# *UNDERSTANDING PROBLEMS OF TREATMENT ADHERENCE AS A CAUSE OF GRAFT LOSS*

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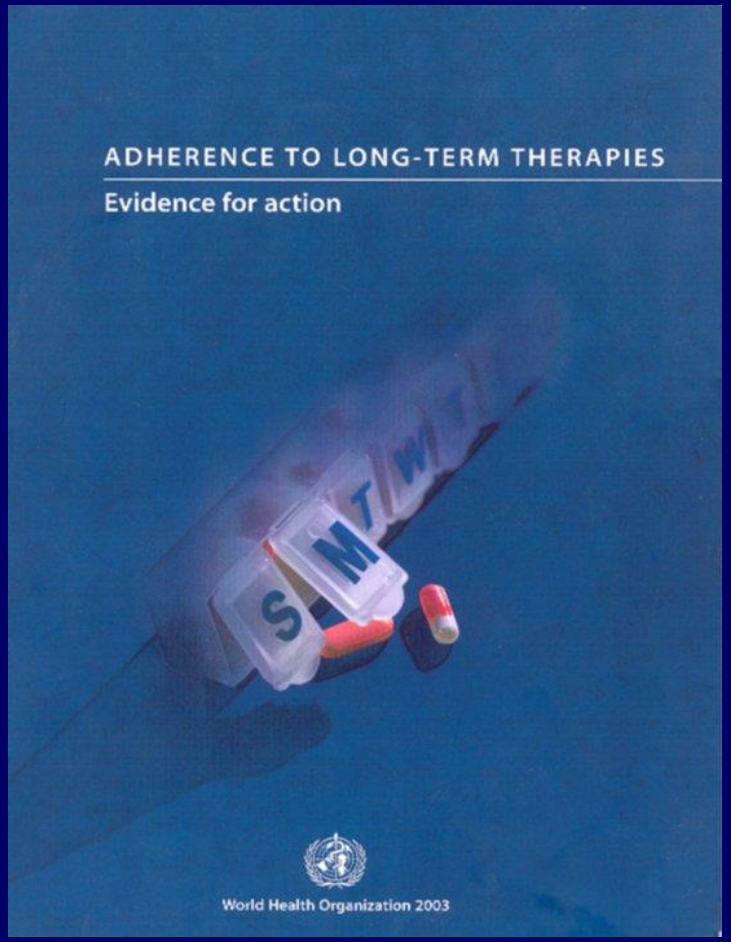
# OVERVIEW OF THE TALK

- *THE ADHERENCE PROBLEM AND ITS EFFECTS*
- *THE CAUSES OF NON-ADHERENCE*
- *THE IMPORTANCE OF PATIENTS' BELIEFS*
- *IMPROVING MEDICATION ADHERENCE*

