Does an app fill the gap in cardiac rehab? A flexible approach: Can it improve uptake, adherence and completion in cardiac rehab?

Liz Collins – CNC CR

Fiona Bourke – Physiotherapist CR

Brisbane South Chronic Disease Service

Background

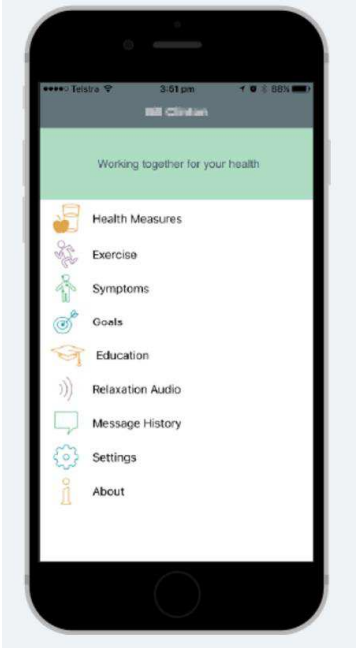
- Original Delivery of Services
- Tailoring services to patient needs
- Commenced delivering a more flexible approach across 3 sites within Metro South Health
- ACRA 2014: Core components for CR Services

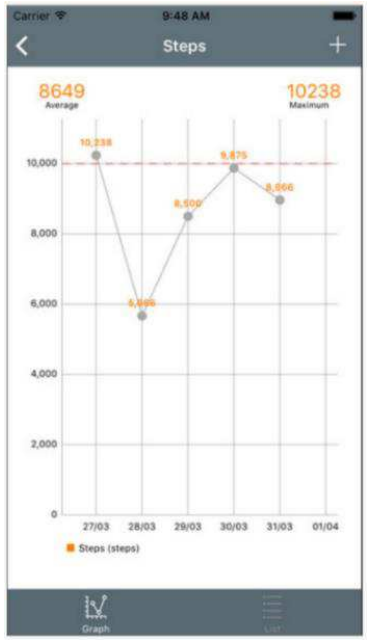
Background cont…

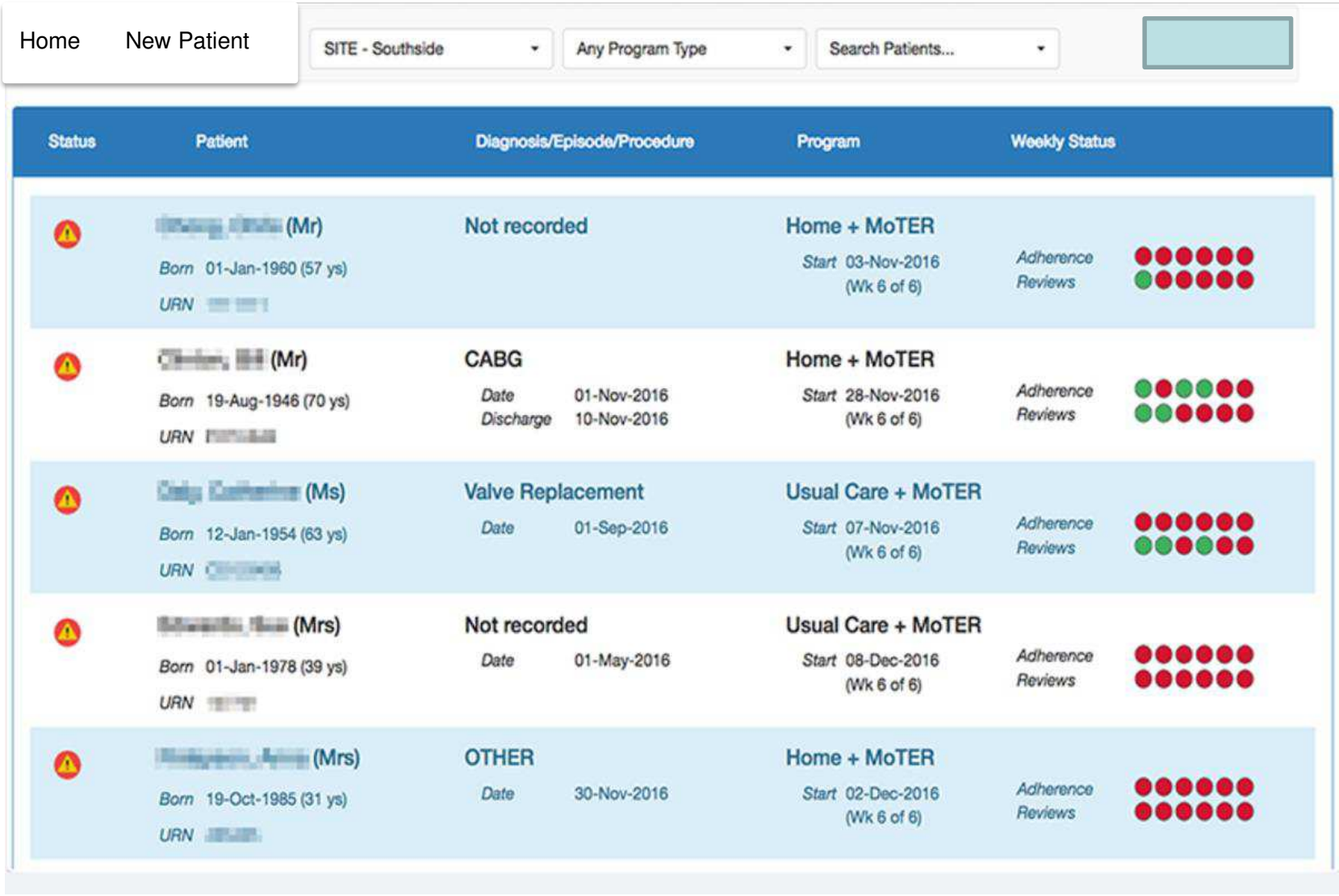
June 2016 QIP money was available:

