

CHOICE program for secondary prevention of CVD

Julie Redfern

NHMRC NICS-Heart Foundation

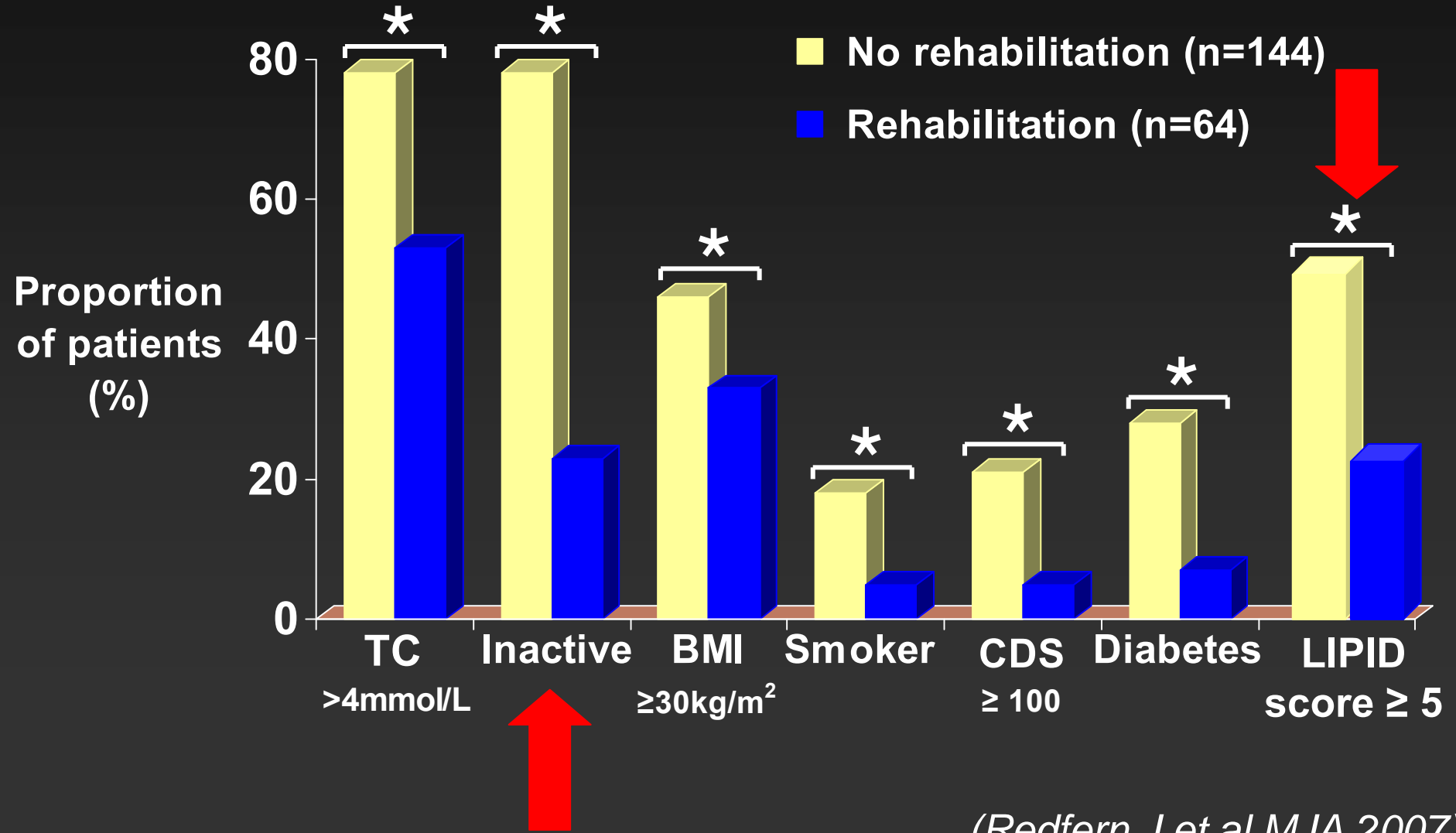


Aim of secondary prevention

Prevent further cardiovascular events in people with existing disease



Proportion with high risk factors





Best available evidence

Reducing risk factors (secondary prevention)

- responsible for reduced cardiovascular deaths
- decreases events
- decreases hospitalisations
- decreases the need for revascularisation

