective surgery***. BMJ Qual.Saf. 2014; 23(7): 534-542.

OBJECTIVE: Our aim was to see if the reporting of better experiences by elective surgical patients was associated with better outcomes (effectiveness and safety). The objectives were to: describe the distribution of experience scores and any association with patients' characteristics; determine the

relationship of experience with effectiveness and with safety; and explore the influence of patient characteristics, year and provider on the relationship between experience and effectiveness. METHODS: Patients undergoing one of three procedures from 2010 to 2012 in England who completed a patient reported outcome measure (PROM) questionnaire before and after surgery and a patient reported experience measure (PREM) questionnaire. Data on 4089 hip replacement patients, 4501 knee replacements and 1793 groin hernia repairs. Regression analysis was used to examine associations between disease-specific and generic PROMs and PREMs. RESULTS: There was a weak positive association between experience and effectiveness for all three procedures (correlation coefficient with disease-specific PROMs for hip and knee replacements 0.2 and with EQ-5D 0.1 for all three procedures). The aspect of experience most strongly associated with a better outcome was the level of communication with and trust in their doctor. A higher experience score of 1 SD (about 1.5 on a 10-point scale) was associated with about 30% less likelihood of the patient reporting a complication. There was no difference between the eight dimensions of experience. All the relationships observed were consistent over time, between different types of patients (age, sex, socioeconomic status) and between providers. CONCLUSIONS: Patients distinguish between the three domains of quality when reporting their experience and outcome. If the weak positive associations between domains were shown to be causal, there would be implications for maximising performance measures for providers.

42. **ARTÍCULO Nº: 4413**

Berger Z, Flickinger TE, Pfoh E, Martinez KA, Dy SM. ***Promoting engagement by patients and families to reduce adverse events in acute care settings: a systematic review***. BMJ Qual.Saf. 2014; 23(7): 548-555.

INTRODUCTION: Patient-centeredness is central to healthcare. Hospitals should address patients' unique needs to improve safety and quality. Patient engagement in healthcare, which may help prevent adverse events, can be approached as an independent patient safety practice (PSP) or as part of a multifactorial PSP. OBJECTIVES: This review examines how interventions encouraging this engagement have been implemented in controlled trials. METHODS: We searched Medline, CINAHL, Embase and Cochrane from 2000 to 2012 for English language studies in hospital settings with prospective controlled designs, addressing the effectiveness or implementation of patient/family engagement in PSPs. We separately reviewed interventions implemented as part of selected broader PSPs by way of example: hand hygiene, ventilator-associated pneumonia, rapid response systems and care transitions. RESULTS: Six articles met the inclusion criteria for effectiveness with a primary focus on patient engagement. We identified 12 studies implementing patient engagement as an aspect of selected broader PSPs. A number of studies relied on patients' possible function as a reporter of error to healthcare workers and patients as a source of reminders regarding safety behaviours, while others relied on direct activation of patients or families. Definitions of patient and family engagement were lacking, as well as evidence regarding the types of patients who might feel comfortable engaging with providers, and in what contexts. CONCLUSIONS: While patient engagement in safety is appealing, there is insufficient high-quality evidence informing real-world implementation. Further work should evaluate the effectiveness of interventions on patient and family engagement and clarify the added benefit of incorporating engagement in multifaceted approaches to improve patient safety endpoints. In addition, strategies to assess and overcome barriers to patients' willingness to actively engage in their care should be investigated.

43. **ARTÍCULO Nº: 4414**

Maggard-Gibbons M. ***The use of report cards and outcome measurements to improve the safety of surgical care: the American College of Surgeons National Surgical Quality Improvement Program***. BMJ Qual.Saf. 2014; 23(7): 589-599.

Postoperative adverse events occur all too commonly and contribute greatly to our large and increasing healthcare costs. Surgeons, as well as hospitals, need to know their own outcomes in order to recognise areas that need improvement before they can work towards reducing complications. In the USA, the American College of Surgeons National Surgical Quality Improvement Project (ACS NSQIP) collects clinical data that provide benchmarks for providers and hospitals. This review summarises the history of ACS NSQIP and its components, and describes the evidence that feeding outcomes back to providers, along with real-time comparisons with other hospital rates, leads to quality improvement, better patient outcomes, cost savings and overall improved patient safety. The potential harms and limitations of the program are discussed.

44. **ARTÍCULO Nº: 4415**

Mitchell AJ, Bird V, Rizzo M, Hussain S, Meader N. ***Accuracy of one or two simple questions to identify alcohol-use disorder in primary care: a meta-analysis***. Br.J.Gen.Pract. 2014; 64(624): e408-e418.

