15TH NATIONAL RURAL HEALTH CONFERENCE
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24-27 MARCH 2019
Hotel Grand Chancellor
Hobart, Tasmania
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Delivery of outpatient cardiac rehabilitation using a GP Hybrid/Telephone Program model

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Background

International research priorities for heart disease in rural and remote areas recommend that education and cardiac rehabilitation programs be developed to meet the unique needs of these communities.[1,2] One method of overcoming the barriers of distance and attendance is the use of telehealth and the internet to supplement in-person contact between patients and health professionals.[3,4]

In 2007-08 the Statewide Cardiology Clinical Network analysed cardiac rehabilitation in South Australia and identified several gaps in service delivery, resulting in the formation of a Cardiac Rehabilitation Model of Care for South Australia.[5] In partnership with Country South Medicare Local, Country Health SA Local Health Network (CHSA) developed The Country Access to Cardiac Health (CATCH) project to address strategies 2, 3, 4 and 5 of the Model of Care. With the establishment of Primary Health Networks partnership transferred from Medicare Local to the Country SA Primary Health Network.

Achievements towards the CATCH project objectives include:

- Implementation of a comprehensive database that records all cardiac rehabilitation visits across country SA (telephone and face to face)
- Utilisation of the referral database by all metropolitan public and private cardiac rehab providers
- All South Australian cardiac rehab referrals (metro, GP or country sites) for country patients are sent through the central referral office

The CATCH program has implemented a number of strategies and standardised tools to assist in the provision of phase 2 cardiac rehabilitation to a greater number of residents in country South Australia, and was established to increase the uptake of cardiac rehabilitation in regional South Australia for patients unable to attend traditional group programs. In March 2017, the GP Hybrid program was developed to further expand cardiac rehabilitation service provision and offer collaborative care with the patient's general practitioner (GP).

Methods

All country patients referred for an outpatient cardiac rehabilitation program who were eligible for a GP Management Plan (GPMP) and attended a GP clinic involved with the GP Hybrid program were eligible for enrolment into the GP Hybrid Program. The program involved an initial nursing assessment by a CATCH cardiac rehabilitation nurse, development of a GPMP with the patient by their GP and practice nurse and structured phone calls from a CATCH cardiac rehabilitation nurse and an allied health team member over seven weeks, followed by 6 and 12-month reviews done by a CATCH cardiac rehabilitation nurse. All data is recorded on the CATCH database for documentation and ongoing evaluation of outcomes.

The program is conducted over seven weeks with Pre Commencement classified as week 1 and Post Completion classified as week 7. A 6-month review is conducted six months from the date of Post Completion (i.e. week 7) and a 12-month review is conducted twelve months from the date of Post Completion. The patient is discharged from the GP Hybrid Program at completion of the 12-month review.

The GP Hybrid Program delivered education on the cardiac risk factors of high cholesterol, hypertension, diabetes, obesity, smoking and depression. It measured clinical outcomes of the patient's lipid profile, glucose/HbA1c, blood pressure, medication adherence and BMI. It also identified any cardiac-related and non-cardiac related hospital readmissions at the 6- and 12-month reviews.

As at 31 January 2019, nine GP clinics are participating in the program. A total of 89 patients have been referred to the program, with 62 patients commencing and completing the program, 4 patients currently doing the program and 1 awaiting enrolment.

Of the 89 patients referred to the GP Hybrid program between 2017-2019, 16 were not eligible for admission into the program despite completing the CATCH Telephone program component. Their withdrawal was mainly due to their GPMP not being activated within the seven weeks that the telephone program was conducted. Furthermore, 5 patients declined the program due to reasons of 'further illness', 'not interested' or 'wanting to self-manage' and 1 patient passed away between their enrolment into the program and scheduled date of commencement.

Clinical outcomes were evaluated for the group of patients that were enrolled into the GP Hybrid program for the period of 01/03/2018 – 28/02/2019. Outcome data that was collected included LDL, HDL, Total Cholesterol, HbA1c, BMI, cardiac-related hospital readmissions and medication adherence to Aspirin and statin therapy.