- Commenced use of Mobile Technology Enabled Rehab (MoTER) App as one of flexible option of program delivery
- Research proposal and ethics approval, data collection commenced 01/12/16

Patient App



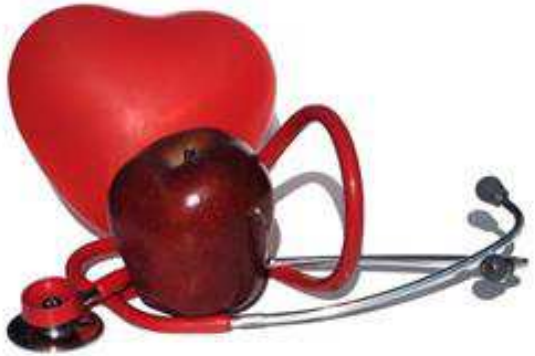




Clinician Portal

Outline of Research

Centre Based CR



Centre Based CR with access to MoTER app

Flexible CR program with access to MoTER app

Home Based CR utilising MoTER app

Primary Outcomes

- **Uptake:** FTF assessment and 1 gym session or one lot of data uploaded to MoTER app
- **Adherence:** 2/3 attendance at gym sessions or 4/6 weeks data uploaded to MoTER app
- **Completion:** Attendance at FTF review assessment

Clinical Outcome Measures

- 6 minute exercise oximetry test (modified 6MWT)
- Medication Adherence
- BMI
- Heart Quality Of Life
- PHQ4

Preliminary Data so far …..

- Referrals to Brisbane South Cardiac Rehab
- Uptake to Service
- Uptake to Programs
- Adherence
- Completion
- Preliminary Clinical Outcomes

