

Translating Evidence into Practice

A Workshop on Heart Failure

Dr Sue Phillips & Dr Peter Didsbury
National Institute of Clinical Studies &
New Zealand Guidelines Group



TURNING EVIDENCE INTO ACTION

Workshop objectives

- Increase your understanding of the science (and art) of evidence implementation
- Practice developing an implementation plan - using heart failure as an example

Overview of workshop

1. Identify gaps in practice
 - Look at known gaps in heart failure
2. Understand barriers to best practice
 - Identify barriers in heart failure practice (breakout)
3. Understand implementation strategies
 - What works well & what doesn't
4. Tailor interventions to overcome barriers
 - Design heart failure implementation plan (breakout)

Identifying gaps in practice

- Look at the evidence about best practice
- Look at the evidence about current practice
- Characterise the gaps

Look at the evidence about best practice

- Strength of the evidence
- Aspect of care studied:
 - Assessment/diagnosis
 - Therapeutic management
 - Secondary prevention
- Patient group studied
- Clinician group studied
- Setting studied



a guideline
for the management of
heart failure

health professionals guide
december 2001

A Grade evidence for effective therapy

- **ACEIs**

- reduce mortality 31% NNT=7-20
- reduce hospital admissions 10%

- **BETA-BLOCKERS**

- reduce mortality by further 35%
- NNT15-25 1yr
- reduce hospital admissions

- **Spironolactone**

- reduces death and hospital admission by 20%(2 yrs)
- NNT=11

Balance sheet for using ACEIs

4yrs:

86% of avoided admissions occur yr 1

End Point	Per 100 individuals
Months of life gained	190
Deaths Avoided	30
Hospitalisations avoided	34.65
Hospital costs other medical costs avoided	\$171616
Additional drug, dispensing and medical practitioner costs with use ACEIs	\$106451
Nett Savings	\$65165

Note: using 1993 dollar figures

Look at the evidence about current practice

- Look for published studies on current practice
- Analyse the data:
 - sample size
 - clinical setting
 - country/health care system
 - year of publication
 - aspect of care studied



Evidence-Practice

gaps

REPORT

Volume 1

Characterise the type of gaps

- Under/over use of drugs
- Under/over use of tests/procedures
- Underuse of assessments
- Underuse of education/advice
- Underuse of preventive measures
- Suboptimal use of drugs

Gaps identified in HF practice

- Under use of echocardiography
- Under use of ACEI
- Suboptimal doses of ACEI
- Under use of beta-blockers
- Other gaps not covered – lack of data on current practice

Under use of echocardiography

- All patients suspected of having heart failure should have an echocardiogram
 - NHFA/CSANZ HF Guidelines 2001; Level of Evidence: EO
- In previously diagnosed HF, 64% had had echos, but only 22% of possible HF had echos requested by GPs
 - CASE study, MJA 2001; 174: 439
- Echos were used to diagnose HF in 69% of HF patients; GPs ordered 19% of echo tests
 - SAND abstract No.38 from BEACH program 2002-2003

Under use of ACEI

- ACE inhibitors are recommended for all severities of systolic heart failure
 - NHFA/CSANZ HF Guidelines 2001; Level I Evidence
- 58% of heart failure patients were receiving ACE inhibitors
 - CASE study, MJA 2001; 174: 439
- 32% of heart failure patients were receiving ACE inhibitors
 - SANDS study, Abstract 38 from the BEACH program 2002-2003

Suboptimal doses of ACEI

- All heart failure patients should be on highest tolerated doses of ACE inhibitors
 - NHFA/CSANZ HF Guidelines 2001; Level II Evidence
- ACE inhibitor dosage was optimised in 9% of heart failure patients
 - CASE study, MJA 2001; 174: 439 (Study conducted in 1998)

Under use of beta-blockers

- All systolic heart failure patients on ACE who remain symptomatic should be on beta-blockers

– NHFA/CSANZ HF Guidelines 2001; Level I Evidence

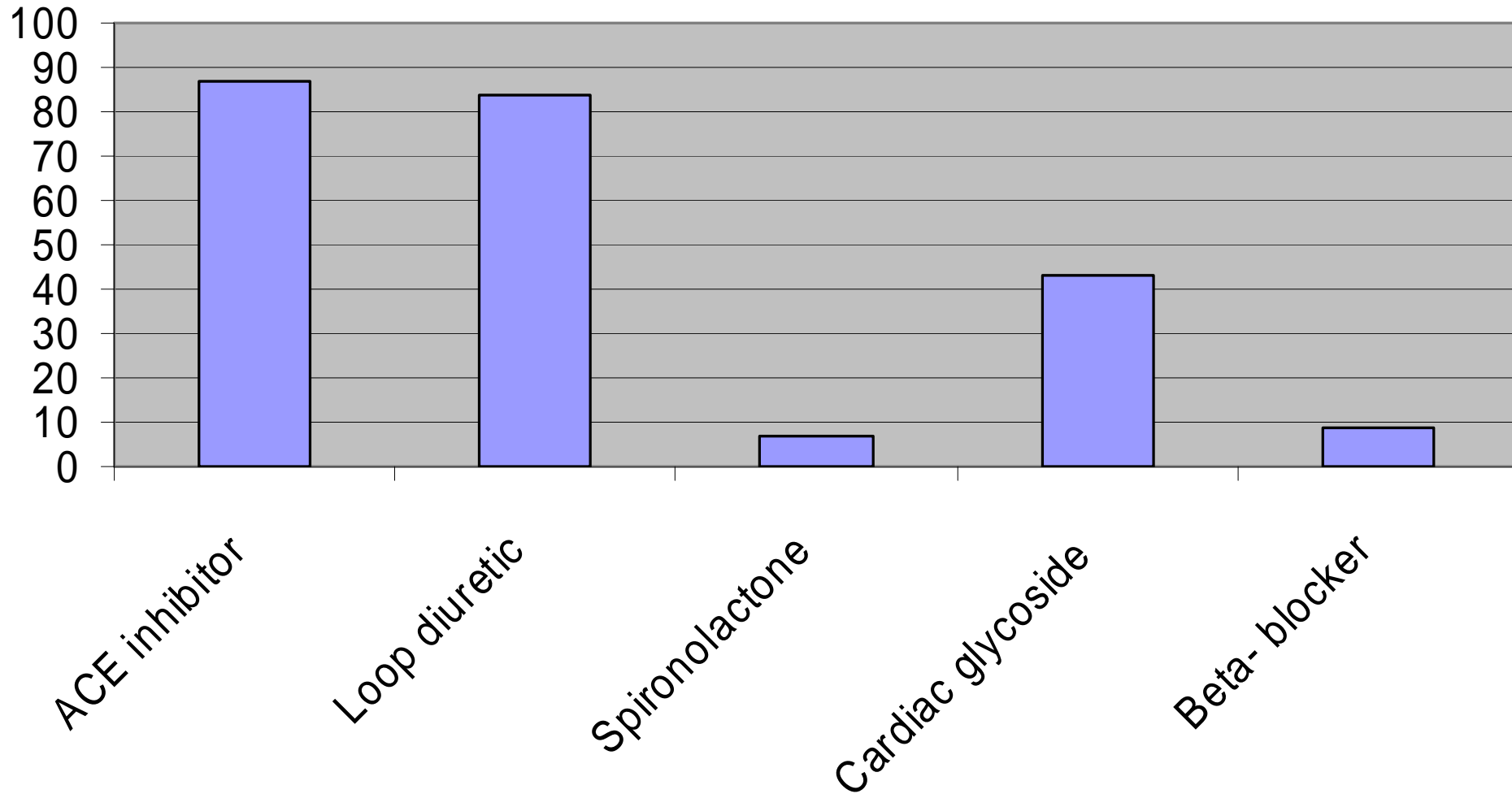
- 6% of heart failure patients were found to be on beta-blockers approved for heart failure*

