The Theory of Behavioral Change Interventions

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PDA WORKSHOP

- Patient Support Programmes (PSPs) as Behavior Change Interventions
- Developing PSPs with personalization at their core
- SMART devices and Behavior Change
- Integrating SMART devices with PSPs

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Patient Support Programmes (PSPs) as Behavior Change Interventions

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What are Patient Support Programmes (PSPs)?

Patient Support Programmes (PSPs) are designed to maximise the benefit that people receiving a treatment or supportive care for one or more conditions will experience

Common types of PSP

Financial assistance

- Varies by market and healthcare system
- Functional and logistical in nature
- On their own, financial assistance programmes do not address other complexities of support needs

Adherence support

- Primary adherence – does the person pick up their prescription?
- Secondary adherence – does the person take their treatment as agreed with their HCP?
- Persistence – does the person continue on treatment?

Self-management support

- Improving Health Related Quality of Life
- Supportive behaviors such as exercise and dietary recommendations for the condition
- Target challenges faced by the population, such as low social support, or low mood and high anxiety

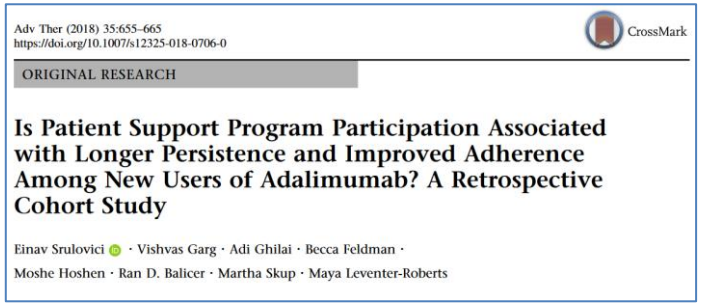
PSPs can cover some, or all, of the elements above

PSPs can effectively address a range of behavioral challenges and stakeholders


RESEARCH

Impact of a Patient Support Program on Patient Adherence to Adalimumab and Direct Medical Costs in Crohn's Disease, Ulcerative Colitis, Rheumatoid Arthritis, Psoriasis, Psoriatic Arthritis, and Ankylosing Spondylitis

David T. Rubin, MD; Manish Mittal, PhD; Matthew Davis, MA; Scott Johnson, PhD, MHA; Jingdong Chao, PhD; and Martha Skup, PhD

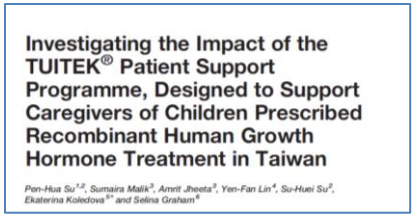

Adv Ther (2018) 35:655–665
https://doi.org/10.1007/s12325-018-0706-0

CrossMark

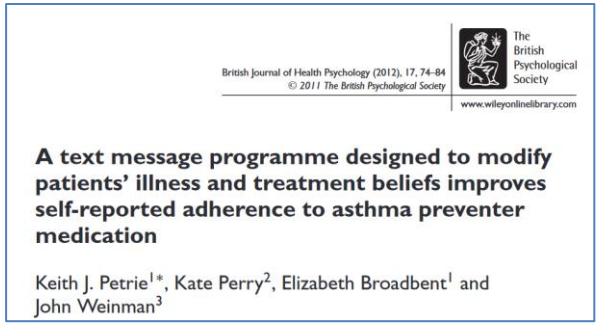
ORIGINAL RESEARCH

Is Patient Support Program Participation Associated with Longer Persistence and Improved Adherence Among New Users of Adalimumab? A Retrospective Cohort Study

Einav Srulovici · Vishvas Garg · Adi Ghilai · Becca Feldman · Moshe Hoshen · Ran D. Balicer · Martha Skup · Maya Leventer-Roberts


Investigating the Impact of the TUITEK® Patient Support Programme, Designed to Support Caregivers of Children Prescribed Recombinant Human Growth Hormone Treatment in Taiwan

Pen-Hua Su[1,2], Sumaira Malik[3], Amrit Jheeta[3], Yen-Fan Lin[4], Su-Huei Su[2], Ekaterina Koledova[5] and Selina Graham[6]


British Journal of Health Psychology (2012), 17, 74–84
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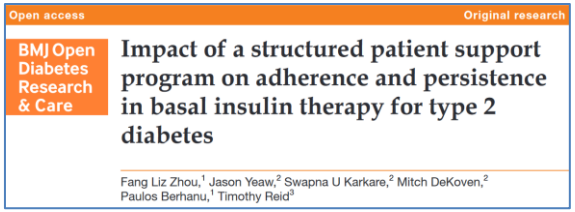
The British Psychological Society

www.wileyonlinelibrary.com

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

Keith J. Petrie[1]*, Kate Perry[2], Elizabeth Broadbent[1] and John Weinman[3]