BACKGROUND: There is much interest in ultra-short alcohol screening in primary care that may support brief alcohol interventions. Brief screening consisting of one or two questions might be used alone or in combination with longer tests as recommended by the Primary Care Service Framework. AIM: To investigate whether a simple one and two question screening might prove an accurate and acceptable screening method in primary care. DESIGN AND SETTING: A systematic literature search, critical appraisal and meta-analysis were conducted. METHOD: A comprehensive search identified 61 analyses of single questions to detect alcohol problems including 17 that took place in primary care, using a robust interview standard. Despite focusing alcohol-use disorder in primary care settings, heterogeneity remained high, therefore random effects and bivariate meta-analyses were used. RESULTS: After adjustments, diagnostic accuracy of a single-question approach was given by a sensitivity of 54.5% (95% CI = 43.0% to 65.5%) and a specificity of 87.3% (95% CI = 81.5% to 91.5%) using meta-analytic weighting. Two questions had a sensitivity of 87.2% (95% CI = 69.9% to 97.7%) and specificity of 79.8% (95% CI = 75.7% to 83.6%). Looking at each question individually, the most successful single question was a modification of the Single Alcohol Screening Question (SASQ) namely, 'How often do you have six or more drinks on one occasion?'. The optimal approach appears to be two questions followed by the CAGE questionnaire, which achieved an overall accuracy of 90.9% and required only 3.3 questions per attendee. CONCLUSION: Two brief questions can be used as an initial screen for alcohol problems but only when combined with a second-step screen. A brief alcohol intervention should be considered in those individuals who answer positively on both steps.

45. **ARTÍCULO Nº: 4416**

Fontana M, Asaria P, Moraldo M, Finegold J, Hassanally K, Manisty CH et al. ***Patient-accessible tool for shared decision making in cardiovascular primary prevention: balancing longevity benefits against medication disutility***. Circulation. 2014; 129(24): 2539-2546.

BACKGROUND: Primary prevention guidelines focus on risk, often assuming negligible aversion to medication, yet most patients discontinue primary prevention statins within 3 years. We quantify real-world distribution of medication disutility and separately calculate the average utilities for a range of risk strata. METHOD AND RESULTS: We randomly sampled 360 members of the general public in

London. Medication aversion was quantified as the gain in lifespan required by each individual to offset the inconvenience (disutility) of taking an idealized daily preventative tablet. In parallel, we constructed tables of expected gain in lifespan (utility) from initiating statin therapy for each age group, sex, and cardiovascular risk profile in the population. This allowed comparison of the widths of the distributions of medication disutility and of group-average expectation of longevity gain. Observed medication disutility ranged from 1 day to >10 years of life being required by subjects (median, 6 months; interquartile range, 1-36 months) to make daily preventative therapy worthwhile. Average expected longevity benefit from statins at ages >/=50 years ranges from 3.6 months (low-risk women) to 24.3 months (high-risk men). CONCLUSION: We can no longer assume that medication disutility is almost zero. Over one-quarter of subjects had disutility exceeding the group-average longevity gain from statins expected even for the highest-risk (ie, highest-gain) group. Future primary prevention studies might explore medication disutility in larger populations. Patients may differ more in disutility than in prospectively definable utility (which provides only group-average estimates). Consultations could be enriched by assessing disutility and exploring its reasons.

46. **ARTÍCULO Nº: 4417**

Sanborn TA, Tcheng JE, Anderson HV, Chambers CE, Cheatham SL, DeCaro MV et al. ***ACC/AHA/SCAI 2014 health policy statement on structured reporting for the cardiac catheterization laboratory: a report of the American College of Cardiology Clinical Quality Committee.*** Circulation. 2014; 129(24): 2578-2609.

47. **ARTÍCULO Nº: 4418**

Dehmer GJ, Blankenship JC, Cilingiroglu M, Dwyer JG, Feldman DN, Gardner TJ et al. ***SCAI/ACC/AHA expert consensus document: 2014 update on percutaneous coronary intervention without on-site surgical backup.*** Circulation. 2014; 129(24): 2610-2626.

48. **ARTÍCULO Nº: 4419**

Hilligoss B, Moffatt-Bruce SD. ***The limits of checklists: handoff and narrative thinking.*** BMJ Qual.Saf. 2014; 23(7): 528-533.

Concerns about the role of communication failures in adverse events coupled with the success of checklists in addressing safety hazards have engendered a movement to apply structured tools to a wide variety of clinical communication practices. While standardised, structured approaches are appropriate for certain activities, their usefulness diminishes considerably for practices that entail constructing rich understandings of complex situations and the handling of ambiguities and unpredictable variation. Drawing on a prominent social science theory of cognition, this article distinguishes between two radically different modes of human thought, each with its own strengths and weaknesses. The paradigmatic mode organises context-free knowledge into categorical hierarchies that emphasise member-to-category relations in order to apply universal truth conditions. The narrative mode, on the other hand, organises context-sensitive knowledge into temporal plots that emphasise part-to-whole relations in order to develop meaningful, holistic understandings of particular events or identities. Both modes are crucial to human cognition but are appropriate responses for different kinds of tasks and situations. Many communication-intensive practices in which patient cases are communicated, such as handoffs, rely heavily on the narrative mode, yet most interventions assume the paradigmatic mode. Improving the safety and effectiveness of these practices, therefore, necessitates greater attention to narrative thinking.

49. **ARTÍCULO Nº: 4420**

Hickerton BC, Fitzgerald DJ, Perry E, De Bolla AR. ***The interpretability of doctor identification badges in UK hospitals: a survey of nurses and patients***. BMJ Qual.Saf. 2014; 23(7): 543-547.

