

# HARP

Reducing hospital demand and  
improving patient health

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# Project rationale

- Overcrowding in Hospital Emergency Departments
- Hospital staff perceived that many presentations and admissions made by those with chronic diseases were preventable and avoidable

# Hospital Admissions Risk Project (HARP)

- Funded by DHS
- Aims included:
  - Reduction in Hospital Demand
    - ED presentations
    - Admissions
    - Bed-days
- Promoting patient health
- Promote partnerships



# The Western HARP Consortium



# Identified groups

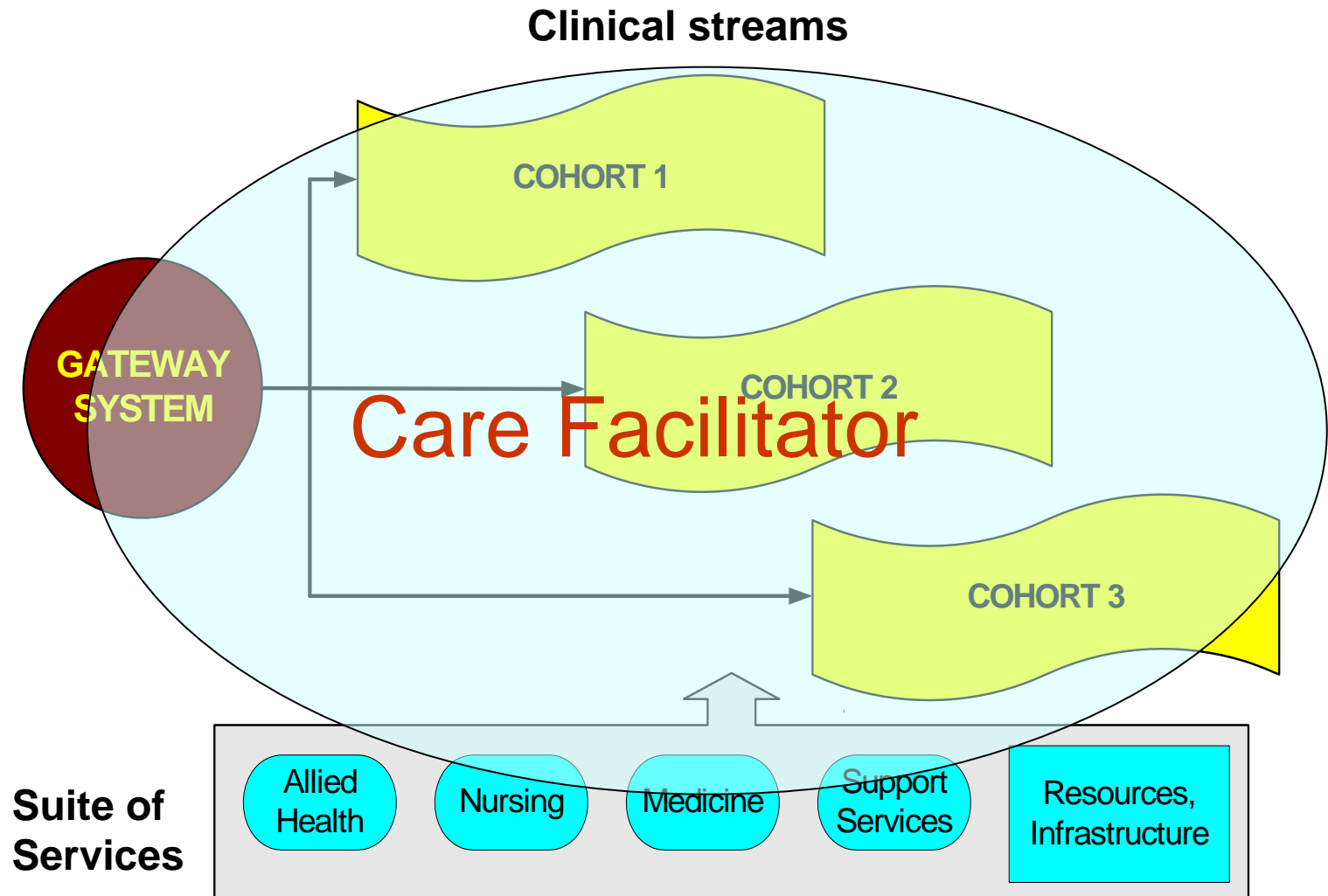
- Frequent presenters to hospital ED
  - *Chronic Heart Failure (CHF)*
  - *Chronic Obstructive Pulmonary Disease (COPD)*
  - *Paediatric Asthma*
  - *Older people with complex health needs (CNP)*

