

# Coronary Care Update #11



27 May 2021

Welcome to the latest copy of the Coronary Care Update. The aim of this publication is to bring together a range of recently-published research and guidance that will help you make evidence based decisions.

## Accessing Articles

The following abstracts are taken from a selection of recently published articles.

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Please contact Holly if you would like more information, or further evidence searches: [holly.cook3@nhs.net](mailto:holly.cook3@nhs.net).

## Papers selected from Embase and CINHAI (most recent first)

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1. Analysis of nationwide stroke patient care in times of COVID-19 pandemic in Germany
2. Self-care behavior and frailty syndrome among elderly patients with heart failure
3. Dysphagia and malnutrition limit activities of daily living improvement in phase i cardiac rehabilitation: a prospective cohort study for acute phase heart failure patients
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8. Geriatric co-management for cardiology patients in the hospital: A quasi-experimental study.
9. Cardiovascular disease: the gender divide.
10. Hfpef: A geriatric syndrome
11. Association Between Use of Rehabilitation in the Acute Care Hospital and Hospital Readmission or Mortality in Patients with Stroke
12. Acute stroke care during the first phase of COVID-19 pandemic in Norway
13. Cardio-Oncology: The Intersection Between Cardiovascular Disease and Cancer.
14. Evaluating the impact of a pharmacist-managed hypertension collaborative care model in vascular neurology patients in an inpatient acute care setting
15. Objective Risk Assessment vs Standard Care for Acute Coronary Syndromes: A Randomized Clinical Trial
16. Artificial neural network-based prediction of prolonged length of stay and need for post-acute care in acute coronary syndrome patients undergoing percutaneous coronary intervention
17. Cardiovascular and Renal Morbidity in Takayasu Arteritis: A Population-Based Retrospective Cohort Study From the United Kingdom.
18. Implementing a stepped-care psychological pathway for cardiac patients with comorbid anxiety and depression in the UK: a service development project.
19. Increased knowledge makes a difference! – general practitioners' experiences of pictorial information about subclinical atherosclerosis for primary prevention: an interview study from the VIPVIZA trial.
20. Evaluation of risk-adjusted home time after hospitalization for heart failure as a potential hospital performance metric



21. Value of treatment by comprehensive stroke services for the reduction of critical gaps in acute stroke care in Europe
22. Decreased Stroke Presentation Rates at a Comprehensive Stroke Center during COVID-19
23. Derivation of Patient-Defined Adverse Cardiovascular and Noncardiovascular Events Through a Modified Delphi Process.
24. Statin therapy for primary cardiovascular prevention in adults older than 75 years.
25. Asians versus non-asian, differences in characteristic, management and outcomes for tpa-treated acute ischemic stroke patients in the enchanted trial
26. Hospital at home for heart failure patients: Our strategies to improve health outcomes
27. Impact of Left Atrial Appendage Closure on LAA Thrombus Formation and Thromboembolism After LAA Isolation
28. Health Care Use Before First Heart Failure Hospitalization: Identifying Opportunities to Pre-Emptively Diagnose Impending Decompensation
29. Development of a Point of Care Test for CYP2C19 Allowing Genotype Guided Antiplatelet Prescribing to Prevent Recurrent Ischaemic Strokes
30. Risk factors of readmission to acute care hospital among individuals with heart failure and left ventricular assist device (LVAD) at inpatient rehabilitation setting (STROBE compliant article)
31. Simulation training programs for acute stroke care: Objectives and standards of methodology
32. Efficacy of team-based collaborative care for distressed patients in secondary prevention of chronic coronary heart disease (TEACH): study protocol of a multicenter randomized controlled trial.
33. The characteristics and risk factors of in-stent restenosis in patients with percutaneous coronary intervention: what can we do.
34. Effect of Pharmacogenetic Testing for Statin Myopathy Risk vs Usual Care on Blood Cholesterol: A Randomized Clinical Trial.
35. Subjective reports of physical activity levels and sedentary time prior to hospital admission can predict utilization of hospital care and all-cause mortality among patients with cardiovascular disease.
36. Using Patient-Centered Outcomes Research Principles to Develop and Implement a Mobile Heart Failure Self-Care Program
37. Registry of Arterial and Venous Thromboembolic Complications in Patients With COVID-19
38. Evaluation and Management of Patients With Stable Angina: Beyond the Ischemia Paradigm: JACC State-of-the-Art Review.
39. Physical Activity in Cardiac Rehabilitation: Towards Citizen-Centered Digital Evidence-Based Interventions...European Federation for Medical Informatics Special Topic Conference 2020 (Virtual), 26-27 November 2020.
40. Prophylactic anticoagulants for people hospitalised with COVID-19



41. The Impact of Nurse-Led Cardiac Rehabilitation on Quality of Life and Biophysiological Parameters in Patients With Heart Failure: A Randomized Clinical Trial
42. Mild cognitive impairment and receipt of procedures for acute ischemic stroke in older adults
43. Healthcare experiences of patients with chronic heart failure in Germany: A scoping review
44. In-hospital cardiac rehabilitation and clinical outcomes in patients with acute myocardial infarction after percutaneous coronary intervention: A retrospective cohort study
45. COVID-19 and cardiovascular disease: from basic mechanisms to clinical perspectives.
46. "It's up to me": the experience of patients at high risk of cardiovascular disease of lifestyle change.
47. Risk prediction tools in cardiovascular disease prevention: A report from the ESC Prevention of CVD Programme led by the European Association of Preventive Cardiology (EAPC) in collaboration with the Acute Cardiovascular Care Association (ACCA) and the Association of Cardiovascular Nursing and Allied Professions (ACNAP)
48. A qualitative study exploring the barriers and facilitators of implementing a cardiovascular disease risk reducing intervention for people with severe mental illness into primary care contexts across England: the 'PRIMROSE' trial.
49. COVID-19 pandemic and admission rates for and management of acute coronary syndromes in England.

Full strategy



## 1. Analysis of nationwide stroke patient care in times of COVID-19 pandemic in Germany

**Author(s):** Krogias C.; Richter D.; Bartig D.; Eyding J.; Weber R.; Grau A.; Hacke W.

**Source:** Stroke; 2021 ; p. 716-721

**Publication Date:** 2021

**Publication Type(s):** Article

**PubMedID:** 33356382

Available at [Stroke](#) - from Unpaywall

### **Abstract:**

**BACKGROUND AND PURPOSE:** Since the beginning of the coronavirus disease 2019 (COVID-19) pandemic, many countries have introduced strict hygiene measures of social distancing to prevent further spreading of the disease. This may have led to a decreased presentation to hospital of patients with acute medical conditions and time-dependent management, such as stroke.

**METHOD(S):** We conducted a nationwide cohort study using administrative database of all hospitalized patients with main diagnosis of acute ischemic stroke (AIS), transient ischemic attack, or intracerebral hemorrhage. Data from a total of 1463 hospitals in Germany were included. We compared case numbers and treatment characteristics of pandemic (March 16 to May 15, 2020) and prepandemic (January 16 to March 15, 2020) cases and also with corresponding time period in 2019.

**RESULT(S):** We identified a strong decline for hospitalization of AIS (-17.4%), transient ischemic attack (-22.9%), and intracerebral hemorrhage (-15.8%) patients during the pandemic compared with prepandemic period. IVT rate in patients with AIS was comparable (prepandemic versus pandemic: 16.4% versus 16.6%,  $P=0.448$ ), whereas mechanical thrombectomy rate was significantly higher during the pandemic (8.1% versus 7.7%,  $P=0.044$ ). In-hospital mortality was significantly increased in patients with AIS during the pandemic period (8.1% versus 7.6%,  $P=0.006$ ).

**CONCLUSION(S):** Besides a massive decrease in absolute case numbers, our data suggest that patients with AIS who did seek acute care during the pandemic, continued to receive acute recanalization treatment in Germany. Copyright © 2020 American Heart Association, Inc.

**Database:** EMBASE

## 2. Self-care behavior and frailty syndrome among elderly patients with heart failure

**Author(s):** Rochmawati E.; Amalia S.

**Source:** Open Access Macedonian Journal of Medical Sciences; 2021; vol. 9 ; p. 231-235

**Publication Date:** 2021

**Publication Type(s):** Article

Available at [Open Access Macedonian Journal of Medical Sciences](#) - from Europe PubMed Central - Open Access

Available at [Open Access Macedonian Journal of Medical Sciences](#) - from Unpaywall

### **Abstract:**

**BACKGROUND:** The development of technology gives an impact on life expectancy in the elderly. In Yogyakarta, the total of the elderly was higher than in other provinces in Indonesia. The elderly experience a decreased functional state that may lead to impaired body organs, such as heart failure. Heart failure has increasingly become a serious health problem. At present, 80% of elderly patients experience heart failure because of a decrease in functional status. The elderly may also experience frailty syndrome, which can provide a poor prognosis in terms of mortality, rehospitalization, and quality of life. It needs complex management; one of these is self-care behavior that can prevent the spread of frailty syndrome.



**AIM:** The study aims to assess the correlation between self-care behavior and frailty syndrome in elderly patients with heart failure.

**METHOD(S):** The study included 87 elderly patients with heart failure who visited the cardiology outpatient unit in two private hospitals. Self-care was measured using the self-care heart failure index, and frailty syndrome was assessed using the frailty index. A correlation test was conducted using Spearman rho. **RESULT(S):** The result showed inadequate self-care behavior with a mean score of 48.70. The mean score of frailty syndrome was 0.142, categorized in the pre-frail phase. No correlation was found between self-care behavior and frailty syndrome with  $p=0.20$ .

**CONCLUSION(S):** Self-care behavior in elderly patients with heart failure is still inadequate and in the pre-frail phase. Nurses and other health professionals should consider intervention to increase self-care behavior among the elderly and screening to increase their awareness of frailty syndrome. Copyright © 2021 Erna Rochmawati, Sarah Amalia.

**Database:** EMBASE

### **3. Dysphagia and malnutrition limit activities of daily living improvement in phase i cardiac rehabilitation: a prospective cohort study for acute phase heart failure patients**

**Author(s):** Yokota J.; Endo R.; Takahashi R.; Matsukawa Y.; Matsushima K.

**Source:** Heart and Vessels; 2021

**Publication Date:** 2021

**Publication Type(s):** Article

**PubMedID:** 33675424

**Abstract:** Dysphagia and malnutrition combinations in hospitalized patients with acute heart failure (AHF) may affect activities of daily living (ADL) after hospital discharge more than dysphagia or malnutrition alone. The aim of the present study to clarify the impact of the combination of dysphagia and malnutrition on ADL in hospitalized patients with acute phase heart failure who have undergone cardiac rehabilitation (CR). Prospective cohort study. Acute care hospital. Participants were 224 AHF patients undergoing CR. Barthel index (BI), functional oral intake scale (FOIS), controlling nutritional status (CONUT), short physical performance battery (SPPB), and mini-mental state examination were evaluated at baseline. We examined primary effects of predictors (CONUT) and the moderator (FOIS) and the interaction effect of FOIS and CONUT (FOIS x CONUT) using hierarchical linear regression model and simple-slope tests. The ADL independence dropped in 29.5% of the patients on hospitalization; however, 82.6% of the patients successfully regained their independence at discharge. Based on the FOIS score and nutritional status on admission, 58.5% of the patients were classified into the non-dysphagia and non-malnutrition categories, 21.0% into non-dysphagia and malnutrition, 15.2% into dysphagia and non-malnutrition, and 5.3% into dysphagia and malnutrition. Lower FOIS and SPPB scores as well as the FOIS x CONUT interaction predicted a significantly lower BI but not CONUT. Simple slope test revealed a negative association between CONUT and BI with low-level FOIS ( $B = -2.917, P < .001$ ) but not with high-level FOIS ( $B = .476, P = .512$ ). Thus, patients with dysphagia and malnutrition in combination had a greater risk of failed recovery of ADL after cardiac rehabilitation than those without this combination. In hospitalized AHF patients, FOIS and CONUT had an interactive effect on BI at hospital discharge in cases with low-level FOIS. Early detection of dysphagia might improve the accurate identification of hospitalized AHF patients at higher risk of ADL dependence at discharge. Copyright © 2021, Springer Japan KK, part of Springer Nature.

**Database:** EMBASE

### **4. Rationale and design of an interventional study of cross-sectoral, coordinated treatment of stroke patients with patient-orientated outcome measurement (StroCare)**

**Author(s):** Rimmele D.L.; Gerloff C.; Thomalla G.; Schrage T.; Harter M.; Kriston L.; Brettschneider C.; Engels A.; Rosenkranz M.; Schmidt H.

**Source:** Neurological Research and Practice; Dec 2021; vol. 3 (no. 1)

**Publication Date:** Dec 2021



**Publication Type(s):** Article

Available at [Neurological research and practice](#) - from BioMed Central

Available at [Neurological research and practice](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Neurological research and practice](#) - from Unpaywall

**Abstract:**

**Introduction:** Stroke has a long-term impact on functional status and quality of life in multiple health domains. A well-coordinated managed care program for stroke patients is crucial for ameliorating patients' health and cost-efficient use of resources. The aim of this study is the implementation and evaluation of an optimised cross-sectoral, coordinated and managed care program for stroke patients bridging secondary and tertiary care.

**Method(s):** In this multi-center mixed method sequentially controlled intervention study, stroke patients with ischemic stroke (163), transient ischemic attack and related syndromes (G45), or intracerebral haemorrhage (I64) will be invited to participate. For a 12-months period, 235 consecutive patients are expected to be enrolled and assigned standard of care treatment as an active control group. During the following 12 months, 235 consecutive patients will be enrolled and assigned to a post stroke intervention program. The StroCare intervention consists of repeated outpatient visits with specialized stroke teams, the implementation of a case manager, the use of an electronic tool for communication between acute care, rehabilitation facilities, and out-patient care, and the definition of individualized treatment targets. Patients will be followed up for 24 months. The primary outcome is health-related quality of life measured by the Patient-Reported Outcomes Measurement Information System 10-Question Short Form (PROMIS-10) at 12 months after the index event, i.e. stroke or TIA. For the qualitative survey of the implementation process, 21 patients in the intervention group will be interviewed after implementation of the interventions. In addition, 20 health care providers and staff members will be interviewed before and after implementation. Additionally, economic outcomes will be evaluated after 6 and 12 months.

**Perspective(s):** The study will not only provide information about the tested intervention but is likely to be helpful for clinicians, suppliers of reimbursement, and researchers in implementing and evaluating complex interventions in stroke care in general. With this program, the health care system will have a reference model at its disposal for transfer to other regions and settings.

**Trial registration:** The trial is registered at ClinicalTrials.gov (NCT04159324). Approval of the local ethics committee (Ethik-Kommission der Ärztekammer Hamburg, Niedersachsen, Schleswig-Holstein) has been obtained. Copyright © 2021, The Author(s).

**Database:** EMBASE

## 5. DAYS ALIVE OUT OF HOSPITAL WITH INITIAL INVASIVE VS CONSERVATIVE MANAGEMENT IN THE ISCHEMIA TRIAL

**Author(s):** White H.; O'Brien S.; Alexander K.; Bangalore S.; Li J.H.; Manjunath C.; Lopez-Sendon J.; Peteiro J.; Gosselin G.; Berger J.; Maggioni A.P.; Boden W.; Reynolds H.; Hochman J.; Maron D.

**Source:** Journal of the American College of Cardiology; May 2021; vol. 77 (no. 18); p. 3

**Publication Date:** May 2021

**Publication Type(s):** Conference Abstract

Available at [Journal of the American College of Cardiology](#) - from Unpaywall

**Abstract:**

**Background:** Traditional time-to-event analysis rates less severe events occurring early as more important than later severe events. Days alive out of hospital (DAOH) is a patient-centered measure of the proportion of non-hospitalized days between randomization and death or study end.