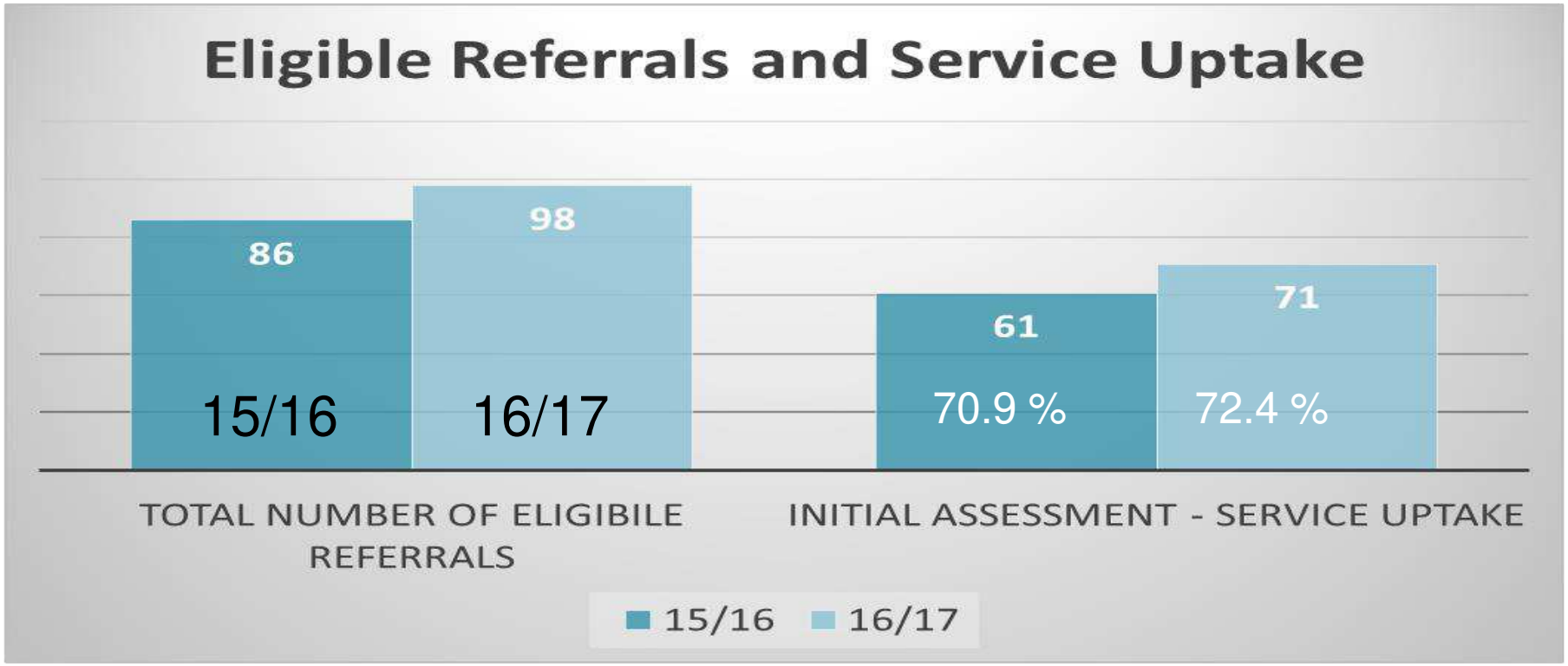
Dec 15, Jan & Feb 16

Compared with

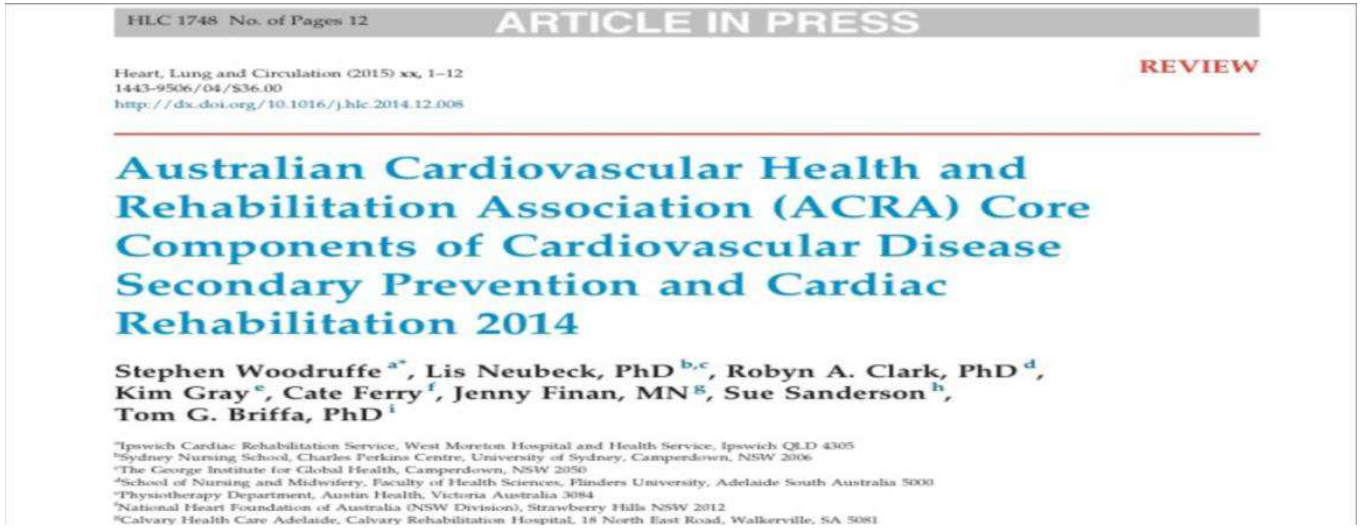
Dec 16, Jan & Feb 17

Walk test

Quality of life



"CR Services should be tailored to the individual patient's needs"