INTRODUCTION: Hospital badges have multiple important purposes, but their essential role remains the clear identification of the bearer, including their professional status. The modernisation of medical careers in the National Health Service has changed terminology dramatically, resulting in a plethora of new job titles emerging among both doctors and nurses. OBJECTIVE: To determine whether the new or old terminology allowed clearer identification of medical doctors by patients and nurses. METHOD: We replicated 11 identification badges used in the Royal Cornwall Hospital and Wrexham Maelor Hospital, both current and before the introduction of new medical training terminology. Data were collected from 114 patients and 67 nurses, by asking them to (1) identify which name badges represented doctors and (2) rank them in order of seniority. RESULTS: Only 11% of patients and 60% of nurses identified a 'Foundation Year 1 Trainee' as a qualified medical doctor. Indeed, only 'General Practice Vocational Trainee' and 'Consultant' were both readily identifiable as qualified doctors to both patients and nurses. Ranking was also a problem, with only 19% of patients and 45% of nurses able to correctly grade medical doctors using the current terminology. The old terminology allowed more accurate identification by nurses, with over 80% successfully ranking and marking the title appropriately. CONCLUSIONS: Current terminology is a source of confusion to both patients and members of the immediate medical care team, with nurses unable to correctly identify medical doctors. Our study indicates that a review of terminology is necessary to ensure patients, and staff, are able to communicate effectively.

50. **ARTÍCULO Nº: 4421**

McEachan RR, Lawton RJ, O'Hara JK, Armitage G, Giles S, Parveen S et al. ***Developing a reliable and valid patient measure of safety in hospitals (PMOS): a validation study***. BMJ Qual.Saf. 2014; 23(7): 565-573.

INTRODUCTION: Patients represent an important and as yet untapped source of information about the factors that contribute to the safety of their care. The aim of the current study is to test the reliability and validity of the Patient Measure of Safety (PMOS), a brief patient-completed questionnaire that allows hospitals to proactively identify areas of safety concern and vulnerability, and to intervene before incidents occur. METHODS: 297 patients from 11 hospital wards completed the PMOS questionnaire during their stay; 25 completed a second 1 week later. The Agency for Healthcare Research and Quality (AHRQ) safety culture survey was completed by 190 staff on 10 of these wards. Factor structure, internal reliability, test-retest reliability, discriminant validity and convergent validity were assessed. RESULTS: Factor analyses revealed 8 key domains of safety (eg, communication and team work, access to resources, staff roles and responsibilities) explaining 58% variance of the original questionnaire. Cronbach's alpha (range 0.66-0.89) and test-retest reliability (r=0.75) were good. The PMOS positive index significantly correlated with staff reported 'perceptions of patient safety' (r=0.79) and 'patient safety grade' (r=-0.81) outcomes from the AHRQ (demonstrating convergent validity). A multivariate analysis of variance (MAMOVA) revealed that three PMOS factors and one retained single item discriminated significantly across the 11 wards. DISCUSSION: The PMOS is the first patient questionnaire used to assess factors contributing to safety in hospital settings from a patient perspective. It has demonstrated acceptable reliability and validity. Such information is useful to help hospitals/units proactively improve the safety of their care.

51. **ARTÍCULO Nº: 4422**

Robertson ER, Morgan L, Bird S, Catchpole K, McCulloch P. ***Interventions employed to improve intrahospital handover: a systematic review***. BMJ Qual.Saf. 2014; 23(7): 600-607.

BACKGROUND: Modern medical care requires numerous patient handovers/handoffs. Handover error is recognised as a potential hazard in patient care, and the information error rate has been estimated at 13%. While accurate, reliable handover is essential to high quality care, uncertainty exists as to how intrahospital handover can be improved. This systematic review aims to evaluate the effectiveness of interventions aimed at improving the quality and/or safety of the intrahospital handover process. METHODS: We searched for articles on handover improvement interventions in EMBASE, MEDLINE, HMIC and CINAHL between January 2002 and July 2012. We considered studies of: staff knowledge and skills, staff behavioural change, process change or patient outcomes. RESULTS: 631 potentially relevant papers were identified from which 29 papers were selected for inclusion (two randomised controlled trials and 27 uncontrolled studies). Most studies addressed shift-change handover and used a median of three outcome measures, but there was no outcome measure common to all. Poor study design and inconsistent reporting methods made it difficult to reach definite conclusions. Information transfer was improved in most relevant studies, while clinical outcome improvement was reported in only two of 10 studies. No difference was noted in the likelihood of success across four types of intervention. CONCLUSIONS: The current literature does not confirm that any methodology reliably improves the outcomes of clinical handover, although information transfer may be increased. Better study designs and consistency of the terminology used to describe handover and its improvement are urgently required.

52. **ARTÍCULO Nº: 4423**

Lambert LJ, Brown KA, Boothroyd LJ, Segal E, Maire S, Kouz S et al. ***Transfer of patients with ST-elevation myocardial infarction for primary percutaneous coronary intervention: a province-wide evaluation of "door-in to door-out" delays at the first hospital***. Circulation. 2014; 129(25): 2653-2660.