**Methods:** ISCHEMIA randomized 5179 patients with at least moderate ischemia to initial invasive (INV) or conservative (CON) management. Days hospitalized and DAOH were compared by treatment group. Hospitalization included overnight stays in a hospital, skilled nursing, extended care, or rehabilitation facility. Hospitalization for assigned INV treatment was counted but also shown separately.



Results: Overall, there were 23,566 hospital days in INV vs 14,108 in CON,  $p < 0.0001$ . In INV, 11,356 hospital days were for protocol-assigned procedures and 12,210 for other reasons. Average hospital days/patient over 4 years were 11.1 INV vs 6.7 CON (difference 4.4 days, 95% CI 3.3 to 5.5,  $p < 0.0001$ ). Average DAOH was significantly higher in CON at 1 month (30.8 vs 28.4,  $p < 0.001$ ), 1 year (362.2 vs 355.9,  $p < 0.0001$ ) and 2 years (718.1 vs 711.7,  $p = 0.002$ ). At 4 years, average DAOH was 1398.6 CON vs 1392.6 INV (difference 6.0, 95% CI -9.7 to 21.7,  $p = 0.46$ ). The figure shows proportion of DAOH over time.

Conclusion: There was a higher number of hospital days among INV than CON patients in part due to assigned procedures. CON patients had more DAOH at 1 month with the difference no longer being significant by 4 years due to widening of confidence intervals. [Formula presented] Copyright © 2021 American College of Cardiology Foundation

**Database:** EMBASE

## 6. Rapid response team nurses' attitudes and barriers to the rapid response system: A multicentre survey

**Author(s):** Loisa E.; Hoppu S.; Tirkkonen J.; Hytonen S.-M.

**Source:** Acta Anaesthesiologica Scandinavica; May 2021; vol. 65 (no. 5); p. 695-701

**Publication Date:** May 2021

**Publication Type(s):** Article

**PubMedID:** 33400259

Available at [Acta anaesthesiologica Scandinavica](#) - from Wiley Online Library

Available at [Acta anaesthesiologica Scandinavica](#) - from Unpaywall

### **Abstract:**

Background: Despite wide implementation of rapid response teams (RRTs), no published data exist on RRT nurses' attitudes and barriers to the rapid response system (RRS).

Method(s): We piloted a 5-point Likert-type scale questionnaire among all Finnish university hospitals' RRT nurses with optional open-ended comments. The impact of more frequent RRT participation was further investigated.

Result(s): The response rate was 46% ( $n = 176/379$ , 34%-93% between hospitals). The respondents median experience on a RRT was three years (0.8-5) and median participation was two (1-5) RRT activations per month. Over 90% of the RRT nurses felt that RRS prevented cardiac arrests and improved patient safety. Nurses with five or more RRT activations/month believed their critical care skills had improved through these duties (94% vs 71%,  $P = .001$ ), considered their RRT work meaningful (94% vs 76%,  $P = .005$ ) and wanted to continue as RRT nurses (91% vs 74%,  $P = .015$ ) more often than nurses with less than five RRT activations/month. In addition to the infrequent RRT participation, further negative experiences with RRS among the RRT nurses included feeling overworked (68%) or undercompensated (94%) for the RRT duties and conflicts between RRT and ward doctors (25%).

Conclusion(s): RRT nurses consider their work important and believe it fosters improved critical care skills; these beliefs are emphasized among those with more frequent RRT participation. Infrequent RRT participation, feeling overworked and/or undercompensated and conflicts between RRT and ward doctors may present barriers for successful RRS among RRT nurses. Copyright © 2021 The Authors. Acta Anaesthesiologica Scandinavica published by John Wiley & Sons Ltd on behalf of Acta Anaesthesiologica Scandinavica Foundation.

**Database:** EMBASE

## 7. Impact of delirium in acute cardiac care unit after transcatheter aortic valve replacement

**Author(s):** Luque T.; Noriega F.J.; McInerney A.; Travieso A.; Tirado-Conte G.; Ferrera C.; Jimenez-Quevedo P.; Nunez-Gil I.; Gonzalo N.; Escaned J.; Macaya C.; Fernandez-Ortiz A.; Nombela-Franco L.; Viana-Tejedor A.; Corrochano D.; Fossati S.

**Source:** International Journal of Cardiology; May 2021; vol. 330 ; p. 164-170



**Publication Date:** May 2021

**Publication Type(s):** Article

**PubMedID:** 33529663

**Abstract:**

**Background:** Delirium is a cognitive disorder that commonly occurs during hospitalization in acute cardiac care units (ACCU), but its effect after transcatheter aortic valve replacement (TAVR) has not been well evaluated. The objective of this study is to determine the incidence, predictive factors and prognostic impact of delirium following TAVR.

**Method(s):** A total of 501 consecutive patients admitted to an ACCU after TAVR were included. The Confusion Assessment Method was used to evaluate delirium during ACCU stay. Risk factors, preventive pharmacological treatment, peri-procedural characteristics and complications were assessed. Clinical events were recorded with a median follow-up of 24 months.

**Result(s):** The incidence of delirium after TAVR was 22.0% (n = 110). Previous cognitive impairment (OR 4.17; 95% CI 1.11-15.71; p = 0.035), peripheral arterial disease (OR 4.54; 95% CI 1.79-11.54; p = 0.001), the use of general anaesthesia (OR 2.55; 95% CI 1.32-4.90; p = 0.005), and prolonged mechanical ventilation (OR 18.86; 95% CI 1.85-192.58; p = 0.013) were significantly associated with the development of delirium. Patients with delirium had a greater hospital length of stay (7.5 [5.5-13.5] vs 5.6 [4.6-8.2] days, mean difference - 3.49; 95% CI -5.45 to -1.52; p < 0.001), and higher in-hospital (OR 2.68; 95% CI 1.02-6.99; p = 0.045), 1-year (HR 2.09; 95% CI 1.13-3.87; p = 0.018) and 2-year mortality (HR 1.94; 95% CI 1.12-3.34; p = 0.017).

**Conclusion(s):** Delirium is a frequent complication in patients admitted to ACCU after TAVR, and is associated with prolonged hospital stay and higher in-hospital and mid-term mortality. Copyright © 2021 Elsevier B.V.

**Database:** EMBASE

## **8. Geriatric co-management for cardiology patients in the hospital: A quasi-experimental study.**

**Author(s):** Van Grootven ; Jeuris, Anthony; Jonckers, Maren; Devriendt, Els; Dierckx de Casterlé, Bernadette; Dubois, Christophe; Fagard, Katleen; Herregods, Marie-Christine; Hornikx, Miek; Meuris, Bart; Rex, Steffen; Tournoy, Jos; Milisen, Koen; Flamaing, Johan; Deschodt, Mieke

**Source:** Journal of the American Geriatrics Society; May 2021; vol. 69 (no. 5); p. 1377-1387

**Publication Date:** May 2021

**Publication Type(s):** Academic Journal

Available at [Journal of the American Geriatrics Society](#) - from Wiley Online Library

**Abstract:**

**Background/Objectives:** Older patients admitted to cardiac care units often suffer functional decline. We evaluated whether a nurse-led geriatric co-management program leads to better functional status at hospital discharge.

**Design:** A quasi-experimental before-and-after study was performed between September 2016 and December 2018, with the main endpoint at hospital discharge and follow-up at 6 months.

**Setting:** Two cardiac care units of the University Hospitals Leuven. **Participants:** One hundred and fifty-one intervention and 158 control patients aged 75 years or older admitted for acute cardiovascular disease or transcatheter aortic valve implantation.

**Intervention:** A nurse from the geriatrics department performed a comprehensive geriatric assessment within 24 h of admission. The cardiac care team and geriatrics nurse drafted an interdisciplinary care plan, focusing on early rehabilitation, discharge planning, promoting physical activity, and preventing geriatric syndromes. The geriatrics nurse provided daily follow-up and coached the cardiac team. A geriatrician co-managed patients with complications.

**MEASUREMENTS:** The primary outcome was functional status measured using the Katz Index for independence in activities of daily living (ADL; one-point difference was considered clinically relevant). Secondary outcomes included the incidence of ADL decline and complications, length of stay, unplanned readmissions, survival, and quality of life.

**RESULTS:** The mean age of patients was 85 years. Intervention patients had better functional status at hospital



discharge (8.9, 95% CI = 8.7–9.3 versus 9.5, 95% CI = 9.2–9.9;  $p = 0.019$ ) and experienced 18% less functional decline during hospitalization (25% vs. 43%,  $p = 0.006$ ). The intervention group experienced significantly fewer cases of delirium and obstipation during hospitalization, and significantly fewer nosocomial infections. At 6-month follow-up, patients had significantly better functional status and quality of life. There were no differences regarding length of stay, readmissions, or survival.

**CONCLUSION:** This first nurse-led geriatric co-management program for frail patients on cardiac care units was not effective in improving functional status, but significantly improved secondary outcomes.

**Database:** CINAHL

## 9. Cardiovascular disease: the gender divide.

**Author(s):** Bostock

**Source:** Practice Nursing; May 2021; vol. 32 (no. 5); p. 184-188

**Publication Date:** May 2021

**Publication Type(s):** Academic Journal

Available at [Practice Nursing](#) - from MA Healthcare (Imprint of Mark Allen Group)

**Abstract:** Cardiovascular disease is often thought of as a condition that mainly affects men. Beverley Bostock analyses the role practice nurses can play in recognising and managing cardiovascular disease in women. Although cardiovascular disease (CVD) is recognised to be a condition that affects men more than women overall, this risks underplaying the significant challenges relating to the diagnosis and management of CVD in women. Women are adversely affected compared to men in terms of diagnosis, acute management and implementation of secondary prevention, and the evidence base for treating women is lacking, due to the low numbers of women included in trials. Hormonal fluctuations throughout a woman's lifetime can also affect CVD risk. GPNs are ideally placed to consider the challenges of recognising and addressing CVD risk in women and to support them with engaging in reducing their lifetime risk.

**Database:** CINAHL

## 10. HfpEF: A geriatric syndrome

**Author(s):** Denny R.; Dewar S.

**Source:** Journal of the American Geriatrics Society; Apr 2021; vol. 69

**Publication Date:** Apr 2021

**Publication Type(s):** Conference Abstract

Available at [Journal of the American Geriatrics Society](#) - from Wiley Online Library

**Abstract:**

**Introduction:** Heart failure with preserved ejection fraction (HFpEF) is becoming increasingly common among older adults. Currently, HFpEF is a geriatric syndrome involving multiple organ systems, predisposing to frailty, and cognitive impairment. (Beltrami, 2019) HFpEF is more commonly diagnosed than heart failure with reduced ejection fraction and a significant contributor to hospital readmissions, with the vast majority of readmissions due to non-cardiac causes. The prevalence of HFpEF is increasing in our aging population due to an increase in risk factors, including hypertension, obesity, and diabetes. HFpEF patients have co-existent undiagnosed depression, frailty, and lower quality of life. (Warraich, 2018) This case report discusses a patient with multiple co-morbid conditions and her arduous course involving multiple hospital readmissions, prolonged subacute rehabilitation (SAR), then needing long term care (LTC) before being referred to hospice.

**Case:** The patient is a 72-year-old female with a past medical history of obesity, HFpEF, nonalcoholic steatohepatitis cirrhosis, stage 3 kidney disease, osteomyelitis, and toe amputation. During her last year of life, she had greater than ten hospital admissions for decompensated heart failure with kidney injury, altered mental status due to hepatic



encephalopathy, and osteomyelitis needing toe amputation. She needed subacute rehabilitation after the sixth hospitalization. She demonstrated cognitive and functional decline despite maximal therapies; thus, she was transitioned to LTC. She remained bed-bound in LTC with challenges to adhere to lactulose and a narrow therapeutic window for diuretic dosing. Her last hospitalization was due to altered mental status, and a palliative referral was initiated. The patient was enrolled in hospice and died comfortably after ten days. This case highlights that HFpEF is a geriatric syndrome with the potential to rapidly decline due to associated co-morbidities, needing multiple hospitalizations, care transitions from home to SAR and LTC, and finally enrolled in hospice. Conclusion(s): HFpEF is a complex disease with multifactorial pathophysiology and clinical heterogeneity. Understanding the varied presentation will help clinicians manage this geriatric syndrome effectively, thus reducing hospital admissions and providing timely guidance to patients and families with goals of care conversations while enabling high-quality end-of-life care.

**Database:** EMBASE

### **11. Association Between Use of Rehabilitation in the Acute Care Hospital and Hospital Readmission or Mortality in Patients with Stroke**

**Author(s):** Freburger J.K.; Chou A.; Euloth T.; Matcho B.; Bilderback A.

**Source:** Archives of physical medicine and rehabilitation; Apr 2021

**Publication Date:** Apr 2021

**Publication Type(s):** Article

**PubMedID:** 33819490

#### **Abstract:**

**OBJECTIVE:** To examine the association between the number of physical and occupational therapist visits received in the acute care hospital and the risk of hospital readmission or death.

**DESIGN:** Retrospective cohort study of electronic health records and administrative claims data collected for 2.25 years (January 1, 2016 - March 30, 2018).

**SETTING:** 12 acute care hospitals in a large healthcare system in Western Pennsylvania.

**PARTICIPANTS:** 8,279 adults discharged with a primary stroke diagnosis.

**INTERVENTIONS:** The exposure was number of physical and occupational therapist visits during the acute care stay.

**MAIN OUTCOME MEASURE(S):** Generalized linear mixed models were estimated to examine the relationship between therapy use and 30-day and 7-day hospital readmission or death (outcome), controlling for patient demographic and clinical characteristics.

**RESULT(S):** The 30-day and 7-day readmission or death rate was 16.0% and 5.7% respectively. The number of therapist visits was inversely related to the risk of 30-day readmission or death. Relative to no therapist visits, the odds of readmission or death was, 0.70 [95% CI, 0.54-0.90] for individuals who received 1-2 visits; 0.59 [95% CI, 0.43-0.81] for 3-5 visits; and 0.57 [95% CI, 0.39-0.81] for >5 visits. A similar pattern was seen for the 7-day outcome with slightly larger effect sizes. Effects were also greater in individuals with more mobility limitations on admission and for those discharged to a post-acute care facility versus home.

**CONCLUSION(S):** There was an inverse relationship between the number of therapist visits and risk for readmission or death for patients with stroke discharged from an acute care hospital. Effects differed by time to the event (30 vs. 7 days) discharge location and mobility limitations on admission. Copyright © 2021. Published by Elsevier Inc.

**Database:** EMBASE

### **12. Acute stroke care during the first phase of COVID-19 pandemic in Norway**

**Author(s):** Kristoffersen E.S.; Jahr S.H.; Faiz K.W.; Storstein A.M.; Winsvold B.S.; Sandset E.C.

**Source:** Acta Neurologica Scandinavica; Apr 2021; vol. 143 (no. 4); p. 349-354



**Publication Date:** Apr 2021

**Publication Type(s):** Article

**PubMedID:** 33421104

Available at [Acta neurologica Scandinavica](#) - from Wiley Online Library

Available at [Acta neurologica Scandinavica](#) - from Unpaywall

**Abstract:**

**Objectives:** The aim of the present study was to investigate how the initial phase of the COVID-19 pandemic affected the hospital stroke management and research in Norway.

**Material(s) and Method(s):** All neurological departments with a Stroke Unit in Norway (n = 17) were invited to participate in a questionnaire survey. The study focused on the first lockdown period, and all questions were thus answered in regard to the period between 12 March and 15 April 2020.

**Result(s):** The responder rate was 94% (16/17). Eighty-one % (13/16) reported that the pandemic affected their department, and 63% (10/16) changed their stroke care pathways. The number of new acute admissions in terms of both strokes and stroke mimics decreased at all 16 departments. Fewer patients received thrombolysis and endovascular treatment, and multidisciplinary stroke rehabilitation services were less available. The mandatory 3 months of follow-up of stroke patients was postponed at 73% of the hospitals. All departments conducting stroke research reported a stop in ongoing projects.