– CASE study, MJA 2001; 174: 439

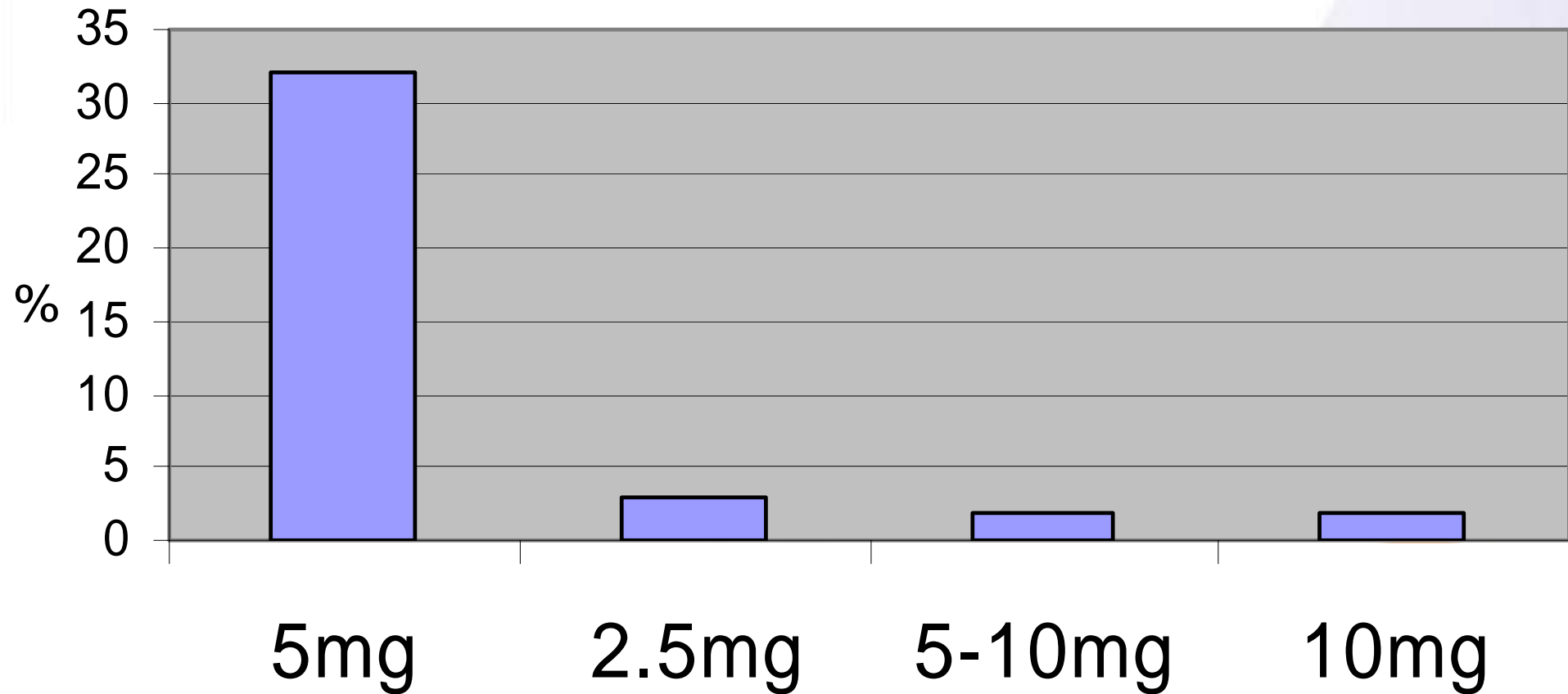
* these were restricted to specialists at the time of the study