HLC 1748 No. of Pages 12 ARTICLE IN PRESS

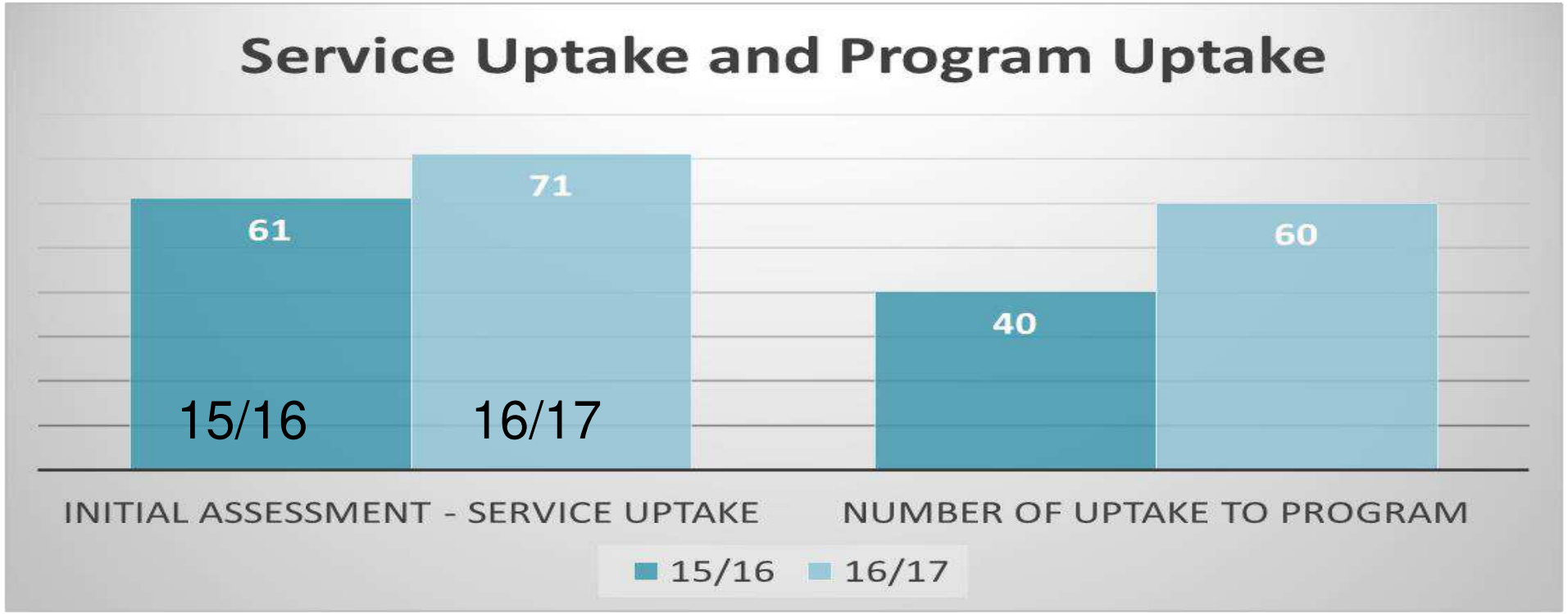
Heart, Lung and Circulation (2015) xx, 1–12
1443-9506/04/$36.00
http://dx.doi.org/10.1016/j.hlc.2014.12.008

REVIEW

Australian Cardiovascular Health and Rehabilitation Association (ACRA) Core Components of Cardiovascular Disease Secondary Prevention and Cardiac Rehabilitation 2014

Stephen Woodruffe [a*], Lis Neubeck, PhD [b,c], Robyn A. Clark, PhD [d], Kim Gray [e], Cate Ferry [f], Jenny Finan, MN [g], Sue Sanderson [h], Tom G. Briffa, PhD [i]

[a]Ipswich Cardiac Rehabilitation Service, West Moreton Hospital and Health Service, Ipswich QLD 4305
[b]Sydney Nursing School, Charles Perkins Centre, University of Sydney, Camperdown, NSW 2006
[c]The George Institute for Global Health, Camperdown, NSW 2050
[d]School of Nursing and Midwifery, Faculty of Health Sciences, Flinders University, Adelaide South Australia 5000
[e]Physiotherapy Department, Austin Health, Victoria Australia 3084
[f]National Heart Foundation of Australia (NSW Division), Strawberry Hills NSW 2012
[g]Calvary Health Care Adelaide, Calvary Rehabilitation Hospital, 18 North East Road, Walkerville, SA 5081



ORIGINAL RESEARCH

% Initiate CR vs Refs = 41.5%

American Heart Association | American Stroke Association

Predictors of Cardiac Rehabilitation Utilization in England: Results From the National Audit