**Conclusion(s):** In Norway, hospital-based stroke care and research were impacted during the initial phase of the COVID-19 pandemic, with likely repercussions for patient care and outcomes. In the future, stroke departments will require contingency plans in order to protect the entire stroke treatment chain. Copyright © 2021 John Wiley & Sons A/S. Published by John Wiley & Sons Ltd

**Database:** EMBASE

### **13. Cardio-Oncology: The Intersection Between Cardiovascular Disease and Cancer.**

**Author(s):** SHANK COVIELLO ; AMIN, KEJAL

**Source:** Journal of the Advanced Practitioner in Oncology; Apr 2021; vol. 12 (no. 4); p. 253-256

**Publication Date:** Apr 2021

**Publication Type(s):** Academic Journal

Available at [Journal of the Advanced Practitioner in Oncology](#) - from Europe PubMed Central - Open Access

**Abstract:** Cardio-oncology is a rapidly emerging field, and advanced practitioners (APs) play key roles in the prevention, early detection, and optimal treatment of cardiotoxicities associated with cancer therapies. At JADPRO Live Virtual 2020, Jessica Shank Coviello, DNP, APRN, ANP-BC, and Kejal Amin, PharmD, MBA, BCOP, reviewed patient risk factors and cardiovascular therapeutic agents that APs should be aware of.

**Database:** CINAHL

### **14. Evaluating the impact of a pharmacist-managed hypertension collaborative care model in vascular neurology patients in an inpatient acute care setting**

**Author(s):** Smith A.; Bledsoe K.; Madden T.; Artale J.; Sindlinger T.

**Source:** Stroke; Mar 2021; vol. 52

**Publication Date:** Mar 2021

**Publication Type(s):** Conference Abstract

**Abstract:** Introduction: The utility of pharmacist-managed collaborative practice agreements (CPA) in the management of hypertension is well established in the outpatient setting. There has been little evaluation of the use of CPAs in the inpatient acute care setting, and none described specifically in the vascular neurology population.



Treatment of hypertension is a critical intervention for the secondary prevention of acute ischemic stroke. This quality improvement project evaluated the implementation of a CPA for the inpatient acute care management of hypertension in vascular neurology patients at University of Virginia Health.

**Method(s):** A CPA was developed between the neurosciences clinical pharmacist group and the inpatient vascular neurology service, legally vetted, and implemented in June 2019. All vascular neurology patient charts in which an electronic CPA referral was placed from June 2019 through June 2020 were reviewed. Patients were excluded if they were discharged within 24 hours of the referral being placed. The primary objective was to describe and evaluate the implementation of a pharmacist-driven hypertension management practice in the inpatient acute care setting. All patient demographic and clinical data were analyzed using descriptive statistics. Secondary safety outcomes included documented hypotensive events (SBP <90) and acute kidney injury (AKI, increase in SCr by 0.3 mg/dl within 48 hours).

**Result(s):** During the study period, 26 referrals were placed, and 19 patients were included for review. On average, patients were on 2 anti-hypertensive medications prior to admission. From the time of referral to discharge (mean 6 days), systolic blood pressure (SBP) was reduced on average by 36 mmHg (mean percentage reduction 20%) and diastolic blood pressure (DBP) by 12 mmHg Journal of the American Heart Association (JAHA)(mean percentage reduction 7%). Ten patients (53%) met the goal of SBP < 140 at discharge. There were 5 hypotensive events and 4 instances of AKI, all of which were mild and recovered prior to discharge.

**Conclusion(s):** A pharmacist-managed hypertension CPA was successfully implemented in vascular neurology patients in the inpatient acute care setting. The practice demonstrated improved blood pressure control and minimal adverse outcomes.

**Database:** EMBASE

## 15. Objective Risk Assessment vs Standard Care for Acute Coronary Syndromes: A Randomized Clinical Trial

**Author(s):** Chew D.P.; Morton E.; Horsfall M.; Hyun K.; Chow C.K.; D'Souza M.; Hillis G.S.; Quinn S.; Yan A.T.; Goodman S.G.; Gale C.P.; Fox K.; Brieger D.

**Source:** JAMA Cardiology; Mar 2021; vol. 6 (no. 3); p. 304-313

**Publication Date:** Mar 2021

**Publication Type(s):** Article

**PubMedID:** 33295965

### **Abstract:**

**Importance:** Although international guidelines recommend use of the Global Registries of Acute Coronary Events (GRACE) risk score (GRS) to guide acute coronary syndrome (ACS) treatment decisions, the prospective utility of the GRS in improving care and outcomes is unproven.

**Objective(s):** To assess the effect of routine GRS implementation on guideline-indicated treatments and clinical outcomes of hospitalized patients with ACS.

**Design, Setting, and Participant(s):** Prospective cluster (hospital-level) randomized open-label blinded end point (PROBE) clinical trial using a multicenter ACS registry of acute care cardiology services. Fixed sampling of the first 10 patients within calendar month, with either ST-segment elevation or non-ST-segment elevation ACS. The study enrolled patients from June 2014 to March 2018, and data were analyzed between February 2020 and April 2020.

**Intervention(s):** Implementation of routine risk stratification using the GRS and guideline recommendations.

**Main Outcomes and Measures:** The primary outcome was a performance score based on receipt of early invasive treatment, discharge prescription of 4 of 5 guideline-recommended pharmacotherapies, and cardiac rehabilitation referral. Clinical outcomes included a composite of all-cause death and/or myocardial infarction (MI) within 1 year. **Result(s):** This study enrolled 2318 patients from 24 hospitals and was stopped prematurely owing to futility. Of the patients enrolled, median age was 65 years (interquartile range, 56-74 years), 29.5% were women (n = 684), and 62.9% were considered high risk (n = 1433). Provision of all 3 measures among high-risk patients did not differ between the randomized arms (GRS: 424 of 717 [59.9%] vs control: 376 of 681 [55.2%]; odds ratio [OR], 1.04; 95% CI, 0.63-1.71; P = .88). The provision of early invasive treatment was increased compared with the control arm (GRS:



1042 of 1135 [91.8%] vs control: 989 of 1183 [83.6%]; OR, 2.26; 95% CI, 1.30-3.96; P =.004). Prescription of 4 of 5 guideline-recommended pharmacotherapies (GRS: 864 of 1135 [76.7%] vs control: 893 of 1183 [77.5%]; OR, 0.97; 95% CI, 0.68-1.38) and cardiac rehabilitation (GRS: 855 of 1135 [75.1%] vs control: 861 of 1183 [72.8%]; OR, 0.68; 95% CI, 0.32-1.44) were not different. By 12 months, GRS intervention was not associated with a significant reduction in death or MI compared with the control group (GRS: 96 of 1044 [9.2%] vs control: 146 of 1087 [13.4%]; OR, 0.66; 95% CI, 0.38-1.14).

Conclusions and Relevance: Routine GRS implementation in cardiology services with high levels of clinical care was associated with an increase in early invasive treatment but not other aspects of care. Low event rates and premature study discontinuation indicates the need for further, larger scale randomized studies. Trial Registration: anzctr.org.au Identifier: ACTRN12614000550606. Copyright © 2020 American Medical Association. All rights reserved.

**Database:** EMBASE

## **16. Artificial neural network-based prediction of prolonged length of stay and need for post-acute care in acute coronary syndrome patients undergoing percutaneous coronary intervention**

**Author(s):** Kulkarni H.; Thangam M.; Amin A.P.

**Source:** European Journal of Clinical Investigation; Mar 2021; vol. 51 (no. 3)

**Publication Date:** Mar 2021

**Publication Type(s):** Article

**PubMedID:** 33043432

Available at [European journal of clinical investigation](#) - from Wiley Online Library

### **Abstract:**

**Background:** Prolonged length of stay (LOS) and post-acute care after percutaneous coronary intervention (PCI) is common and costly. Risk models for predicting prolonged LOS and post-acute care have limited accuracy. Our goal was to develop and validate models using artificial neural networks (ANN) to predict prolonged LOS > 7days and need for post-acute care after PCI.

**Method(s):** We defined prolonged LOS as  $\geq 7$  days and post-acute care as patients discharged to: extended care, transitional care unit, rehabilitation, other acute care hospital, nursing home or hospice care. Data from 22 675 patients who presented with ACS and underwent PCI was shuffled and split into a derivation set (75% of dataset) and a validation dataset (25% of dataset). Calibration plots were used to examine the overall predictive performance of the MLP by plotting observed and expected risk deciles and fitting a lowess smoother to the data. Classification accuracy was assessed by a receiver-operating characteristic (ROC) and area under the ROC curve (AUC).

**Result(s):** Our MLP-based model predicted prolonged LOS with an accuracy of 90.87% and 88.36% in training and test sets, respectively. The post-acute care model had an accuracy of 90.22% and 86.31% in training and test sets, respectively. This accuracy was achieved with quick convergence. Predicted probabilities from the MLP models showed good (prolonged LOS) to excellent calibration (post-acute care).

**Conclusion(s):** Our ANN-based models accurately predicted LOS and need for post-acute care. Larger studies for replicability and longitudinal studies for evidence of impact are needed to establish these models in current PCI practice. Copyright © 2020 Stichting European Society for Clinical Investigation Journal Foundation. Published by John Wiley & Sons Ltd

**Database:** EMBASE

## **17. Cardiovascular and Renal Morbidity in Takayasu Arteritis: A Population-Based Retrospective Cohort Study From the United Kingdom.**

**Author(s):** Goel ; Chandan, Joht Singh; Thayakaran, Rasiah; Adderley, Nicola J.; Nirantharakumar, Krishnarajah; Harper, Lorraine

**Source:** Arthritis & Rheumatology; Mar 2021; vol. 73 (no. 3); p. 504-511



**Publication Date:** Mar 2021

**Publication Type(s):** Academic Journal

Available at [Arthritis & rheumatology \(Hoboken, N.J.\)](#) - from Wiley Online Library

**Abstract:**

**Objective:** Cardiovascular disease (CVD) is a major complication and cause of mortality in Takayasu arteritis (TAK), but population-based controlled studies from the UK are lacking. We undertook the present study to investigate the frequency of morbidity and mortality related to CVD, as well as to cerebrovascular and kidney disease, among patients with TAK in the UK.

**Methods:** Yearly cohort and cross-sectional studies were performed from 2000 to 2017 to estimate annual incidence and prevalence, respectively, of TAK. Using a UK primary care database (IQVIA Medical Research Data), an open retrospective matched cohort study was conducted to estimate risk of hypertension, diabetes, cardiovascular morbidity, chronic kidney disease (CKD), and all-cause mortality in TAK. Risk (adjusted hazard ratio [HR]) of the assessed comorbidities among patients with TAK compared to age- and sex-matched controls was estimated. Changes in medication prescription over time were examined in both groups.

**Results:** One hundred forty-two patients with TAK (median age 53.4 years [interquartile range 33.8–70.7]) and 1,371 matched controls were included. The annual incidence and prevalence of TAK were 0.8 per million and 7.5 per million respectively. All-cause mortality was increased in TAK (adjusted HR 1.88 [95% confidence interval 1.29–2.76]). Patients with TAK had an increased risk of developing ischemic heart disease, stroke/transient ischemic attack, combined CVD, and peripheral vascular disease compared to controls, but no increase in risk of hypertension, CKD, heart failure, or diabetes. Only ~50% of patients with TAK requiring secondary CVD prevention were prescribed statins or antiplatelet agents within 1 year after study entry.

**Conclusion:** Cardiovascular morbidity was increased among patients with TAK receiving primary care services in the UK. Treatment with statins and antiplatelet agents in these patients was suboptimal.

**Database:** CINAHL

### **18. Implementing a stepped-care psychological pathway for cardiac patients with comorbid anxiety and depression in the UK: a service development project.**

**Author(s):** Salt, Heather; El-Salahi, Shama; Schiza, Angeliki; Dent, June

**Source:** British Journal of Cardiac Nursing; Mar 2021; vol. 16 (no. 3); p. 1-14

**Publication Date:** Mar 2021

**Publication Type(s):** Academic Journal

**Abstract:**

**Background/Aims:** This was a pilot study that was part of a Department of Health and Social Care initiative to improve access to cognitive behavioural therapies for patients with long-term health conditions. The service development work involved integrating an 'Improving Access to Psychological Therapies' service with a cardiac rehabilitation service, to treat patients with cardiac disease and comorbid anxiety and/or depression. The aim was to reduce levels of anxiety and depression, urgent care visits, inpatient stays and outpatient appointments, and secondary care service usage.

**Methods:** A repeated-measures design was implemented using clinical data collected as part of routine practice. A quasi-control group was used for the economic evaluation, comparing patients who entered into therapy with those who did not. Collaboration between an Improving Access to Psychological Therapies and cardiac rehabilitation service identified 222 cardiac patients (142 males; 80 females) with comorbid anxiety and/or depression to access the pathway over 29 months. Patients accessed psychological therapy using the Improving Access to Psychological Therapies stepped-care model, where therapy intensity and durations varied according to patient need and complexity. Psychological outcomes were measured at three time points: assessment; end of contact; and 3-month follow up. Secondary care service usage was measured for 6 months before and after therapy.



Results: Significant improvements on all psychological outcomes were found when comparing scores between the three time points. Patients with coronary heart disease and myocardial infarction who received Improving Access to Psychological Therapies treatments had decreased use of secondary care hospital services.

Conclusions: An integrated Improving Access to Psychological Therapies and cardiac rehabilitation service can provide effective, adapted evidence-based psychological treatments for cardiac patients with comorbid anxiety and depression.

**Database:** CINAHL

### **19. Increased knowledge makes a difference! – general practitioners' experiences of pictorial information about subclinical atherosclerosis for primary prevention: an interview study from the VIPVIZA trial.**

**Author(s):** Bengtsson ; Lindvall, Kristina; Norberg, Margareta; Fhärm, Eva

**Source:** Scandinavian Journal of Primary Health Care; Mar 2021; vol. 39 (no. 1); p. 77-84

**Publication Date:** Mar 2021

**Publication Type(s):** Academic Journal

Available at [Scandinavian Journal of Primary Health Care](#) - from Europe PubMed Central - Open Access

Available at [Scandinavian Journal of Primary Health Care](#) - from EBSCO (MEDLINE Complete)

Available at [Scandinavian Journal of Primary Health Care](#) - from EBSCO (Biomedical Reference Collection - Comprehensive)

Available at [Scandinavian Journal of Primary Health Care](#) - from EBSCO (Psychology and Behavioral Sciences Collection)

Available at [Scandinavian Journal of Primary Health Care](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Scandinavian Journal of Primary Health Care](#) - from Unpaywall

**Abstract:** To explore how pictorial information on subclinical atherosclerosis affects GPs' perception of patient cardiovascular disease (CVD) risk, their communication with patients, and GPs' attitude to the treatment of CVD risk factors. Fifteen individual interviews were conducted between March 2014 and December 2016, with GPs who had received pictorial information regarding their patients' subclinical atherosclerosis. The pictorial information was also received by the patients together with written information regarding atherosclerosis and CVD risk prior to the appointment with their GP. The interviews were recorded, transcribed and analyzed using qualitative content analysis. Three categories were identified in the analysis. Increased knowledge makes a difference: When patients had more in-depth knowledge regarding atherosclerosis, the consultation became more patient-centered and moved towards shared decision making. This is real, not just a number: GPs described their risk assessment and the patient's risk perception as more accurate with pictorial information about subclinical atherosclerosis. How to deal with the result – A passive to active approach: Some GPs acted promptly on the pictorial information while others took no action. Pictorial information regarding patients' subclinical atherosclerosis affected GPs' assessment of CVD risk. The communication shifted towards shared decision-making although the GPs' attitude to the result and treatment of CVD risk factors varied. Informing patients about examination results, both in writing and pictures, prior to a consultation can facilitate shared decision making and enhance preventive measures. . Providing pictorial information about carotid ultrasound results and information regarding atherosclerosis to GPs and patients affects primary prevention: •Informing patients about examination results prior to a consultation can be useful in clinical practice to enhance preventive measures •GPs experienced that increased patient knowledge resulted in a more patient-centered consultation and improved shared decision-making •GPs described their risk assessment and patients' risk perception as more accurate with pictorial information about subclinical atherosclerosis

**Database:** CINAHL

### **20. Evaluation of risk-adjusted home time after hospitalization for heart failure as a potential hospital performance metric**



**Author(s):** Pandey A.; Keshvani N.; Vaughan-Sarrazin M.S.; Gao Y.; Girotra S.; Fonarow G.C.; Yancy C.

**Source:** JAMA Cardiology; Feb 2021; vol. 6 (no. 2); p. 169-176

**Publication Date:** Feb 2021

**Publication Type(s):** Article

**PubMedID:** 33112393

**Abstract:**

**IMPORTANCE:** Thirty-day home time, defined as time spent alive and out of a hospital or facility, is a novel, patient-centered performance metric that incorporates readmission and mortality.