Audit of General practitioners in Auckland 1999

Percent of patients receiving medication in 1999



Baseline Case Study: Target doses cilazapril

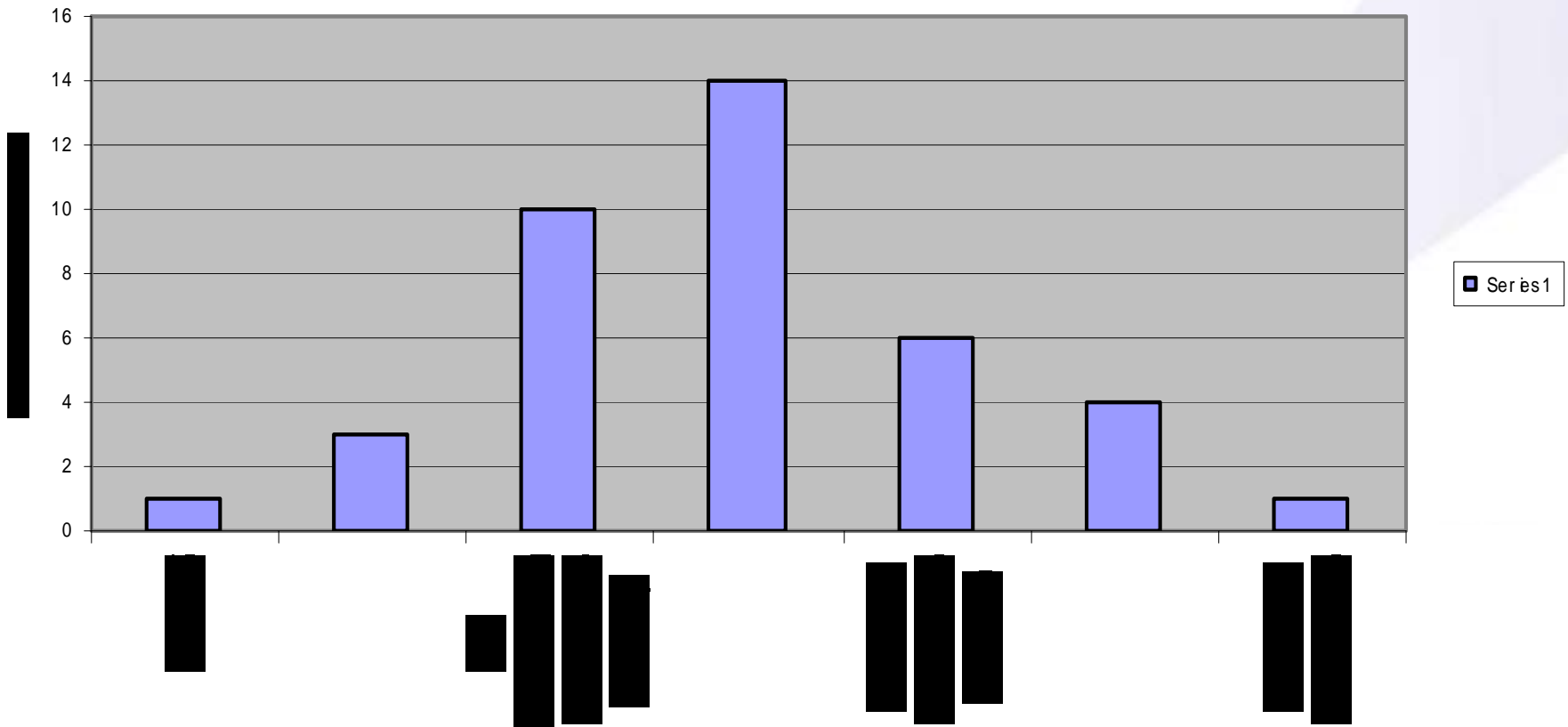


Under use of beta-blockers

- All systolic heart failure patients on ACE who remain symptomatic should be on beta-blockers
 - NHFA/CSANZ HF Guidelines 2001; Level I Evidence
- 6% of heart failure patients were found to be on beta-blockers approved for heart failure*
 - CASE study, MJA 2001; 174: 439
 - *these were restricted to specialists at the time of the study

Case Study

Describe dose schedule for Beta-blockers



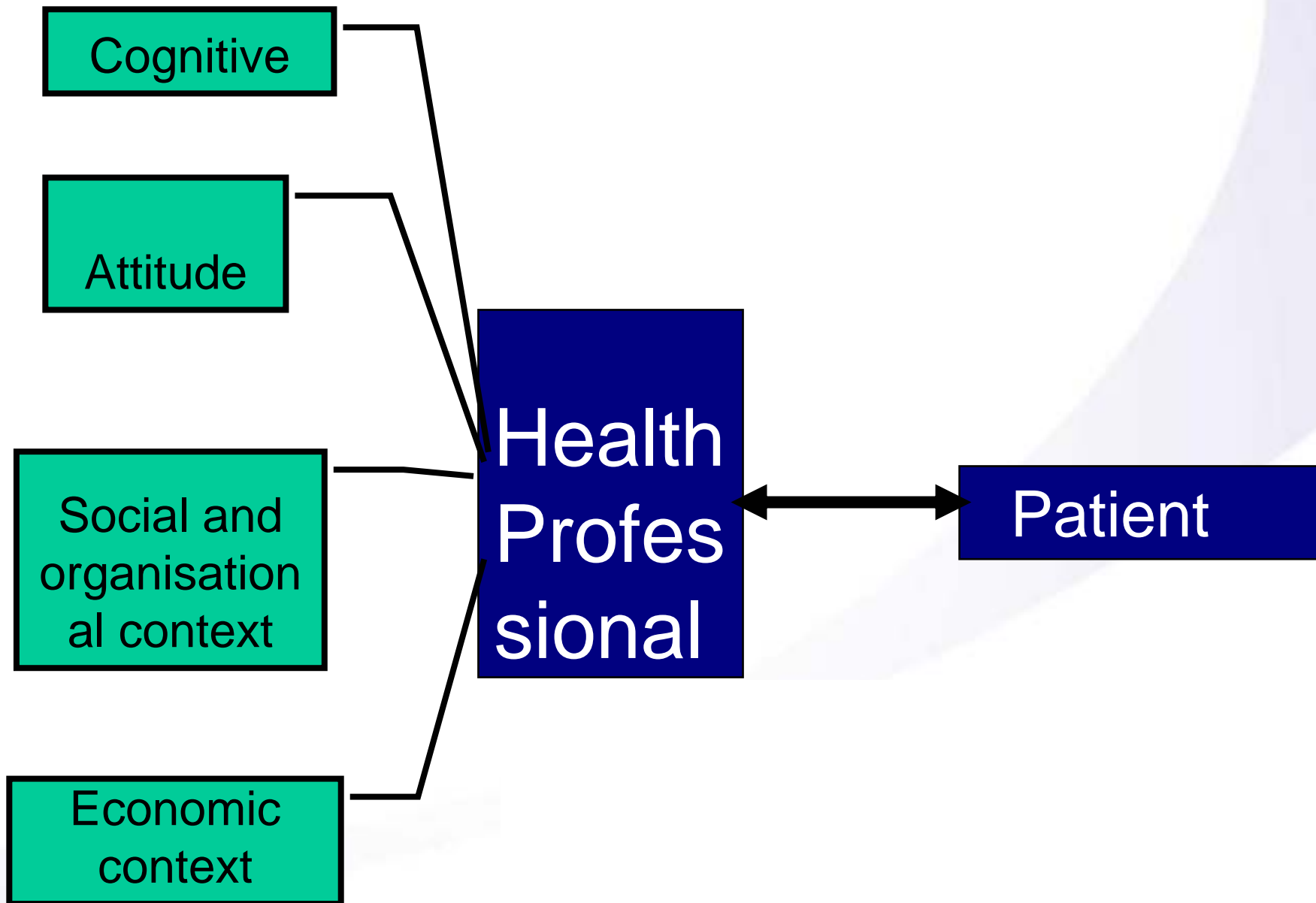
Understand barriers

Barriers at different levels:

