the only eHealth component were excluded. Two authors independently screened all studies. The quality of each study was also assessed. **RESULTS:** eHealth is a rapidly growing intervention: 40%, 16%, and 5% of studies included were published in 2014, 2013, and 2012, respectively. Of the included studies, a variety of diseases were represented, with most studies focusing on cardiac disease, depression, diabetes, and respiratory diseases. 25% of the studies targeted chronic disease in general. A majority of studies explored eHealth in monitoring and maintenance of chronic disease. Outcomes to assess program efficacy were often measured using changes in disease specific outcomes, while few studies provided economic outcomes. Long term outcomes were not commonly assessed but implied through surrogate outcomes. **CONCLUSIONS:** Current evidence suggests that eHealth has the potential to help patients and medical professionals better control chronic disease related events and decrease rising healthcare costs. However, measurement of long term event avoidance and patient quality of life is needed to develop meaningful and effective programs and to allocate eHealth appropriately.

PCV15

COMPARISON OF APIXABAN, DABIGATRAN, RIVAROXABAN, AND EDOXABAN IN THE ACUTE TREATMENT AND PREVENTION OF VENOUS THROMBOEMBOLISM: SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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OBJECTIVES: The novel oral anti-coagulants (NOACs) have not been compared directly in a randomized controlled trial (RCT) examining the initial treatment of venous thromboembolism (VTE). A systematic review and network meta-analysis (NMA) were conducted to compare the efficacy and safety of the NOACs in this indication. Safety with respect to bleeding is a major concern for physicians and patients. **METHODS:** Electronic databases were systematically searched (July 2014) to identify randomized controlled trials (RCTs) evaluating apixaban, dabigatran, rivaroxaban, and edoxaban versus standard care. Eligible adult patients had objectively confirmed deep vein thrombosis (DVT), pulmonary embolism (PE) or both. A fixed-effect Bayesian NMA was conducted for relevant outcomes. **RESULTS:** Six phase III RCTs were included: apixaban (AMPLIFY [n=5,395]); rivaroxaban (EINSTEIN-DVT/PE pooled [n=4,832+3449]); dabigatran (RE-COVER I/II [n=2,539/2568]); edoxaban (Hokusai-VTE [n=8,292]). The relative risk of 'VTE and VTE-related death' was lower with apixaban compared with both dabigatran (↓24%, 0.76 [0.46, 1.26]), rivaroxaban (↓7%, 0.93 [0.59, 1.45]) and edoxaban (↓6%, 0.94 [0.62, 1.42]). Apixaban was associated with the most favorable safety profile, showing a statistically significant reduction in the risk of 'major or clinically relevant non-major (CRNM) bleed' compared with rivaroxaban (↓53%, 0.47 [0.36, 0.61]), dabigatran (↓31%, 0.69 [0.51, 0.94]) and edoxaban (↓46%, 0.69 [0.51, 0.94]). The relative risks of all-cause mortality for apixaban versus dabigatran, rivaroxaban and edoxaban were comparable (21%, 0.79 [0.44, 1.40]; 18%, 0.82 [0.50, 1.34]; 25%, 0.75 [0.47, 1.21], respectively). **CONCLUSIONS:** While the NOACs have similar efficacy in terms of reduction in VTE or VTE-related death, apixaban had a significantly better safety profile versus other NOACs in terms of reduction in 'major or CRNM bleed' for initial/long term treatment of VTE.