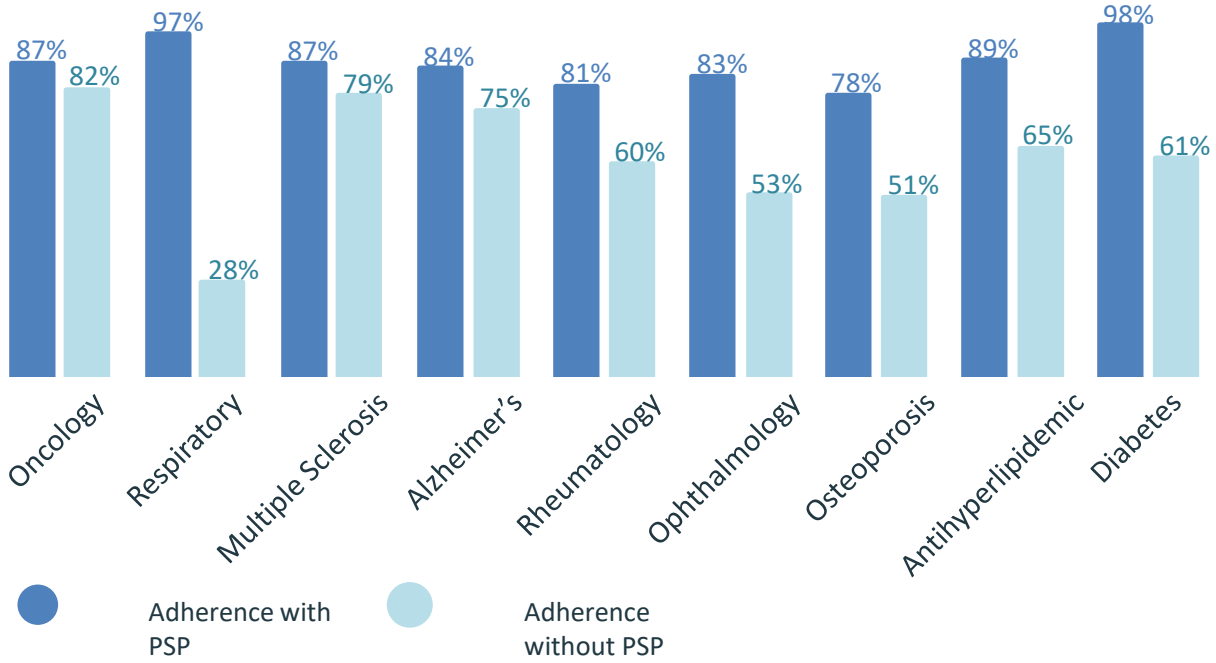

Open access Original research

BMJ Open Diabetes Research & Care

Impact of a structured patient support program on adherence and persistence in basal insulin therapy for type 2 diabetes

Fang Liz Zhou,[1] Jason Yeaw,[2] Swapna U Karkare,[2] Mitch DeKoven,[2] Paulos Berhanu,[1] Timothy Reid[3]

PSPs can effectively address a range of behavioral challenges and stakeholders



How can PSPs reach & support patients?

Comprehensive operational and impact reporting dashboard to monitor and optimise PSP effectiveness

Nurse delivered psychosocial coaching calls, training and care coordination

Targeted educational emails to support nurse coaching and digital engagement

App to support treatment and condition-specific self-management behaviors

Digital human + Chatbot based health coaching and advice

HCP-delivered skills training

Motivational + treatment reminder SMS

Point-of care print materials for HCPs, patients and caregivers

Personalised web portal with interactive learning, tracking tools, video and downloadable resources

Training programme, communication materials and services to drive PSP awareness and uptake

Nurse in-home services (training, administration, screening and assessments)

Home delivery via partner or coordination with client's existing supplier

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Developing PSPs with personalisation at their core

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The science of building effective PSPs

Providing the right support requires an evidence-based approach

This includes **what** support is provided, **to whom**, **how**, through **which channels**

This is best achieved through a combination of the **scientific literature**, extensive **experience and expertise** and most importantly, **active co-creation** with the stakeholders the support is being designed for

Designed for the user	Behavioral factors	Channel
Are all materials in the PSP designed with the specific population in mind?	*What is the key behavior to be supported?*	*Which channels will best achieve the behavioural aims of the PSP?*
• Average health literacy & digital literacy • Age • Cultural context • Physical dexterity	• What are the drivers of that behavior? (COM-B) • Which factors are modifiable? • Which beliefs and behaviors can be best supported in this programme?	• Is the channel suitable for this population? • Is the content best delivered by a nurse? By video? Through an app?