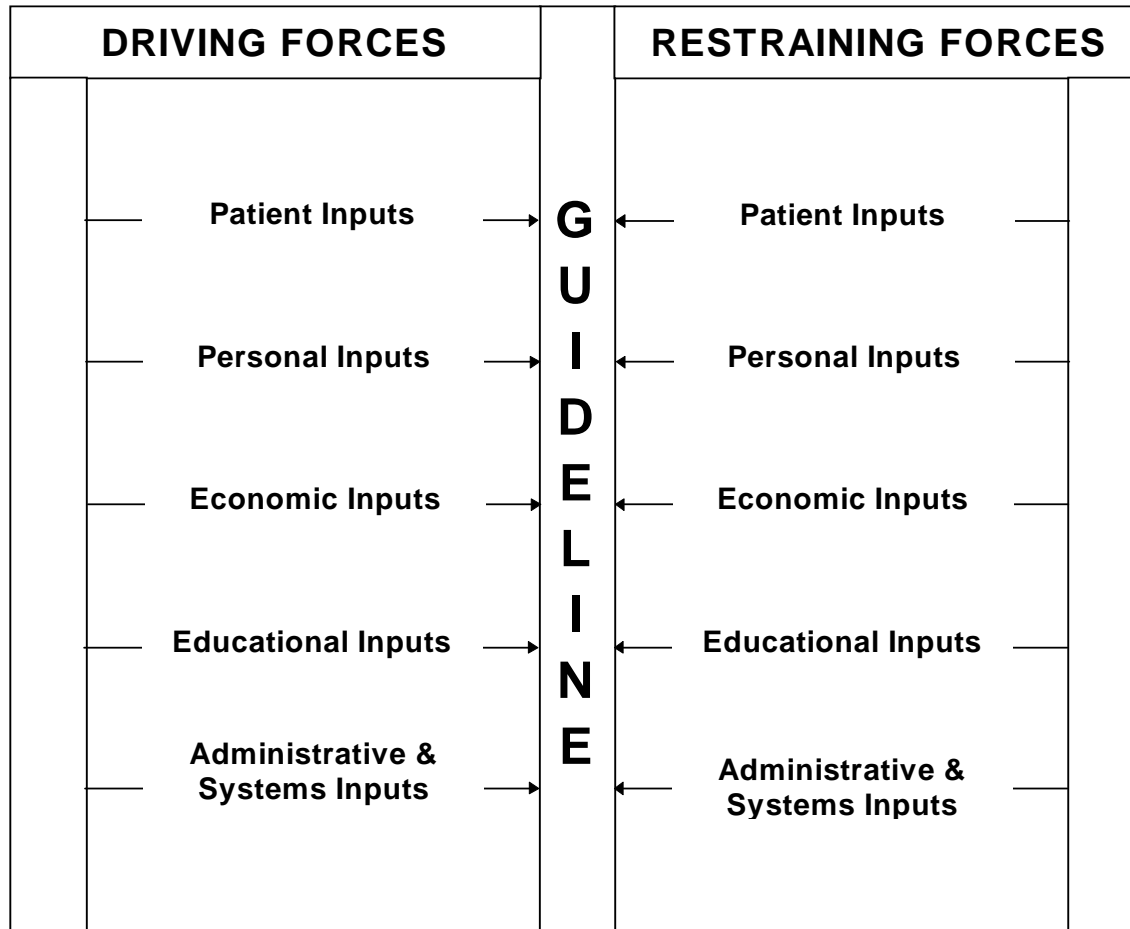
- Consumers
- Clinicians
- Systems

How do you find out about barriers?

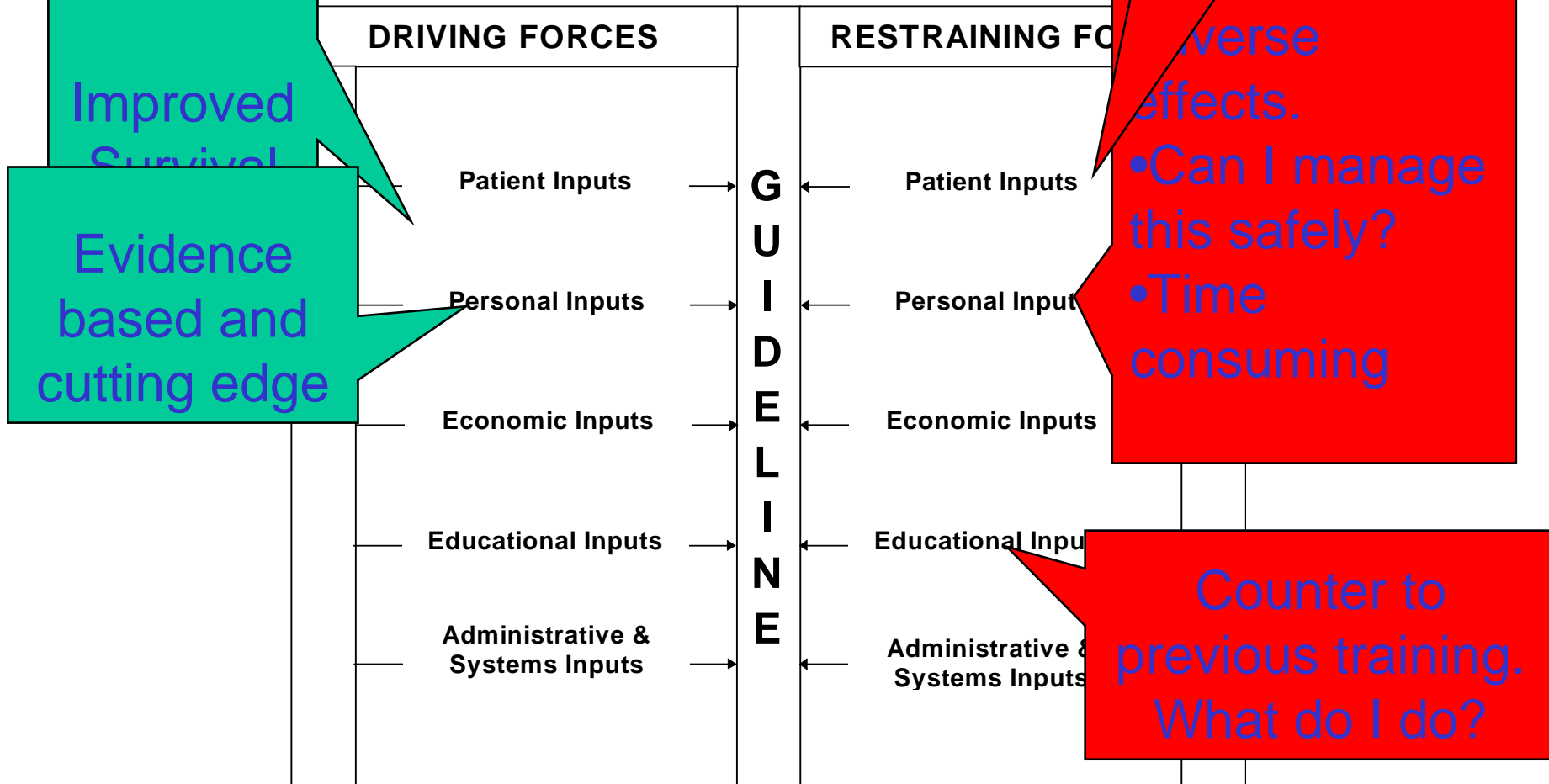
- Look at published literature on barriers
- Look at factors at different levels
- Do a needs assessment:
 - Assess people's perceptions
 - Assess people's knowledge
 - Look at/commission performance data
 - Look at patient outcomes



