Integrated Cardiovascular Clinical Network—improving cardiac care in rural centres

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Background: Clinical networks link groups of professionals and organisations from primary, secondary and tertiary care shifting emphasis from institutional to patient needs and outcomes. The Integrated Cardiovascular Clinical Network CHSA (iCCnet CHSA) provides an integrated solution to ensure patients presenting to rural health facilities receive access to appropriate cardiac care. Solutions include clinical tools, resources and systems designed to support the practice of evidence-based acute cardiac care by practitioners, including remote area nurses from a diverse range of backgrounds and with varying levels of experience and training. Integral to the service is timely access to cardiologist support, point-of-care testing (PoCT) managed by clinical network scientists and continuing medical education for rural doctors and nurses.

The iCCnet CHSA model of care to facilitate evidence-based cardiac care is designed to address the inequality in cardiovascular outcomes between metropolitan and rural/remote areas, including access to pathology to facilitate risk stratification of patients.

Method: To evaluate the effectiveness of the network we compared acute coronary syndrome (ACS) length of stay, time to angiography, re-admissions and in-hospital deaths for the south-east of South Australia pre and post adopting the iCCnet CHSA model of care. Primary diagnosis data was collected from the South Australian Department of Health hospital separations database (ISAAC). All sites were expected to participate in a quality program to ensure PoCT testing meets quality standards required for clinical use. Cardiologist paging service is continually monitored to ensure calls are answered within ten minutes.

Results: Adoption of iCCnet CHSA model of care has seen marked improvements in cardiac outcomes. These included:

- reduced length of stay
- reduced 30-day re-admission for ACS
- reduced total length of stay for patients transferred to metropolitan hospital for invasive cardiac testing
- reduced in-hospital ACS deaths, making death rate comparable to metro hospital.

All sites participated in the quality program managed by experienced clinical network scientists. PoCT across CHSA sites was performed meeting recommendations of professional societies. Average cardiologist paging service response times remained less than the expected 10 minutes.

Conclusion: A network approach to cardiac care appears to markedly improve cardiac outcomes. Results indicate that PoCT pathology can be integrated into clinical care to
facilitate evidence-based cardiac care. Reduced 30-day re-admission along with a reduction in ACS in-hospital deaths supports the implementation of cardiac clinical networks to facilitate the practice of evidence-based acute cardiac care in country health facilities.