

**Eight years on and still
effective: CVD risk factor
status of patients
graduated from Health
Management Coaching
(HMC), 2008 - 2010**

Brodie Preston
Aaron Di Guilmi
Jane Varney
Jane Henderson

St. Vincent's Hospital Melbourne
Melbourne General Practice Network

StV



St Vincent's



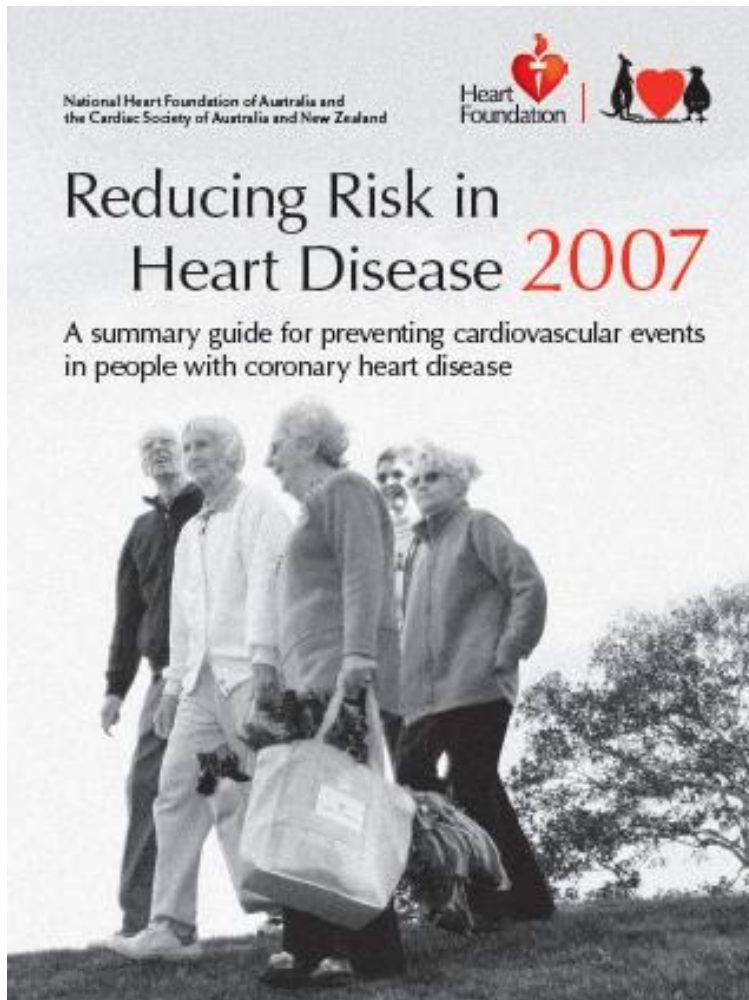
Introduction

- HMC is a HARP funded, secondary prevention program
- HMC provides telephone-delivered support to assist patients with CVD to achieve modifiable risk factor targets
- Joint initiative between St Vincent's Hospital (Melbourne) and the Melbourne General Practice Network

Introduction

- Lifestyle, behavioural and biomedical targets based on 'Reducing Risk in Heart Disease'
- Referrals obtained from ward screening, RNs or GPs
- Two RCTs and a previous HMC evaluation demonstrated HMC significantly improves risk factor profiles of enrolled patients¹⁻³

Risk Factor Targets



Lifestyle/behavioural risk factors and management

Smoking	<p>GOAL: Complete cessation and avoidance of secondhand smoke.</p> <ul style="list-style-type: none"> Refer to Quitline 13 QUIT. Consider pharmacotherapy for patients smoking >10 cigarettes per day.
Nutrition	<p>GOAL: Establishment/maintenance of healthy eating patterns, with saturated and trans fatty acid intake $\leq 8\%$ of total energy intake.</p> <ul style="list-style-type: none"> Refer to the Heart Foundation's 'Enjoy Healthy Eating' messages. Call the Heart Foundation on 1300 36 27 87 or visit www.heartfoundation.org.au.
Alcohol	<p>GOAL: Low risk alcohol consumption in those who drink.</p> <ul style="list-style-type: none"> Advise those with hypertension to limit alcohol intake to no more than 2 standard drinks per day (men), 1 standard drink per day (women).
Physical activity	<p>GOAL: Progress, over time, to at least 30 minutes of moderate intensity physical activity on most, if not all, days of the week (150 mins per week minimum).</p> <ul style="list-style-type: none"> Begin at low intensity and gradually increase duration over several weeks, particularly in the post-acute event period.
Healthy weight	<p>GOAL: Waist measurement ≤ 94 cm (males) or ≤ 80 cm (females); BMI = 18.5–24.9 kg/m².</p> <ul style="list-style-type: none"> Set intermediate achievable goals.