Force field Analysis



Force field Analysis



Breakout on barriers

- Three groups to identify HF barriers:
 - Group 1: barriers for patients & their families and carers
 - Group 2: barriers for clinicians (in hospitals or in general practice)
 - Group 3: health care system barriers

Report back from groups

- Summarise main issues from:
 - Group 1: patients/consumers
 - Group 2: clinicians
 - Group 3: systems

GP barriers identified*

- Diagnosis:
 - Patients in the early stages
 - Patients with co-morbidities
 - Lack of specificity of HF symptoms
- Use of echos:
 - Not convinced of the benefits
 - Access to services/patient mobility
 - Not warranted in obvious cases

*Phillips SM et al MJA 2004; 181: 78-81

GP barriers identified (cont'd)

- Use & dose of ACEI:
 - Concerns about side effects
 - Not convinced of the benefits of higher doses
 - Reliance on other forms of treatment
- Use of beta-blockers:
 - Concerns about side effects & contra-indications
 - Difficulties with co-morbidities
 - Initiating use in community setting
 - Previously contra-indicated

What do we know about implementation strategies?

There is **no single** strategy that will work for all behaviours, individuals, settings, systems or organisations

Methods and models for change

- CPD
- Problem based learning
- Opinion leaders
- Educational outreach
- E.B. Guidelines
- Audit & feedback
- Decision support
- Patient mediated
- Mass media marketing
- Business Process redesign
- Total Quality Management
- Accreditation & certification
- Public reporting, physician profiling
- Financial incentives/sanctions
- Etc etc etc

Observed effect of cluster randomised trials of implementation

Intervention	No of Cluster randomised Trials	Median effect size	Range of effect size
Printed educational materials	5	+8.1%	+3.6%,+17%
Audit and feedback	5	+7.0%	+1.3%,+16%
Reminders	14	+14%	-1.0%,+34%
Multifaceted incl outreach	13	+8.6%	-4%,+17%

Tailor interventions to identified barriers

- Lack of knowledge:
 - Interactive education
 - Guidelines/Decision aids
- Perception/reality mismatch:
 - Audit & feedback
 - Reminders
- Lack of motivation:
 - Incentives/sanctions
 - Leadership
- Beliefs/attitudes:
 - Peer influence
 - Opinion leaders
- Systems of care:
 - Process redesign

Breakout on strategies for overcoming barriers

- Three groups to design strategies for overcoming barriers at the level of:
 - Group 1: patients
 - Group 2: clinicians (hospitals or GPce)
 - Group 3: systems

Report back from groups

- Summarise strategies from:
 - Group 1: patients/consumers
 - Group 2: clinicians
 - Group 3: systems

Examples of HF implementation strategies

- *HeartCare program-ProCare*
- *NICS HF program*

Strategies Used in “Heart Care” Project



- Clinical (opinion) Leadership
- Decision support
 - GPs – guideline and algorithm
 - Patient resources :
 - information on lifestyle, medication and “action plan” for day to day and emergency actions
- Training: small groups doctors and nurses

“Heart Care” Strategies 2.

- Additional Resources
 - Echocardiograms
 - Extra time with patient
 - Patient resources (information /action plan)
 - Rapid access to a cardiology consultant advice
 - Funding for beta blocker titration
 - Cardiac nurse specialist
 - 24 hour Telephone triage
- Feedback