Jennifer Sumner, MSc, BSc; Sherry L. Grace, PhD; Patrick Doherty, PhD

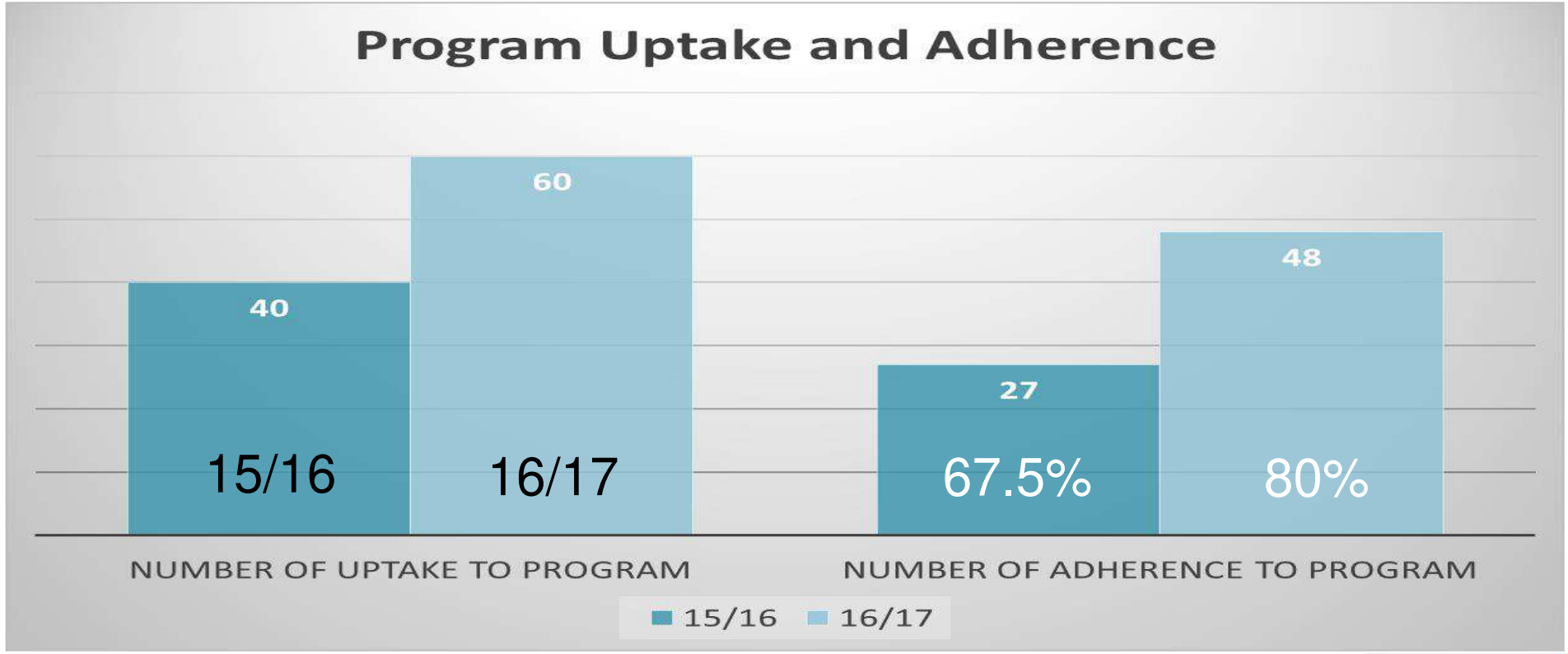
Background—Cardiac rehabilitation (CR) is grossly underused, with major inequities in access. However, use of CR and predictors of initiation in England where CR contracting is available is unknown. The aims were (1) to investigate CR utilization rates in England, and (2) to determine sociodemographic and clinical factors associated with CR initiation including social deprivation.

Methods and Results—Data from the National Audit of CR, between January 2012 and November 2015, were used. Utilization rates

% Uptake vs Refs

15/16 – 46.5%

16/17 – 61.2%



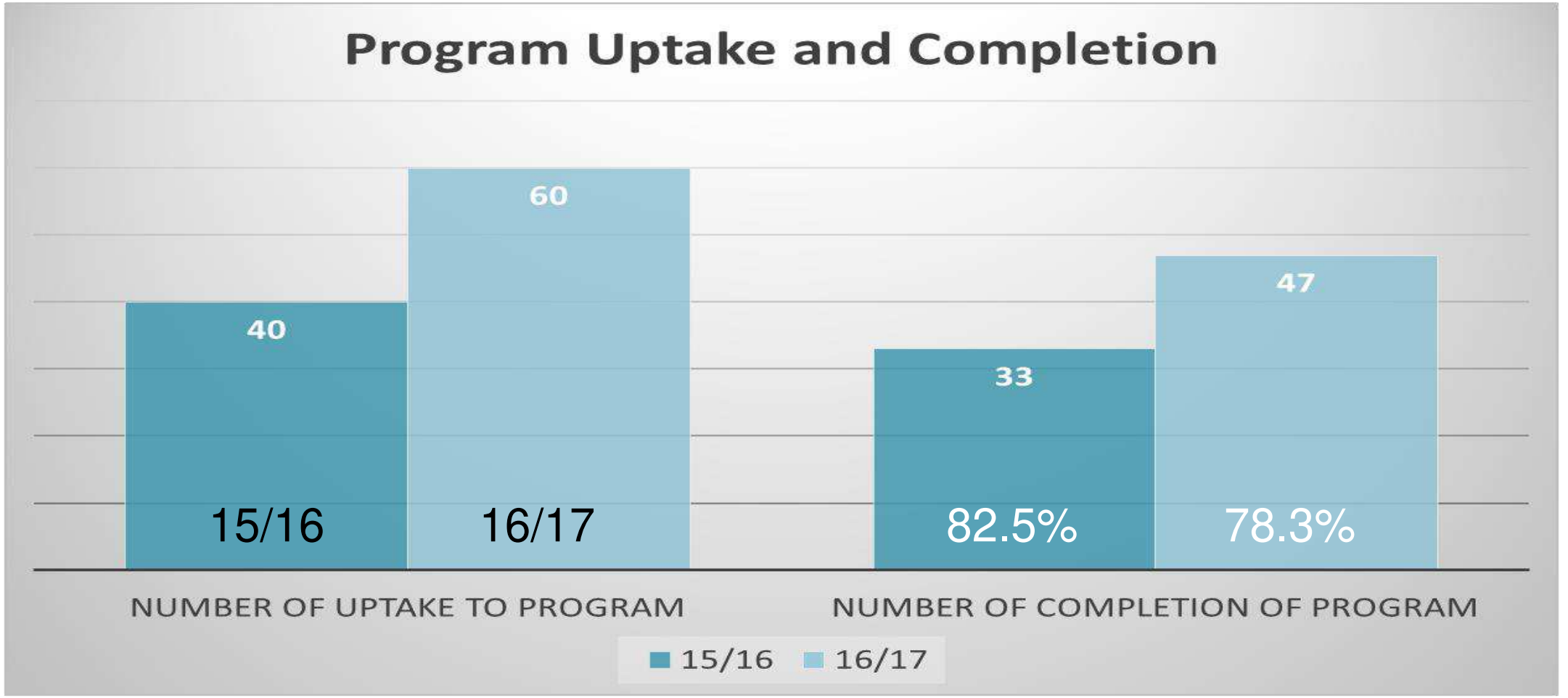
Adherence of those who uptake program is now 80%