BACKGROUND: Interhospital transfer of patients with ST-elevation myocardial infarction (STEMI) for primary percutaneous coronary intervention (PPCI) is associated with longer delays to reperfusion, related in part to turnaround ("door in" to "door out," or DIDO) time at the initial hospital. As part of a systematic, province-wide evaluation of STEMI care, we examined DIDO times and associations with patient, hospital, and process-of-care factors. METHODS AND RESULTS: We performed medical chart review for STEMI patients transferred for PPCI during a 6-month period (October 1, 2008, through March 31, 2009) and linked these data to ambulance service databases. Two core laboratory cardiologists reviewed presenting ECGs to identify left bundle-branch block and, in the absence of left bundle-branch block, definite STEMI (according to both cardiologists) or an ambiguous reading. Median DIDO time was 51 minutes (25th to 75th percentile: 35-82 minutes); 14.1% of the 988 patients had a timely DIDO interval (</=30 minutes as recommended by guidelines). The data-to-decision delay was the major contributor to DIDO time. Female sex, more comorbidities, longer symptom duration, arrival by means other than ambulance, arrival at a hospital not exclusively transferring for PPCI, arrival at a center with a low STEMI volume, and an ambiguous ECG were independently associated with longer DIDO time. When turnaround was timely, 70% of patients received timely PPCI (door-to-device time </=90 minutes) versus 14% if turnaround was not timely (P<0.0001). CONCLUSIONS: Benchmark DIDO times for STEMI patients transferred for PPCI were rarely achieved. Interventions aimed at facilitating the transfer decision, particularly in cases of ECGs that are difficult to interpret, are likely to have the best impact on reducing delay to reperfusion.

53. **ARTÍCULO Nº: 4424**

Stone NJ, Robinson JG, Lichtenstein AH, Bairey Merz CN, Blum CB, Eckel RH et al. ***2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines***. Circulation. 2014; 129(25 Suppl 2): S1-45.

54. **ARTÍCULO Nº: 4425**

Correction: 2013 ACC/AHA guideline on the treatment of blood cholesterol to reduce atherosclerotic cardiovascular risk in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation. 2014; 129(25 Suppl 2): s46-s48.

55. **ARTÍCULO Nº: 4426**

Goff DC, Jr., Lloyd-Jones DM, Bennett G, Coady S, D'Agostino RB, Gibbons R et al. ***2013 ACC/AHA guideline on the assessment of cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines***. Circulation. 2014; 129(25 Suppl 2): S49-S73.

56. **ARTÍCULO Nº: 4427**

Correction: 2013 ACC/AHA guideline on the assessment of cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation. 2014; 129(25 Suppl 2): s74-s75.

57. **ARTÍCULO Nº: 4428**

Eckel RH, Jakicic JM, Ard JD, de Jesus JM, Houston MN, Hubbard VS et al. ***2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines***. Circulation. 2014; 129(25 Suppl 2): S76-S99.

58. **ARTÍCULO Nº: 4429**

Correction: 2013 AHA/ACC guideline on lifestyle management to reduce cardiovascular risk: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines. Circulation. 2014; 129(25 Suppl 2): S100-S101.

59. **ARTÍCULO Nº: 4430**

Jensen MD, Ryan DH, Apovian CM, Ard JD, Comuzzie AG, Donato KA et al. ***2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society***. Circulation. 2014; 129(25 Suppl 2): S102-S138.

60. **ARTÍCULO Nº: 4431**

Correction: 2013 AHA/ACC/TOS guideline for the management of overweight and obesity in adults: a report of the American College of Cardiology/American Heart Association Task Force on Practice Guidelines and The Obesity Society. Circulation. 2014; 129(25 Suppl 2): S139-S140.

61. **ARTÍCULO Nº: 4432**

Neuman MD, Rosenbaum PR, Ludwig JM, Zubizarreta JR, Silber JH. ***Anesthesia technique, mortality, and length of stay after hip fracture surgery***. JAMA. 2014; 311(24): 2508-2517.