Informed by scientific evidence & co-creation

Personalisation in practice

Personalisation questionnaire (usually 4 – 10 questions)

Evidence-based personalisation algorithm

Most relevant support for the individual provided

BEHAVIOURAL FACTOR	EXAMPLE QUESTION	0	10
Treatment beliefs: necessity & concerns	I think the benefits of my treatment will outweigh the drawbacks	Strongly disagree	Strongly agree
Illness knowledge	How well do you feel you understand your condition overall?	Don't understand at all	Understand very clearly
Needle fear / phobia	How anxious do you feel about giving yourself an injection?	Not at all anxious	Extremely anxious

Answers to the questionnaire determine individual support provided:

- Order of online educational topics
- Content of belief-based SMS
- Number of nurse / coaching calls & topics of calls

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Smart devices and Behavior Change

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Using SMART devices to achieve behavior change

SMART and connected devices are part of a bigger picture

SMART devices are often developed to solve a specific problem, such as tracking adherence, or prompting behaviors

However, to achieve these aims, they usually require **ongoing engagement** from the user, which requires a combination of **knowledge**, **beliefs**, **implementation intentions**, and **habit formation**

Knowledge	Does the person know how to use the device and connected app?
Beliefs	Will this SMART device help with things that are important to the person using it? Do they perceive there to be downsides to using it? Is it worth the effort?
Implementation intentions	How will the person use the device? When? In what context? Are there existing behaviors that can cue its use?
Habit formation	Is use of the device amenable to becoming habitual? As its use demands less cognitive effort, can it attract the person's attention when it is required?

Understanding engagement with SMART devices

The COM-B Model[1]

CAPABILITY

Physical:

- Dexterity – can the user operate the device and the app?

Psychological:

- Capacity for remembering/planning
- Technical literacy
- Health literacy[6]

MOTIVATION

Reflective Brain Processes:

- Device related beliefs
  - Necessity of the device
  - Concerns about using the device
- Previous device experiences
- Implementation intentions
- Knowledge about the specific device & app

Automatic Brain Processes:

- Mood & anxiety
- Digital & technological perceptions of self-efficacy

OPPORTUNITY

Physical External Factors:

- Properties of the device
  - Device & app convenience
- Properties of the environment in which the device & app are to be used

Social External Factors:

- Physician-patient relationship
  - Physician beliefs about the device
  - Physician time to consider device data
  - Patient willingness to share data with HCP
- Social support, with or without digital & technological literacy

Engagement with device & app

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Integrating SMART devices with PSPs

Integrating PSPs and SMART devices

PSPs can be used alongside SMART devices to maximise the benefits of each by:

Supporting the use of the SMART device itself

- Increasing uptake and adoption of the device
- Increasing engagement with the device and associated app over time
- Helping the individual to integrate the device into their daily life

Working towards the same behavioural outcome

- Delivering support that aims to reinforce the aims of the SMART device
- Delivering content that is outside of the scope of the device
- Support can be integrated into existing companion apps

Maximising the use of data

- Helping the user to make the most of data captured and reports generated by the device in their day-to-day life
- Supporting the person and/or their HCP to have productive conversations enabled by data from the device
- Directly using data captured by the device and app, and personalising PSP content provided to the individual

Example: A PSP and connected inhaler device

Case Example: CareTRx (pronounced “care tracks”)

THE CHALLENGE

The aim: Improving adherence to maintenance and rescue inhaler use among patients in the UK’s NHS.

The device: An inhaler cap that fits to the top of pMDI inhalers and monitors every time the inhaler is used. The cap pairs to an app on the person’s phone, and lets them track the relationship between maintenance and rescue medication use, as well as self-reported symptoms.

OUR BEHAVIOR CHANGE APPROACH

Through an extensive literature review, and patient and clinician interviews, key beliefs and behaviors associated with two behaviors were identified:

Non-adherence to treatment, including underuse of maintenance inhalers, and overuse of rescue inhalers: Included factors like ***low necessity and high concerns beliefs about treatment***

Non-engagement with the device and app: Included factors such as ***low digital self-efficacy***

THE SOLUTION

Nurse support: Face-to-face app and device training, and remote coaching

eLearning modules providing interactive behavior change interventions

Nudge-based in-app messages and emails reinforcing behavior change

A nurse led service introduced new patient users to the device and app as part of a lung health assessment.

Once using the system, patient support including online eLearning modules, in-app notifications, and emails, would help address both causes of non-adherence to recommended treatment, and non-engagement with the device and app.