**OBJECTIVES** To characterize risk-adjusted 30-day home time in patients discharged with heart failure (HF) as a hospital-level quality metric and evaluate its association with the 30-day risk-standardized readmission rate (RSRR), 30-day risk-standardized mortality rate (RSMR), and 1-year RSMR.

**DESIGN, SETTING, AND PARTICIPANTS** This hospital-level cohort study retrospectively analyzed 100% of Medicare claims data from 2 968 341 patients from 3134 facilities from January 1, 2012, to November 30, 2017. **EXPOSURES** Home time, defined as time spent alive and out of a short-term hospital, skilled nursing facility, or intermediate/long-term facility 30 days after discharge.

**MAIN OUTCOMES AND MEASURES** For each hospital, a risk-adjusted 30-day home time for HF was calculated similar to the Centers for Medicare & Medicaid Services risk-adjustment models for 30-day RSRR and RSMR. Hospitals were categorized into quartiles (lowest to highest risk-adjusted home time). The correlations between hospital rates of risk-adjusted 30-day home time and 30-day RSRR, 30-day RSMR, and 1-year RSMR were estimated using the Pearson correlation coefficient. Distribution of days lost from a perfect 30-day home time were calculated. Reclassification of hospital performance using 30-day home time vs 30-day RSRR was also evaluated.

**RESULTS** Overall, 2 968 341 patients (mean [SD] age, 81.0 [8.3] years; 53.6% female) from 3134 hospitals were included in this study. The median hospital risk-adjusted 30-day home time for patients with HF was 21.77 days (range, 8.22-28.41 days). Hospitals in the highest quartile of risk-adjusted 30-day home time (best-performing hospitals) were larger (mean [SD] number of beds, 285 [275]), with a higher volume of patients with HF (median, 797 patients; interquartile range, 395-1484) and were more likely academic hospitals (59.9%) with availability of cardiac surgery (51.1%) and cardiac rehabilitation (68.8%). A total of 72% of home time lost was attributable to stays in an intermediate- or long-term care facility (mean [SD], 2.65 [6.44] days) or skilled nursing facility (mean [SD], 3.96 [9.04] days), 13% was attributable to short-term readmissions (mean [SD], 1.25 [3.25] days), and 15% was attributable to death (mean [SD], 1.37 [6.04] days). Among 30-day outcomes, the 30-day RSRR and 30-day RSMR decreased in a graded fashion across increasing 30-day home time categories (correlation coefficients: 30-day RSRR and 30-day home time, -0.23,  $P < .001$ ; 30-day RSMR and 30-day home time, -0.31,  $P < .001$ ). Similar patterns of association were also noted for 1-year RSMR and 30-day home time (correlation coefficient, -0.35,  $P < .001$ ). Thirty-day home time meaningfully reclassified hospital performance in 30% of the hospitals compared with 30-day RSRR and in 25% of hospitals compared with 30-day RSMR.

**CONCLUSIONS AND RELEVANCE** In this study, 30-day home time among patients discharged after a hospitalization for HF was objectively assessed as a hospital-level quality metric using Medicare claims data and was associated with readmission and mortality outcomes and with reclassification of hospital performance compared with 30-day RSRR and 30-day RSMR. Copyright © 2020 American Medical Association. All rights reserved.

**Database:** EMBASE

## **21. Value of treatment by comprehensive stroke services for the reduction of critical gaps in acute stroke care in Europe**

**Author(s):** Webb A.J.S.; Fonseca A.C.; Berge E.; Randall G.; Fazekas F.; Norrving B.; Nivelles E.; Thijs V.; Vanhooren G.

**Source:** European Journal of Neurology; Feb 2021; vol. 28 (no. 2); p. 717-725

**Publication Date:** Feb 2021

**Publication Type(s):** Review



**PubMedID:** 33043544

Available at [European journal of neurology](#) - from Wiley Online Library

Available at [European journal of neurology](#) - from Unpaywall

**Abstract:** Stroke is the second leading cause of death and dependency in Europe and costs the European Union more than 30bn, yet significant gaps in the patient pathway remain and the cost-effectiveness of comprehensive stroke care to meet these needs is unknown. The European Brain Council Value of Treatment Initiative combined patient representatives, stroke experts, neurological societies and literature review to identify unmet needs in the patient pathway according to Rotterdam methodology. The cost-effectiveness of comprehensive stroke services was determined by a Markov model, using UK cost data as an exemplar and efficacy data for prevention of death and dependency from published systematic reviews and trials, expressing effectiveness as quality-adjusted life-years (QALYs). Model outcomes included total costs, total QALYs, incremental costs, incremental QALYs and the incremental cost-effectiveness ratio (ICER). Key unmet needs in the stroke patient pathway included inadequate treatment of atrial fibrillation (AF), access to neurorehabilitation and implementation of comprehensive stroke services. In the Markov model, full implementation of comprehensive stroke services was associated with a 9.8% absolute reduction in risk of death or dependency, at an intervention cost of 9566 versus 6640 for standard care, and long-term care costs of 35 169 per 5.1251 QALYs vs. 32 347.40 per 4.5853 QALYs, resulting in an ICER of 5227.89. Results were robust in one-way and probabilistic sensitivity analyses. Implementation of comprehensive stroke services is a cost-effective approach to meet unmet needs in the stroke patient pathway, to improve acute stroke care and support better treatment of AF and access to neurorehabilitation. Copyright © 2020 European Academy of Neurology

**Database:** EMBASE

## 22. Decreased Stroke Presentation Rates at a Comprehensive Stroke Center during COVID-19

**Author(s):** Dowlatshahi D.; Stotts G.; Walker G.; Yogendrakumar V.; Fahed R.; Blacquiere D.; Shamy M.; Bourgoin A.; Gocan S.; Dunn L.; Powell J.; Silver F.L.

**Source:** Canadian Journal of Neurological Sciences; Jan 2021; vol. 48 (no. 1); p. 118-121

**Publication Date:** Jan 2021

**Publication Type(s):** Article

**PubMedID:** 32878659

Available at [The Canadian journal of neurological sciences. Le journal canadien des sciences neurologiques](#) - from Unpaywall

**Abstract:** We reviewed stroke care delivery during the COVID-19 pandemic at our stroke center and provincial telestroke system. We counted referrals to our prevention clinic, code strokes, thrombolysis, endovascular thrombectomies, and activations of a provincial telestroke system from February to April of 2017-2020. In April 2020, there was 28% reduction in prevention clinic referrals, 32% reduction in code strokes, and 26% reduction in telestroke activations compared to prior years. Thrombolysis and endovascular thrombectomy rates remained constant. Fewer patients received stroke services across the spectrum from prevention, acute care to telestroke care in Ontario, Canada, during the COVID-19 pandemic. Copyright ©

**Database:** EMBASE

## 23. Derivation of Patient-Defined Adverse Cardiovascular and Noncardiovascular Events Through a Modified Delphi Process.

**Author(s):** Sun ; Rodger, Jillian; Duffett, Lisa; Tulloch, Heather; Crean, Andrew M.; Chong, Aun-Yeong; Rubens, Fraser D.; MacPhee, Erika; Mesana, Thierry G.; Lee, Douglas S.; van Diepen, Sean; Beanlands, Rob S.; Ruel, Marc; Julien, Ann-Marie; Bilodeau, Jean

**Source:** JAMA Network Open; Jan 2021; vol. 4 (no. 1)



**Publication Date:** Jan 2021

**Publication Type(s):** Academic Journal

Available at [JAMA Network Open](#) - from Unpaywall

**Abstract:**

**Key Points:** Question: Which adverse cardiovascular and noncardiovascular events are most relevant to patients?

**Findings:** In this qualitative study of patients with advanced cardiovascular diseases and their caregivers and clinicians, a consensus-based definition of patient-defined adverse cardiovascular and noncardiovascular events (PACE) was reached using a modified Delphi process; the definition included severe stroke necessitating hospitalization for 14 days or more or inpatient rehabilitation, ventilator dependence, new onset or worsening heart failure, nursing home admission, and new onset dialysis.

**Meaning:** Given the paucity of patient-centered outcomes in cardiovascular research, the concept of PACE may be applied in future epidemiological and intervention studies to ensure that management of cardiovascular disease is founded on outcomes that are important and relevant to patients, caregivers, and clinicians. This qualitative study attempts to derive patient-defined adverse cardiovascular and noncardiovascular events through a modified Delphi consensus-based process involving panel discussions with patients and their caregivers and clinicians. **Importance:** There is little evidence to support patient-centered outcomes in patients with cardiovascular disease. **Objective:** To derive patient-defined adverse cardiovascular and noncardiovascular events (PACE) through a consensus-based process.

**Design, Setting, and Participants:** This pan-Canadian, consensus-based, qualitative study used an iterative Delphi method to achieve consensus within a 35-member panel consisting of patients with cardiovascular diseases and their caregivers and clinicians. The process included 4 rounds of online questionnaires, followed by an in-person final consensus meeting. Data analysis was performed in September 2019.

**Main Outcomes and Measures:** Defining PACE as a 5-item composite outcome. **Results:** Thirty-five potential panelists consented to participate, including 11 clinicians (8 men [73%]) and 24 patients and caregivers (13 men [54%]). Twenty-nine (83%), 28 (80%), 26 (74%), and 23 (66%) of the panelists participated in each of respective the online rounds. A shortlist of 11 patient-defined items was further refined at the in-person meeting, which 20 of the panelists attended. The PACE definition that was decided through the consensus process was a composite of severe stroke necessitating hospitalization for 14 days or longer or inpatient rehabilitation, ventilator dependence, new onset or worsening heart failure, nursing home admission, or new onset dialysis.

**Conclusions and Relevance:** This study defined PACE as a versatile, patient-centered outcome through a consensus process with input from patients, caregivers, and clinicians. Given the paucity of patient-centered outcomes in cardiovascular research, PACE may be considered as a potential outcome after methodological evaluation of its reliability.

**Database:** CINAHL

## 24. Statin therapy for primary cardiovascular prevention in adults older than 75 years.

**Author(s):** Rasmussen ; Yandrapalli, Srikanth; Aronow, Wilbert

**Source:** Polish Heart Journal / Kardiologia Polska; Jan 2021; vol. 79 (no. 1); p. 18-24

**Publication Date:** Jan 2021

**Publication Type(s):** Academic Journal

Available at [Kardiologia polska](#) - from EBSCO (MEDLINE Complete)

Available at [Kardiologia polska](#) - from Unpaywall

**Abstract:** Cardiovascular disease (CVD) is a major contributor to morbidity and mortality worldwide. An abundance of research demonstrated that low-density lipoprotein cholesterol (LDL-C) is an important risk factor for CVD that can be modified with the drug class hydroxymethylglutaryl-CoA reductase inhibitors, or statins. Statins have an unequivocal benefit in reducing CVD risk across age groups for secondary prevention. However, the benefit of these drugs for primary prevention in adults older than 75 years of age remains equivocal and controversial. The global



population is aging rapidly and primary CVD prevention recommendations to guide statin therapy above the age of 75 years are necessary. However, current trends in statin therapy illustrate that it is underutilized for primary prevention in that age group. Concerns exist regarding the higher incidence of common adverse events from statin use in the older population; however, there are no confirmatory data regarding these associations. In the light of available evidence, it is reasonable to offer statin therapy for primary prevention to all older individuals following a shared decision-making process that takes life expectancy, polypharmacy, frailty, and potential adverse effects into consideration. Combination therapies with other agents for the management of dyslipidemia should be considered to facilitate the use of tolerable doses of statins. Future investigations of dyslipidemia therapies must appropriately include this at-risk population to identify optimal drugs and drug combinations that have a high benefit-to-risk ratio for the prevention of CVD in the very old.

**Database:** CINAHL

## **25. Asians versus non-asian, differences in characteristic, management and outcomes for tpa-treated acute ischemic stroke patients in the enchanted trial**

**Author(s):** Chen C.; Li G.; Wang X.; Chen X.; Ouyang M.; Arima H.; Lindley R.; Chalmers J.; Song L.; Anderson C.; Sun L.; Robinson T.

**Source:** International Journal of Stroke; 2020; vol. 15 (no. 1); p. 53

**Publication Date:** 2020

**Publication Type(s):** Conference Abstract

Available at [International Journal of Stroke](#) - from Unpaywall

### **Abstract:**

**Background And Aims:** We aimed to determine differences in demographics, management and outcomes between Asian and non-Asian participants with acute ischemic stroke (AIS) in the Enhanced Control of Hypertension and Thrombolysis Stroke study (ENCHANTED).

**Method(s):** ENCHANTED was a partial-factorial trial in thrombolysis-eligible AIS patients randomly assigned to: (i) low-dose (0.6mg/kg) or standard-dose (0.9mg/kg) alteplase and; (ii) intensive (target systolic blood pressure [SBP] 130-140 mmHg) or guideline-recommended <180 mmHg) BP management. Functional outcomes included death or disability (mRS 2-6), disability (mRS 3-5) and death; key safety outcome was any intracranial hemorrhage (ICH). **Result(s):** Among 4551 patients (mean age 66.6 years, 37.8% female, 65.5% Asian) Asian patients were younger and less likely to have comorbidity (atrial fibrillation and hypercholesterolemia) and concomitant antihypertensive, warfarin, aspirin and statin therapy compared to non-Asians. They were also less likely to receive thromboembolic prophylaxis, be admitted to an acute stroke unit, be mobilized by therapist, and receive any rehabilitation over the first 7 days. Asian patients having an increased risk of ICH (adjusted odds ratio 1.48, 95% confidence interval 1.21-1.8; P=0.0001) and higher risk of death or neurological deterioration within 7 days (adjusted odds ratio 1.31, 95% confidence interval 1.04- 1.65; P=0.0223), however there were no significant differences compared to non-Asians for overall functional outcomes after adjustment for baseline imbalances.

**Conclusion(s):** Compared to non-Asians, Asian patients were at increased risk of ICH and progress in hospital after thrombolysis treatment for AIS, suggesting the need to access more evidence-based care in acute management. And more researches are needed to determine disparities in management pattern during convalescence.