# The extent of non-adherence

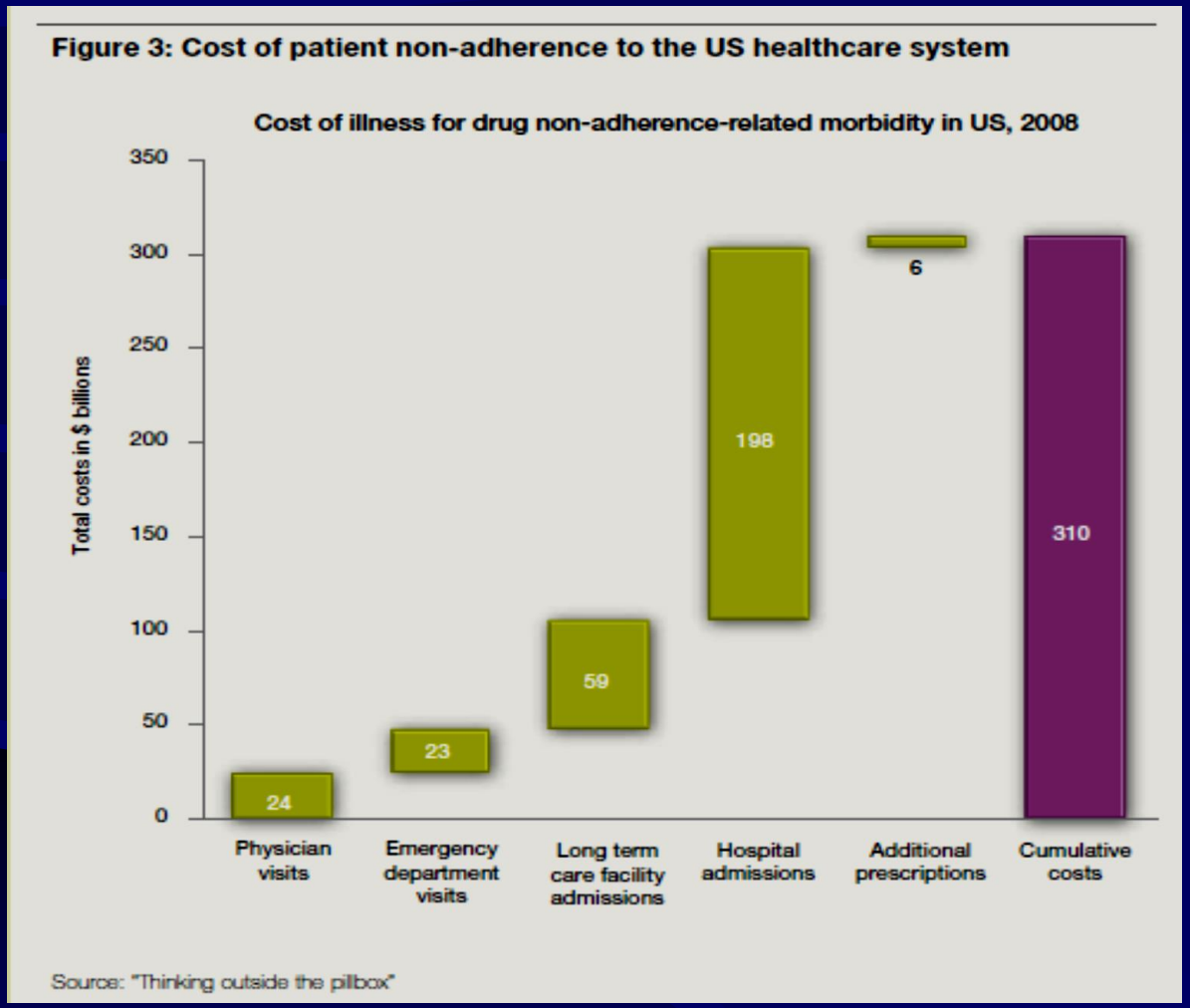



WHO report on non-adherence

- Estimated that over 30 -50% medicines prescribed for long term illnesses are not taken as directed

- If treatment is evidence- based, then this represents a loss for patients and for the health care system

# THE COST OF NON-ADHERENCE




New England HealthCare Institute (2009)

# Non-Adherence to post-transplant immunosuppressant medication

- RATES OF NON-ADHERENCE (Dew et al, 2007)

  Overall Rate across transplant types : 22.6%

  RENAL : 36%

  LIVER : 6%

- CAUSAL FACTORS

  - Clin/demog : NS
  - “Forgetfulness”
  - Social support.
  - Patient beliefs
  - Mood/ well-being

- ASSOCIATION WITH GRAFT LOSS

  Butler et al (2004) – 7 fold increase in non-adherent patients

  Sellares et al (2012) – non-adherence = dominant cause

# Adherence to immunosuppressant medication in paediatric kidney transplant recipients

Systematic Review by Dobbels et al (2010) – 16 studies.

- Range of prevalence of non-adherence (NA) : 5-71%
- Weighted mean prevalence of NA : 30.7% (43% in adolescents)
- Significant effects on lost grafts and late acute rejection episodes

•Range of possible determinants – but main focus has been on clinical and sociodem factors.