Patients are missing out

Reasons for low participation:

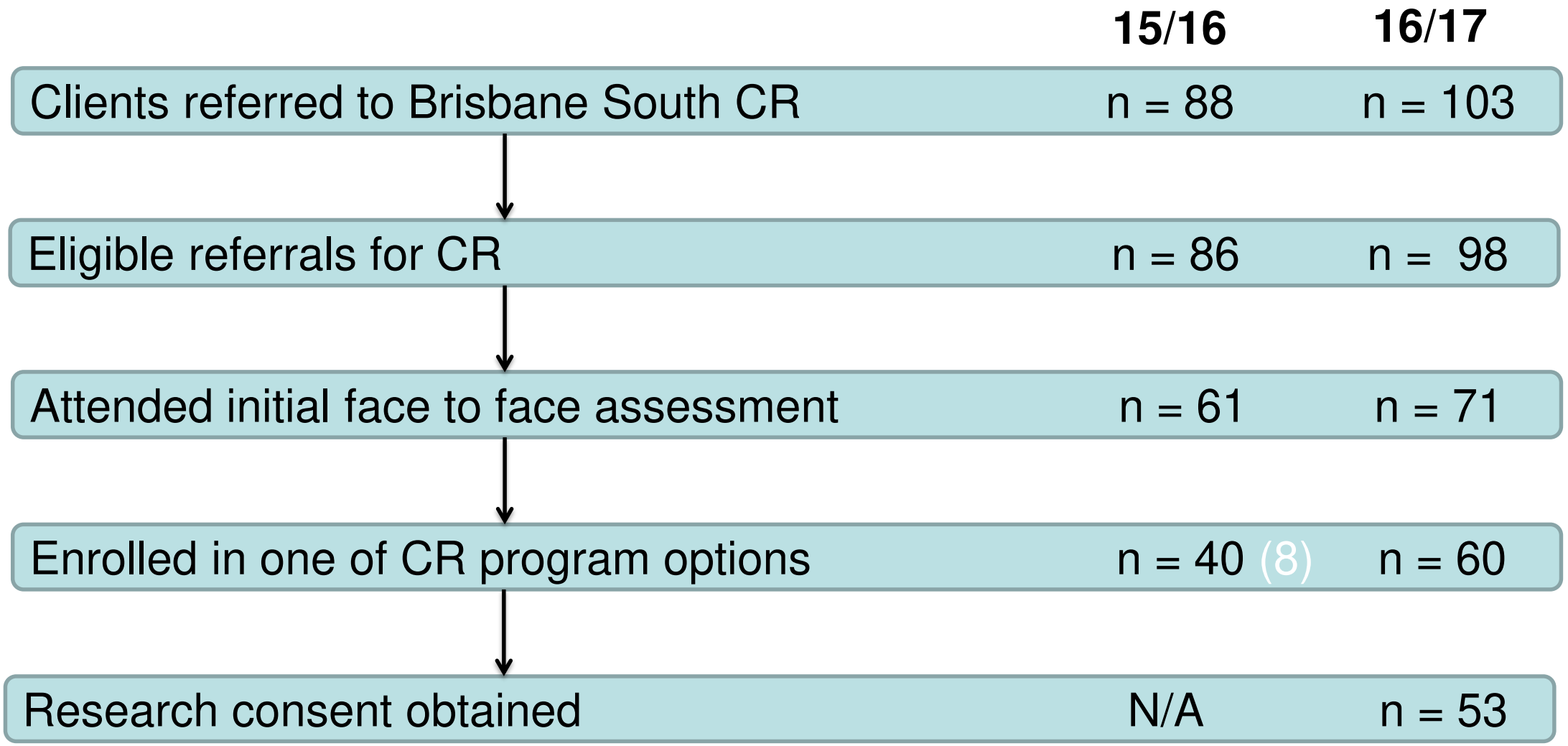
- ☐ Lack of referral from in-patient service
- ☐ Lack of a referral from patient's cardiologist
- ☑ Competing work & home responsibilities
- ☑ Distance and transportation
- ☑ Lack of CR service availability