Results

The GP Hybrid Program had a commencement and completion rate of 100% (n=31). Patient health outcomes showed clinical results meeting Heart Foundation guidelines with the exception of BMI. The program showed a decline in medication adherence and few cardiac-related hospital readmissions.

An improvement was seen over the 12-month period for every parameter measured. The Patient sample size available for each parameter was not consistent across the entire 12-month period due to the availability of data for these patients.

Table 1 **The average clinical results related to patients' clinical outcomes by result type (LDL, HDL, Total Cholesterol, HbA1c and BMI), and the patient sample size**

	Pre Commencement		Post Completion		6-month Review		12-month Review	
	No. Patients	Mean result	No. Patients	Mean result	No. Patients	Mean result	No. Patients	Mean result
LDL	26	2.42 mmol/L	24	2.18 mmol/L	17	1.89 mmol/L	14	1.70 mmol/L
HDL	27	1.18 mmol/L	24	1.25 mmol/L	17	1.20 mmol/L	14	1.30 mmol/L
Chol	30	4.44 mmol/L	26	3.95 mmol/L	17	3.75 mmol/L	15	3.45 mmol/L
HbA1c	14	6.68 %	15	6.68 %	10	6.51 %	11	6.21 %
BMI	31	29.08 kg/m²	30	28.91 kg/m²	23	29.40 kg/m²	19	28.21 kg/m²

Heart Foundation guidelines[6] were used as a benchmark for meeting clinical outcome targets (LDL < 1.8 mmol/L; HDL > 1.0 mmol/L; Total Cholesterol < 4.0 mmol/L; HbA1c ≤ 7%; BMI 18.5-24.9 kg/m²). Target LDL was reached by the 12-month review, although remained elevated at Pre Commencement, Post Completion and 6-month review. Target HDL was achieved at all four time points from Pre Commencement to the 12-month review. Total Cholesterol was elevated at Pre Commencement but met Target Total Cholesterol at Post Commencement, 6-month review and 12-month review. Target HbA1c was achieved at all four time points. Target BMI was not achieved at any time points for the duration of the program.

Adherence to medication therapy for statins was highest at Pre Commencement and had a steady decline as the program progressed. Aspirin therapy was also highest at Pre Commencement and had a steady decline as the program progressed, but increased to 68% at 12-month review.

Table 2 **The medication adherence % for Aspirin and statin therapy across the duration of the program, and the patient sample size**

	Pre Commencement		Post Completion		6-month Review		12-month Review	
	No. Patients	Adherence	No. Patients	Adherence	No. Patients	Adherence	No. Patients	Adherence
Aspirin	27	87 %	19	61 %	13	48 %	11	68 %
Statin	27	90 %	27	87 %	21	77 %	16	67 %

Discussion

The results of the GP Hybrid program indicate good adherence to the program once commenced, resulting in positive clinical outcomes in achieving risk factor targets and preventing further hospital admissions.

Further attention needs to be considered when evaluating the program in the future, by including factors such as patient age and clinical diagnosis, in order to more accurately decipher discrepancies in data results. The discrepancy in BMI results is an example of this, as target BMI is aimed at those patients aged 65 years and under, and this could have been due to the variance in age of the patient cohort. The decline in medication adherence may also require further exploration as this could have

been due to a number of reasons, including clinical diagnosis, health literacy levels and/or financial situations. It may be beneficial to do a 9-month review in the future.

One of the most notable successes of the GP Hybrid program was the high Post Completion rates once the program was commenced. Access to the GP Hybrid flow charts and CATCH referral forms were also streamlined by uploading digital copies to the Country SA PHN website for download, and feedback from GP clinics and practice nurses indicated that there was a continued interest in the program. Looking ahead, the future plans for the GP Hybrid program is to continue to evaluate its progress with 6- and 12-month reports.

Expansion of the GP Hybrid network can be achieved by ongoing promotion of the GP Hybrid program to more GP clinics. A subjective measure of the success of the GP Hybrid Program was conducted by assessing feedback using survey results received from patients, GP's and practice nurses involved with the program from the period of 01/03/2017 – 28/02/2018.