# WHY?

- Traditional view
- Current evidence

# Traditional view of non-adherence

- Only in certain types of people / disease
- Mainly due to lack of information and / or forgetting
- Relatively easy to fix

# ADHERENCE INTERVENTIONS

## Cochrane review:

**Haynes et al (2008; 2014)**

*"Current methods of improving adherence are mostly complex and not very effective, so that the full benefits of treatment cannot be realized.*

*High priority should be given to fundamental and applied research concerning innovations to assist patients to follow medication prescriptions for long-term disorders"*

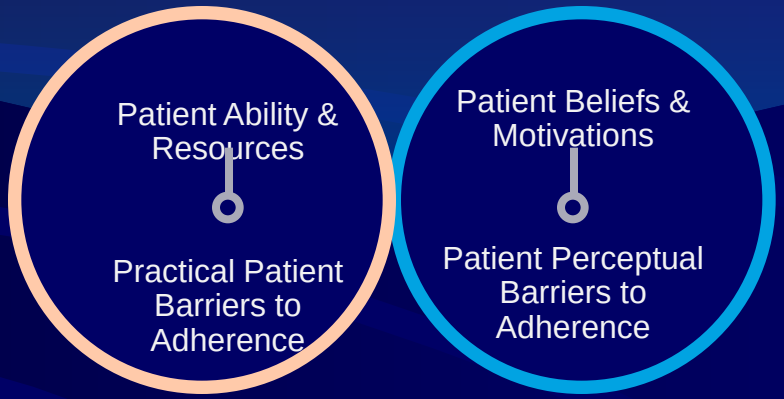
# How can the problem be tackled?

- **Need to understand types and causes of non-adherence**
- **Need to tailor interventions to take account of this**

# Types of non-adherence – the traditional view

**Unintentional Non-adherence**

**Intentional Non-adherence**

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# Intentional non-adherence

**Patients know what to do & how to do it**
**BUT are reluctant to adhere because either :-**

- TREATMENT DOESN'T MAKE SENSE
- WORRIES/CONCERNS ABOUT TREATMENT

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# Unintentional non-adherence

**RANGE OF POSSIBLE FACTORS**

- Poor HCP-Patient Communication
- Cognitive function , understanding, memory
- Financial or other barriers
- Low patient satisfaction and/or recall
- Problems in planning/executive function

**BUT**

- Beliefs influence unintentional non-adherence – e.g. forgetfulness
- the distinction between intentional/unintentional is fuzzy
- Now using a new approach (COM-B)

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# A new approach to classifying causes of non-adherence

**CAPABILITY**

. Understanding, Memory, Planning,
Inhaler /injection technique dexterity, swallowing

**MOTIVATION**

**Beliefs**
e.g. about illness, treatment

**Emotions**
**Habits**

**OPPORTUNITY**

Access, Cost etc

HCP communication, social support

**BEHAVIOUR (Initiation; Persistence)**

Applying COM-B to medication adherence
A suggested framework for research and interventions

original article

Christina Jackson, Lina Eliasson, Nick Barber, John Weinman

Jackson, Eliasson, Barber & Weinman (2014). Applying COM-B to medication adherence: a suggested framework for research and interventions. *The European Health Psychologist*. http://www.ehps.net/index.php?option=com_content&view=article&id=302&Itemid=323

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# Many factors predict adherence
# What are the key ones?

| Weak evidence | Moderate evidence | Strong evidence |
|---|---|---|
| Gender | Cognitive ability, depression, social support, coping skills | Concerns about treatment (fear of side effects etc) |
| Income | Number of medicines, disease seriousness beliefs | Beliefs about illness (cause, timeline) |
| Age | Health literacy, locus of control | Cost of therapy |
| Race | Self efficacy, trust in HCP, HCP-patient concordance | Necessity (perceived need) for treatment |
| Income, personality | Symptom experience | Perceived drug efficacy |

McHorney C: Frequency of and reasons for medication non-fulfillment and non-persistence among American adults with chronic disease in 2008. *Health Expectations* Volume 14, Issue 3, pages 307–320, September 2011

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# What are the key beliefs influencing adherence to treatment?