# Patient inclusion criteria

- Patients with frequent ED presentations over previous 12 months
- Patient or carer has the ability to manage care

*Not accepting patients from high-level care facilities.*

# The model of care



# HARP Team

- Care Facilitators
  - Nurses
  - Social Workers, Occupational Therapists
- HARP Allied Health Team
  - Physiotherapists
  - Psychologist
  - Occupational Therapist
- Patient's nominated GP and specialist(s)
- Rehab teams
  - Physiotherapists – hospitals and community
  - Nurses – hospitals and community

# HARP Interventions

- Client contacted whilst in hospital
- Invited to participate in program and consent
- Consistent point of contact for client
- Comprehensive assessment in hospital or home
- Development of individual care plans that included:
  - Client education
  - Medication management
  - Service referrals
- Aim to discharge when self-management optimised

# The model of care

- Care Facilitators employed to:
  - Assess patients
  - Educate patients
  - Ensure understanding of Care plans and Action plans thereby promoting self-management
  - Assist in navigating health care system
  - Facilitate Access to services



# Evaluation of outcomes

Note:

- Not an RCT
- Looking for indicators rather than irrefutable proof

# Sources of Data

- Patient use of Hospital resources ED presentations, Admissions and Bed-days
- Hospital records for the 12 months prior to their recruitment and since their recruitment.
- To account for differences in the amount of time patients had been recruited, data were standardized to ED presentations, inpatient admissions and inpatient bed-days per day.
- Disease specific assessment tools

# COPD

- Age  $73.1 \pm 8.4$
- $4.9 \pm 2.8$  ED presentations during 12 months pre recruitment