Biomedical risk factors and medical management

Lipids	<p>GOAL: LDL-C <2.0 mmol/L; HDL-C >1.0 mmol/L; Triglycerides <1.5 mmol/L.</p> <ul style="list-style-type: none"> All patients should receive healthy eating advice. Statin therapy is recommended for all patients with coronary heart disease (CHD) unless contraindicated and in hospitalised patients, therapy should be initiated during that admission.
Blood pressure	<p>GOAL:</p> <ul style="list-style-type: none"> Adults with coronary heart disease (and/or diabetes and/or chronic kidney disease and/or proteinuria >300 mg/day and/or stroke/TIA) <130/80 mm Hg. Adults with proteinuria >1 g/day (with or without diabetes) <125/75 mm Hg.
Diabetes	<p>GOAL: Identify undiagnosed type 2 diabetes; maintain optimal BSL in those with diabetes (HbA_{1c} $\leq 7\%$).</p> <ul style="list-style-type: none"> Screen all patients with CHD for diabetes. Manage hyperglycaemia with lifestyle interventions and pharmacotherapy if indicated.

Distinguishing features of HMC

- Evidence based, individualised care
- Cost effective⁴ and reduced re-admission rates
- Provide support, education, advice and referral
- Extended period of support post discharge
- Can assist with longer-term behaviour change
- Telephone delivered – improved rural access
- Complementary to cardiac rehabilitation or rehab non-attendees
- May benefit unmotivated and depressed patients



Coaching Process Overview

**Recruit patients from ward/referral
(GP and cardiologist informed)**



Coach session 1 (~two weeks after recruitment)



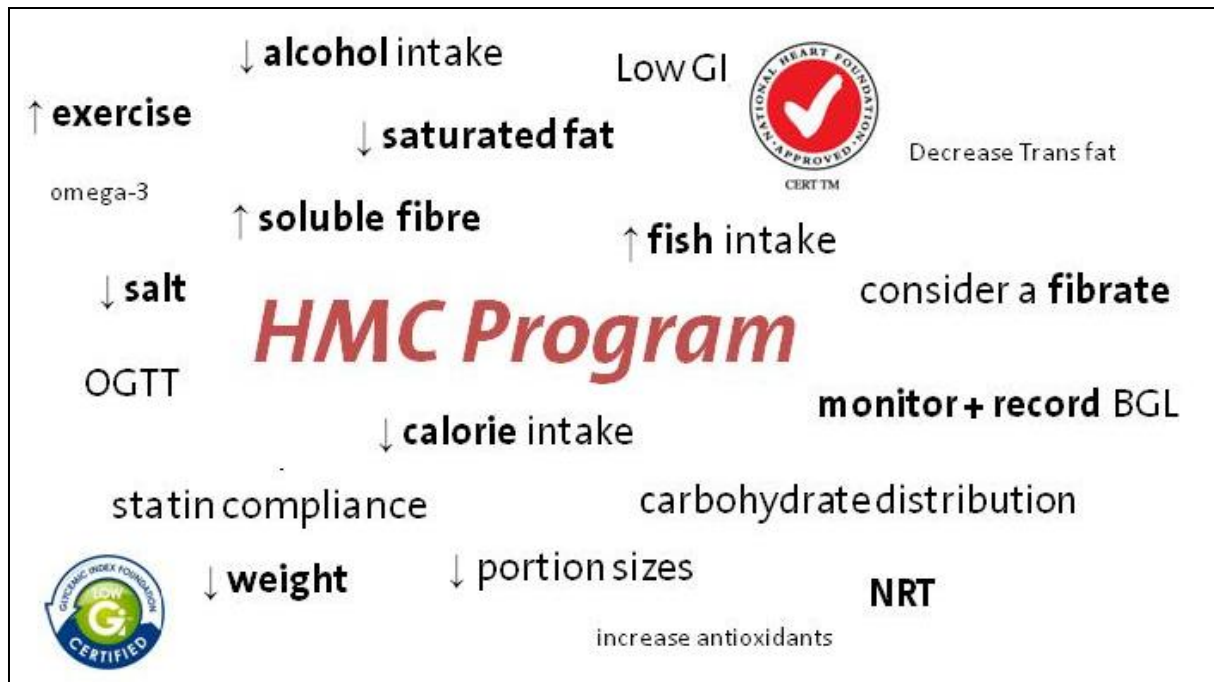
Coach Session 2,3,4... (each within ~6weeks of each other)



