Using behavioural science in deprescribing research Sharing experience and lessons learned from two research projects

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UK Society for Behavioural Medicine - Medicines Optimisation Special Interest Group: Inaugural Webinar Dec 6th, 2024

The New York Times

Taking Multiple Medications? You May Need to Scale Back.



Medication overuse

The use of a medication which is not (or no longer) clinically indicated, not effective for the targeted indication, or not aligned with the patient's treatment goals and preferences, and which has an unfavorable benefits-to-risks ratio.

Frequent – Harmful – Societal and environmental costs

Mikyung Lee

April 22, 2024

Deprescribing

The <u>process</u> of identifying and reducing or discontinuing medications in which existing or potential harms outweigh potential benefits within the context of an individual patient's care goals, function, values, and preferences. (Scott IA et al., JAMA Intern Med 2015)

Limited implementation in routine practice

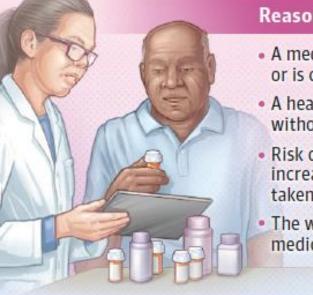
JAMA INTERNAL MEDICINE PATIENT PAGE | Less Is More

What Should I Know About Medication Deprescribing?

Medication deprescribing occurs when you and your health care provider work together to stop unnecessary medications, vitamins, or supplements.



Deprescribing is safe under supervision of a health care provider who can guide you through stopping medications immediately or decreasing dosage slowly to prevent withdrawal effects.



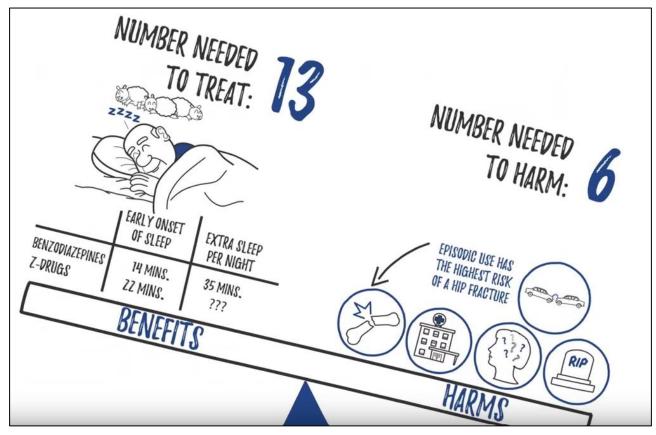
Reasons for deprescribing include

- A medication is no longer providing benefit or is causing unwanted side effects
- A health condition has been controlled without medications
- Risk of harmful medication interactions has increased due to more medications being taken for multiple health conditions
- The way your body reacts to a medication has changed

Other benefits of deprescribing include

- Decreasing the number of pills you take every day
- Covering the overall cost of your daily medications

BENZODIAZEPINE RECEPTOR AGONISTS (BZRAS)



One of the most frequently prescribed classes of harmful medications (Ma, Sleep 2023; Borrelli, JAGS 2024)

- One of the 3 overuse practices measured by OECD
- Incur significant adverse effects and costs, especially in older adults.

Canadian Deprescribing Network

DEPRESCRIBING BZRAS

HOSPITAL **AMBULATORY NURSING HOME FX SIBILLE** Perrine EVRARD Catherine PETEIN **BE-SAFE** DI മ്പോ PRESCRIBE **D**eprescribing in older adults Implementing a patient-centred and evidence-based through an Implementation Science approach intervention to reduce BZRA use to improve patient Actions de Recherche Concertées (ARC) - 2022-2027 SAFEty - Horizon Europe 2022-2027





BEHAVIÓURAL / IMPLEMENTATION SCIENTISTS





J Grimshaw, J Presseau, A Patey (OHRI, Ottawa)

T Chevallereau, M Jaeken, S Van den Broucke (IPSY)

Key references

RESEARCH AND REPORTING METHODOLOGY

De-implementing wisely: developing the evidence base to reduce lowvalue care

Jeremy M Grimshaw ⁽ⁱ⁾, ^{1,2} Andrea M Patey ⁽ⁱ⁾, ¹ Kyle R Kirkham, ^{3,4} Amanda Hall ⁽ⁱ⁾, ⁵ Shawn K Dowling ⁽ⁱ⁾, ⁶ Nicolas Rodondi ⁽ⁱ⁾, ^{7,8} Moriah Ellen ⁽ⁱ⁾, ^{9,10,11} Tijn Kool ⁽ⁱ⁾, ¹² Simone A van Dulmen ⁽ⁱ⁾, ¹² Eve A Kerr, ^{13,14} Stefanie Linklater ⁽ⁱ⁾, ¹ Wendy Levinson, ^{15,16} R Sacha Bhatia^{17,18} BMJ Qual Saf 2019 - Theoretical Domains Framework Michie S, Qual Saf Health Care 2005 ; Cane J, Impl Science 2012 ; Atkins