# Paediatric Asthma

- Age  $5.3 \pm 3.5$  years



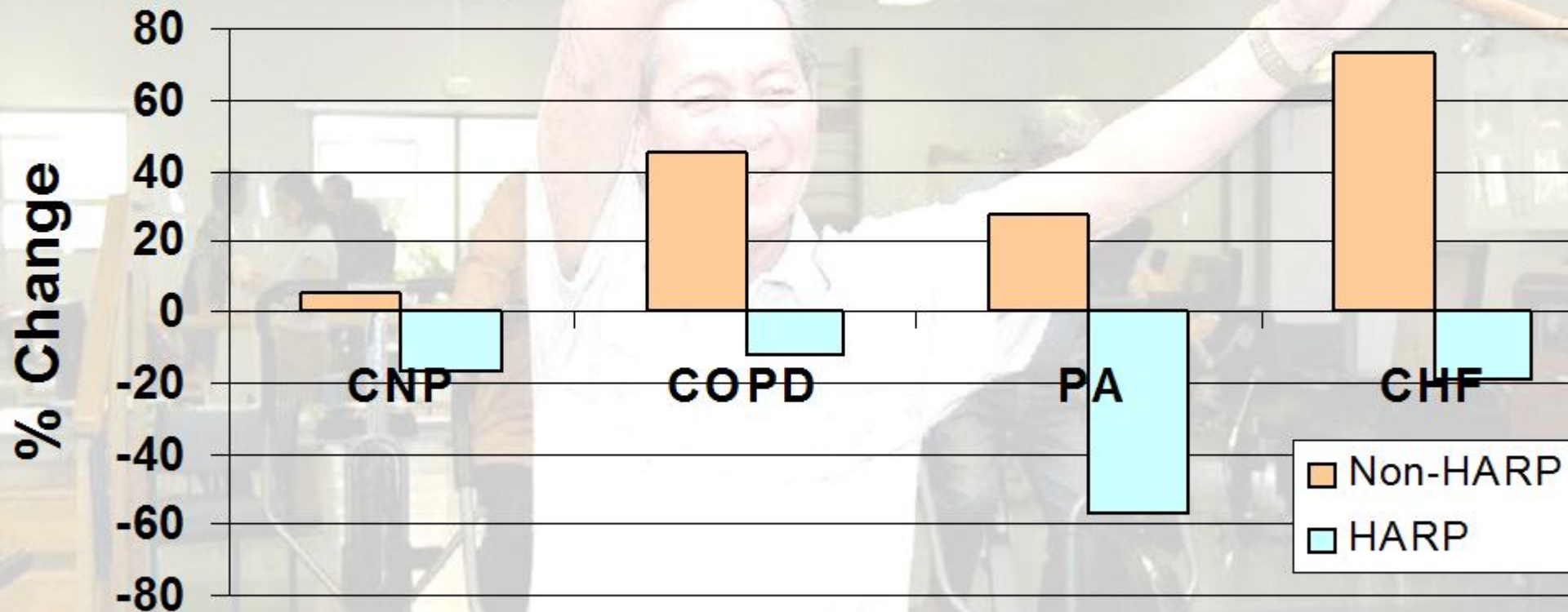
# CNP Patient Details

- Age  $74 \pm 8$  years
- $5.0 \pm 2.6$  ED presentations in the 12 months pre-recruitment
  - Total of 1,069 ED presentations and,
  - 2,674 Bed-days in 12 months pre-recruitment
- $5 \pm 2$  medical diagnoses
- $8 \pm 5$  medications