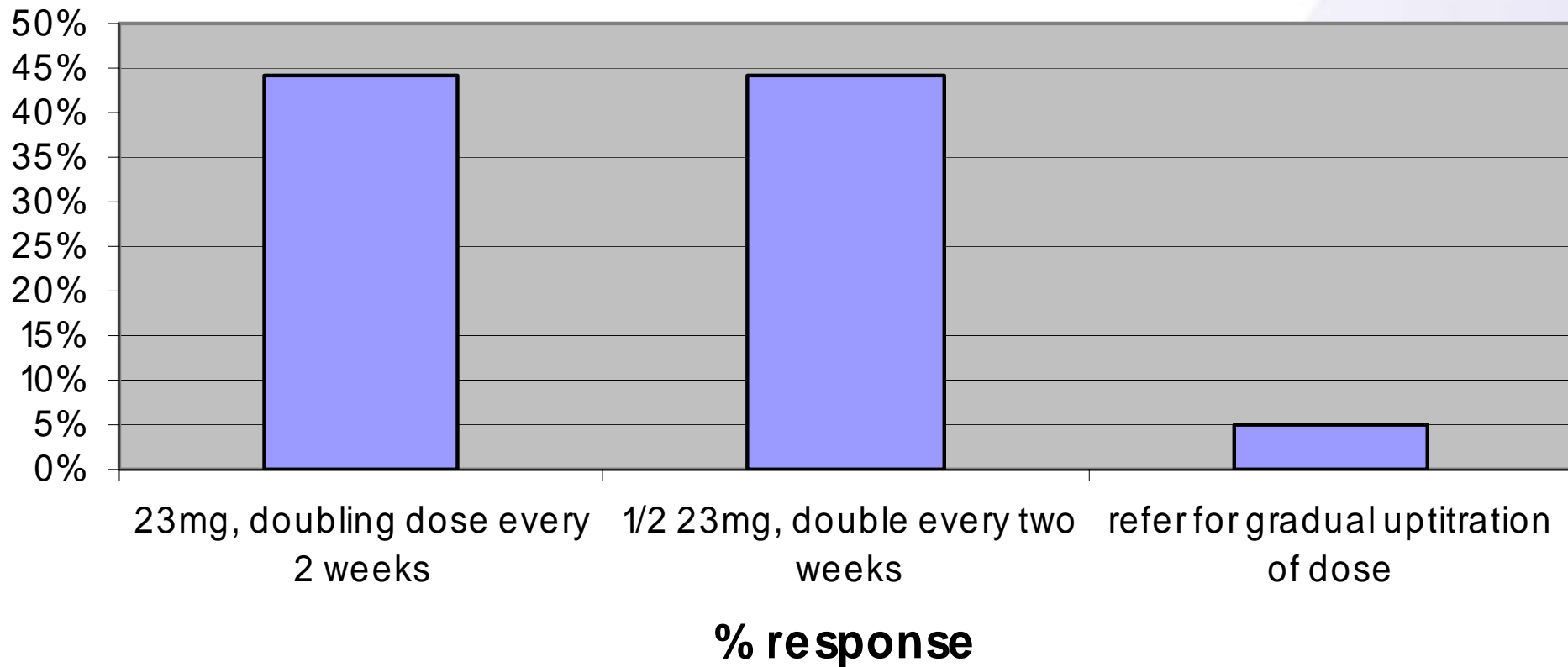
ProCARE
HEALTH LIMITED

Results :

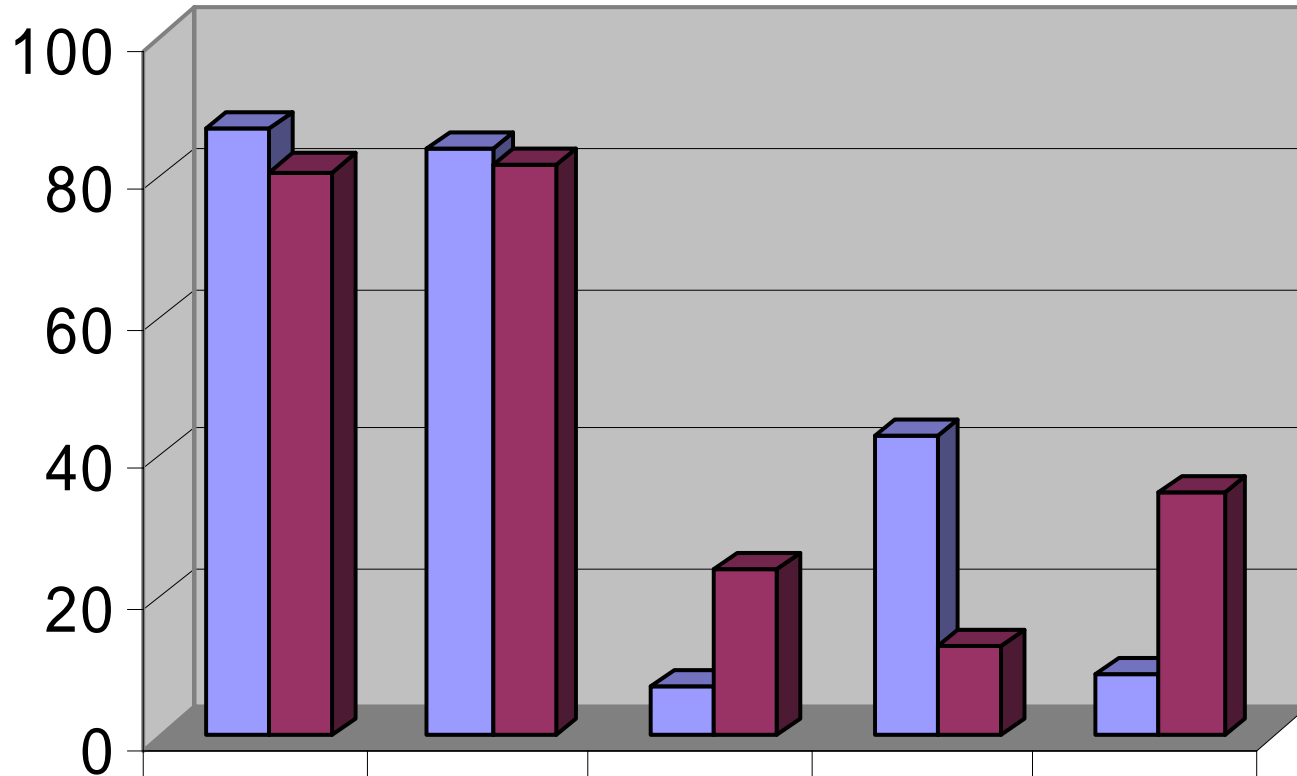
Follow-up Case Study: Target dose cilazapril