26 surveys were sent to the patients at Post Completion and 8 patient surveys were received. A majority of patients (75%) felt more confident in managing their own health and some had discussed their participation with their Cardiologist (50%). Those who had not yet discussed it with their Cardiologist were still awaiting cardiology follow-up. All patients (100%) reported to have received a call from the dietitian with most finding it beneficial (62.5%). A majority of patients (87.5%) received a call from the exercise physiologist with half (50%) finding it beneficial. The same number of patients (87.5%) received a call from the pharmacist with most (62.5%) finding it beneficial. Of those patients who used any of the allied health services as part of their GPMP (50%), they found this aspect of their care beneficial (50%). Patients rated the CATCH staff's level of knowledge in cardiac rehabilitation to be 'Excellent' (62.5%) and most agreed/strongly agreed that service delivery were individualised to their needs (62.5%) with a majority of patients finding the resources useful (75%).

4 surveys were received from the GP/practice nurse group. Despite the low response rate, it must be noted that the intention of the survey was to evaluate how service provision impacted on the GP clinic and was not necessarily specific to the patient.

Overall feedback was positive with comments highlighting the benefits of the GP Hybrid Program for both the patient and the GP clinic. The program was able to provide their patients with extra support, resources and expertise from the CATCH team. Practice nurses felt supported by the CATCH staff and by their GP Practice as the program allowed them to work within the Medicare funding framework. It was felt that the GP Hybrid Program was a valuable tool with scope for growth and expansion in the area of telehealth service delivery.

Some of the barriers noted by the practice nurses included time constraints within the GP clinic which hindered their ability to conduct the GPMPs within the desired timeframe. In addition, eligible patients were only permitted one GPMP every 12 months. If a patient was currently under a GPMP under a different diagnosis (i.e. unrelated to their cardiac condition) they were not eligible for another GPMP until the current one was due for renewal. Therefore patients with existing GPMP's unrelated to their current diagnosis fell outside of the 7 week GP Hybrid program's timeframe.

Gaining continued feedback from patients and practice nurses will allow for the assessment of areas which may need further improvement, such as establishing strategies for how to use the videoconferencing units more effectively, in addition to highlighting the successes of the program.

Conclusions

The GP Hybrid program has been shown to enhance the outcomes achieved through the CATCH telephone program by providing patient advocacy through a collaborative care approach between the cardiac rehabilitation nurse, GP and practice nurse. We are looking to further improve program by slowly introducing videoconferencing with the patient. One practice has started using videoconferencing to date.

GP Hybrid Cardiac Rehabilitation program is a patient-centred approach to patient's health management, engaging all stakeholders. Developing a cardiac rehabilitation program alongside the GPMP ensures long-term management of the patient's cardiovascular disease and other chronic comorbidities.

Acknowledgements

The Integrated Cardiovascular Clinical Network (iCCnet) CHSA gratefully acknowledges that this service is supported by funding from Country SA Primary Health Network through the Australian Government's PHN Program.

We would also like to acknowledge and thank the following for their time, hard work and commitment to ensuring the success of the CATCH program:

- The Integrated Cardiovascular Clinical Network administration staff who have assisted with program
- Doctors and nurses across country South Australia who embraced the CATCH model of care