# Impact – change over 2 years

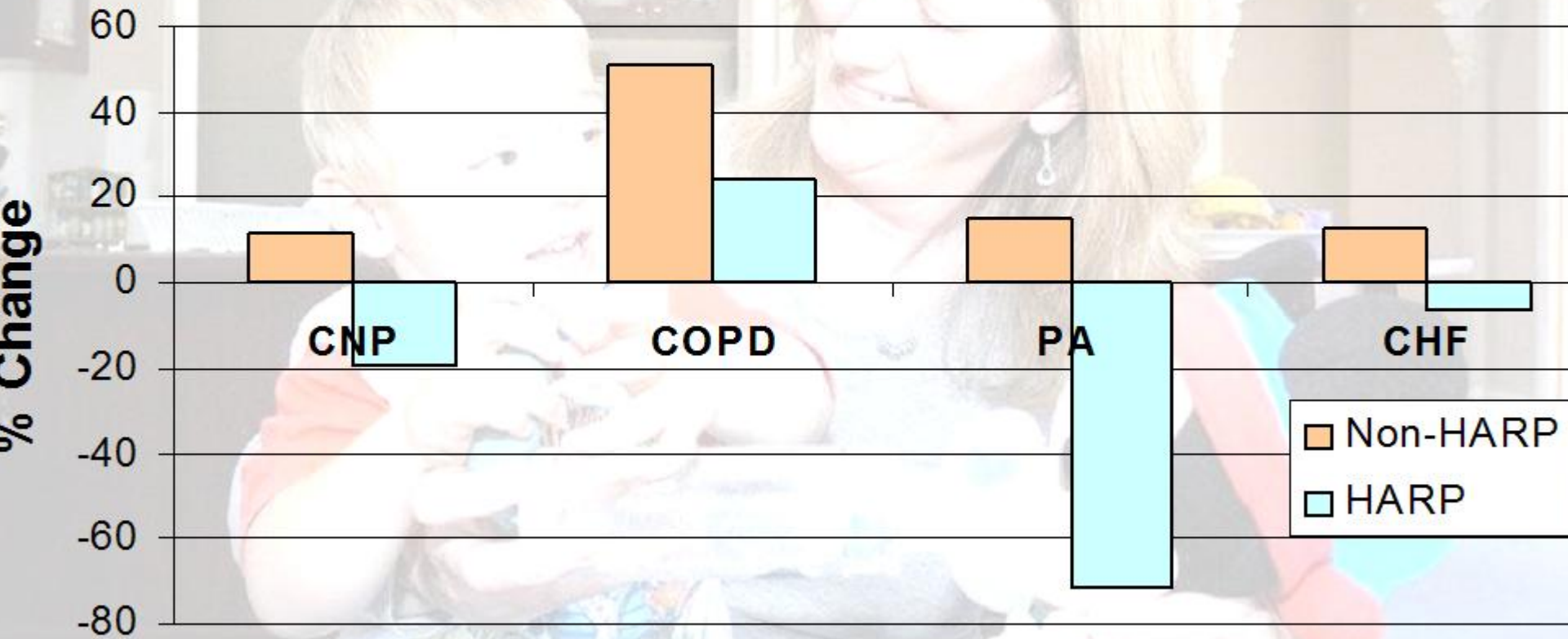
## ED Presentations



Estimated annual saving ~1,300 ED presentations

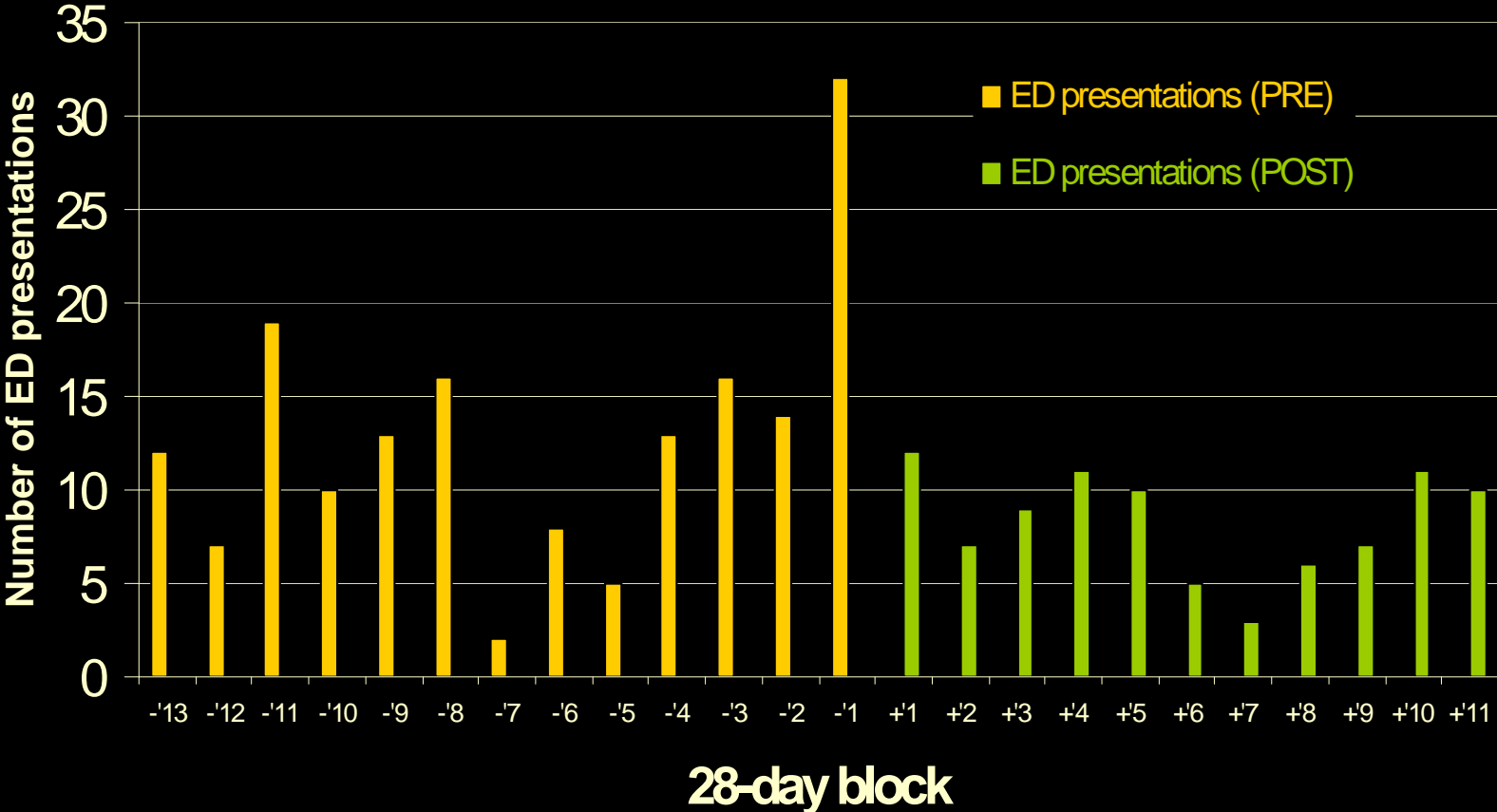