Heart Foundation

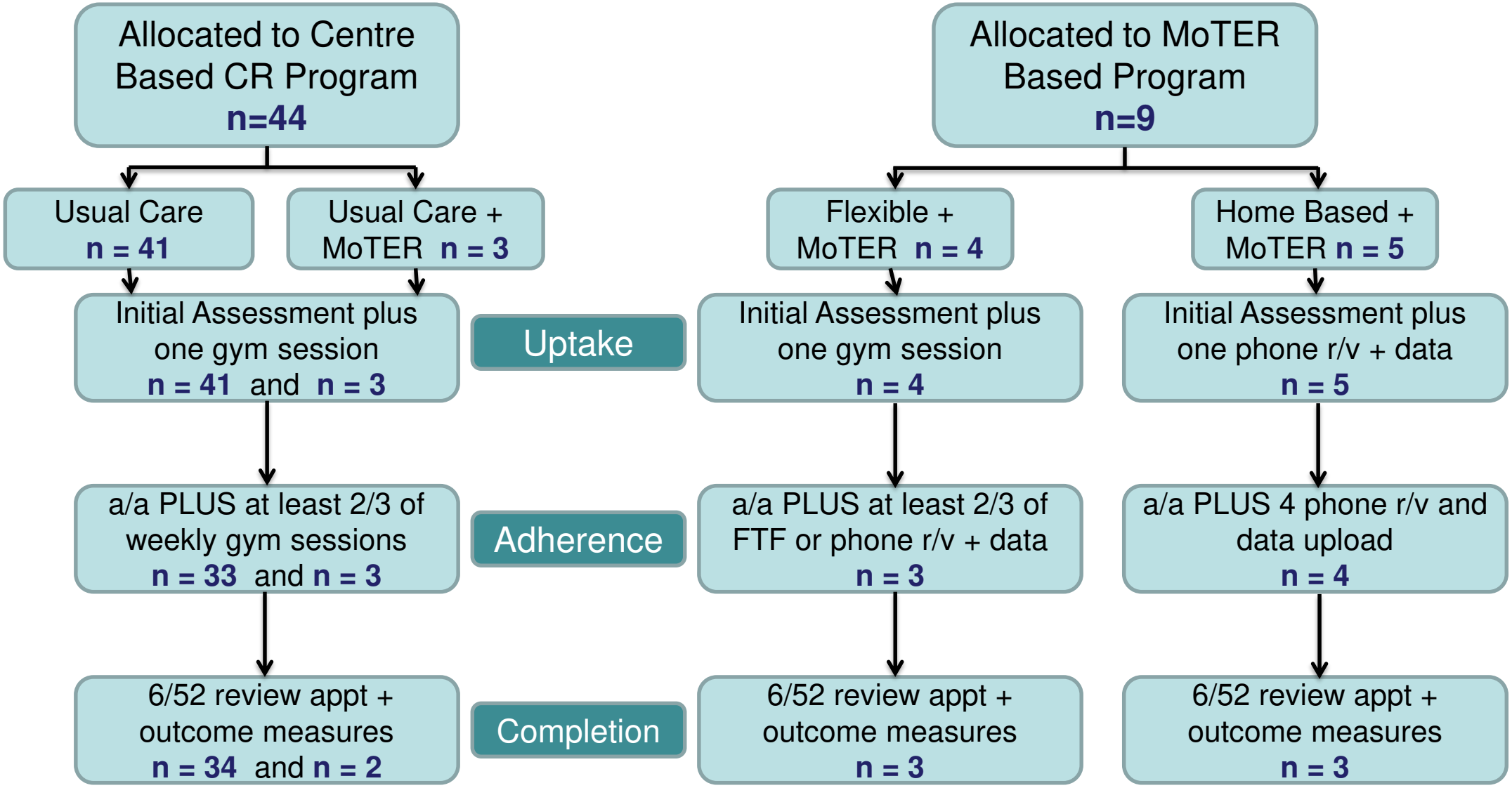


Completed from Eligible Referrals

15/16 = 38.3 % **16/17 = 47.96 %**



Outcome Data for Brisbane South Dec / Jan / Feb 15/16 vs 16/17


Allocated to Centre Based CR Program
n=44
Allocated to MoTER Based Program
n=9
Usual Care
n = 41
Usual Care + MoTER n = 3
Flexible + MoTER n = 4
Home Based + MoTER n = 5
Initial Assessment plus one gym session
n = 41 and n = 3
Uptake
Initial Assessment plus one gym session
n = 4
Initial Assessment plus one phone r/v + data
n = 5
a/a PLUS at least 2/3 of weekly gym sessions
n = 33 and n = 3
Adherence
a/a PLUS at least 2/3 of FTF or phone r/v + data
n = 3
a/a PLUS 4 phone r/v and data upload
n = 4
6/52 review appt + outcome measures
n = 34 and n = 2
Completion
6/52 review appt + outcome measures
n = 3
6/52 review appt + outcome measures
n = 3

Demographics

	Centre Based n = 44	MoTER Home/Flexi n = 9
Mean Age	63 years	52 years
Age Range	24 – 84 years	45 – 66 years
Gender	Male: n = 35 Female: n = 9	Male: n = 9 Female: n = 0
Employed	n = 21 (47.7%)	n = 8 (88.8%)
NESB	n = 6	n = 0

Diagnosis

Centre Based n = 44	
STEMI/NSTEMI with PCI	9
ACS Med Management	4
Elective PCI	10
Heart Failure/ Cardiomyopathy	5
CABG / Valve / Other Sx	16

MoTER Home/Flexi n = 9	
STEMI/NSTEMI with PCI	4
ACS Med Management	2
Elective PCI	3
Heart Failure/ Cardiomyopathy	0
CABG / Valve / Other Sx	0

Outcomes – Walk Test

Centre Based n = 37

Pre Walk Test	Post Walk Test
N = 37 (35 / 2)	N = 37 (35 / 2)
Mean = 347.3	Mean = 439.5
Range = 140 - 619	Range = 185 - 800

MoTER Home/Flexi n = 6