IMPORTANCE: More than 300,000 hip fractures occur each year in the United States. Recent practice guidelines have advocated greater use of regional anesthesia for hip fracture surgery. OBJECTIVE: To test the association of regional (ie, spinal or epidural) anesthesia vs general anesthesia with 30-day mortality and hospital length of stay after hip fracture. DESIGN, SETTING, AND PATIENTS: We conducted a matched retrospective cohort study involving patients 50 years or older who were undergoing surgery for hip fracture at general acute care hospitals in New York State between July 1, 2004, and December 31, 2011. Our main analysis was a near-far instrumental variable match that paired patients who lived at different distances from hospitals that specialized in regional or general anesthesia. Supplementary analyses included a within-hospital match that paired patients within the same hospital and an across-hospital match that paired patients at different hospitals. EXPOSURES: Spinal or epidural anesthesia; general anesthesia. MAIN OUTCOMES AND MEASURES: Thirty-day mortality and hospital length of stay. Because the distribution of length of stay had long tails, we characterized this outcome using the Huber M estimate with Huber weights, a robust estimator similar to a trimmed mean. RESULTS: Of 56,729 patients, 15,904 (28%) received regional anesthesia and 40,825 (72%) received general anesthesia. Overall, 3032 patients (5.3%) died. The M estimate of the length of stay was 6.2 days (95% CI, 6.2 to 6.2). The near-far matched analysis showed no significant difference in 30-day mortality by anesthesia type among the 21,514 patients included in this match: 583 of 10,757 matched patients (5.4%) who lived near a regional anesthesia-specialized hospital died vs 629 of 10,757 matched patients (5.8%) who lived near a general anesthesia-specialized hospital (instrumental variable estimate of risk difference, -1.1%; 95% CI, -2.8 to 0.5; P = .20). Supplementary analyses of within and across hospital patient matches yielded mortality findings to be similar to the main analysis. In the near-far match, regional anesthesia was associated with a 0.6-day shorter length of stay than general anesthesia (95% CI, -0.8 to -0.4, P < .001). Supplementary analyses also showed regional anesthesia to be associated with shorter length of stay, although the observed association was smaller in magnitude than in the main analysis. CONCLUSIONS AND RELEVANCE: Among adults in acute care hospitals in New York State undergoing hip repair, the use of regional anesthesia compared with general anesthesia was not associated with lower 30-day mortality but was associated with a modestly shorter length of stay. These findings do not support a mortality benefit for regional anesthesia in this setting.

62. **ARTÍCULO Nº: 4433**

Livingston EH. ***Introducing the JAMA Guide to statics and methods***. JAMA. 2014; 312(1): 35

63. **ARTÍCULO Nº: 4434**

Detry MA, Lewis RJ. ***The intention-to-treat principle: how to assess the true effect of choosing a medical treatment***. JAMA. 2014; 312(1): 85-86.

64. **ARTÍCULO Nº: 4435**

Murad MH, Montori VM, Ioannidis JP, Jaeschke R, Devereaux PJ, Prasad K et al. ***How to read a systematic review and meta-analysis and apply the results to patient care: users' guides to the medical literature***. JAMA. 2014; 312(2): 171-179.

Clinical decisions should be based on the totality of the best evidence and not the results of individual studies. When clinicians apply the results of a systematic review or meta-analysis to patient care, they should start by evaluating the credibility of the methods of the systematic review, ie, the extent to which these methods have likely protected against misleading results. Credibility depends on whether the review addressed a sensible clinical question; included an exhaustive literature search; demonstrated reproducibility of the selection and assessment of studies; and presented results in a

useful manner. For reviews that are sufficiently credible, clinicians must decide on the degree of confidence in the estimates that the evidence warrants (quality of evidence). Confidence depends on the risk of bias in the body of evidence; the precision and consistency of the results; whether the results directly apply to the patient of interest; and the likelihood of reporting bias. Shared decision making requires understanding of the estimates of magnitude of beneficial and harmful effects, and confidence in those estimates.

65. **ARTÍCULO Nº: 4436**

Stokes L. ***Sample size calculation for a hypothesis test***. JAMA. 2014; 312(2): 180-181.

66. **ARTÍCULO Nº: 4437**

Bao W, Tobias DK, Bowers K, Chavarro J, Vaag A, Grunnet LG et al. ***Physical activity and sedentary behaviors associated with risk of progression from gestational diabetes mellitus to type 2 diabetes mellitus: a prospective cohort study***. JAMA Intern.Med. 2014; 174(7): 1047-1055.

IMPORTANCE: Women with a history of gestational diabetes mellitus (GDM) are at substantially increased risk of type 2 diabetes mellitus (T2DM). The identification of important modifiable factors could help prevent T2DM in this high-risk population. OBJECTIVE: To examine the role of physical activity and television watching and other sedentary behaviors, and changes in these behaviors in the progression from GDM to T2DM. DESIGN, SETTING, AND PARTICIPANTS: Prospective cohort study of 4554 women from the Nurses' Health Study II who had a history of GDM, as part of the ongoing Diabetes & Women's Health Study. These women were followed up from 1991 to 2007. EXPOSURES: Physical activity and television watching and other sedentary behaviors were assessed in 1991, 1997, 2001, and 2005. MAIN OUTCOMES AND MEASURE: Incident T2DM identified through self-report and confirmed by supplemental questionnaires. RESULTS: We documented 635 incident T2DM cases during 59,287 person-years of follow-up. Each 5-metabolic equivalent hours per week (MET-h/wk) increment of total physical activity, which is equivalent to 100 minutes per week of moderate-intensity physical activity, was related to a 9% lower risk of T2DM (adjusted relative risk [RR], 0.91; 95% CI, 0.88-0.94); this inverse association remained significant after additional adjustment for body mass index (BMI). Moreover, an increase in physical activity was associated with a lower risk of developing T2DM. Compared with women who maintained their total physical activity levels, women who increased their total physical activity levels by 7.5 MET-h/wk or more (equivalent to 150 minutes per week of moderate-intensity physical activity) had a 47% lower risk of T2DM (RR, 0.53; 95% CI, 0.38-0.75); the association remained significant after additional adjustment for BMI. The multivariable adjusted RRs (95% CIs) for T2DM associated with television watching of 0 to 5, 6 to 10, 11 to 20, and 20 or more hours per week were 1 (reference), 1.28 (1.04-1.59), 1.41 (1.11-1.79), and 1.77 (1.28-2.45), respectively (P value for trend <.001); additional adjustment for BMI attenuated the association. CONCLUSIONS AND RELEVANCE: Increasing physical activity may lower the risk of progression from GDM to T2DM. These findings suggest a hopeful message to women with a history of GDM, although they are at exceptionally high risk for T2DM, promoting an active lifestyle may lower the risk.