**Database:** EMBASE

## **26. Hospital at home for heart failure patients: Our strategies to improve health outcomes**

**Author(s):** Palmiero P.; Maiello M.; D'Andria V.; Strano G.; Zito A.; Galasso F.; Greco A.

**Source:** Giornale Italiano di Cardiologia; Dec 2020; vol. 21 (no. 12)

**Publication Date:** Dec 2020

**Publication Type(s):** Conference Abstract



**Abstract:**

Introduction: Heart failure (HF) is a common cause for hospitalization in elderly patient, it is increasing in term of prevalence and causes an elevated health care cost. Hospital at Home (H&H) is a valid alternative to hospitalization for patients affected by chronic diseases, if we perform a high-quality home health care, we can decrease the hospital readmission rate, due to the increase of all medical conditions. H&H is beneficial for patients and advantageous for health care system, but still there is a wide debate about the efficacy choice of the care model. We give here our contribution presenting our proposal of H&H, keeping in mind that the success, of H&H strategy, is achieved when the care, given in the patient's home, has the same efficacy and safety of the hospital care, with patient and care giver satisfaction, improved quality of life and reduction of the costs. Our proposal of H&H. All patients had continuous monitoring of H&H care, it includes general physician visits, standard blood tests, pulse oximetry, spirometry, electrocardiography, arterial blood pressure monitoring, weight monitoring and oral medication administration. Monitoring happens through machine-based algorithms, with a dedicated hardware by patients home and a dashboard remotely followed by a clinical staff, ready to any alarms produced by these algorithms. Furthermore participants communicate with their H&H team by telephone or email message service. The physician is available every day, at a set time, or on appointment for urgent issues and visits, for emergency events the patients is send to hospital. Our proposal addresses to patients with a preexisting diagnosis of CHF, at stage C according to the American Heart Association criteria and a persistent functional impairment indicative of New York Heart Association (NYHA) class III or IV. They are considered eligible for H&H treatment to prevent acute decompensation of HF, the cardiac dysfunction includes systolic or diastolic dysfunction, abnormalities in cardiac rhythm, or preload and afterload mismatch. We use Mini-Mental State Examination for cognitive status, the SF 36 Survey for Quality of Life, the Minnesota Living with Heart Failure Questionnaire, the Mini Nutritional Assessment for nutritional status, the Cumulative Illness Rating Scale for comorbidity, and the Relative Stress Scale for the level of stress of the caregiver. We collect also traditional variables such as history of cigarette smoking, hypertension, type 1 and type 2 diabetes mellitus, obesity, alcohol consumption, lipid disorders, and familiarity for cardiac diseases. The admission to H&H is activated by a direct request of the general practitioner of the patient as an alternative to traditional hospital care or by a request from hospital ward physicians to allow early and protected discharge from the hospital. We perform an adequate education for patients, and family members, explaining the disease process and the importance of daily monitoring of: bodyweight, smoking cessation, physical activity and diet, compliance with drugs, and early recognition of symptoms indicative of worsening HF. Consultation with cardiologists is always possible by remote cardiologist control. Conclusion. H&H appears to increase time to readmission, improve QoL, and reduce costs of index hospitalization compared to routine hospitalization in select patients with uncompensated HF. H&H does not significantly reduce readmissions or mortality, but all studies assessing this are underpowered to detect a statistically significant difference in these outcomes. The success of H&H is due also to advancement in telehealth technologies and increased demand for treatment at home Larger clinical trials H&H for HF Further development of HaH care will require additional research with new large studies.

**Database:** EMBASE

**27. Impact of Left Atrial Appendage Closure on LAA Thrombus Formation and Thromboembolism After LAA Isolation**

**Author(s):** Fink T.; Heeger C.-H.; Sciacca V.; Reissmann B.; Schutte C.; Maurer T.; Rottner L.; Rillig A.; Mathew S.; Metzner A.; Ouyang F.; Kuck K.-H.; Tilz R.R.; Vogler J.; Sano M.; Keelani A.; Eitel C.; Eitel I.; Wohlmuth P.

**Source:** JACC: Clinical Electrophysiology; Dec 2020; vol. 6 (no. 13); p. 1687-1697

**Publication Date:** Dec 2020

**Publication Type(s):** Article

**PubMedID:** 33334448

**Abstract:**

**Objectives:** This study sought to evaluate the safety and effectiveness of electrical isolation of the left atrial appendage (LAAEI) as well as the status of left atrial appendage closure (LAAC) in these patients.



**Background(s):** Catheter-based LAEI is increasingly performed for treatment of symptomatic atrial fibrillation and pulmonary vein isolation nonresponders. Previous studies indicate an increased incidence of thromboembolic events after LAEI despite effective oral anticoagulation. Interventional LAAC may prevent cardioembolic events after LAEI but data regarding safety, feasibility, and efficacy of LAAC in this clinical setting are scarce.

**Method(s):** Consecutive patients who underwent LAEI at 2 German tertiary care hospitals were analyzed.

**Result(s):** A total of 270 patients underwent LAEI by radiofrequency ablation in 255 (94.4%), cryoballoon ablation in 12 (4.4%), and by a combination of both techniques in 3 cases (1.1%). Stroke or transient ischemic attack occurred in 24 of 244 (9.8%) individuals with available follow-up. LAA thrombus formation was found in 53 patients (19.6%). A total of 150 patients underwent LAAC after LAEI. No LAA thrombus was documented in any patient who underwent LAAC. Of the patients who underwent LAEI, 67.6% were in sinus rhythm after a mean of 682.7 +/- 61.7 days. LAA flow after LAEI but not arrhythmia recurrence was identified as an independent predictor of stroke and/or transient ischemic attack or LAA thrombus ( $p < 0.0001$ ).

**Conclusion(s):** Sinus rhythm was documented in about two-third of patients undergoing LAEI as treatment of therapy refractory atrial arrhythmias. LAAC potentially prevents LAA thrombus formation and thromboembolism. Copyright © 2020 American College of Cardiology Foundation

**Database:** EMBASE

## **28. Health Care Use Before First Heart Failure Hospitalization: Identifying Opportunities to Pre-Emptively Diagnose Impending Decompensation**

**Author(s):** Anderson K.; Austin P.C.; Fang J.; Lee D.S.; Ross H.J.

**Source:** JACC: Heart Failure; Dec 2020; vol. 8 (no. 12); p. 1024-1034

**Publication Date:** Dec 2020

**Publication Type(s):** Article

**PubMedID:** 33189631

Available at [JACC. Heart failure](#) - from Unpaywall

### **Abstract:**

**Objectives:** This study sought to describe the pattern of health care contacts in patients ultimately presenting with incident hospitalization for acute heart failure (HF) compared with chronic obstructive pulmonary disease (COPD) exacerbation or stable HF.

**Background(s):** Little is known about how effectively HF is detected before the first acute hospitalization.

**Method(s):** We compared 79,389 patients divided into 3 matched population cohorts in Ontario, Canada (2006-2013) with incident acute HF hospitalization, incident COPD hospitalization, or stable HF. The outcome of interest was the aggregate number of health care contacts occurring in each of the thirteen 28-day periods in the year preceding the index hospitalization. Health care contacts were defined as the total number of outpatient physician visits, hospitalizations for unrelated conditions, or emergency department visits.

**Result(s):** Acutely hospitalized patients with HF had a significant increase in health care contacts as time approached the index hospitalization. Patients with acute HF had a 28% increase in health care contacts in the last time period before the index hospitalization (adjusted rate ratio [RR]: 1.28; 95% confidence interval [CI]: 1.25 to 1.31;  $p < 0.001$ ) compared with matched COPD controls. Compared with stable HF, acutely hospitalized patients had a 75% increase in health care contacts during the same time period (RR: 1.75; 95% CI: 1.71 to 1.79;  $p < 0.001$ ). HF patients 20 to 40 years of age had an accelerated increase in the rate of health care contacts compared with those  $\geq 65$  years of age before index HF hospitalization (RR: 1.18; 95% CI: 1.08 to 1.28;  $p < 0.001$ ).

**Conclusion(s):** Patients consulted physicians multiple times before their incident acute HF hospitalization. These health care contacts could represent missed opportunities to prevent hospitalizations for HF. Copyright © 2020 The Authors

**Database:** EMBASE



## 29. Development of a Point of Care Test for CYP2C19 Allowing Genotype Guided Antiplatelet Prescribing to Prevent Recurrent Ischaemic Strokes

**Author(s):** McDermott J.H.; Newman W.G.; Ainsworth S.; Miele G.; Wright S.; Payne K.; Sen D.; Smith C.J.

**Source:** European Journal of Human Genetics; Dec 2020; vol. 28 ; p. 681-682

**Publication Date:** Dec 2020

**Publication Type(s):** Conference Abstract

Available at [European journal of human genetics : EJHG](#) - from Unpaywall

### Abstract:

Background: Clopidogrel is an antiplatelet medication recommended for secondary prevention of ischemic strokes and transient ischemic attacks in the UK. Activation is required via the P450 cytochrome system, of which CYP2C19 is a major component. CYP2C19 is highly polymorphic, with over 30 loss of function (LOF) alleles. Evidence suggests that outcomes could be improved if individuals with LOF alleles were prescribed alternative antiplatelets. We aimed to develop a point of care test (POCT) to identify CYP2C19 status in a clinically relevant timeframe, model the effect of implementation and capture patient views on acceptability.

Method(s): An asymmetric PCR was designed to amplify CYP2C19 alleles prior to melt curve analysis using fluorescent hybridisation probes. The assay was developed on the Genedrive rapid thermocycler using synthetic DNA target templates before validation with genomic DNA. A model-based cost-effectiveness analysis was used to assess the indicative incremental costs and consequences of genotype-guided prescribing, compared with current practice. A focus-group composed of stroke survivors explored acceptability of genotype-guided prescribing.

Result(s): The assay detects \*1, \*2, \*3, \*4, \*4b, \*10 and \*17 CYP2C19 alleles in diplotype, accounting for over 96% of global variation. This POCT identifies metaboliser status in <60 minutes via buccal swab. Qualitative evidence suggested genotype-guided prescribing was acceptable to patients. Indicative economic analysis suggested genotype-guided prescribing has the potential to improve health outcomes and save resource, but a definitive trial is required.

Conclusion(s): This assay identifies CYP2C19 metaboliser status in a clinically relevant timeframe. The assay is portable, non-invasive and facilitates tailored antiplatelet prescribing in the acute care setting.

**Database:** EMBASE

## 30. Risk factors of readmission to acute care hospital among individuals with heart failure and left ventricular assist device (LVAD) at inpatient rehabilitation setting (STROBE compliant article)

**Author(s):** Kim Y.K.; Balcetis N.; Novitch R.; Oh-Park M.

**Source:** Medicine; Dec 2020; vol. 99 (no. 52)

**Publication Date:** Dec 2020

**Publication Type(s):** Article

**PubMedID:** 33350737

Available at [Medicine](#) - from Europe PubMed Central - Open Access

Available at [Medicine](#) - from Unpaywall

### Abstract:

In post-acute care hospital setting, the heart failure (HF) individuals with left ventricular assist device (LVAD) have about 30% of transfer to acute care hospitals which requires readmission. There is relative increase in cost and mortality due to the readmission. The goal of this study is to identify possible risk factors at Inpatient Rehabilitation Unit (IRU) to decrease the rate of readmission to acute care hospitals. This study is retrospective study at the Inpatient Rehabilitation Unit (IRU). Twenty one individuals with HF and LVAD were admitted to IRU. We determined 2 subgroups. One is the readmission group (Readmission) and the other is the control group (Control). Readmission (n



= 6) is the individuals who were transferred to acute care hospital, and Control (n = 15) is the individuals who were discharged. To compare Readmission group with Control group and evaluate demographic, laboratory, and functional outcome parameters. Main Outcome Measures are Body Mass Index (BMI), International Normalized Ratio (INR), and Functional independence measure (FIM). At admission, INR in Readmission group was 3.4 +/- 1.2 and in Control group was 2.2 +/- 0.5 with a statistically significant p value (P = .004) and FIM score in Readmission group was 81.2 +/- 15.9 and in Control group was 96.3 +/- 11.5 with a statistically significant p value (P = .023). The study showed the individuals with HF and LVAD at IRU had high INR and low FIM which may be the cause for readmission and need more attentive care. This data can help identify the factors causing readmission and help reduce the rate of readmission. Further evaluation is necessary to determine the cause for readmission. Copyright © 2020 the Author(s). Published by Wolters Kluwer Health, Inc.

**Database:** EMBASE

### **31. Simulation training programs for acute stroke care: Objectives and standards of methodology**

**Author(s):** Casolla B.; Lecinana M.A.D.; Neves R.; Pfeilschifter W.; Svobodova V.; Mikulik R.; Jung S.; Kemmling A.; Santalucia P.

**Source:** European Stroke Journal; Dec 2020; vol. 5 (no. 4); p. 328-335

**Publication Date:** Dec 2020

**Publication Type(s):** Article

Available at [European Stroke Journal](#) - from Unpaywall

**Abstract:** The European Stroke Organisation (ESO) Simulation Committee was established in 2017 with the intent to promote simulation education and training in the stroke field. The application of simulation methodology in education and training improves healthcare professional performances in real clinical practice and patient outcomes. We evaluated the implementation of simulation training in stroke medicine, how it can significantly affect stroke pathways and quality of care. We herewith describe simulation techniques in the acute stroke setting. Simulation programs place the trainees in a safe environment, allowing both role-playings for decision making training and procedural simulation for technical skills improvement. This paper includes the position of the Committee on the key points, principles, and steps in order to set up and promote simulation programs in European stroke centers. Stroke is an emergency, and hyperacute phase management requires knowledge, expertise, optimal multidisciplinary team working, and timely actions in a very narrow time window. The ESO Simulation Committee promotes the implementation of simulation training in stroke care according to a specific and validated methodology. Copyright © European Stroke Organisation 2020.

**Database:** EMBASE

### **32. Efficacy of team-based collaborative care for distressed patients in secondary prevention of chronic coronary heart disease (TEACH): study protocol of a multicenter randomized controlled trial.**

**Author(s):** Herrmann-Lingen ; Albus, Christian; de Zwaan, Martina; Geiser, Franziska; Heinemann, Katrin; Hellmich, Martin; Michal, Matthias; Sadlonova, Monika; Tostmann, Ralf; Wachter, Rolf; Herbeck Belnap, Birgit

**Source:** BMC Cardiovascular Disorders; Dec 2020; vol. 20 (no. 1); p. 1-14

**Publication Date:** Dec 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM33302871

Available at [BMC cardiovascular disorders](#) - from BioMed Central

Available at [BMC cardiovascular disorders](#) - from Europe PubMed Central - Open Access

Available at [BMC cardiovascular disorders](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC cardiovascular disorders](#) - from EBSCO (MEDLINE Complete)



Available at [BMC cardiovascular disorders](#) - from Unpaywall

**Abstract:**

**Background:** Coronary heart disease (CHD) is the leading cause of death and years of life lost worldwide. While effective treatments are available for both acute and chronic disease stages there are unmet needs for effective interventions to support patients in health behaviors required for secondary prevention. Psychosocial distress is a common comorbidity in patients with CHD and associated with substantially reduced health-related quality of life (HRQoL), poor health behavior, and low treatment adherence.

**Methods:** In a confirmatory, randomized, controlled, two-arm parallel group, multicenter behavioral intervention trial we will randomize 440 distressed CHD patients with at least one insufficiently controlled cardiac risk factor to either their physicians' usual care (UC) or UC plus 12-months of blended collaborative care (TeamCare = TC). Trained nurse care managers (NCM) will proactively support patients to identify individual sources of distress and risk behaviors, establish a stepwise treatment plan to improve self-help and healthy behavior, and actively monitor adherence and progress. Additional e-health resources are available to patients and their families. Intervention fidelity is ensured by a treatment manual, an electronic patient registry, and a specialist team regularly supervising NCM via videoconferences and recommending protocol and guideline-compliant treatment adjustments as indicated. Recommendations will be shared with patients and their physicians who remain in charge of patients' care. Since HRQoL is a recommended outcome by both, several guidelines and patient preference we chose a  $\geq 50\%$  improvement over baseline on the HeartQoL questionnaire at 12 months as primary outcome. Our primary hypothesis is that significantly more patients receiving TC will meet the primary outcome criterion compared to the UC group. Secondary hypotheses will evaluate improvements in risk factors, psychosocial variables, health care utilization, and durability of intervention effects over 18-30 months of follow-up.