# Impact – change over 2 years

## Bed-Days

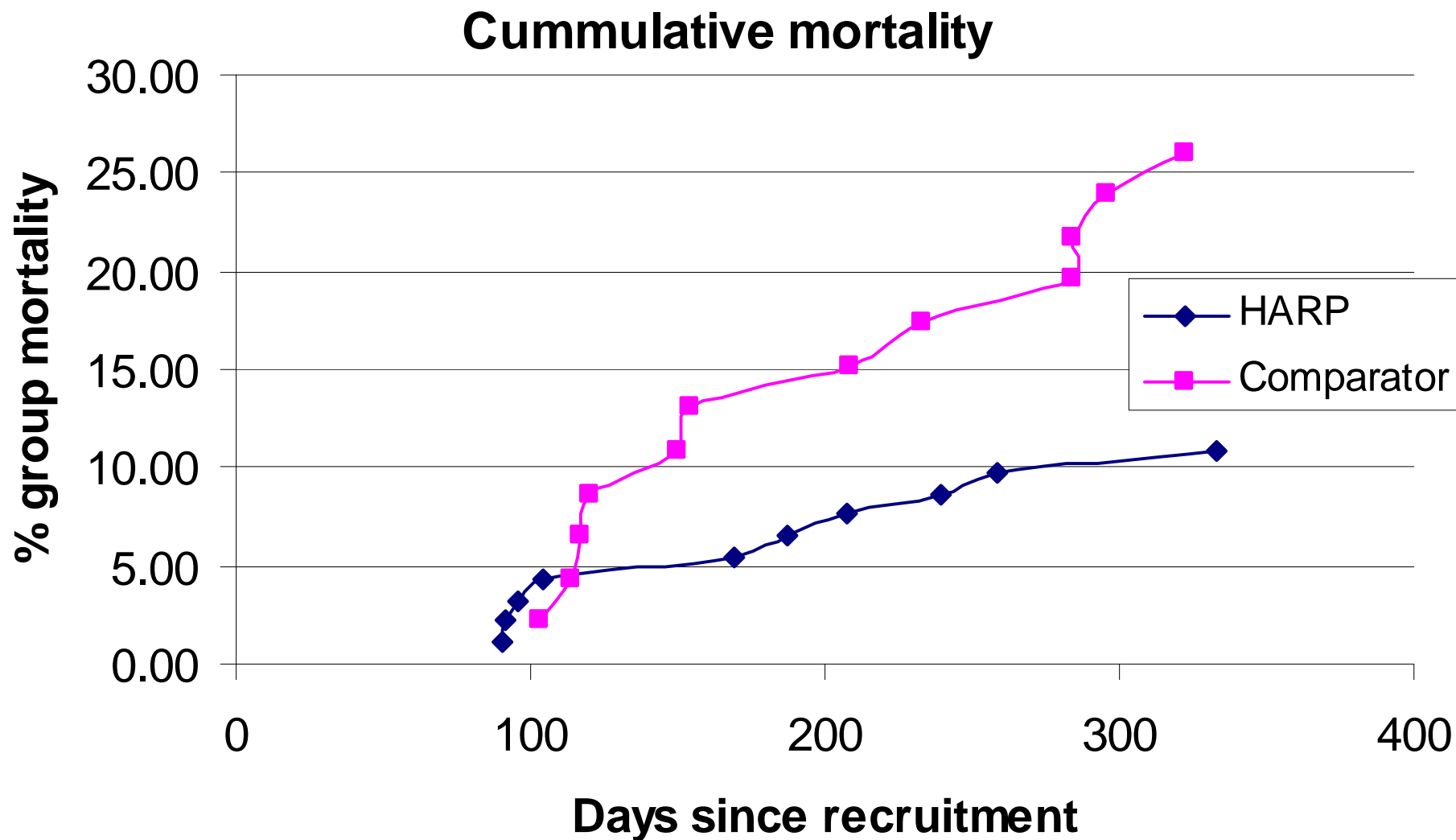


**Estimated annual saving of 3,100 bed-days**

Number of ED presentations within 364 days PRE recruitment and 308 days POST recruitment by patients who participated in HARP-CNP for 308 days and/or longer (N=32)



Data for COPD patients 'recruited' > 1 year before analysis date and alive 90 days post recruitment HARP n = 92, Comparator n = 46