67. **ARTÍCULO Nº: 4438**

Schwartz AL, Landon BE, Elshaug AG, Chernew ME, McWilliams JM. ***Measuring low-value care in Medicare***. JAMA Intern.Med. 2014; 174(7): 1067-1076.

IMPORTANCE: Despite the importance of identifying and reducing wasteful health care use, few direct measures of overuse have been developed. Direct measures are appealing because they identify specific services to limit and can characterize low-value care even among the most efficient providers.

OBJECTIVES: To develop claims-based measures of low-value services, examine service use (and associated spending) detected by these measures in Medicare, and determine whether patterns of use are related across different types of low-value services. DESIGN, SETTING, AND PARTICIPANTS: Drawing from evidence-based lists of services that provide minimal clinical benefit, we developed 26 claims-based measures of low-value services. Using 2009 claims for 1,360,908 Medicare beneficiaries, we assessed the proportion of beneficiaries receiving these services, mean per-beneficiary service use, and the proportion of total spending devoted to these services. We compared the amount of use and spending detected by versions of these measures with different sensitivity and specificity. We also estimated correlations between use of different services within geographic areas, adjusting for beneficiaries' sociodemographic and clinical characteristics. MAIN OUTCOMES AND MEASURES: Use and spending detected by 26 measures of low-value services in 6 categories: low-value cancer screening, low-value diagnostic and preventive testing, low-value preoperative testing, low-value imaging, low-value cardiovascular testing and procedures, and other low-value surgical procedures. RESULTS: Services detected by more sensitive versions of measures affected 42% of beneficiaries and constituted 2.7% of overall annual spending. Services detected by more specific versions of measures affected 25% of beneficiaries and constituted 0.6% of overall spending. In adjusted analyses, low-value spending detected in geographic regions at the 5th percentile of the regional distribution of low-value spending ($227 per beneficiary) exceeded the difference in detected low-value spending between regions at the 5th and 95th percentiles ($189 per beneficiary). Adjusted regional use was positively correlated among 5 of 6 categories of low-value services (mean r for pairwise, between-category correlations, 0.33; range, 0.14-0.54; P </= .01). CONCLUSIONS AND RELEVANCE: Services detected by a limited number of measures of low-value care constituted modest proportions of overall spending but affected substantial proportions of beneficiaries and may be reflective of overuse more broadly. Performance of claims-based measures in supporting targeted payment or coverage policies to reduce overuse may depend heavily on how the measures are defined.

68. **ARTÍCULO Nº: 4439**

Auriemma CL, Nguyen CA, Bronheim R, Kent S, Nadiger S, Pardo D et al. ***Stability of end-of-life preferences: a systematic review of the evidence.*** JAMA Intern.Med. 2014; 174(7): 1085-1092.

IMPORTANCE: Policies and practices that promote advance care planning and advance directive completion implicitly assume that patients' choices for end-of-life (EOL) care are stable over time, even with changes in health status. OBJECTIVE: To systematically evaluate the evidence on the stability of EOL preferences over time and with changes in health status. EVIDENCE REVIEW: We searched for longitudinal studies of patients' preferences for EOL care in PubMed, EMBASE, and using citation review. Studies restricted to preferences regarding the place of care at the EOL were excluded. FINDINGS: A total of 296 articles were assessed for eligibility, and 59 met inclusion criteria. Twenty-four articles had sufficient data to extract or calculate the percentage of individuals with stable preferences or the percentage of total preferences that were stable over time. In 17 studies (71%) more than 70% of patients' preferences for EOL care were stable over time. Preference stability was generally greater among inpatients and seriously ill outpatients than among older adults without serious illnesses (P < .002). Patients with higher education and who had engaged in advance care planning had greater preference stability, and preferences to forgo therapies were generally more stable than preferences to receive therapies. Among 9 of the 24 studies (38%) assessing changes in health status, no consistent relationship with preference changes was identified. CONCLUSIONS AND RELEVANCE: Considerable variability among studies in the methods of preference assessment, the time between assessments, and the definitions of stability preclude meta-analytic estimates of the stability of patients' preferences and the factors influencing these preferences. Although more

seriously ill patients and those who engage in advance care planning most commonly have stable preferences for future treatments, further research in real-world settings is needed to confirm the utility of advance care plans for future decision making.

69. **ARTÍCULO Nº: 4440**

Leppin AL, Gionfriddo MR, Kessler M, Brito JP, Mair FS, Gallacher K et al. ***Preventing 30-day hospital readmissions: a systematic review and meta-analysis of randomized trials***. JAMA Intern.Med. 2014; 174(7): 1095-1107.