**Discussion:** TEACH is the first study of a blended collaborative care intervention simultaneously addressing distress and medical CHD risk factors conducted in cardiac patients in a European health care setting. If proven effective, its results can improve long-term chronic care of this vulnerable patient group and may be adapted for patients with other chronic conditions. **Trial Registration:** German Clinical Trials Register, DRKS00020824, registered on 4 June, 2020; [https://www.drks.de/drks\\_web/navigate.do?navigationId=trial.HTML&TRIAL\\_ID=DRKS00020824](https://www.drks.de/drks_web/navigate.do?navigationId=trial.HTML&TRIAL_ID=DRKS00020824).

**Database:** CINAHL

**33. The characteristics and risk factors of in-stent restenosis in patients with percutaneous coronary intervention: what can we do.**

**Author(s):** Wang ; Qiao, Haixia; Wang, RuiJuan; Hou, Ruitian; Guo, Jingtao

**Source:** BMC Cardiovascular Disorders; Dec 2020; vol. 20 (no. 1); p. 1-6

**Publication Date:** Dec 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM33276720

Available at [BMC cardiovascular disorders](#) - from BioMed Central

Available at [BMC cardiovascular disorders](#) - from Europe PubMed Central - Open Access

Available at [BMC cardiovascular disorders](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC cardiovascular disorders](#) - from EBSCO (MEDLINE Complete)

Available at [BMC cardiovascular disorders](#) - from Unpaywall

**Abstract:**

**Background:** Percutaneous coronary intervention (PCI) is a common treatment for patients with coronary heart disease, and intra-stent restenosis (ISR) is a serious complication after PCI. It's necessary to identify the potential risk factors to provide evidence for the prevention of ISR.



**Methods:** The patients who underwent coronary angiography 1 year after PCI in our hospital from January 2017 to May 2019 were selected. The characteristics and results of clinical examination of ISR and no-ISR patients were compared, Multivariate logistic regression analyses were performed to identify the risk factors.

**Results:** A total of 209 patients were included, the incidence of ISR after PCI was 30.62%. There were significant differences on the hypertension, diabetes, number of coronary artery lesions, reasons for stent implantation, the diameter of stent, the length of stent and stent position between ISR group and no-ISR patients (all  $p < 0.05$ ). The hypertension (OR 4.30, 95% CI 1.12-9.34), diabetes (OR 5.29, 95% CI 1.25-9.01), number of coronary artery lesions  $\geq 2$  (OR 4.84, 95% CI 1.21-9.55), LDL-C  $\geq 1.9$  mmol/L (OR 5.93, 95% CI 2.29-10.01), unstable angina (OR 2.92, 95% CI 1.20-4.55), left anterior descending artery (OR 4.01, 95% CI 1.73-7.58), diameter of stent  $\geq 3$  mm (OR 5.42, 95% CI 1.24-10.84), the length of stent  $> 20$  mm (OR 3.06, 95% CI 1.19-5.22) were the independent risk factor for ISR (all  $p < 0.05$ ).

**Conclusion:** It is necessary to take preventive measures against these risk factors to reduce ISR, and studies with larger sample size and longer follow-up on this issue are needed in the future.

**Database:** CINAHL

### **34. Effect of Pharmacogenetic Testing for Statin Myopathy Risk vs Usual Care on Blood Cholesterol: A Randomized Clinical Trial.**

**Author(s):** Vassy ; Gaziano, J. Michael; Green, Robert C.; Ferguson, Ryan E.; Advani, Sanjay; Miller, Stephen J.; Chun, Sojeong; Hage, Anthony K.; Seo, Soo-Ji; Majahalme, Nilla; MacMullen, Lauren; Zimolzak, Andrew J.; Brunette, Charles A.

**Source:** JAMA Network Open; Dec 2020; vol. 3 (no. 12)

**Publication Date:** Dec 2020

**Publication Type(s):** Academic Journal

Available at [JAMA network open](#) - from Unpaywall

#### **Abstract:**

**Key Points:** Question: Can pharmacogenetic results for statin myopathy risk be used clinically without the unintended harms of statin avoidance or underdosing?

**Findings:** In this randomized clinical trial including 408 patients, statin-naive patients whose physicians knew their SLCO1B1 genotype results at baseline did not have poorer low-density lipoprotein cholesterol reductions after 1 year, compared with patients who received usual care.

**Meaning:** Although these findings do not support the widespread adoption of stand-alone preemptive SLCO1B1 genotype testing, they may allay stakeholder concerns about the potential unintended harms of the clinical use of such information. This randomized clinical trial examines the impact of delivering SLCO1B1 pharmacogenetic results to physicians on low-density lipoprotein cholesterol levels and concordance with prescribing guidelines for statin safety and effectiveness.

**Importance:** Nonadherence to statin guidelines is common. The solute carrier organic anion transporter family member 1B1 (SLCO1B1) genotype is associated with simvastatin myopathy risk and is proposed for clinical implementation. The unintended harms of using pharmacogenetic information to guide pharmacotherapy remain a concern for some stakeholders.

**Objective:** To determine the impact of delivering SLCO1B1 pharmacogenetic results to physicians on the effectiveness of atherosclerotic cardiovascular disease (ASCVD) prevention (measured by low-density lipoprotein cholesterol [LDL-C] levels) and concordance with prescribing guidelines for statin safety and effectiveness. **Design, Setting, and Participants:** This randomized clinical trial was performed from December 2015 to July 2019 at 8 primary care practices in the Veterans Affairs Boston Healthcare System. Participants included statin-naive patients with elevated ASCVD risk. Data analysis was performed from October 2019 to September 2020.

**Interventions:** SLCO1B1 genotyping and results reporting to primary care physicians at baseline (intervention group) vs after 1 year (control group).



**Main Outcomes and Measures:** The primary outcome was the 1-year change in LDL-C level. The secondary outcomes were 1-year concordance with American College of Cardiology–American Heart Association and Clinical Pharmacogenetics Implementation Consortium (CPIC) guidelines for statin therapy and statin-associated muscle symptoms (SAMS). Results: Among 408 patients (mean [SD] age, 64.1 [7.8] years; 25 women [6.1%]), 193 were randomized to the intervention group and 215 were randomized to the control group. Overall, 120 participants (29%) had a SLCO1B1 genotype indicating increased simvastatin myopathy risk. Physicians offered statin therapy to 65 participants (33.7%) in the intervention group and 69 participants (32.1%) in the control group. Compared with patients whose physicians did not know their SLCO1B1 results at baseline, patients whose physicians received the results had noninferior reductions in LDL-C at 12 months (mean [SE] change in LDL-C,  $-1.1$  [1.2] mg/dL in the intervention group and  $-2.2$  [1.3] mg/dL in the control group; difference,  $-1.1$  mg/dL; 90% CI,  $-4.1$  to  $1.8$  mg/dL;  $P < .001$  for noninferiority margin of 10 mg/dL). The proportion of patients with American College of Cardiology–American Heart Association guideline-concordant statin prescriptions in the intervention group was noninferior to that in the control group (12 patients [6.2%] vs 14 patients [6.5%]; difference,  $-0.003$ ; 90% CI,  $-0.038$  to  $0.032$ ;  $P < .001$  for noninferiority margin of 15%). All patients in both groups were concordant with CPIC guidelines for safe statin prescribing. Physicians documented 2 and 3 cases of SAMS in the intervention and control groups, respectively, none of which was associated with a CPIC guideline–discordant prescription. Among patients with a decreased or poor SLCO1B1 transporter function genotype, simvastatin was prescribed to 1 patient in the control group but none in the intervention group.

**Conclusions and Relevance:** Clinical testing and reporting of SLCO1B1 results for statin myopathy risk did not result in poorer ASCVD prevention in a routine primary care setting and may have been associated with physicians avoiding simvastatin prescriptions for patients at genetic risk for SAMS. Such an absence of harm should reassure stakeholders contemplating the clinical use of available pharmacogenetic results. Trial Registration: ClinicalTrials.gov Identifier: NCT02871934

**Database:** CINAHL

### **35. Subjective reports of physical activity levels and sedentary time prior to hospital admission can predict utilization of hospital care and all-cause mortality among patients with cardiovascular disease.**

**Author(s):** Ek ; Kallings, Lena V; Ekström, Mattias; Börjesson, Mats; Ekblom, Örjan

**Source:** European Journal of Cardiovascular Nursing; Dec 2020; vol. 19 (no. 8); p. 691-701

**Publication Date:** Dec 2020

**Publication Type(s):** Academic Journal

Available at [European journal of cardiovascular nursing : journal of the Working Group on Cardiovascular Nursing of the European Society of Cardiology](#) - from Unpaywall

#### **Abstract:**

**Background:** In prevention, sedentary behaviour and physical activity have been associated with risk of cardiovascular disease and mortality. Less is known about associations with utilization of hospital care. **Aim:** To investigate whether physical activity level and sedentary behaviour prior to cardiac ward admission can predict utilization of hospital care and mortality among patients with cardiovascular disease.

**Methods:** Longitudinal observational study including 1148 patients admitted and treated in cardiac wards in two hospitals. Subjective reports of physical activity levels and sedentary time prior to admission were collected during inpatient care and categorized as low, medium or high. The associations between physical activity level and sedentary time with hospital stay, readmission and mortality were analysed using linear, logistic and Cox regressions. **Results:** Median hospital stay was 2.1 days. One higher step in the physical activity level, or lower sedentary time, was related to an approximately 0.9 days shorter hospital stay. Sixty per cent of patients were readmitted to hospital. The risk of being readmitted was lower for individuals reporting high physical activity and low sedentary time (odds ratios ranging between 0.44 and 0.91). A total of 200 deaths occurred during the study. Mortality was lower among those with high and medium physical activity levels and low sedentary time (hazard ratios ranging between 0.36 and 0.90).



Conclusion: Both physical activity level and sedentary time during the period preceding hospitalization for cardiac events were predictors of hospital utilization and mortality. This highlights the prognostic value of assessing patients' physical activity and sedentary behaviour.

**Database:** CINAHL

### **36. Using Patient-Centered Outcomes Research Principles to Develop and Implement a Mobile Heart Failure Self-Care Program**

**Author(s):** Johnson A.E.; McNamara D.M.; Ramani R.; Taylor C.N.; Davis E.M.

**Source:** Circulation; Nov 2020; vol. 142

**Publication Date:** Nov 2020

**Publication Type(s):** Conference Abstract

#### **Abstract:**

Introduction: Patients admitted with decompensated heart failure (HF) are at risk for hospital readmission and poor quality of life. Remote monitoring and mobile health (mHealth) technologies can help prevent hospitalization for community-dwelling patients. We aimed to develop a HF mHealth application to enhance self-care after HF hospitalization.

Hypothesis: We hypothesized that 1) a mHealth platform could be designed to increase HF self-care after hospital discharge for a population at high risk for HF readmission and 2) our tool would be user friendly and feasibly deployed.

Method(s): Intervention development included input from the following stakeholders: patients, clinicians, information technology developers, patient education experts, and mHealth researchers. We recruited 32 inpatient adults with HF and randomized them 1:1 to the mHealth program plus usual HF care or usual care only. Patients discharged to a nursing home, with end-stage HF (e.g. awaiting transplant/ventricular assist device or on palliative inotropes), or without a smart phone were excluded. Feasibility was determined by ease of deployment, duration of participant recruitment, and participant attrition. We measured program usability by how often the application was opened and used by patients.

Result(s): We developed an educational HF mHealth patient self-care tool consisting of daily videos and self-assessments. Of 202 patients screened: 13 were excluded due to discharge to nursing home; 28 were excluded for end-stage HF; 9 were excluded because they did not have a smart phone. We enrolled 32 patients, 14 of which were randomized to receive the program. Mean age was 60 years (range 22-85). There were 53% male and 81% White. Four of 14 (28.6%) did not fully complete the 90-day program. All survey respondents expressed satisfaction with the intervention.

Conclusion(s): We conducted a pilot study of a HF self-care mHealth tool for adults at risk for HF readmission and have determined it to be both feasible and acceptable. Our intervention, although a research prototype, may serve as a novel approach to reduce hospital admission and improve patient ability to manage HF as an outpatient.

**Database:** EMBASE

### **37. Registry of Arterial and Venous Thromboembolic Complications in Patients With COVID-19**

**Author(s):** Piazza G.; Campia U.; Snyder J.E.; Rizzo S.M.; Pfeferman M.B.; Morrison R.B.; Nauffal V.; Almarzooq Z.; Goldhaber S.Z.; Hurwitz S.; Leiva O.; Fanikos J.

**Source:** Journal of the American College of Cardiology; Nov 2020; vol. 76 (no. 18); p. 2060-2072

**Publication Date:** Nov 2020

**Publication Type(s):** Article

**PubMedID:** 33121712

Available at [Journal of the American College of Cardiology](#) - from Unpaywall



**Abstract:**

Background: Cardiovascular complications, including myocardial infarction, ischemic stroke, and pulmonary embolism, represent an important source of adverse outcomes in coronavirus disease-2019 (COVID-19).

Objective(s): To assess the frequency of arterial and venous thromboembolic disease, risk factors, prevention and management patterns, and outcomes in patients with COVID-19, the authors designed a multicenter, observational cohort study.

Method(s): We analyzed a retrospective cohort of 1,114 patients with COVID-19 diagnosed through our Mass General Brigham integrated health network. The total cohort was analyzed by site of care: intensive care (n = 170); hospitalized nonintensive care (n = 229); and outpatient (n = 715). The primary study outcome was a composite of adjudicated major arterial or venous thromboembolism.

Result(s): Patients with COVID-19 were 22.3% Hispanic/Latinx and 44.2% non-White. Cardiovascular risk factors of hypertension (35.8%), hyperlipidemia (28.6%), and diabetes (18.0%) were common. Prophylactic anticoagulation was prescribed in 89.4% of patients with COVID-19 in the intensive care cohort and 84.7% of those in the hospitalized nonintensive care setting. Frequencies of major arterial or venous thromboembolism, major cardiovascular adverse events, and symptomatic venous thromboembolism were highest in the intensive care cohort (35.3%, 45.9%, and 27.0 %, respectively) followed by the hospitalized nonintensive care cohort (2.6%, 6.1%, and 2.2%, respectively) and the outpatient cohort (0% for all).

Conclusion(s): Major arterial or venous thromboembolism, major adverse cardiovascular events, and symptomatic venous thromboembolism occurred with high frequency in patients with COVID-19, especially in the intensive care setting, despite a high utilization rate of thromboprophylaxis. Copyright © 2020 The Authors

**Database:** EMBASE

**38. Evaluation and Management of Patients With Stable Angina: Beyond the Ischemia Paradigm: JACC State-of-the-Art Review.**

**Author(s):** Ferraro ; Latina, Jacqueline M.; Alfaddagh, Abdulhamied; Michos, Erin D.; Blaha, Michael J.; Jones, Steven R.; Sharma, Garima; Trost, Jeffrey C.; Boden, William E.; Weintraub, William S.; Lima, João A.C.; Blumenthal, Roger S.; Fuster, Valentin; Arbab-Zadeh, Armin

**Source:** Journal of the American College of Cardiology (JACC); Nov 2020; vol. 76 (no. 19); p. 2252-2266

**Publication Date:** Nov 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM33153586

**Abstract:** Coronary heart disease is a chronic, systemic disease with a wide range of associated symptoms, clinical outcomes, and health care expenditure. Adverse events from coronary heart disease can be mitigated or avoided with lifestyle and risk factor modifications, and medical therapy. These measures are effective in slowing the progression of atherosclerotic disease and in reducing the risk of thrombosis in the setting of plaque disruptions. With increasing effectiveness of prevention and medical therapy, the role of coronary artery revascularization has decreased and is largely confined to subgroups of patients with unacceptable angina, severe left ventricular systolic dysfunction, or high-risk coronary anatomy. There is a compelling need to allocate resources appropriately to improve prevention. Herein, we review the scientific evidence in support of medical therapy and revascularization for the management of patients with stable coronary heart disease and discuss implications for the evaluation of patients with stable angina and public policy.