1) Patients' perceptions of illness
2) Patients' perceptions of treatment
3) Self- efficacy beliefs (confidence)

# Core beliefs about Illness (Illness Perceptions)

| | |
|---|---|
| • IDENTITY | Abstract label eg, hypertension; asthma; arthritis<br>Concrete symptoms that a person associates with the condition |
| • CAUSAL BELIEFS | Stress, environment, genetics, own behaviour, ageing etc |
| • TIMELINE | Perceived duration and profile eg, chronic, acute, cyclical |
| • CONSEQUENCES | Personal, economic, social |
| • CURE / CONTROL | Beliefs about the amenability to control or cure |

# ILLNESS PERCEPTION & treatment adherence

- Some illness perceptions are associated with treatment adherence in some conditions :-

  e.g. - *causal* beliefs predict adherence behaviour in post- MI (Weinman et al, 2000)

  - *timeline* beliefs predict preventer medication adherence in asthma (Horne, Weinman, 2002)

- BUT – illness beliefs *per se* do not always predict treatment adherence (Brandes & Mullan, 2014; Aujla et al, 2016)

- – need to consider more proximal predictors (ie patients' beliefs re. treatment)

# *PATIENTS' BELIEFS ABOUT TREATMENT*
## *2 types – General & Specific*

**SPECIFIC BELIEFS**
***Views about prescribed medication***

**Necessity**
***Beliefs re necessity of prescribed meds for maintaining health***

**Concerns**
***Arising from beliefs about potential negative effects***

# Treatment Beliefs & Adherence

**Low adherence**

**Doubts about**

**NECESSITY**

**CONCERNS**

**about potential adverse effects**

Horne et al (2014)

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# SUMMARY

Patients' beliefs about their illness and treatment

- Influence adherence
- Have an internal logic
- Are influenced by symptoms
- May differ from the 'medical view'
- May be based on mistaken beliefs/premises
- May not be disclosed in consultation
- Are not set in stone and can be changed

# Interventions for improving adherence to IS medication

- Low et al (2015) – Systematic Review of 12 studies
  - Multidimensional approaches – best
  - One-off feedback sessions – not effective
  - Financial assistance programs – not effective

Cochrane protocol (2017)

- Need for combination of educational, cognitive and affective approaches
- Potential for using new technologies
- Need to
  - Identify causes of non-adherence
  - Tailor interventions to these

# *Implications for health care*

1. **Use the consultation to anticipate and plan**

2. **Tailored Interventions to support more effective medication taking – using new media.**

# *Using the consultation to facilitate informed adherence*

- Check patient's understanding of treatment and , if necessary :-
- Provide clear rationale for ***NECESSITY*** of treatment
- Elicit and address ***CONCERNS***
- Agree practical plan for ***how, where*** and ***when*** to take treatment
- Identify any possible barriers
- Continue to monitor

NEED TOOLS and TRAINING OF HCPs – studies in progress

# Interventions to improve adherence

***Now a number of successful approaches which are based on a good understanding of patients' beliefs, Using range of media, such as :-***

- ***text messaging***
- ***web-based interactive programmes***
- ***phone based support***