**Patient graduated
(after ~ 6 months coaching or when most RF targets met)
GP and cardiologist informed**

Achieving targets

- We use motivational interviewing, goal setting and health coaching techniques to support effective self-management



Method

- Data from patients enrolled in HMC between July 2008 and June 2010
- The Care Manager (TCM) was used to collect the data
- Mean risk factor levels were compared pre- and post-HMC intervention
- Percentage of patients achieving Heart Foundation risk factor targets pre- and post- HMC was determined
- Results were compared with 2003-2008 HMC evaluation data sets for TC

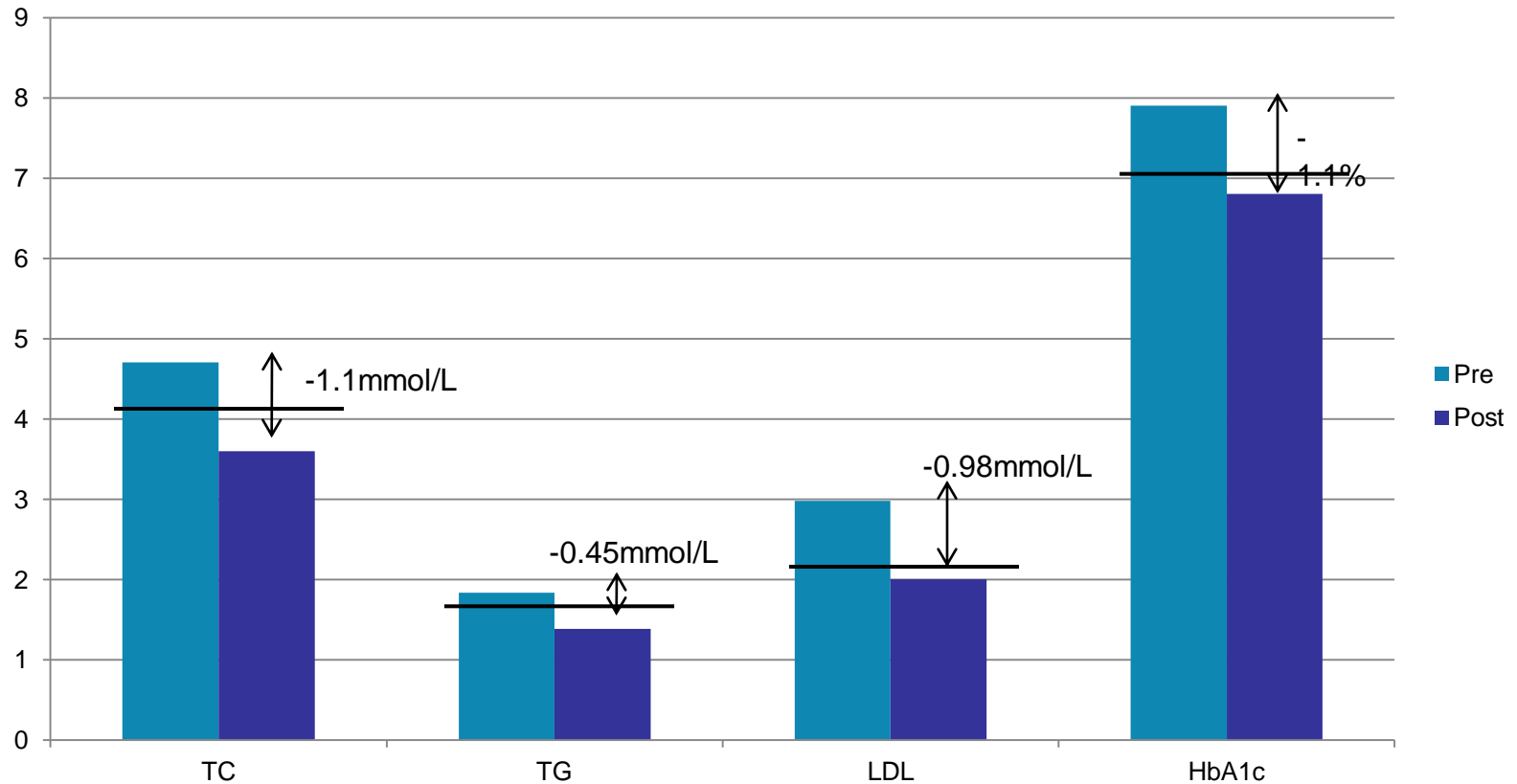
Results

- Data from 412 patients was assessed
- Complete datasets of between 80 -161 of these graduated HMC patients were analysed
- 74% of the cohort were male
- Statistically significant improvement ($p < 0.05$) pre- vs. post-HMC occurred in the mean:
 - **total cholesterol (TC)**
 - **LDL-C**
 - **triglycerides (TG)**
 - **HbA1C%**
 - **blood pressure (BP)**
 - **weight and BMI**
 - **waist circumference**