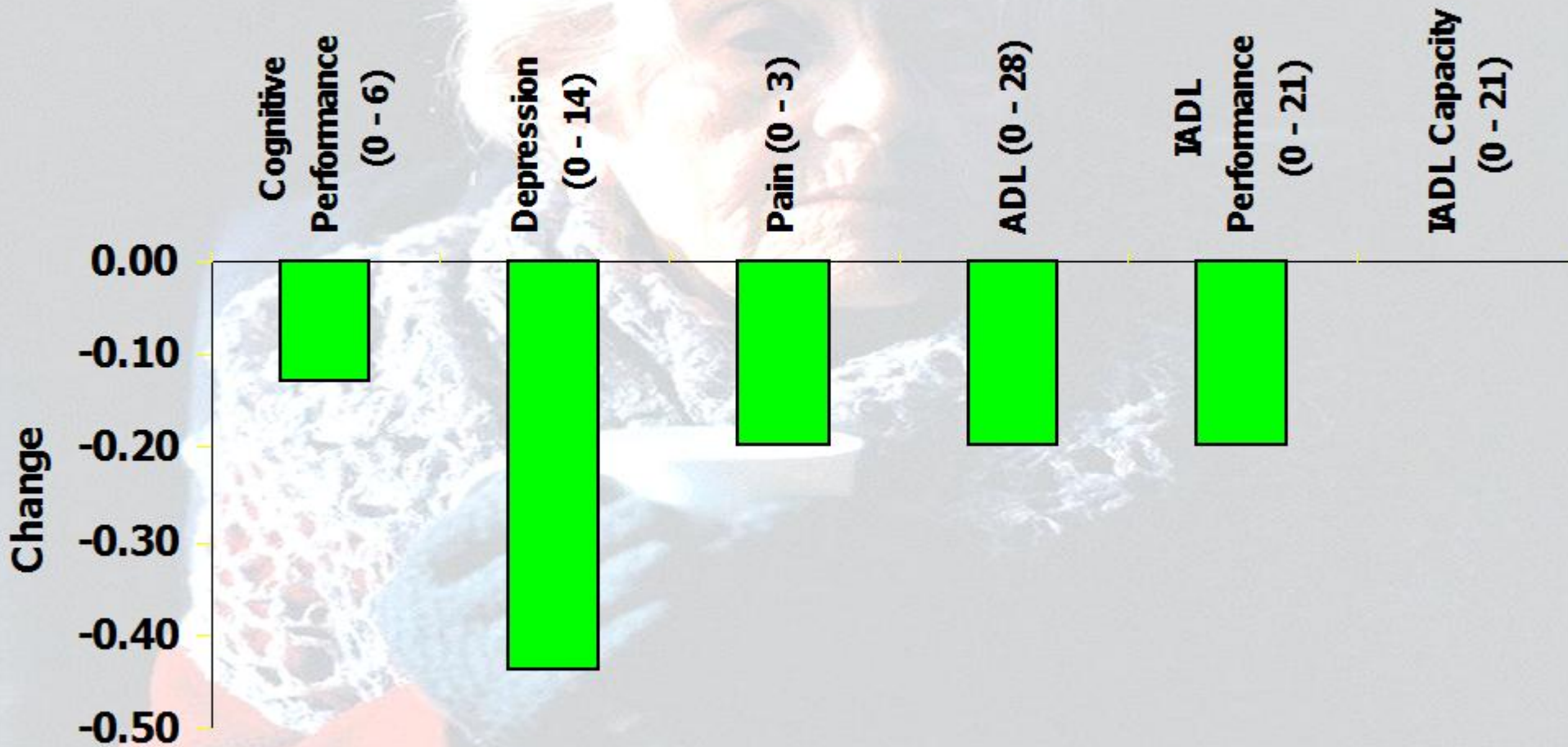


<b>Assessment tool</b>	<b>Group</b>	<b>Mean Assessment Score at recruitment</b>	<b>Mean Score at Assessment 2</b>	<b>P</b>
<b>Minnesota (CCF)</b>	All CCF	46.1	33.2	0.003
<b>St Georges (COPD)</b>				
Symptoms	All COPD	70.3	59.2	<0.001
Impacts	All COPD	52.3	46.6	0.002
Total	All COPD	64.1	58.6	<0.001
<b>PAQoL (Paediatric Asthma)</b>				
Activity	All PA	19.0	23.3	<0.001
Emotional	All PA	46.3	53.7	<0.001
Total	All PA	65.3	77.0	<0.001
<b>Inter-RAI (CNP)</b>				
Cognitive Performance	CNP Women	0.8714	0.5600	0.040
Depression Rating Scale	CNP Women	1.7714	0.8200	0.003
	All CNP Aged 55-73	1.5072	1.0444	0.060
	All CNP	1.2600	0.8100	0.014
ADL Long Form Scale	All CNP Aged 55-73	2.8841	1.9556	0.016
	CNP Women (n = 50)	2.8857	2.0000	0.027
	All CNP	2.9500	2.8400	0.024
IADL Performance Scale	All CNP	9.5200	9.3800	0.014