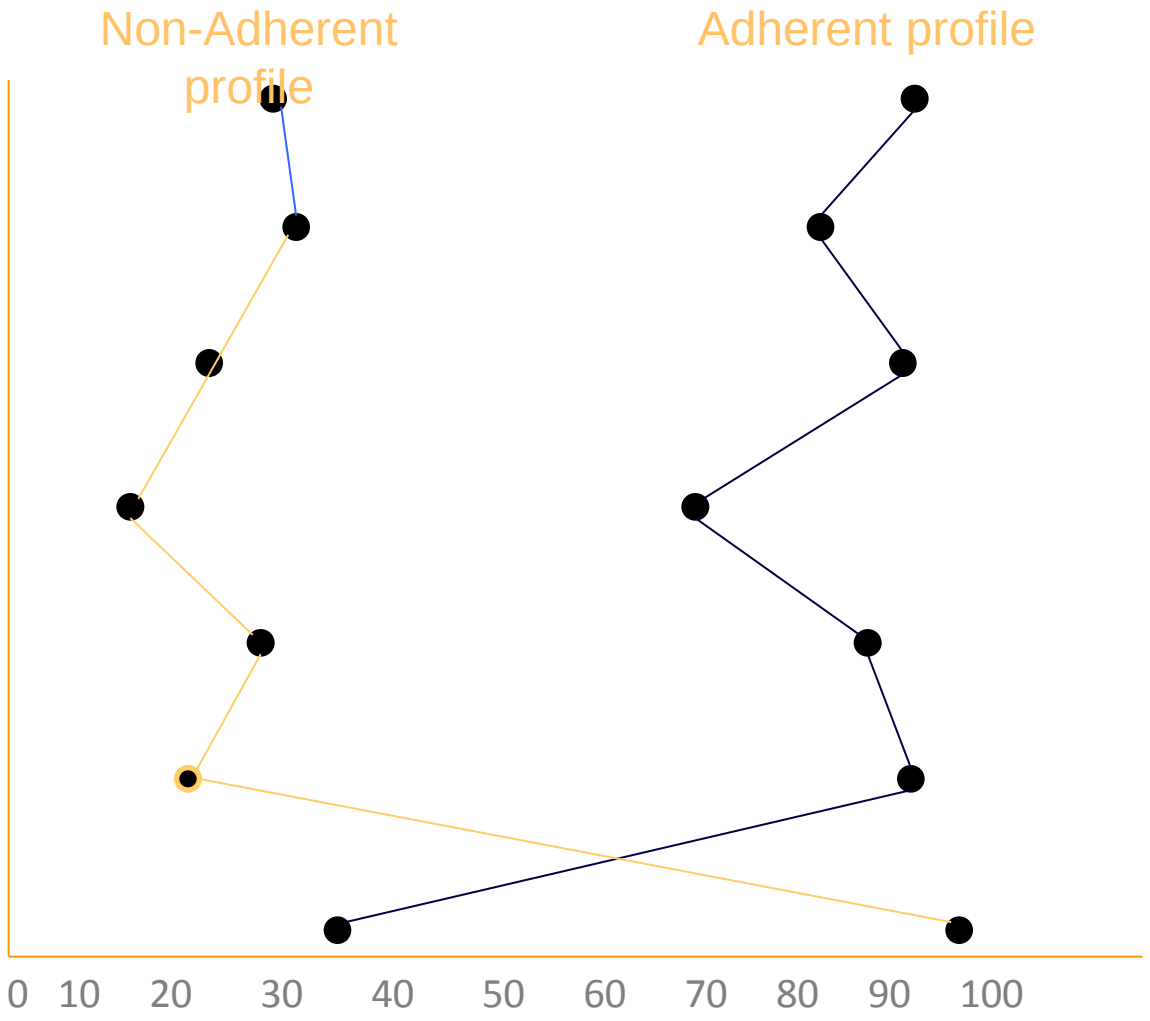
# Improving adherence :

## The example of

## Preventer medication in asthma

# Profiling patients based on risk of non-adherence

- Timeline
- Personal control
- Treatment control
- Identity
- Consequences
- Medication necessity
- Medication concerns



**British Journal of Health Psychology**
Volume 17, Issue 1,
pages 74–84, February 2012

British Journal of Health Psychology (2011)


The British Psychological Society

www.wileyonlinelibrary.com

# A text message programme designed to modify patients' illness and treatment beliefs improves self-reported adherence to asthma preventer medication