WHO, CSANZ and NHFA recommend all heart event survivors should participate in a formal secondary prevention program

Evidence-practice gap

- Despite international recommendations, most Australian patients with CVD do not access existing risk factor reduction programs
- Strong evidence that individualised, patient-centred programs that target risk factor lowering are effective but are not readily available

Secondary prevention contributions to decline in recent CHD deaths

- Ford et al – US

- 50%

- Unal et al – UK

- 50%

- Taylor et al – Australia

- ≈75%

- Tobias et al – NZ

- 50-80%

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Explaining the Decrease in U.S. Deaths from Coronary Disease, 1980–2000

Earl S. Ford, M.D., M.P.H., Umed A. Ajani, M.B., B.S., M.P.H., Janet B. Croft, Ph.D., Julia A. Critchley, D.Phil., M.Sc., Darwin R. Labarthe, M.D., M.P.H., Ph.D., Thomas E. Kottke, M.D., Wayne H. Giles, M.D., M.S., and Simon Capewell, M.D.

Explaining the Decline in Coronary Heart Disease Mortality in England and Wales Between 1981 and 2000

Belgin Unal, MD, MPH; Julia Alison Critchley, DPhil; Simon Capewell, MD

Background—Coronary heart disease mortality rates have been decreasing in the United Kingdom since the 1970s. Our study aimed to examine how much of the decrease in England and Wales between 1981 and 2000 could be attributed to medical and surgical treatments and how much to changes in cardiovascular risk factors.

Methods and Results—The IMPACT mortality model was used to combine and analyze data on uptake and effectiveness of cardiological treatments and risk factor trends in England and Wales. The main data sources were published trials and meta-analyses, official statistics, clinical audits, and national surveys. Between 1981 and 2000, coronary heart disease mortality rates in England and Wales decreased by 62% in men and 45% in women 25 to 84 years old. This resulted in 68 230 fewer deaths in 2000. Some 42% of this decrease was attributed to treatments in individuals (including 11% to secondary prevention, 13% to heart failure treatments, 8% to initial treatments of acute myocardial infarction, and 3% to hypertension treatments) and 58% to population risk factor reductions (principally smoking, 48%; blood pressure, 9.5%; and cholesterol, 9.5%). Adverse trends were seen for physical activity, obesity and diabetes.

Conclusions—More than half the coronary heart disease mortality decrease in Britain between 1981 and 2000 was due to changes in cardiovascular risk factors, principally smoking. This emphasizes the importance of a comprehensive approach to secondary prevention, particularly for tobacco and diet, and that maximizes population coverage of prevention and heart failure. These findings may be cautiously applied to other developed countries. (*Circulation*. 2004;109:1101-1107.)

Contribution of changes in risk factors to the decline of coronary heart disease mortality in Australia over three decades.

Original Scientific Papers

European Journal of Cardiovascular Prevention & Rehabilitation. 13(5):760-768, October 2006.

Taylor, Richard a; Dobson, Annette a; Mirzaei, Masoud b

Systematic reviews

- **Jolliffe JA et al 2000 Cochrane Database (8440 patients)**
 - Decreased cardiac and all-cause mortality
- **McAlister FA et al 2001 BMJ (9803 patients)**
 - Decreased hospital admissions and improved risk factors
- **Taylor RS et al 2004 Am J Med (8940 patients)**
 - Deduced all-cause mortality, cardiac mortality and risk factors

Systematic reviews

- **Clark AM et al 2005 (21295 patients)**
 - Programs with and without structured exercise components decreased cardiac all-cause mortality and recurrent MI to a similar degree
- **Clark AM et al 2007 Eur J CV Prev Rehab (18821 patients)**
 - Brief and long programs resulted in decreased mortality

**Effe
Redu
Clinic**

The Star

William L. Ha
Sally

Nurse-coordinated multidisciplinary, family-based cardiovascular disease prevention programme (EUROACTION) for patients with coronary heart disease and asymptomatic individuals at high risk of cardiovascular disease: a paired, cluster-randomised controlled trial

DAW
EURO

European Heart Journal (2003) 24, 1920–11



Clinical research

The Extensive I (ELMI) following

Scott A. Lear^{a,b*}, Andrew Ignaszewski^b, Wolfgang Linden^c, Anka Brozic^d,
Marla Kiess^e, John J. Spinelli^f, P. Haydn Pritchard^g, Jiri J. Frohlich^g