F/U Case Study : Beta-blocker initiation



Prescribing data



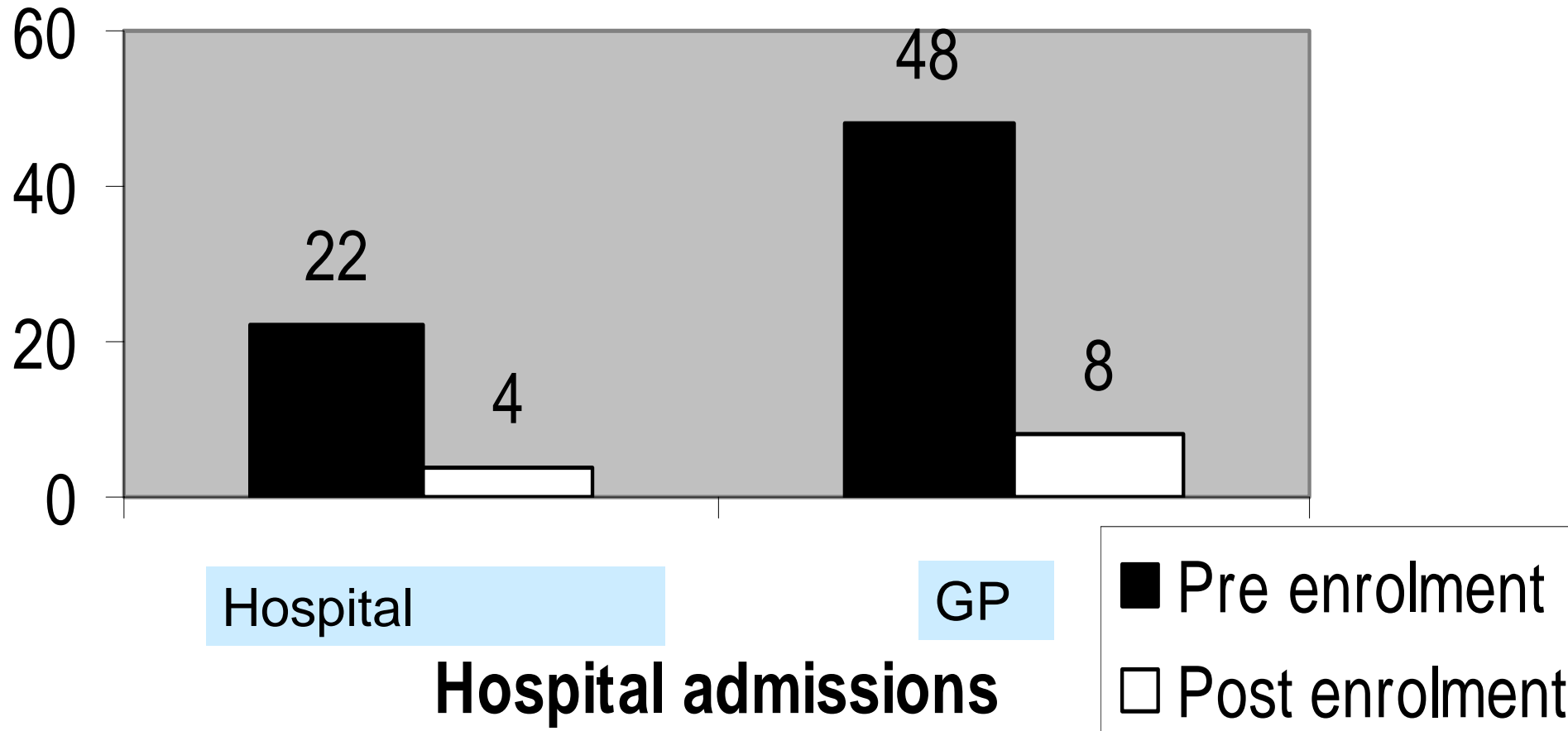
	ACE inhibitors	Loop diuretics	Spironolacton	Cardiac	Beta-blockers
1999	87	84	7	43	9
2003	81	82	24	13	35

ACEI Dosing

DRUG	Number	Percent	Total Mg	Average	Optimal	Percent
Cilazapril	130	32%	426.5	3.28	5	66%
Captopril	25	6.50%	1150	46.00	100	46%
Quinapril	50	14%	735	14.70	20	74%
Enalapril	55	13.50%	445	8.09	20	40%
Lisinopril	10	4%	155	15.50	20	78%