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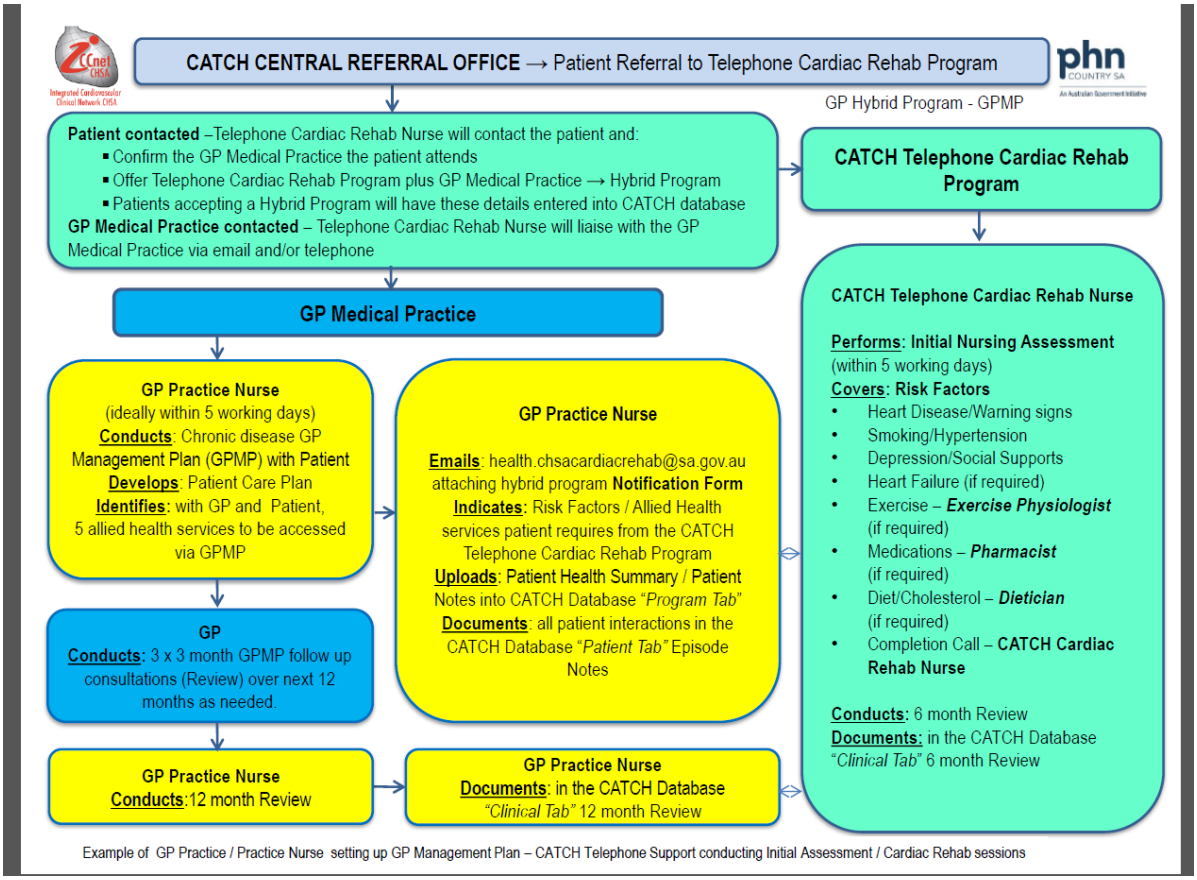
Appendix 1 Flow Chart

Access to the GP Hybrid flow charts was made available to the Country SA PHN website for download and ease of access by GP clinics.



Presenter

Claudine Clark is a practising registered nurse who completed her Bachelor of Nursing degree in 1998 and her Graduate Diploma in Nursing Science (Cardiac) in 2003. Since graduating, Claudine has worked in a variety of clinical areas, including cardiology and orthopaedics, and worked in the United Kingdom from March 2005 to December 2006, primarily in the field of HIV research. Claudine is currently practising as a cardiovascular nurse consultant with Country Health SA Local Health Network with the Integrated Cardiovascular Clinical Network (iCCnet). Claudine's role consists of coordinating the very successful Country Access To Cardiac Health (CATCH) program—facilitating a phase 2 cardiac rehabilitation program for country patients in South Australia through a telephone service delivered by a combined nursing and allied health team. The GP Hybrid program is an adjunct service provided by the CATCH Telephone Program established to enhance patient care and service delivery in collaboration with GPs and practice nurses in the primary health care setting. Claudine is a current member of the Australian Cardiovascular Health and Rehabilitation Association (ACRA) and its South Australian division (ACRA SA/NT), current member of the SA Cardiac Rehabilitation and Secondary Prevention Coalition, and chair of the SA Service Quality Model Group.