# Health and QoL Impact

InterRAI Post - Pre

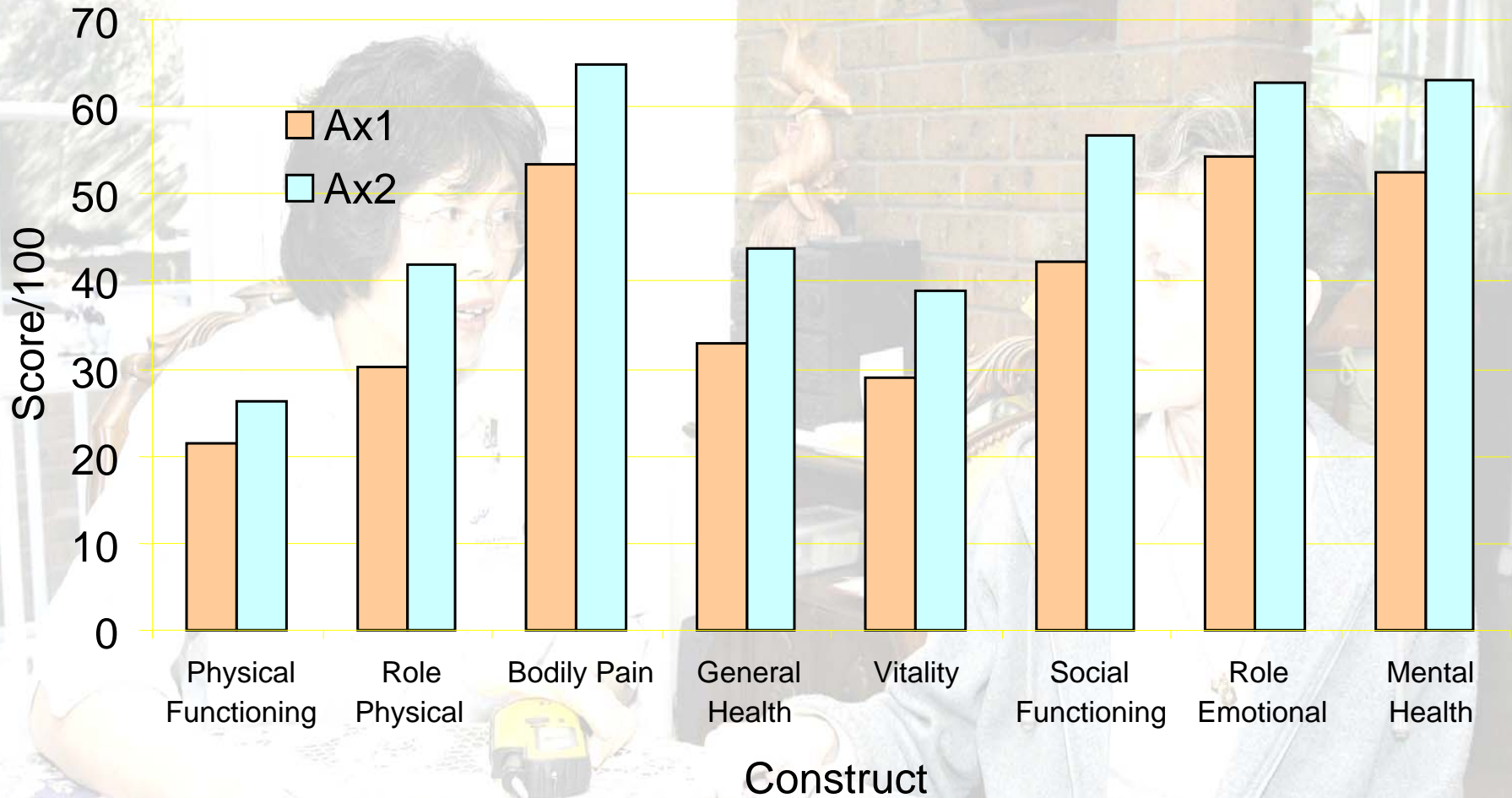
Scale



Note: A reduced score is Good

# Health and QoL Impact

SF-12



Note: Increased score good

# Results COPD

*“6 months ago I couldn’t walk to the bathroom, last weekend I played 12 ends of bowls”*

## Results: Paediatric Asthma

*“I feel much more in control of my child’s asthma”*

# Results *CSI*

- Significant improvements in Carer Strain Index
- Higher score = greater strain (0 – 13)
  - Ax1 = 5.6
  - Ax2 = 4.4 (p = 0.003)
  - With ~10% drop in the number of carers experiencing significant strain

# Summary

- Estimated annual averted / prevented
  - ~1,300 ED presentations
  - ~3,100 Bed-days
- Patient QoL and health improvements
- Cost neutral \$

# Conclusions

- The model of care, which encourages effective self management:
  - Reduces use of hospital services
  - Promotes patient health and Quality of Life
  - Promotes collaboration between acute and community services



**“You eat, drink, and smoke too much. I’m ordering an autopsy to find out what’s keeping you alive.”**