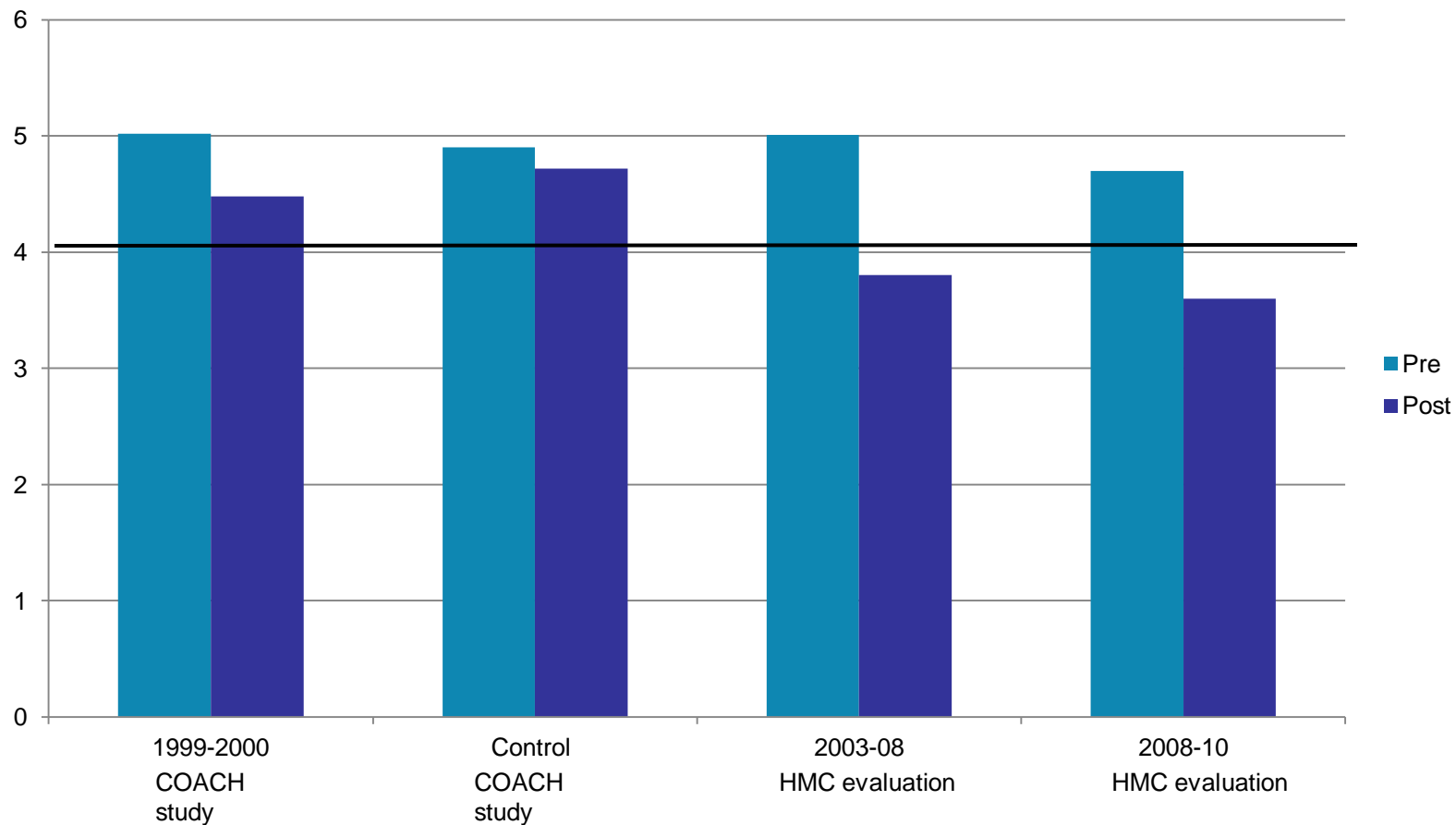
p=<0.05

Risk Factor	Pre HMC	Post HMC	HF target
TC (mmol/L)	4.7	3.6	<4.0
TG (mmol/L)	1.83	1.38	<1.5
LDL (mmol/L)	2.98	2.0	<2.0
HbA1C (%)	7.9	6.8	<7%
Weight (kg)	87.6	84.6	n/a → 3.4% loss BW
BMI (kg/m ²)	29.9	28.9	20-25/22-27
Waist (cm)	105	99	<94 cm <80 cm
BP (mmHg)	128/77	127/76	130/85 or 140/90