^aSchool of Kinesiology, Simon Fraser University, Vancouver, Canada

^bHealthy Heart Program, Division of Cardiology, Department of Medicine, St. Paul's Hospital, University of British Columbia, British Columbia, Canada

^cDepartment of Psychology, University of British Columbia, British Columbia, Canada

^dHealthy Heart Program, Vancouver General Hospital, Vancouver, Canada

^eDepartment of Medicine and Radiology, University of British Columbia, British Columbia, Canada

^fCancer Control Research Program, British Columbia Cancer Agency, British Columbia, Canada

^gDepartment of Pathology and Laboratory Medicine, University of British Columbia, British Columbia, Canada

Received 16 February 2003; received in revised form 22 July 2003; accepted 28 August 2003



Patient-Centered Modular Secondary Prevention Following Acute Coronary Syndrome

A RANDOMIZED CONTROLLED TRIAL

Julie Redfern, PhD, Tom Briffa, PhD, Elizabeth Ellis, PhD,
and Saul B. Freedman, MBBS, PhD

al Medicine

Risk Factor Modification After Acute
infarction

3-4819

199405010-00001

ouston; Superko, H. Robert; Dennis, Charles A.;
l.; Berger, Walter E. III; Heller, Robert S.; Rompf,
Helena C.; Bandura, Albert; Ghandour, Ghassan;
sha V.; Fisher, Lynda; Taylor, C. Barr
(9), 1 May 1994, pp 721-729



CHOICE program

- **Patient-centred**
 - **Choice**
 - **Flexibility**
- **Therapeutic alliance**
- **Self management**

Depression



- Agreed goal-setting
- Menu-style choice
- Written action plan
- Telephone follow-up