PCV16

EFFICACY AND SAFETY OF AMLODIPINE AND BISOPROLOL IN HYPERTENSION TREATMENT: A SYSTEMATIC REVIEW

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OBJECTIVES: The complexity of therapy and pill burden has a direct impact on treatment compliance. Compliance is improved when agents are prescribed as fixed dose combinations rather than separate pills. This could be of particular value in elderly patients with multiple morbidities requiring polypharmacy. This systematic review aims to at evaluating efficacy and safety of the once-daily fixed-dose-combination (bisoprolol+amlodipine) on SAH. **METHODS:** Electronic searches included MEDLINE, LILACS, EMBASE, CRD, among others until June 2014. Search terms included "Amlodipine", "Bisoprolol" and "Hypertension" via MESH controlled vocabulary. Where included studies with information on patients using the combination for hypertension treatment. Two reviewers performed the search. **RESULTS:** From 704 articles found, 3 evaluated efficacy. Mean reduction of 19.7% in DBP, from 103.9±9.6 mmHg at baseline to 83.4±6.2 mmHg ($p<0.0001$). SBP decreased from 20.4% to 21,8% and DBP decreased19.7% to 21.2%. SBP/DBP goal (<140/90 mmHg) was reached or exceeded from 82.5 to 89.0% of patients by the end of 8 weeks. HR presented reductions from 10.4% to 21.65% to the end of 8 weeks (from 87.3 ± 11.07 bpm to 68.4 ± 8.13 bpm). Pedal edema was observed in 7.5% to 8%. Excellent/good tolerability was reported by 90.6% to 94% of patients. Combination therapy is likely to cause fewer AEs with lower doses. Benefits of fixed-dose include reduced pill burden, improved BP control, compliance and cost savings. Persistence rate of 58.3% compared to 14.9% and a compliance rate of 76.9% versus 54.4% were observed. Patients with HR >79 bpm had an 89% greater risk of mortality than those with HR ≤79 bpm. **CONCLUSIONS:** In summary, bisoprolol plus amlodipine in a fixed-dose combination showed to improve response rate, with a similar safety profile when compared with amlodipine and bisoprolol in monotherapy, potentially leading to an increase in SAH treatment compliance.

PCV17

EFFECTIVENESS AND COST-EFFECTIVENESS OF CATHETER-DIRECTED THROMBOLYSIS IN MASSIVE PULMONARY EMBOLISM

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OBJECTIVES: Massive pulmonary embolism (PE) is a life-threatening condition associated with a high incidence of fatalities comparable to that of acute myocardial infarction. A variety of treatment modalities have been used in patients with massive PE, which include systemic anticoagulation, catheter-directed thrombolysis (CDT) and etc. **METHODS:** A Markov model was constructed to determine the costs and benefits of CDT with urokinase and CDT with alteplase. The time horizon of the model was lifetime, and a monthly cycle length was adopted. A review of the literature was undertaken to identify the primary studies used to populate the decision model. Direct medical costs were assessed from the payer perspective in the Kazakhstan and analyzed using sensitivity analyses. A Monte Carlo analysis with 1000 patients was performed to obtain mean. **RESULTS:** Compared with heparin, CDT was associated with a significant reduction of overall mortality. This reduction was not statistically significant after exclusion of studies including highrisk PE. However, major hemorrhage and fatal or intracranial bleeding were significantly more frequent among patients receiving CDT. The multiway sensitivity analysis showed that CDT was cost-effective only under specific scenarios. The expected costs per patient were $1,656 for CDT with urokinase and $990 for CDT with alteplase (difference $666). The mean cost-effectiveness ratio was $235,950 per CDT with urokinase and $487,229 for CDT with alteplase. Probabilistic sensitivity analysis showed that CDT with urokinase was more effective and less costly (dominant) in 23% of all simulations. **CONCLUSIONS:** The analysis showed that CDT might be cost-effective in sub-groups of patients at high risk of death from PE. The use of CDT with urokinase for the treatment of haemodynamically stable patients with PE was more cost-effective than CDT with alteplase in the Kazakhstan. The fact that when using alteplase have a higher risk of hemorrhage than with urokinase is also preferences for the use of urokinase for CDT.