**Database:** CINAHL

**39. Physical Activity in Cardiac Rehabilitation: Towards Citizen-Centered Digital Evidence-Based Interventions...European Federation for Medical Informatics Special Topic Conference 2020 (Virtual), 26-27 November 2020.**

**Author(s):** GUTENBERG ; KULNIK, Stefan Tino; HUSSEIN, Rada; STÜTZ, Thomas; NIEBAUER, Josef; CRUTZEN, Rik



**Source:** Studies in Health Technology & Informatics; Nov 2020; vol. 275 ; p. 228-229

**Publication Date:** Nov 2020

**Publication Type(s):** Academic Journal

Available at [Integrated Citizen Centered Digital Health and Social Care: Citizens as Data Producers and Service co-Creators – Proceedings of the EFMI 2020 Special Topic Conference](#) - from Unpaywall

**Abstract:**Physical activity is a vital part of cardiac rehabilitation (CR). However, heart-healthy physical activity levels in people with cardiovascular disease drop significantly after CR. This exploratory study employs qualitative and survey methods within a co-creation approach. The aim is to understand the mechanisms of healthy behavior and habit formation in order to create a novel evidence-based (post-)rehabilitation approach that employs digital means to sustain long-term physical activity levels in people with cardiovascular disease.

**Database:** CINAHL

#### **40. Prophylactic anticoagulants for people hospitalised with COVID-19**

**Author(s):** Flumignan R.L.G.; Pascoal P.I.F.; Areias L.L.; Nakano L.C.U.; Tinoco J.D.D.S.a.; Cossi M.S.; Fernandes M.I.C.D.; Costa I.K.F.; Souza L.; Matar C.F.; Tendal B.; Trevisani V.F.M.; Atallah A.N.

**Source:** Cochrane Database of Systematic Reviews; Oct 2020; vol. 2020 (no. 9)

**Publication Date:** Oct 2020

**Publication Type(s):** Article

**PubMedID:** 33502773

Available at [The Cochrane database of systematic reviews](#) - from Cochrane Collaboration (Wiley)

#### **Abstract:**

Background: Coronavirus disease 2019 (COVID-19) is a serious disease caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The primary manifestation is respiratory insufficiency that can also be related to diffuse pulmonary microthrombosis in people with COVID-19. This disease also causes thromboembolic events, such as pulmonary embolism, deep venous thrombosis, arterial thrombosis, catheter thrombosis, and disseminated intravascular coagulopathy. Recent studies have indicated a worse prognosis for people with COVID-19 who developed thromboembolism. Anticoagulants are medications used in the prevention and treatment of venous or arterial thromboembolic events. Several drugs are used in the prophylaxis and treatment of thromboembolic events, such as heparinoids (heparins or pentasaccharides), vitamin K antagonists and direct anticoagulants. Besides their anticoagulant properties, heparinoids have an additional anti-inflammatory potential, that may affect the clinical evolution of people with COVID-19. Some practical guidelines address the use of anticoagulants for thromboprophylaxis in people with COVID-19, however, the benefit of anticoagulants for people with COVID-19 is still under debate.

Objective(s): To assess the effects of prophylactic anticoagulants versus active comparator, placebo or no intervention, on mortality and the need for respiratory support in people hospitalised with COVID-19.

Method(s): We searched CENTRAL, MEDLINE, Embase, LILACS and IBECs databases, the Cochrane COVID-19 Study Register and medRxiv preprint database from their inception to 20 June 2020. We also checked reference lists of any relevant systematic reviews identified and contacted specialists in the field for additional references to trials.

Selection Criteria: Randomised controlled trials (RCTs), quasi-RCTs, cluster-RCTs and cohort studies that compared prophylactic anticoagulants (heparin, vitamin K antagonists, direct anticoagulants, and pentasaccharides) versus active comparator, placebo or no intervention for the management of people hospitalised with COVID-19. We excluded studies without a comparator group. Primary outcomes were all-cause mortality and need for additional respiratory support. Secondary outcomes were mortality related to COVID-19, deep vein thrombosis (DVT), pulmonary embolism, major bleeding, adverse events, length of hospital stay and quality of life.

Data Collection and Analysis: We used standard Cochrane methodological procedures. We used ROBINS-I to assess risk of bias for non-randomised studies (NRS) and GRADE to assess the certainty of evidence. We reported results narratively.



**Main Result(s):** We identified no RCTs or quasi-RCTs that met the inclusion criteria. We included seven retrospective NRS (5929 participants), three of which were available as preprints. Studies were conducted in China, Italy, Spain and the USA. All of the studies included people hospitalised with COVID-19, in either intensive care units, hospital wards or emergency departments. The mean age of participants (reported in 6 studies) ranged from 59 to 72 years. Only three included studies reported the follow-up period, which varied from 8 to 35 days. The studies did not report on most of our outcomes of interest: need for additional respiratory support, mortality related to COVID-19, DVT, pulmonary embolism, adverse events, and quality of life. Anticoagulants (all types) versus no treatment (6 retrospective NRS, 5685 participants). One study reported a reduction in all-cause mortality (adjusted odds ratio (OR) 0.42, 95% confidence interval (CI) 0.26 to 0.66; 2075 participants). One study reported a reduction in mortality only in a subgroup of 395 people who required mechanical ventilation (hazard ratio (HR) 0.86, 95% CI 0.82 to 0.89). Three studies reported no differences in mortality (adjusted OR 1.64, 95% CI 0.92 to 2.92; 449 participants; unadjusted OR 1.66, 95% CI 0.76 to 3.64; 154 participants and adjusted risk ratio (RR) 1.15, 95% CI 0.29 to 2.57; 192 participants). One study reported zero events in both intervention groups (42 participants). The overall risk of bias for all-cause mortality was critical and the certainty of the evidence was very low. One NRS reported bleeding events in 3% of the intervention group and 1.9% of the control group (OR 1.62, 95% CI 0.96 to 2.71; 2773 participants; low-certainty evidence). Therapeutic-dose anticoagulants versus prophylactic-dose anticoagulants (1 retrospective NRS, 244 participants). The study reported a reduction in all-cause mortality (adjusted HR 0.21, 95% CI 0.10 to 0.46) and a lower absolute rate of death in the therapeutic group (34.2% versus 53%). The overall risk of bias for all-cause mortality was serious and the certainty of the evidence was low. The study also reported bleeding events in 31.7% of the intervention group and 20.5% of the control group (OR 1.8, 95% CI 0.96 to 3.37; low-certainty evidence). Ongoing studies. We found 22 ongoing studies in hospital settings (20 RCTs, 14,730 participants; 2 NRS, 997 participants) in 10 different countries (Australia (1), Brazil (1), Canada (2), China (3), France (2), Germany (1), Italy (4), Switzerland (1), UK (1) and USA (6)). Twelve ongoing studies plan to report mortality and six plan to report additional respiratory support. Thirteen studies are expected to be completed in December 2020 (6959 participants), eight in July 2021 (8512 participants), and one in December 2021 (256 participants). Four of the studies plan to include 1000 participants or more. Authors' conclusions: There is currently insufficient evidence to determine the risks and benefits of prophylactic anticoagulants for people hospitalised with COVID-19. Since there are 22 ongoing studies that plan to evaluate more than 15,000 participants in this setting, we will add more robust evidence to this review in future updates. Copyright © 2020 The Cochrane Collaboration. Published by John Wiley & Sons, Ltd.

**Database:** EMBASE

#### **41. The Impact of Nurse-Led Cardiac Rehabilitation on Quality of Life and Biophysiological Parameters in Patients With Heart Failure: A Randomized Clinical Trial**

**Author(s):** Arjunan P.; Trichur R.V.

**Source:** The journal of nursing research : JNR; Oct 2020; vol. 29 (no. 1)

**Publication Date:** Oct 2020

**Publication Type(s):** Article

**PubMedID:** 33031130

Available at [The journal of nursing research : JNR](#) - from Unpaywall

#### **Abstract:**

**BACKGROUND:** Cardiovascular diseases are the leading cause of mortality in the Indian subcontinent, accounting for 38% of deaths annually. One cardiovascular disease in particular, heart failure, is a growing public health problem both in India and worldwide.

**PURPOSE:** Heart failure is a chronic, progressive disease with increasing rates of incidence and prevalence. This study was conducted to determine the influence of a nurse-led cardiac rehabilitation program on quality of life and biophysiological parameters in patients with chronic heart failure. In this study, it was hypothesized that participants in the cardiac rehabilitation program would report significantly more-positive changes in quality of life and biophysiological parameters than their peers who did not participate in this program.



**METHOD(S):** In this randomized controlled trial, the participants were patients with chronic heart failure who had been admitted to a tertiary care hospital in India. The participants assigned to the intervention group received both nurse-led cardiac rehabilitation and routine care. In addition, intervention group participants received a booklet on cardiac rehabilitation, Healthy Way to Healthy Heart, at discharge and fortnightly telephone reminders about good cardiac rehabilitation practices. A standard questionnaire was used to collect targeted information on participants' general and disease-specific quality of life at 1 and 3 months postintervention. Biophysiological parameters such as body mass index, blood pressure, and serum cholesterol values were also measured.

**RESULT(S):** Two thirds of the participants in each group (65% in the intervention group and 66% in the control group) were between 51 and 70 years old. The mean score for the mental component summary of generic quality of life steadily decreased in the control group and steadily increased in the intervention group at the first and second posttests.

**CONCLUSIONS/IMPLICATIONS FOR PRACTICE:** Nurses working in cardiology units play a pivotal role in educating and managing the health status of patients with heart failure. Providing cardiac rehabilitation to patients with heart failure benefits the quality of life of these patients. Nurses working in cardiology units should encourage patients with heart failure to practice cardiac rehabilitation for a longer period to further improve their quality of life. Copyright © 2020 The Authors. Published by Wolters Kluwer Health, Inc.

**Database:** EMBASE

#### **42. Mild cognitive impairment and receipt of procedures for acute ischemic stroke in older adults**

**Author(s):** Levine D.A.; Galecki A.; Kabeto M.; Nallamotheu B.K.; Langa K.M.; Zahuranec D.B.; Morgenstern L.B.; Lisabeth L.D.; Giordani B.

**Source:** Journal of Stroke and Cerebrovascular Diseases; Oct 2020; vol. 29 (no. 10)

**Publication Date:** Oct 2020

**Publication Type(s):** Article

**PubMedID:** 32912555

#### **Abstract:**

**Background and purpose:** Older patients with pre-existing mild cognitive impairment (MCI) receive less evidence-based care after acute myocardial infarction, however, whether they receive less care after acute ischemic stroke (AIS) is unknown. We compared receipt of guideline-concordant procedures after AIS between older adults with pre-existing MCI and normal cognition.

**Method(s):** Prospective study of 591 adults  $\geq 65$  hospitalized for AIS between 2000 and 2014, and followed through 2015 using data from the nationally representative Health and Retirement Study, Medicare and American Hospital Association. We assessed pre-existing MCI (modified Telephone Interview for Cognitive Status score of 7-11) and normal cognition (score of 12-27). Primary outcome was a composite quality measure representing the number of 4 procedures (carotid imaging, cardiac monitoring, echocardiogram, and rehabilitation assessment) received within 30 days after AIS (ordinal scale with values of 0, 1, 2, 3-4).

**Result(s):** Among survivors of AIS, 26.9% had pre-existing MCI (62.9% were women, with a mean [SD] age of 82.4 [7.7] years), and 73.1% had normal cognition (51.4% were women, with a mean age of 78.4 [7.2] years). Patients with pre-existing MCI, compared to cognitively normal patients, had 39% lower cumulative odds of receiving the composite quality measure (unadjusted cumulative odds ratio, OR, 0.61 [95% CI, 0.43-0.87];  $P=0.006$ ). However, this association became non-significant after adjusting for patient and hospital factors (adjusted cumulative OR, 0.83 [95% CI, 0.56-1.24];  $P=0.37$ ). Lower cumulative odds of receiving the composite quality measure were associated with older patient age (adjusted cumulative OR per 1-year older age, 0.97 [95% CI, 0.95-0.99];  $P=0.01$ ) and Southern hospitals (adjusted cumulative OR for South vs North, 0.54 [95% CI, 0.31-0.94];  $P=0.03$ ).

**Conclusion(s):** Differences in receipt of guideline-concordant procedures after AIS exist between patients with pre-existing MCI and normal cognition. These differences were largely explained by patient and regional factors associated with receiving less AIS care. Copyright © 2020 Elsevier Inc.

**Database:** EMBASE



### 43. Healthcare experiences of patients with chronic heart failure in Germany: A scoping review

**Author(s):** Dieckelmann M.; Petersen J.J.; Guthlin C.; Reinhardt F.; Plath J.; Gerlach F.M.; Siebenhofer A.; Jeitler K.; Semlitsch T.

**Source:** BMJ Open; Oct 2020; vol. 10 (no. 10)

**Publication Date:** Oct 2020

**Publication Type(s):** Review

**PubMedID:** 33039995

Available at [BMJ open](#) - from BMJ Journals

Available at [BMJ open](#) - from Europe PubMed Central - Open Access

Available at [BMJ open](#) - from HighWire - Free Full Text

Available at [BMJ open](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMJ open](#) - from Unpaywall

#### **Abstract:**

**Objectives:** To review systematically the past 10 years of research activity into the healthcare experiences (HCX) of patients with chronic heart failure (CHF) in Germany, in order to identify research foci and gaps and make recommendations for future research.

**Design:** In this scoping review, six databases and grey literature sources were systematically searched for articles reporting HCX of patients with CHF in Germany that were published between 2008 and 2018. Extracted results were summarised using quantitative and qualitative descriptive analysis.

**Results:** Of the 18 studies (100%) that met the inclusion criteria, most were observational studies (60%) that evaluated findings quantitatively (60%). HCX were often concerned with patient information, global satisfaction as well as relationships and communication between patients and providers and generally covered ambulatory care, hospital care and rehabilitation services. Overall, the considerable heterogeneity of the included studies' outcomes only permitted relatively trivial levels of synthesis.

**Conclusion:** In Germany, research on HCX of patients with CHF is characterised by missing, inadequate and insufficient information. Future research would benefit from qualitative analyses, evidence syntheses, longitudinal analyses that investigate HCX throughout the disease trajectory, and better reporting of sociodemographic data. Furthermore, research should include studies that are based on digital data, reports of experiences gained in under-investigated yet patient-relevant healthcare settings and include more female subjects. Copyright ©

**Database:** EMBASE

### 44. In-hospital cardiac rehabilitation and clinical outcomes in patients with acute myocardial infarction after percutaneous coronary intervention: A retrospective cohort study

**Author(s):** Kanazawa N.; Fushimi K.; Iijima H.

**Source:** BMJ Open; Sep 2020; vol. 10 (no. 9)

**Publication Date:** Sep 2020

**Publication Type(s):** Article

**PubMedID:** 32994256

Available at [BMJ open](#) - from BMJ Journals

Available at [BMJ open](#) - from Europe PubMed Central - Open Access

Available at [BMJ open](#) - from HighWire - Free Full Text

Available at [BMJ open](#) - from ProQuest (Health Research Premium) - NHS Version



Available at [BMJ open](#) - from Unpaywall

**Abstract:**

**Objectives:** To verify the associations between participation in an in-hospital cardiac rehabilitation (CR) programme and clinical outcomes among patients with acute myocardial infarction (AMI) after percutaneous coronary intervention (PCI).