IMPORTANCE: Reducing early (<30 days) hospital readmissions is a policy priority aimed at improving health care quality. The cumulative complexity model conceptualizes patient context. It predicts that highly supportive discharge interventions will enhance patient capacity to enact burdensome self-care and avoid readmissions. OBJECTIVE: To synthesize the evidence of the efficacy of interventions to reduce early hospital readmissions and identify intervention features--including their impact on treatment burden and on patients' capacity to enact postdischarge self-care--that might explain their varying effects. DATA SOURCES: We searched PubMed, Ovid MEDLINE, Ovid EMBASE, EBSCO CINAHL, and Scopus (1990 until April 1, 2013), contacted experts, and reviewed bibliographies. STUDY SELECTION: Randomized trials that assessed the effect of interventions on all-cause or unplanned readmissions within 30 days of discharge in adult patients hospitalized for a medical or surgical cause for more than 24 hours and discharged to home. DATA EXTRACTION AND SYNTHESIS: Reviewer pairs extracted trial characteristics and used an activity-based coding strategy to characterize the interventions; fidelity was confirmed with authors. Blinded to trial outcomes, reviewers noted the extent to which interventions placed additional work on patients after discharge or supported their capacity for self-care in accordance with the cumulative complexity model. MAIN OUTCOMES AND MEASURES: Relative risk of all-cause or unplanned readmission with or without out-of-hospital deaths at 30 days postdischarge. RESULTS: In 42 trials, the tested interventions prevented early readmissions (pooled random-effects relative risk, 0.82 [95% CI, 0.73-0.91]; P < .001; I(2) = 31%), a finding that was consistent across patient subgroups. Trials published before 2002 reported interventions that were 1.6 times more effective than those tested later (interaction P = .01). In exploratory subgroup analyses, interventions with many components (interaction P = .001), involving more individuals in care delivery (interaction P = .05), and supporting patient capacity for self-care (interaction P = .04) were 1.4, 1.3, and 1.3 times more effective than other interventions, respectively. A post hoc regression model showed incremental value in providing comprehensive, postdischarge support to patients and caregivers. CONCLUSIONS AND RELEVANCE: Tested interventions are effective at reducing readmissions, but more effective interventions are complex and support patient capacity for self-care. Interventions tested more recently are less effective.

70. **ARTÍCULO Nº: 4441**

Bushnell C, McCullough L. ***Stroke prevention in women: synopsis of the 2014 American Heart Association/American Stroke Association guideline***. Ann.Intern.Med. 2014; 160(12): 853-857.

DESCRIPTION: In February 2014, the American Heart Association/American Stroke Association released their first guideline focused on stroke prevention in women. This new guideline highlights unique risk factors for stroke in women, including oral contraception and hormone therapy, and pregnancy-associated disorders, such as preeclampsia, that may have long-lasting consequences on a woman's health. It also addresses hypertension; atrial fibrillation; migraine headache with aura; and the epidemiology of types of stroke, such as aneurysmal subarachnoid hemorrhage and cerebral vein thrombosis, that are predominant in women. METHODS: Members of a multidisciplinary expert panel

searched, reviewed, and critiqued relevant English-language literature published between 1990 and May 2013. The panel devised evidence tables and developed recommendations using American Heart Association guideline procedures and levels of evidence. RECOMMENDATIONS: This synopsis of the guideline summarizes the evidence about risk factors for stroke in women and suggests prevention strategies. It also describes the new recommendations relevant to identifying and treating hypertensive disorders in pregnancy that increase risk for stroke.

71. **ARTÍCULO Nº: 4442**

Harris R. ***Screening is only part of the answer to breast cancer.*** Ann.Intern.Med. 2014; 160(12): 861-863.

72. **ARTÍCULO Nº: 4443**

Juni P, Zwahlen M. ***It is time to initiate another breast cancer screening trial.*** Ann.Intern.Med. 2014; 160(12): 864-866.

73. **ARTÍCULO Nº: 4444**

Prasad V. ***Statins, primary prevention, and overall mortality.*** Ann.Intern.Med. 2014; 160(12): 867-869.

74. **ARTÍCULO Nº: 4445**

Weeks JC, Uno H, Taback N, Ting G, Cronin A, D'Amico TA et al. ***Interinstitutional variation in management decisions for treatment of 4 common types of cancer: A multi-institutional cohort study.*** Ann.Intern.Med. 2014; 161(1): 20-30.