PCV18

MIPOMERSEN FOR TREATMENT OF HYPERCHOLESTEREMIA: EVIDENCE REVIEW AND META ANALYTIC EVALUATION OF RANDOMIZED CONTROLLED TRIALS

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OBJECTIVES: The objective of this investigation was to assess the evidence base by performing a systematic review of randomized controlled trials of Mipomersen for treatment of hypercholesteremia. **METHODS:** Studies published in English language were collated from PubMed and Cochrane databases using validated search strategies. Pre-specified inclusion/exclusion were employed to identify randomized controlled trials (RCTs), including Mipomersen based therapy. Two researchers independently screened the studies and extracted the data. Analysis of comparable outcomes was performed using random-effects model to calculate summary weighted mean difference (WMD) and 95% CI using statistical software R. **RESULTS:** Nine studies were finally included for data extraction. Overall effect size (WMD(95%CI)) were -0.42 (-0.66,-0.18),-0.24 (-0.37,0.12), -44.18 (-52.74,-35.63), -55.80 (-77.36,-34.24) and 0.16(-0.01,0.33) for Apo B, VLDL, LDL, Non-HDL, and HDL respectively. Mipomersen was associated with a reduction in LDL-C concentrations from baseline at the primary efficacy time point. The mean percentage change from baseline in LDL-C concentration was significantly greater with Mipomersen than with placebo. For the secondary and tertiary outcome measures, percentage changes from baseline were significantly greater with Mipomersen than with placebo for apo B, total cholesterol, non-HDL-C. Mipomersen treatment also resulted in a significant percentage reduction when compared with the placebo group for lipoprotein (a) concentration and LDL-C: HDL-C ratio. The most common adverse events were injection-site reactions, influenza-like symptoms, patients in Mipomersen group, increase in intrahepatic triglyceride content, increased ALT concentrations. **CONCLUSIONS:** The findings show that evidence supports Mipomersen being safe and effective intervention as an adjunctive drug for lowering LDL-C.

PCV19

THE USE OF LOW MOLECULAR WEIGHT HEPARIN AND PNEUMATIC COMPRESSION DEVISES FOR DEEP VEIN THROMBOSIS PROPHYLAXIS IN MAJOR TRAUMA PATIENTS: A COMPARATIVE EFFECTIVENESS ANALYSIS

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OBJECTIVES: Since the optimal Venous Thromboembolism (VTE) prophylaxis strategy for trauma patients is unknown, we performed this study to compare the effectiveness of the use of pharmacological thromboprophylaxis such as Low Molecular Weight Heparin (LMWH) to the non-pharmacological thromboprophylaxis such as pneumatic compression devices (PCDs) in the prevention of Deep Vein Thrombosis (DVT) among major trauma patients. **METHODS:** A simplified decision-analysis model was established. The outcome measures for this model were the expected utilities resulting for each of the comparison categories. Our model compares two strategies, LMMW and PCDs. Patients who received LMWH as prophylactic approach will then have the chance to either develop DVT or not develop DVT. As some patients develop DVT the have four different chances; to die from DVT, survive DVT survive DVT but suffer from bleeding complications, or survive DVT but suffer from Heparin Induced Thrombocytopenia (HIT). The expected utility then calculated based on the terminal node utility and probability of each possible event. On the second hand, PCDs patients will either develop DVT or not based on the probabilities. If developed DVT, they might die, survive, suffer bleeding or suffer Local Tissue Injury (LTI). If no DVT, they still suffer the same complications but no death due to DVT. **RESULTS:** The LMWH strategy has a bigger expected utility comparing to that for PCDs (0.9904 vs. 0.9865). The difference in the expected utility is about 0.0039 makes the decision to choose the LMWH strategy that provides the highest possible utility. In a one-way sensitivity analysis on the probability of DVT with LMWH. PCDs are insensitive to this parameter. As the probability of DVT with LMWH below 0.0285 then LMWH is the effective strategy. PCDs become the effective strategy when the probability of DVT with LMWH exceeds 0.0285. **CONCLUSIONS:** When compared the mechanical PCDs as thromboprophylaxis with the pharmacological LMWH, LMWH is more effective.