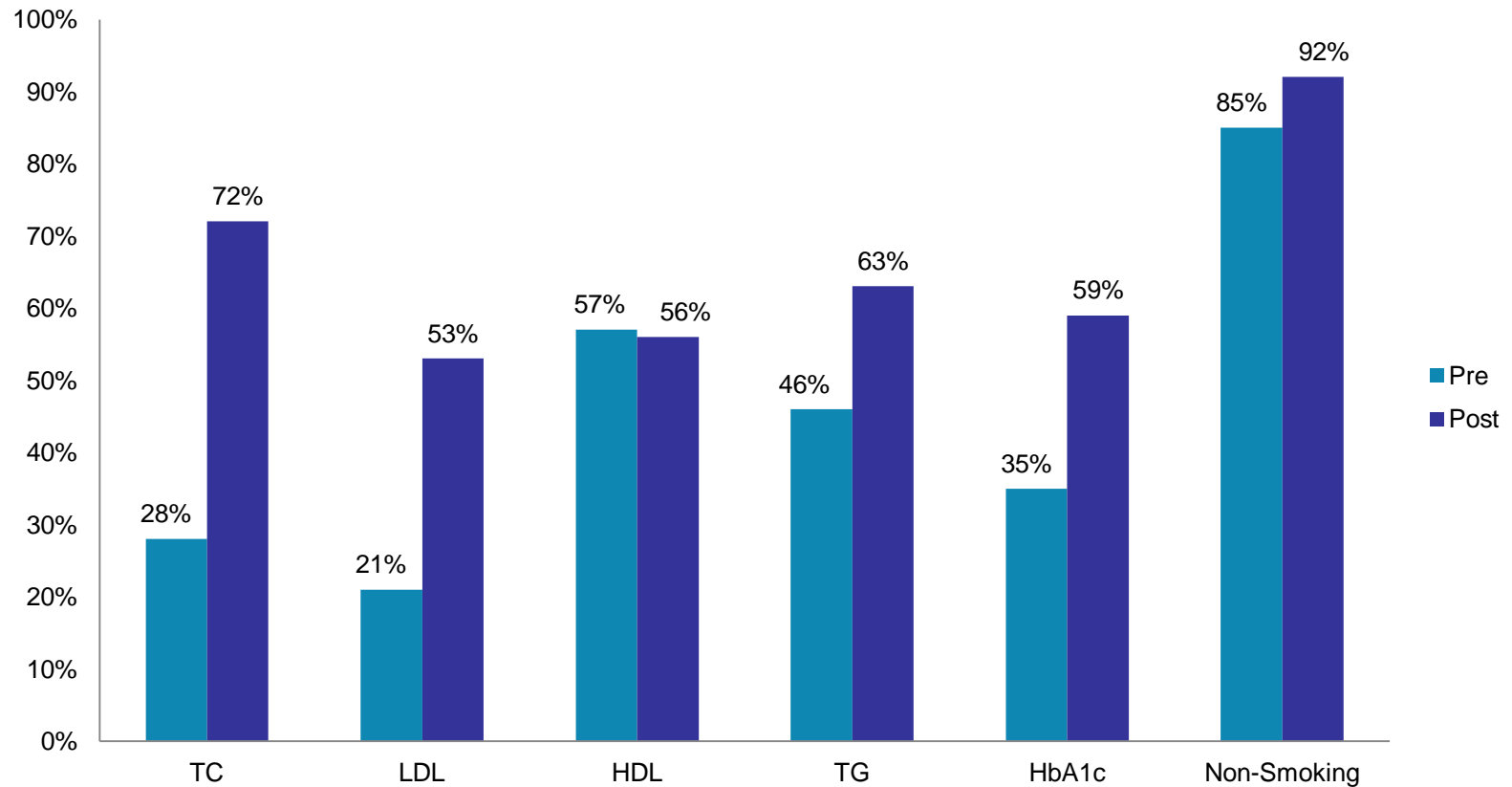
Average change pre- vs. post-HMC



Average change in T-cholesterol levels (mmol/L)



Percentage Meeting HF Targets Pre and Post HMC



- Results, particularly TC, compared favourably with previous evaluation data and the COACH studies
- HMC remains an effective model, contributing to significant improvements in risk factor status

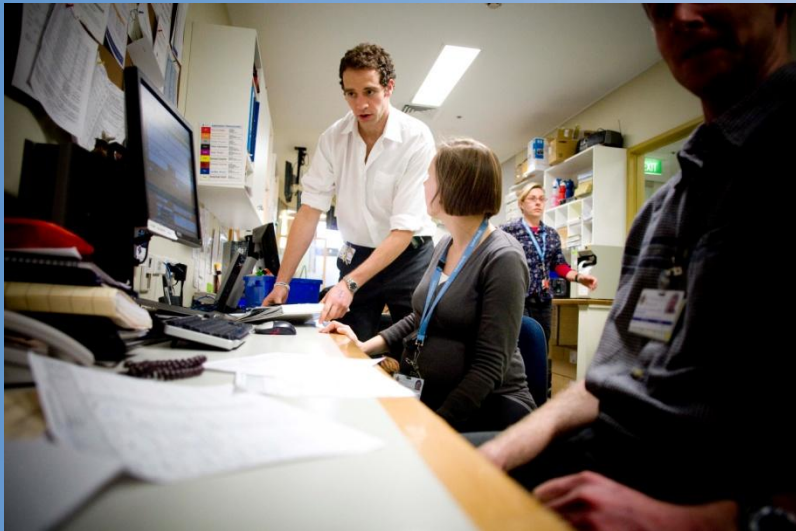
- Limitations:
 - Nil control group, evaluation only
 - No results for physical activity outcomes due to inconsistent data collection
 - Waist circumference not divided into male vs. female
 - Weight/BMI not categorised based on age
 - BP not categorised based on age/diabetes

Conclusions

- These risk factor reductions may translate to improved clinical outcomes for these patients⁵⁻⁸
- HMC has been associated with reduced preventable hospital admissions translating into reduced health expenditure
- Effective, evidence-based model for chronic disease self-management
- St Vincent's is currently piloting a similar telephone coaching model among patients with poorly controlled type 2 diabetes

StV

Thank you



StVincent's



References

1. Vale, Jelinek, Best & Santamaria. *J Clin Epidemiol*. 2002;55(3):245-52.
2. Vale, Jelinek, Best *et al*. *Arch Intern Med*. 2003;163(22):2775-83.
3. Varney, Mielczarek, Patsamanis & Lydall-Smith. *Heart Foundation Conference*. 2009; Brisbane, Qld.
4. Liew, Vale, Best *et al*. *Eur Heart J*. 2010; 31:227.
5. Zhang, Patel, Horibe *et al*. *Int J Epidemiol* 2003;32:563–72.
6. Barzi, Patel, Woodward *et al*. *Ann Epidemiol* 2005;15:405–13.
7. Cannon, Braunwald, McCabe *et al*. *New Eng J Med* 2004;350:1495–504.
8. LaRosa, Grundy, Waters *et al*. *New Engl J Med* 2005;352:1425–35.