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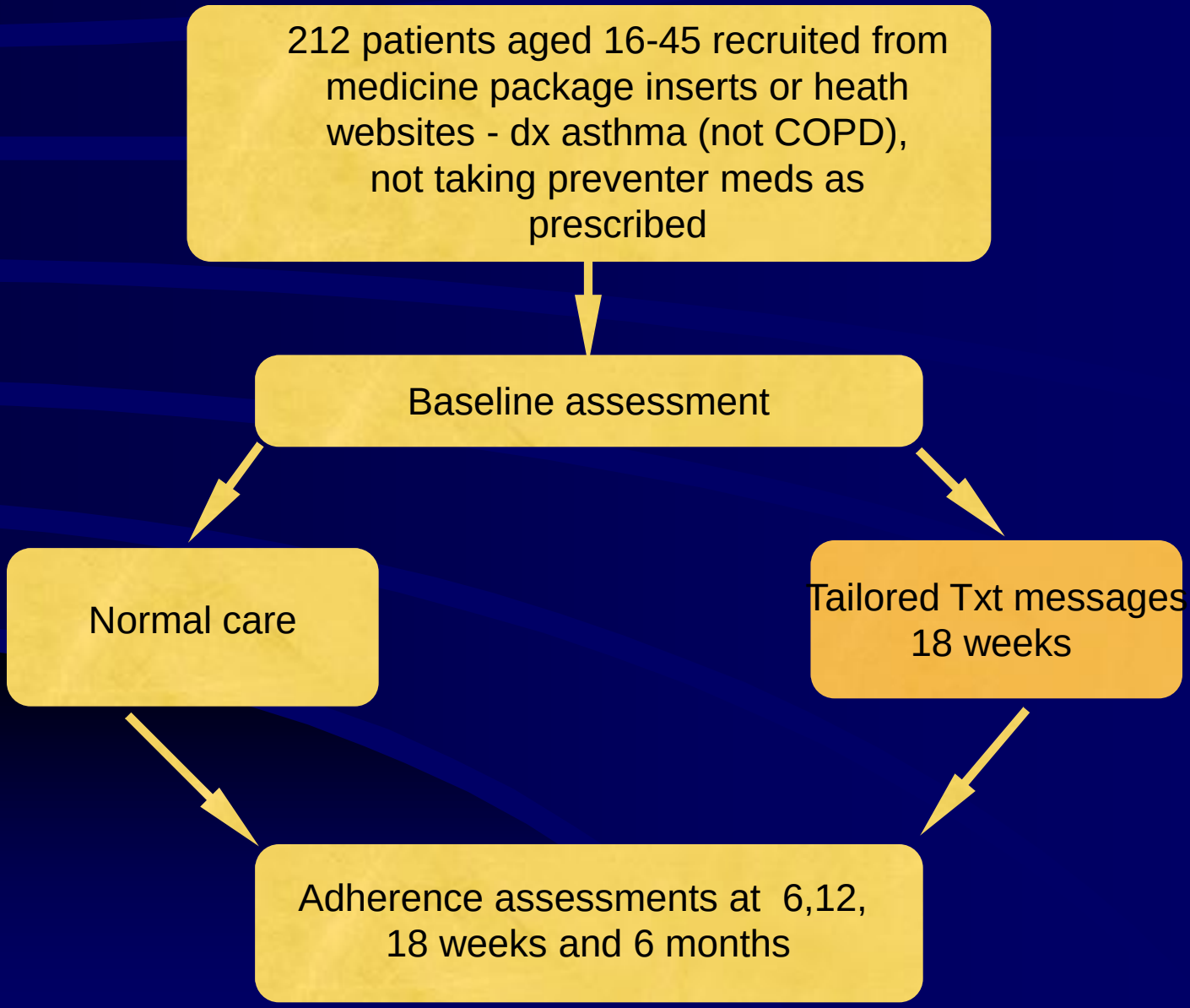
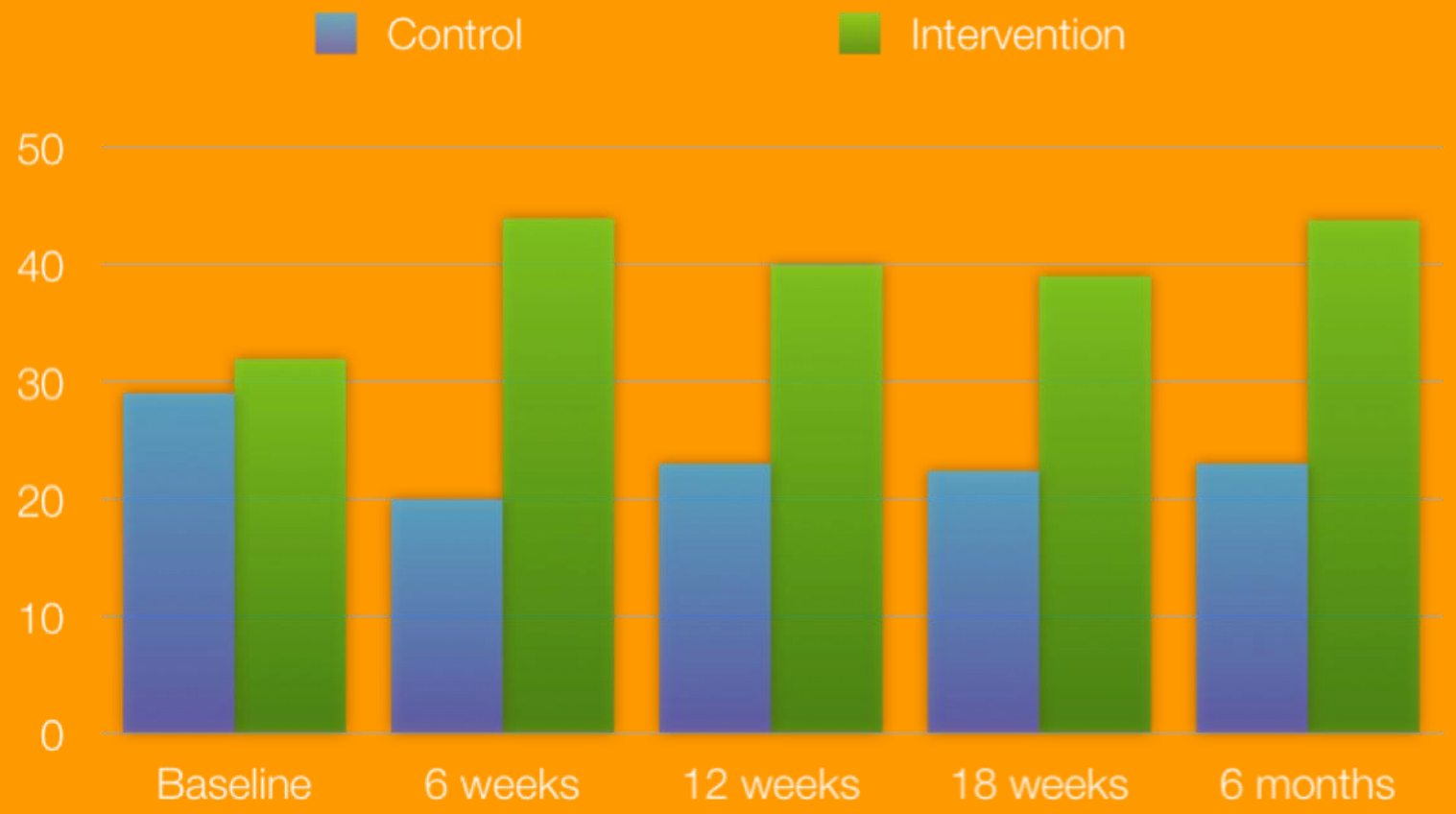
# Method


212 patients aged 16-45 recruited from medicine package inserts or heath websites - dx asthma (not COPD), not taking preventer meds as prescribed
Baseline assessment
Normal care
Tailored Txt messages 18 weeks
Adherence assessments at 6,12, 18 weeks and 6 months

# Targeted Texting


# Percentage of patients reporting adherence at 80% or greater in control and intervention groups



# Conclusions

- A better understanding of the full range of Capability Opportunity and Motivation factors is key to understanding adherence problems in post-transplant patients
- This approach offers a framework for identifying and addressing the key barriers to adherence to medication for each patient
- Urgent need to develop and test tailored interventions based on proven behaviour change techniques