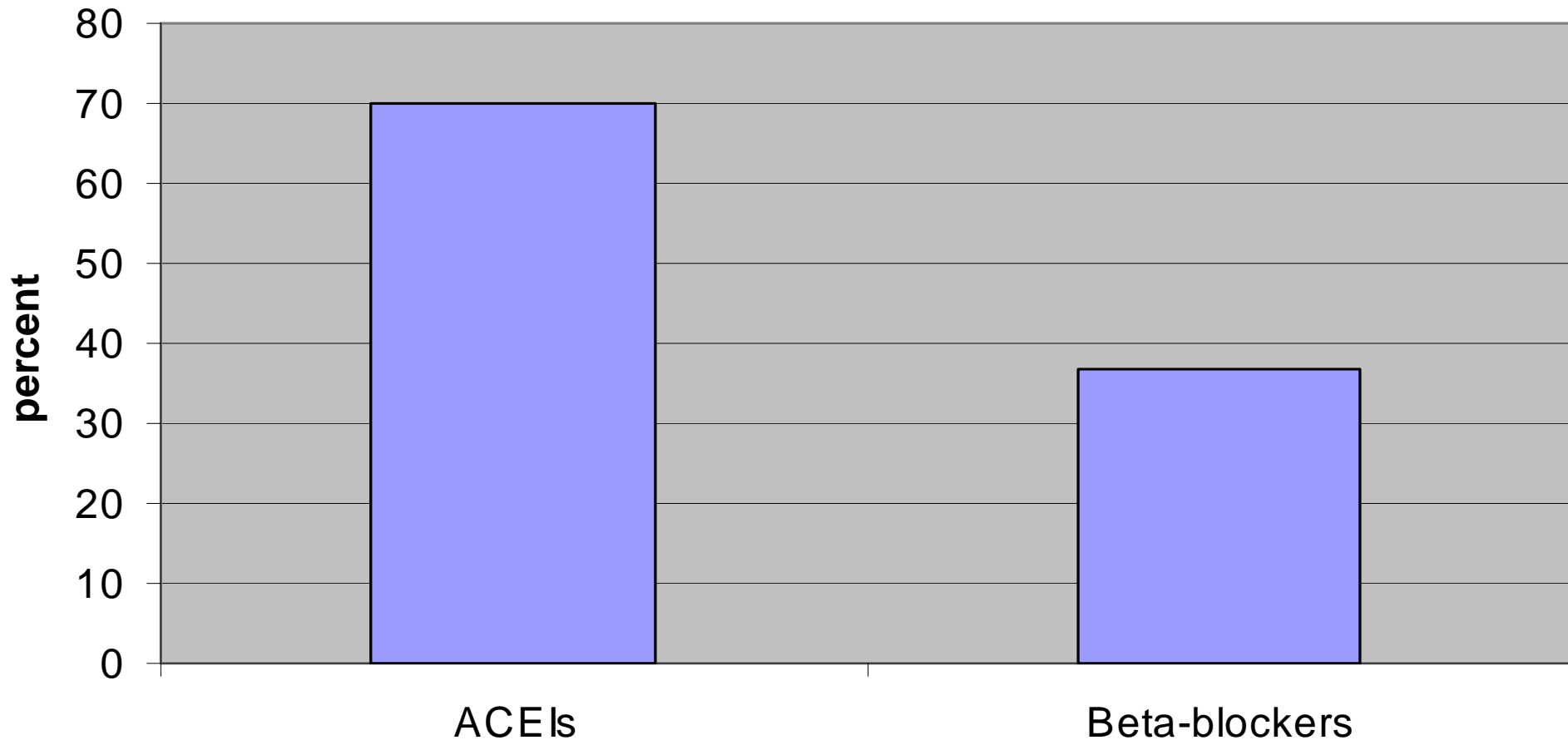
Admission Data

Hospital and GP Data

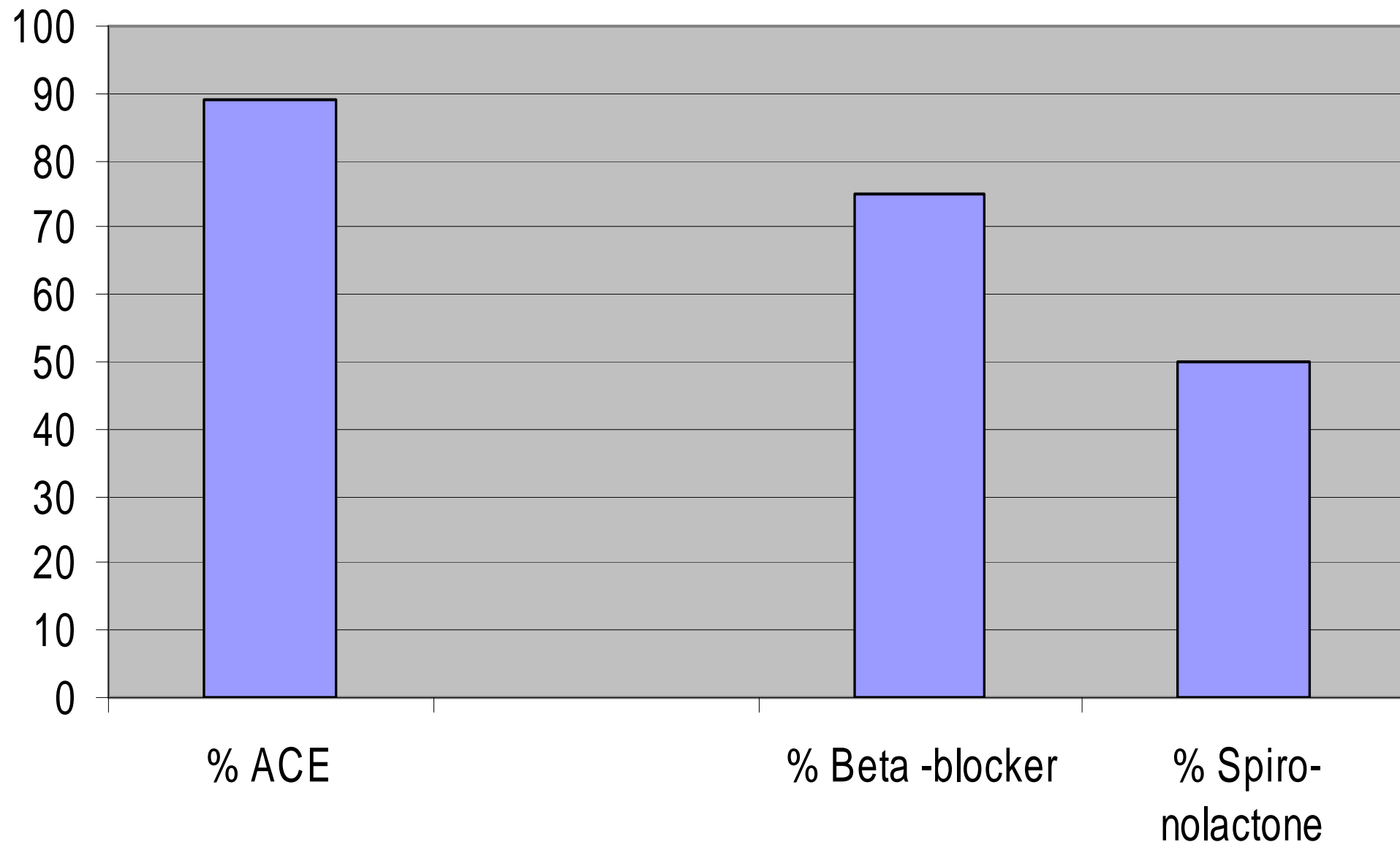


Patients enrolled 2004

Patients enrolled 2004



CMDHB : one year



NICS heart failure program

A multifaceted program aimed at improving:

- assessment & diagnosis
- pharmacological management, and
- patient self-management

through multiple interventions aimed at overcoming barriers to best practice at the level of:

clinicians and policy makers

What are the barriers?

- Consumers:
 - Access to quality patient health information
 - Support for improved patient self-management, particularly post-discharge
- Clinicians:
 - Diagnosis in the early stages & appropriate use of echos
 - Initiation and up titration of ACE Inhibitors & beta-blockers
 - Avoidance of NSAIDs
- Policy makers:
 - Awareness of heart failure as a priority
 - Heart failure prevalence study & minimum dataset
 - Mechanism for funding comprehensive care programs

NICS HF Program initiatives

- Improving access to quality patient health information:
 - NICS Online directory of quality HF patient information
 - www.nicssl.com.au Follow Quick Links to HF Directory
- Engaging funders and policy makers
 - Heart Failure Forum 2004: Improving Outcomes in Chronic Care
 - Go to www.nicssl.com.au Projects Heart Failure Program
- Enhancing clinician knowledge and decision making in the diagnosis and management of heart failure patients in primary care
 - Joint Heart Failure Initiative

The Joint Heart Failure initiative

- A unique partnership between the National Prescribing Service, the Heart Foundation of Australia, and the National Institute of Clinical Studies
- Over 40 Divisions of General Practice participating
- CSANZ & IMSANZ support
- Materials developed with NHFA/CSANZ HF Guidelines Writing Group
- Program runs from Oct 2004-Dec 2005

Mix of tailored interventions

- Targeted print materials on key messages
 - HF Newsletter
 - HF Prescribing Practice Review
 - Quality HF patient education materials
- Academic detailing
- Interactive small group discussions on HF diagnosis
- Case study meetings on HF drug

Joint program key messages/1

- Confirm diagnosis and exclude other correctable causes (e.g. aortic stenosis)
- Review initial drug treatment once you have confirmed diagnosis
- Ensure patient understanding of condition and treatment goals
- ACE inhibitors are still underutilised – use ACE inhibitors in all grades of systolic heart failure
- Reserve angiotensin II receptor as an alternative where ACEI intolerant (e.g.

Joint program key messages/2

- Use selected beta-blockers in stabilised systolic heart failure (as an add-on to ACEI and diuretic) (carvedilol, bisoprolol or metoprolol SR)
- Titrate ACE inhibitors and selected beta-blockers carefully and slowly to the highest tolerated dose for maximal survival benefit and symptom

Summary

- Introducing evidence into routine daily practice is difficult
- No one approach for transferring evidence to practice is superior
- Understand attributes of evidence and barriers
- Tailor interventions at overcoming specific barriers at different levels
- Monitor progress and measure success

WWW.NICSL.COM.AU

WWW.NZGG.ORG.NZ

**National Institute of Clinical Studies &
New Zealand Guidelines Group**

**Helping close important gaps
between evidence & practice**

Thank you



TURNING EVIDENCE INTO ACTION