THE IMPACT

The Programme delivered:

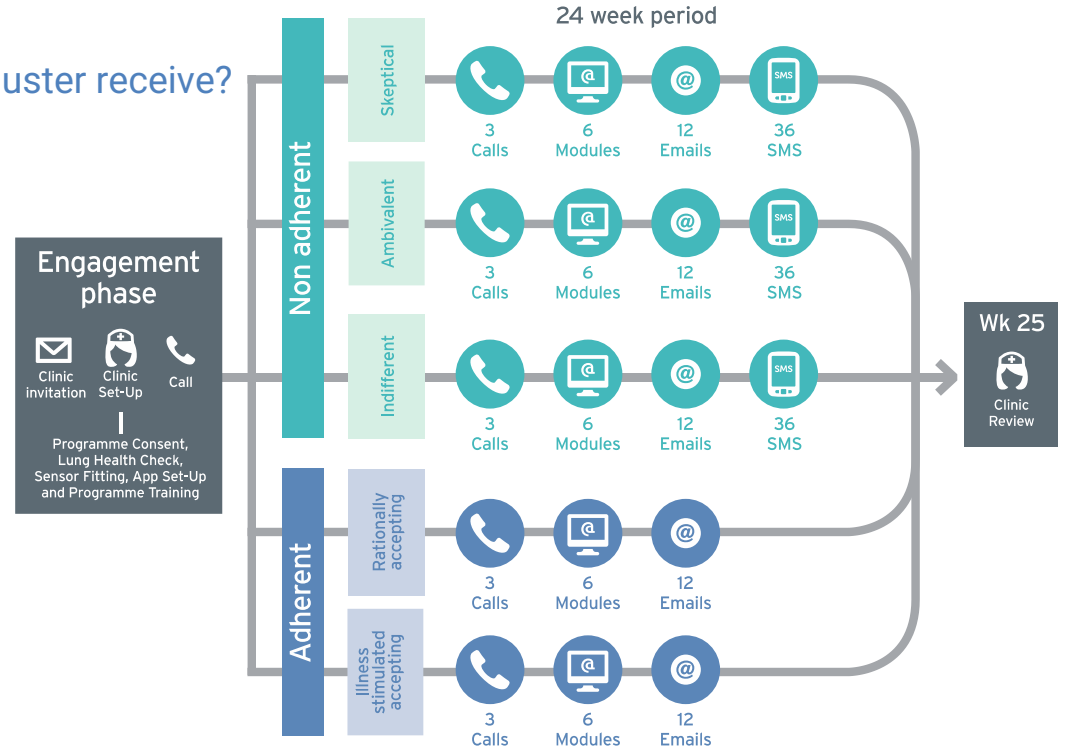
NHS TestBed respiratory connected device ecosystem demonstrated:

- Λ A proven adherence uplift of 47% and persistence to the intervention was at 78% over 1 year in moderate to severe asthma

Example: CareTRx

What support could each patient cluster receive?

- Depending on their needs, patients may receive an additional call in week 4 of the programme, to ensure they are comfortable using CareTRx™.
- When visiting the CareTRx™ website, each patient will see the content that is most relevant to them.



Example: Connected devices in Growth Hormone Disorder

Case Example: TuiTek Patient Support Programme, Easypod autoinjector, & Growlink app

THE CHALLENGE

Up to 82% of children and adolescents treated with r-hGH therapy and their families were non-adherent to treatment.[1]

The aim: Personalise caregiver support to address their individually identified behavior and practical risks to medication adherence

The device: An automated electronic autoinjector with a transmitter and web-based connection platform.

OUR BEHAVIOUR CHANGE APPROACH

Atlantis Health's behavioral modeling identified four key factors impacting adherence of patients receiving r-hGH treatment:

- Disease and treatment coherence
- Emotional burden of disease
- Treatment-related anxiety
- Self-administration self-efficacy

THE SOLUTION

Nurse support: Personalised nurse support calls

Connected autoinjector & web / mobile apps for tracking adherence & growth

Nurse-led support programme to caregivers of children receiving r-hGH in a country where poor adherence was reported as being particularly problematic[1]

The device allows for automatic recording, storage, and transmission of drug adherence, and self-reported growth. This information can be accessed via a patient app, and physicians and nurses can access the information via the web platform.

THE IMPACT

The Programme delivered:

- All 'high risk of non-adherence' caregivers at baseline moved into the 'low risk' category across all targeted behavioral factors
- For example, out of 40 caregivers, a 30% reduction in treatment-related anxiety was observed
- Results papers published in peer reviewed endocrinology journals[2,3,4]

Thanks for listening!