BACKGROUND: When clinical practice is governed by evidence-based guidelines and there is consensus about their validity, practice variation should be minimal. For areas in which evidence gaps exist, greater variation is expected. OBJECTIVE: To systematically assess interinstitutional variation in management decisions for 4 common types of cancer. DESIGN: Multi-institutional, observational cohort study of patients with cancer diagnosed between July 2006 through May 2011 and observed through 31 December 2011. SETTING: 18 cancer centers participating in the formulation of treatment guidelines and systematic outcomes assessment through the National Comprehensive Cancer Network. PATIENTS: 25 589 patients with incident breast cancer, colorectal cancer, lung cancer, or non-Hodgkin lymphoma. MEASUREMENTS: Interinstitutional variation for 171 binary management decisions with varying levels of supporting evidence. For each decision, variation was characterized by the median absolute deviation of the center-specific proportions. RESULTS: Interinstitutional variation was high (median absolute deviation >10%) for 35 of 171 (20%) oncology management decisions, including 9 of 22 (41%) decisions for non-Hodgkin lymphoma, 16 of 76 (21%) for breast cancer, 7 of 47 (15%) for lung cancer, and 3 of 26 (12%) for colorectal cancer. Forty-six percent of high-variance decisions involved imaging or diagnostic procedures and 37% involved choice of chemotherapy regimen. The evidence grade underpinning the 35 high-variance decisions was category 1 for 0%, 2A for 49%, and 2B/other for 51%. LIMITATION: Physician identifiers were unavailable, and results may not generalize outside of major cancer centers. CONCLUSION: The substantial variation in institutional practice manifest among cancer centers reveals a lack of consensus about optimal management for common clinical scenarios. For clinicians, awareness of management decisions with high variation should prompt attention to patient preferences. For health systems, high variation can be used to prioritize comparative effectiveness research, patient-provider education, or pathway development. PRIMARY FUNDING SOURCE: National Cancer Institute and National Comprehensive Cancer Network.

75. **ARTÍCULO Nº: 4446**

LeFevre ML. ***Screening for hepatitis B virus infection in nonpregnant adolescents and adults: U.S. Preventive Services Task Force recommendation statement***. Ann.Intern.Med. 2014; 161(1): 58-66.

DESCRIPTION: Update of the 2004 U.S. Preventive Services Task Force (USPSTF) recommendation on screening for hepatitis B virus (HBV) infection. METHODS: The USPSTF reviewed the evidence on the benefits and harms of antiviral treatment, the benefits of education or behavior change counseling, and the association between improvements in intermediate and clinical outcomes after antiviral therapy. POPULATION: This recommendation applies to asymptomatic, nonpregnant adolescents and adults at high risk for HBV infection (including those at high risk who were vaccinated before being screened for HBV infection). RECOMMENDATION: The USPSTF concludes that persons at high risk for infection should be screened for HBV infection. (B recommendation).

76. **ARTÍCULO Nº: 4447**

Rajbhandari R, Chung RT. ***Screening for hepatitis B virus infection: a public health imperative***. Ann.Intern.Med. 2014; 161(1): 76-77.

77. **ARTÍCULO Nº: 4448**

Gorina M, Limonero JT, Penart X, Jimenez J, Gasso J. ***[Comparison of level of satisfaction of users of home care: integrated model vs. dispensaries model]***. Aten.Primaria. 2014; 46(6): 276-282.

OBJECTIVE: To determine the level of satisfaction of users that receive home health care through two different models of primary health care: integrated model and dispensaries model. DESIGN: cross-sectional, observational study. LOCATION: Two primary care centers in the province of Barcelona. PARTICIPANTS: The questionnaire was administered to 158 chronic patients over 65 years old, of whom 67 were receiving health care from the integrated model, and 91 from the dispensaries model. MAIN MEASUREMENTS: The Evaluation of Satisfaction with Home Health Care (SATISFAD12) questionnaire was, together with other complementary questions about service satisfaction of home health care, as well as social demographic questions (age, sex, disease, etc). RESULTS: The patients of the dispensaries model showed more satisfaction than the users receiving care from the integrated model. There was a greater healthcare continuity for those patients from the dispensaries model, and a lower percentage of hospitalizations during the last year. The satisfaction of the users from both models was not associated to gender, the health perception,or independence of the CONCLUSIONS: The user satisfaction rate of the home care by primary health care seems to depend of the typical characteristics of each organisational model. The dispensaries model shows a higher rate of satisfaction or perceived quality of care in all the aspects analysed. More studies are neede to extrapolate these results to other primary care centers belonging to other institutions.

78. **ARTÍCULO Nº: 4449**

Llauger MA, Rosas A, Burgos F, Torrente E, Tresserras R, Escarrabill J. ***[Accesibility and use of spirometry in primary care centers in Catalonia]***. Aten.Primaria. 2014; 46(6): 298-306.

OBJECTIVE: Examine the accessibility and use of forced spirometry (FS) in public primary care facilities centers in Catalonia. DESIGN: Cross-sectional study using a survey. PARTICIPANTS: Three hundred sixty-six Primary Care Teams (PCT) in Catalonia. Third quarter of 2010. MEASUREMENTS: Survey with information on spirometers, training, interpretation and quality control, and the priority that the quality of spirometry had for the team. Indicators FS/100 inhabitants/year, FS/month/PCT; FS/month/10,000 inhabitants. MAIN RESULTS: Response rate: 75%. 97.5% of PCT had spirometer and

made an average of 2.01 spirometries/100 inhabitants (34.68 spirometry/PCT/month). 83% have trained professionals.>50% centers perform formal training but no information is available on the quality. 70% performed some sort of calibration. Interpretation was made by the family physician in 87.3% of cases. In 68% of cases not performed any quality control of exploration. 2/3 typed data manually into the computerized medical record.>50% recognized a high priority strategies for improving the quality. CONCLUSION: Despite the accessibility of EF efforts should be made to standardize training, increasing the number of scans test and promote systematic quality control.