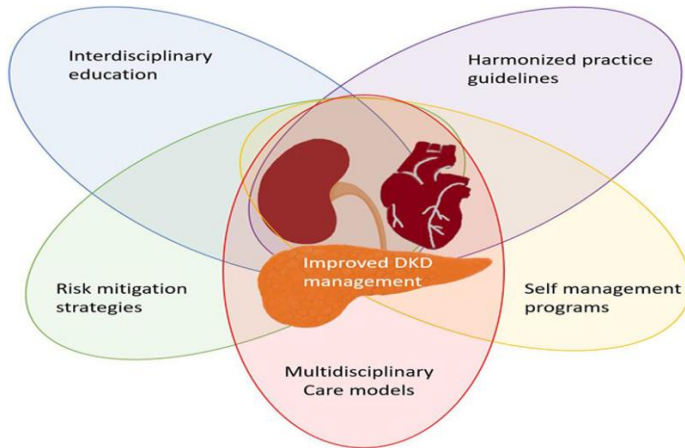


# Integrated Care Approaches for Multimorbid Heart Failure and Cardiorenal Metabolic Syndrome: A Scoping Review

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## BACKGROUND

Heart failure (HF) is frequently associated with multiple long-term conditions, including cardiorenal metabolic (CaReMe) syndrome, increasing clinical complexity and care burden (1,2,3). Traditional disease-specific pathways may not sufficiently address the needs of this population. Integrated, multidisciplinary models of care are increasingly advocated to support coordinated, person-centred management.



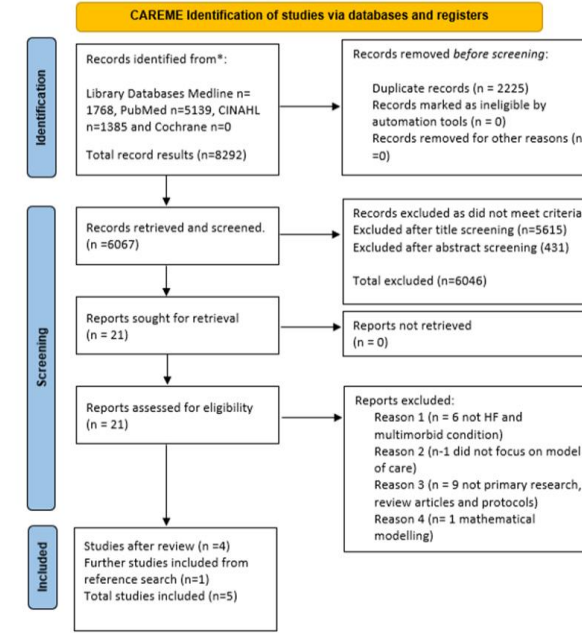
## AIMS

To explore existing integrated care models for adults with HF and CaReMe syndrome, with relevance to cardiac nursing practice and service delivery

## METHODS

A systematic search of MEDLINE, PubMed, CINAHL, the Cochrane Library, and grey literature was undertaken for primary research published between 2014 and 2025. Eligible studies described integrated, multispecialty, or multidisciplinary team (MDT) models of care for adults with HF and coexisting cardiorenal or metabolic conditions. The review followed PRISMA-ScR guidance, with data extraction informed by Joanna Briggs Institute and Cochrane methodologies (6).

PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only



## RESULTS

Five studies from upper-middle and high-income countries met inclusion criteria. Of the five studies, two were randomised controlled trials (RCTs) (10,12), the remainder were retrospective cohort studies (8,9,11). Studies reported MDT led integrated care collaboration across cardiology, renal, diabetes, nursing, mental health and allied health services. Models were mapped using the Cochrane Effective Practice and Organisation (EPOC) (10).

## OUTCOMES MAPPED TO EPOC

### Delivery arrangements

### Implementation strategies

### Financial arrangements

### Governance arrangements

- Reduced hospital admissions 1,586 hospital bed-days saved and fewer HF-specific readmissions ( $p = 0.07$ ) (8,9).
- Improved treatment adherence & engagement (reductions in symptom burden using the Edmonton Symptom Assessment Scale (ESAS) (interaction  $p < 0.001$ ), reported high prescriber compliance (93–98%) with guideline-recommended therapies 10, 11,12).
- Enhanced professional collaboration increased referrals to subacute rehabilitation (7% vs 14%,  $p = 0.01$ ) and mental health-related quality of life (SF-12 MCS points;  $p = 0.002$ ). (8,9,12)
- Development of digital infrastructures, electronic health records and data systems (10,12).
- Model of care reduced hospitalisations and outpatient appointments, producing estimated cost savings of £664,550 (8).
- Variable outcome measures mortality and readmission outcomes were inconsistent and governance evaluations (8,9,10,11,12).

## RECOMMENDATIONS

Nurses should lead the coordination of multispecialty CaReMe care within multidisciplinary teams. Effective implementation requires structured MDT collaboration, nurse-led coordination, and improved communication across services. MDT models should incorporate self-management support, shared decision-making, and digital integration to enhance patient engagement, care coordination, and monitoring through shared documentation systems. Greater emphasis on patient and family involvement, education, and self-management is also needed to strengthen patient-centred care. The adoption of standardised outcome measures, such as Core Outcome Sets for CaReMe, is recommended to evaluate MDT effectiveness and support consistent reporting across integrated HF and CaReMe services.

## CONCLUSION

Integrated care models demonstrate potential to improve coordination and patient-centred outcomes for people living with HF and CaReMe syndrome. Further research is needed to support sustainable implementation, with a focus on nursing leadership, patient co-design, and standardised outcome measures.

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