Pre Walk Test	Post Walk Test
N = 6 (3 / 3)	N = 6 (3 / 3)
Mean = 464.2	Mean = 531.2
Range = 356 - 605	Range = 427 - 750

Outcomes - HeartQoL Score

Centre Based n = 38 (36/2)

Pre H-QoL	Post H-QoL
Physical /30	**Physical /30**
Mean = 19	Mean = 24.3
Range = 3– 30	Range = 11 - 30
Emotional /12	**Emotional /12**
Mean = 9	Mean = 9.42
Range = 1 - 12	Range = 0 - 12
Total /42	**Total /42**
Mean = 28	Mean = 34
Range = 6 - 42	Range = 12 - 42

MoTER Home/Flexi n = 6 (3/3)

Pre H-QoL	Post H-QoL
Physical /30	**Physical /30**
Mean = 24	Mean = 29.33
Range = 8 – 29	Range = 29 - 30
Emotional /12	**Emotional /12**
Mean = 11	Mean = 11.33
Range = 7 - 12	Range = 8 - 12
Total /42	**Total /42**
Mean = 35	Mean = 41
Range = 19 - 41	Range = 37 - 42

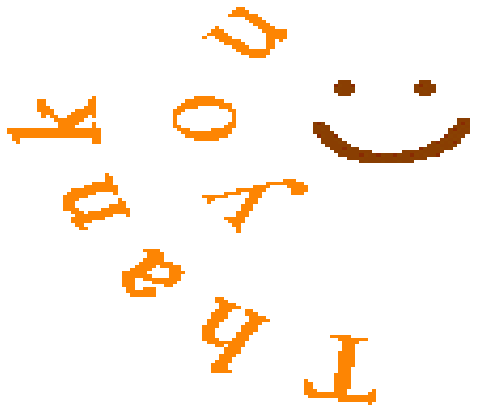
Implications of M-health

- Increased accessibility and convenience for patients
- Allows for proactive and continuous health care monitoring
- On demand education
- Less frequent face to face interaction with clinicians
- Less clinician/family support
- Referral numbers are increasing
- Alternative models need to be considered

In Conclusion: Does an app fill the gap in cardiac rehab?

We have demonstrated that an app fills A gap. However…

- The current iteration of the app needs to evolve a product that keeps pace with the developing technology eg wearable devices, individualised notifications and action plans
- M-health requires new processes to be developed within an already complex system, in order for it to be successfully implemented, clinician support is vital



- Cardiac Rehabilitation Staff in Metro South