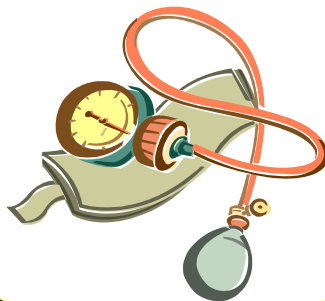
Nutrition



↓ Cholesterol



↓ Blood pressure



↑ Activity



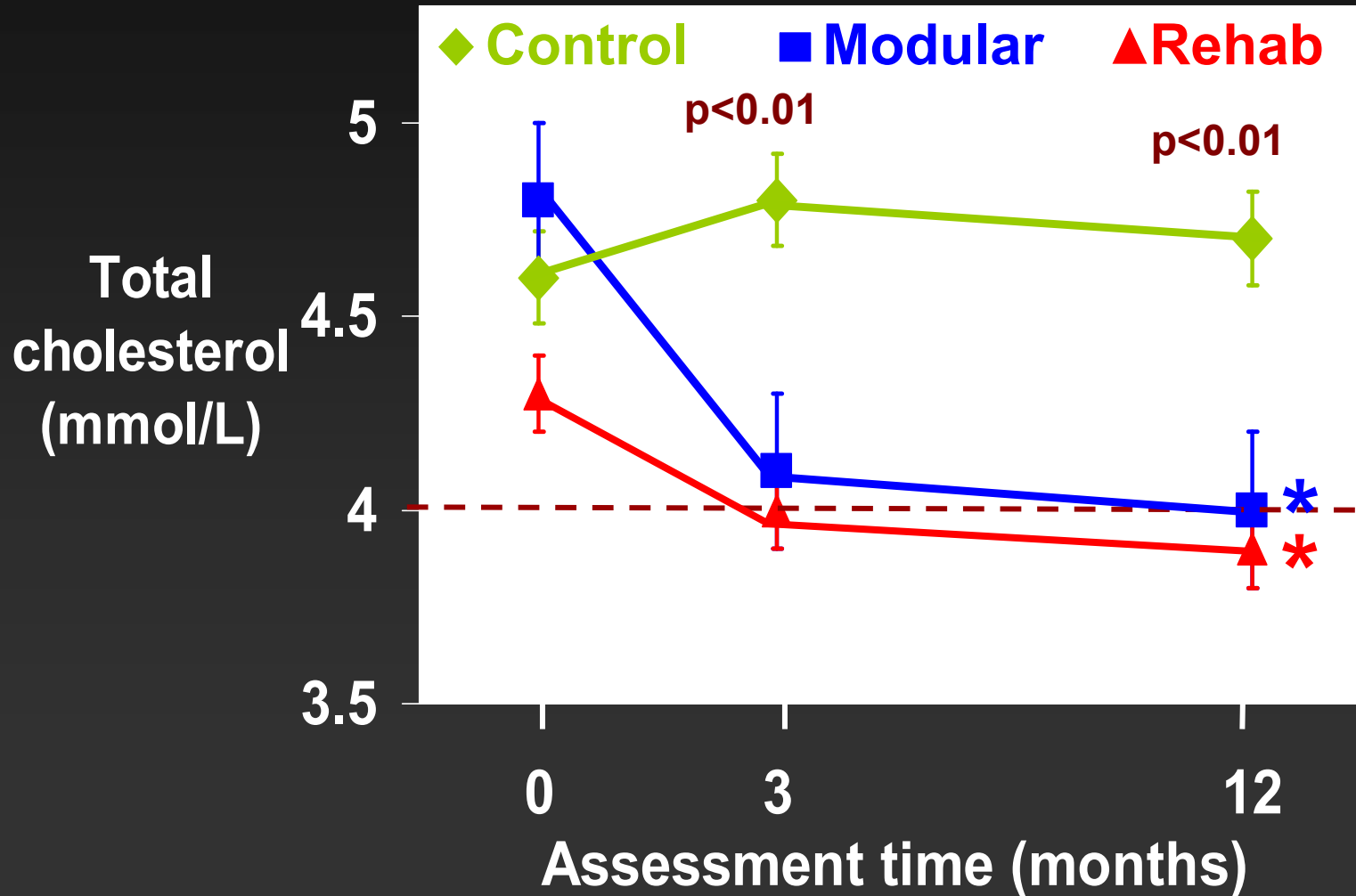
Quit smoking





CHOICE RCT in ACS patients

Total cholesterol



CHOICE RCT results summary

Compared to control

- Lower cholesterol, BP, BMI
- Higher physical activity level
- Fewer smokers
- Better risk factor knowledge
- Fewer with 3 or more modifiable risk factors

Compared to cardiac rehabilitation

- Similar risk factor levels and better knowledge

Frequency of medical consultations

- 85% of patients saw GP ≥ 5 times
- 60% saw cardiologist \geq once
- Still no change in risk factors in control group
- Frequent medical consultations in CHOICE group was associated with lower SBP but not TC or LDL
- A structured and patient-mediated program as well as medical visits is needed for effective secondary prevention

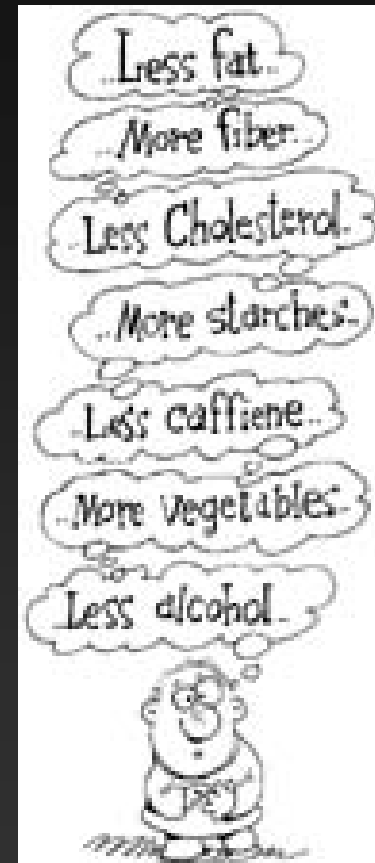


Summary

- Evidence-practice gap affects about 24,000 Australians annually
- Brief patient-centred interventions improve risk factors in patients with CHD
- CHOICE program is one proven and clinically practical vehicle
- Chronic disease management presents emerging challenges for health professionals

The merry-go-round

- **Combine medical visits with a structured risk factor prevention program**
- **Patient-mediated interventions with choices and options are effective**
- **Major risk factors are common to most disease processes**



..Less fat..

..More fiber..

..Less Cholesterol..

..More starches..

..Less caffiene..

..More vegetables..

..Less alcohol..