**Design:** A retrospective cohort study using the Japanese administrative claims database. Setting Japanese acute-care hospitals.

**Participants:** Patients aged  $\geq 18$  years who underwent PCI due to AMI and survived to discharge. Primary and secondary outcome measure The primary outcomes were revascularisation, all-cause readmission and cardiac readmission (median follow-up period: 324 days, 236 days and 263 days, respectively). The secondary outcomes were all-cause mortality and cardiac mortality (median follow-up period: both were 460 days).

**Result:** The data of 13 697 patients were extracted from the database, and 65.4% of them participated in an in-hospital CR. The risks of revascularisation, all-cause readmission and cardiac readmission among CR participants were compared with those of non-participants using two statistical techniques: matched-pair analysis based on propensity score and a 30-day landmark analysis. The results of those analysis were consistent and showed that the CR participants had lower risk of revascularisation (adjusted HR: 0.74; 95% CI: 0.65 to 0.84), all-cause readmission (HR: 0.81; 95% CI: 0.74 to 0.88) and cardiac readmission (HR: 0.77; 95% CI: 0.70 to 0.85). However, all-cause mortality and cardiac mortality were not associated with participation in the CR.

**Conclusions:** It was suggested that in-hospital CR participation may reduce the risk of revascularisation, all-cause readmission and cardiac readmission among patients with AMI after PCI. In-hospital CR may expand the potential benefits of CR in addition to outpatient CR. Copyright © 2020 Author(s) (or their employer(s)). Re-use permitted under CC BY-NC. No commercial re-use. See rights and permissions. Published by BMJ.

**Database:** EMBASE

**45. COVID-19 and cardiovascular disease: from basic mechanisms to clinical perspectives.**

**Author(s):** Nishiga ; Wang, Dao Wen; Han, Yaling; Lewis, David B.; Wu, Joseph C.

**Source:** Nature Reviews Cardiology; Sep 2020; vol. 17 (no. 9); p. 543-558

**Publication Date:** Sep 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM32690910

Available at [Nature reviews. Cardiology](#) - from Unpaywall

**Abstract:** Coronavirus disease 2019 (COVID-19), caused by a strain of coronavirus known as severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), has become a global pandemic that has affected the lives of billions of individuals. Extensive studies have revealed that SARS-CoV-2 shares many biological features with SARS-CoV, the zoonotic virus that caused the 2002 outbreak of severe acute respiratory syndrome, including the system of cell entry, which is triggered by binding of the viral spike protein to angiotensin-converting enzyme 2. Clinical studies have also reported an association between COVID-19 and cardiovascular disease. Pre-existing cardiovascular disease seems to be linked with worse outcomes and increased risk of death in patients with COVID-19, whereas COVID-19 itself can also induce myocardial injury, arrhythmia, acute coronary syndrome and venous thromboembolism. Potential drug-disease interactions affecting patients with COVID-19 and comorbid cardiovascular diseases are also becoming a serious concern. In this Review, we summarize the current understanding of COVID-19 from basic mechanisms to clinical perspectives, focusing on the interaction between COVID-19 and the cardiovascular system. By combining our knowledge of the biological features of the virus with clinical findings, we can improve our understanding of the potential mechanisms underlying COVID-19, paving the way towards the development of preventative and therapeutic solutions.

**Database:** CINAHL



#### 46. "It's up to me": the experience of patients at high risk of cardiovascular disease of lifestyle change.

**Author(s):** Lönnberg ; Damberg, Mattias; Revenäs, Åsa

**Source:** Scandinavian Journal of Primary Health Care; Sep 2020; vol. 38 (no. 3); p. 340-351

**Publication Date:** Sep 2020

**Publication Type(s):** Academic Journal

Available at [Scandinavian journal of primary health care](#) - from Europe PubMed Central - Open Access

Available at [Scandinavian journal of primary health care](#) - from EBSCO (MEDLINE Complete)

Available at [Scandinavian journal of primary health care](#) - from EBSCO (Biomedical Reference Collection - Comprehensive)

Available at [Scandinavian journal of primary health care](#) - from EBSCO (Psychology and Behavioral Sciences Collection)

Available at [Scandinavian journal of primary health care](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Scandinavian journal of primary health care](#) - from Unpaywall

**Abstract:** Despite knowledge of the effect of lifestyle changes in preventing cardiovascular disease, a large proportion of people have unhealthy lifestyle habits. The aim of our study is a) to explore the experiences of participants at high risk of CVD of lifestyle change after participation in a one-year structured lifestyle counselling programme and b) to link the techniques and strategies used by the participants to the processes of the transtheoretical model of behaviour change (TTM). A qualitative explorative design was used to collect data on participants' experiences. An abductive content analysis was conducted using the processes within TTM for the deductive analysis. Patients that participated in a one-year lifestyle counselling programme in Swedish primary care, were interviewed. Eight men and eight women, aged 51–75 years, diagnosed with hypertension or type 2 diabetes mellitus. Experiences of lifestyle change in patients at high cardiovascular risk. The analysis yielded four dimensions that assisted lifestyle change: 'The value of knowledge', 'Taking control', 'Gaining trust in oneself' and 'Living with a chronic condition'. The theme 'It's up to me' illustrated that lifestyle change was a personal matter and responsibility. Enhanced knowledge, self-efficacy, support from others and the individual's insight that it was his/her own decisions and actions that mattered were core factors to adopt healthier lifestyle habits. Practice Implications: Although lifestyle change is a personal matter, the support provided by primary healthcare professionals and significant others is essential to increase self-efficacy and motivate lifestyle change. A large proportion of people persist to have unhealthy lifestyle habits also after receiving a diagnosis of hypertension or diabetes mellitus, type 2. This study contributes to enhanced knowledge of how patients experience lifestyle change after counselling in primary care. Both experiential and behavioural processes as defined by the transtheoretical model of behaviour change were used to make lifestyle changes by the patients in this study.

**Database:** CINAHL

#### 47. Risk prediction tools in cardiovascular disease prevention: A report from the ESC Prevention of CVD Programme led by the European Association of Preventive Cardiology (EAPC) in collaboration with the Acute Cardiovascular Care Association (ACCA) and the Association of Cardiovascular Nursing and Allied Professions (ACNAP)

**Author(s):** Rossello X.; Visseren F.L.J.; Dorresteijn J.A.N.; Janssen A.; Lambrinou E.; Scherrenberg M.; Dendale P.; Bonnefoy-Cudraz E.; Cobain M.; Piepoli M.F.

**Source:** European Heart Journal: Acute Cardiovascular Care; Aug 2020; vol. 9 (no. 5); p. 522-532

**Publication Date:** Aug 2020

**Publication Type(s):** Article

**PubMedID:** 31303009

Available at [European heart journal. Acute cardiovascular care](#) - from Unpaywall



**Abstract:** Risk assessment and risk prediction have become essential in the prevention of cardiovascular disease. Even though risk prediction tools are recommended in the European guidelines, they are not adequately implemented in clinical practice. Risk prediction tools are meant to estimate prognosis in an unbiased and reliable way and to provide objective information on outcome probabilities. They support informed treatment decisions about the initiation or adjustment of preventive medication. Risk prediction tools facilitate risk communication to the patient and their family, and this may increase commitment and motivation to improve their health. Over the years many risk algorithms have been developed to predict 10-year cardiovascular mortality or lifetime risk in different populations, such as in healthy individuals, patients with established cardiovascular disease and patients with diabetes mellitus. Each risk algorithm has its own limitations, so different algorithms should be used in different patient populations. Risk algorithms are made available for use in clinical practice by means of - usually interactive and online available - tools. To help the clinician to choose the right tool for the right patient, a summary of available tools is provided. When choosing a tool, physicians should consider medical history, geographical region, clinical guidelines and additional risk measures among other things. Currently, the U-prevent.com website is the only risk prediction tool providing prediction algorithms for all patient categories, and its implementation in clinical practice is suggested/advised by the European Association of Preventive Cardiology. Copyright © The European Society of Cardiology 2019.

**Database:** EMBASE

**48. A qualitative study exploring the barriers and facilitators of implementing a cardiovascular disease risk reducing intervention for people with severe mental illness into primary care contexts across England: the 'PRIMROSE' trial.**

**Author(s):** Hassan ; Heinkel, Samira; Burton, Alexandra; Blackburn, Ruth; McCloud, Tayla; Ross, Jamie; Osborn, David; Walters, Kate

**Source:** BMC Health Services Research; Aug 2020; vol. 20 (no. 1)

**Publication Date:** Aug 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM32799925

Available at [BMC health services research](#) - from BioMed Central

Available at [BMC health services research](#) - from Europe PubMed Central - Open Access

Available at [BMC health services research](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [BMC health services research](#) - from EBSCO (MEDLINE Complete)

Available at [BMC health services research](#) - from Unpaywall

**Abstract:**

**Background:** People with severe mental illness (SMI) are at greater risk of earlier mortality due to physical health problems including cardiovascular disease (CVD). There is limited work exploring whether physical health interventions for people with SMI can be embedded and/or adopted within specific healthcare settings. This information is necessary to optimise the development of services and interventions within healthcare settings. This study explores the barriers and facilitators of implementing a nurse-delivered intervention ('PRIMROSE') designed to reduce CVD risk in people with SMI in primary care, using Normalisation Process Theory (NPT), a theory that explains the dynamics of embedding or 'normalising' a complex intervention within healthcare settings.

**Methods:** Semi-structured interviews were conducted between April-December 2016 with patients with SMI at risk of CVD who received the PRIMROSE intervention, and practice nurses and healthcare assistants who delivered it in primary care in England. Interviews were audio recorded, transcribed and analysed using thematic analysis. Emergent themes were then mapped on to constructs of NPT.

**Results:** Fifteen patients and 15 staff participated. The implementation of PRIMROSE was affected by the following as categorised by the NPT domains: 1) Coherence, where both staff and patients expressed an understanding of the purpose and value of the intervention, 2) Cognitive participation, including mental health stigma and staff



perceptions of the compatibility of the intervention to primary care contexts, 3) Collective action, including 3.1. Interactional workability in terms of lack of patient engagement despite flexible appointment scheduling. The structured nature of the intervention and the need for additional nurse time were considered barriers, 3.2. Relational integration i.e. whereby positive relationships between staff and patients facilitated implementation, and access to 'in-house' staff support was considered important, 3.3. Skill-set workability in terms of staff skills, knowledge and training facilitated implementation, 3.4. Contextual integration regarding the accessibility of resources sometimes prevented collective action. 4) Reflexive monitoring, where the staff commonly appraised the intervention by suggesting designated timeslots and technology may improve the intervention.

Conclusions: Future interventions for physical health in people with SMI could consider the following items to improve implementation: 1) training for practitioners in CVD risk prevention to increase practitioners knowledge of physical interventions 2) training in SMI to increase practitioner confidence to engage with people with SMI and reduce mental health stigma and 3) access to resources including specialist services, additional staff and time. Access to specialist behaviour change services may be beneficial for patients with specific health goals. Additional staff to support workload and share knowledge may also be valuable. More time for appointments with people with SMI may allow practitioners to better meet patient needs.

**Database:** CINAHL

#### **49. COVID-19 pandemic and admission rates for and management of acute coronary syndromes in England.**

**Author(s):** Mafham ; Spata, Enti; Goldacre, Raphael; Gair, Dominic; Curnow, Paula; Bray, Mark; Hollings, Sam; Roebuck, Chris; Gale, Chris P; Mamas, Mamas A; Deanfield, John E; de Belder, Mark A; Luescher, Thomas F; Denwood, Tom; Landray, Martin J; Emberson, Jonathan R; Collins, Rory; Morris, Eva J A; Casadei, Barbara; Baigent, Colin

**Source:** Lancet; Aug 2020; vol. 396 (no. 10248); p. 381-389

**Publication Date:** Aug 2020

**Publication Type(s):** Academic Journal

**PubMedID:** NLM32679111

Available at [Lancet \(London, England\)](#) - from ProQuest (Health Research Premium) - NHS Version

Available at [Lancet \(London, England\)](#) - from Unpaywall

#### **Abstract:**

**Background:** Several countries affected by the COVID-19 pandemic have reported a substantial drop in the number of patients attending the emergency department with acute coronary syndromes and a reduced number of cardiac procedures. We aimed to understand the scale, nature, and duration of changes to admissions for different types of acute coronary syndrome in England and to evaluate whether in-hospital management of patients has been affected as a result of the COVID-19 pandemic.

**Methods:** We analysed data on hospital admissions in England for types of acute coronary syndrome from Jan 1, 2019, to May 24, 2020, that were recorded in the Secondary Uses Service Admitted Patient Care database. Admissions were classified as ST-elevation myocardial infarction (STEMI), non-STEMI (NSTEMI), myocardial infarction of unknown type, or other acute coronary syndromes (including unstable angina). We identified revascularisation procedures undertaken during these admissions (ie, coronary angiography without percutaneous coronary intervention [PCI], PCI, and coronary artery bypass graft surgery). We calculated the numbers of weekly admissions and procedures undertaken; percentage reductions in weekly admissions and across subgroups were also calculated, with 95% CIs.

**Findings:** Hospital admissions for acute coronary syndrome declined from mid-February, 2020, falling from a 2019 baseline rate of 3017 admissions per week to 1813 per week by the end of March, 2020, a reduction of 40% (95% CI 37-43). This decline was partly reversed during April and May, 2020, such that by the last week of May, 2020, there were 2522 admissions, representing a 16% (95% CI 13-20) reduction from baseline. During the period of declining admissions, there were reductions in the numbers of admissions for all types of acute coronary syndrome, including both STEMI and NSTEMI, but relative and absolute reductions were larger for NSTEMI, with 1267 admissions per



week in 2019 and 733 per week by the end of March, 2020, a percent reduction of 42% (95% CI 38-46). In parallel, reductions were recorded in the number of PCI procedures for patients with both STEMI (438 PCI procedures per week in 2019 vs 346 by the end of March, 2020; percent reduction 21%, 95% CI 12-29) and NSTEMI (383 PCI procedures per week in 2019 vs 240 by the end of March, 2020; percent reduction 37%, 29-45). The median length of stay among patients with acute coronary syndrome fell from 4 days (IQR 2-9) in 2019 to 3 days (1-5) by the end of March, 2020. Interpretation: Compared with the weekly average in 2019, there was a substantial reduction in the weekly numbers of patients with acute coronary syndrome who were admitted to hospital in England by the end of March, 2020, which had been partly reversed by the end of May, 2020. The reduced number of admissions during this period is likely to have resulted in increases in out-of-hospital deaths and long-term complications of myocardial infarction and missed opportunities to offer secondary prevention treatment for patients with coronary heart disease. The full extent of the effect of COVID-19 on the management of patients with acute coronary syndrome will continue to be assessed by updating these analyses.

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**Database:** CINAHL



## Strategy

```
"((((exp "HEART REHABILITATION"/ OR ("cardiac rehabilitation").ti,ab OR (prevent*).ti,ab OR exp "HEART  
INFARCTION PREVENTION"/ OR (rehab*).ti,ab OR exp "REHABILITATION CARE"/) AND (exp "CARDIOVASCULAR  
DISEASE"/ OR ("cardiovascular disease").ti,ab OR ("coronary heart disease").ti,ab OR exp "ISCHEMIC HEART  
DISEASE"/ OR exp "CORONARY ARTERY DISEASE"/)) AND (exp "DISEASE MANAGEMENT"/ OR ("patient care").ti,ab  
OR exp "PATIENT CARE"/)) AND ((hospital* OR acute) ADJ2 (care OR nurs*).ti,ab) [DT 2020-2021]"
```