L, Impl Science 2017

- The Theory and Techniques Tool

Michie, 2013, Ann Behav Med 2013; https://theoryandtechniquetool.humanbehaviourchange.org/tool

RESEARCH METHODS AND REPORTING

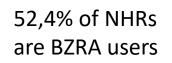
A new framework for developing and evaluating complex interventions: update of Medical Research Council guidance

Kathryn Skivington,¹ Lynsay Matthews,¹ Sharon Anne Simpson,¹ Peter Craig,¹ Janis Baird,² Jane M Blazeby,³ Kathleen Anne Boyd,⁴ Neil Craig,⁵ David P French,⁶ Emma McIntosh,⁴ Mark Petticrew,⁷ Jo Rycroft-Malone,⁸ Martin White,⁹ Laurence Moore¹ BMJ 2021

RESEARCH METHODS AND REPORTING

Designing and undertaking randomised implementation trials: guide for researchers

Luke Wolfenden,^{1,2} Robbie Foy,³ Justin Presseau,^{4,5} Jeremy M Grimshaw,^{4,6} Noah M Ivers,^{7,8,9,10} Byron J Powell,¹¹ Monica Taljaard,^{4,5} John Wiggers,^{1,2} Rachel Sutherland,^{1,2} Nicole Nathan,² Christopher M Williams,^{1,2,12} Melanie Kingsland,^{1,2} Andrew Milat,¹² Rebecca K Hodder,^{1,2} Sze Lin Yoong¹³ BMJ 2019



Identifying barriers

Targeted Behaviours :

Intervention development

Evaluation

Dissemination



Perrine EVRARD



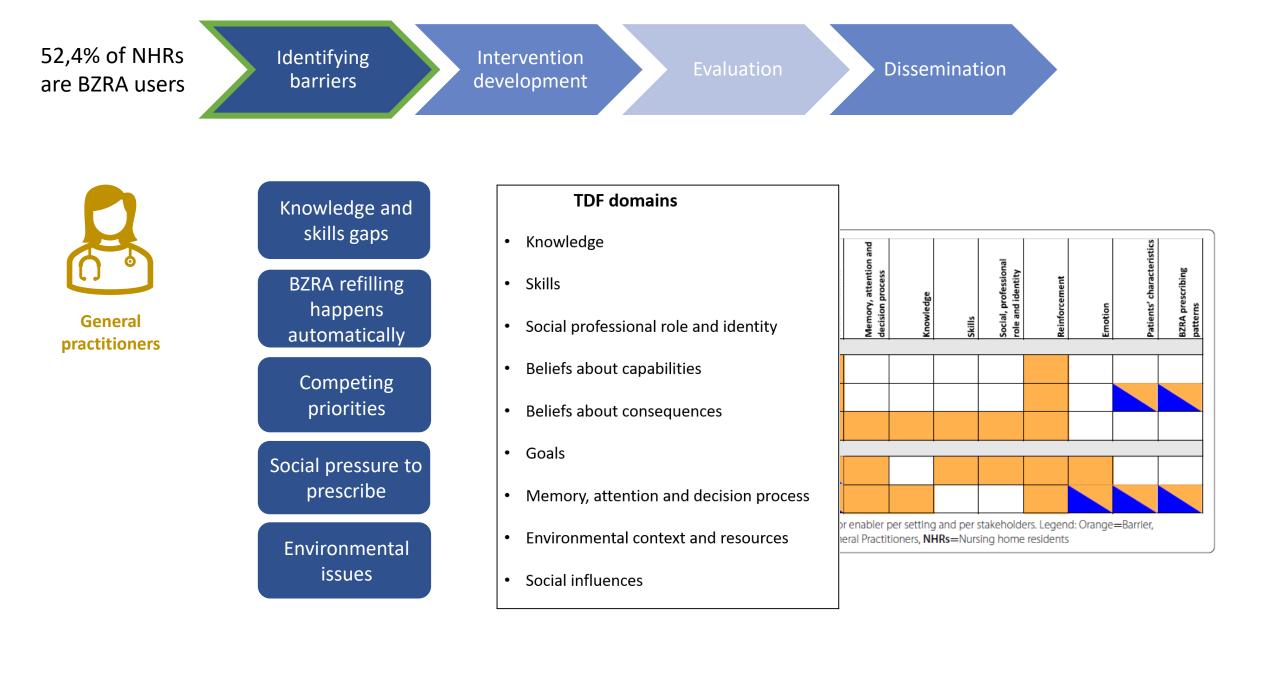
General practitioners



Other Healthcare professionals

- Deprescribe BZRA, through slow tapering
- When visiting Patients institutionalized in a nursing home and under BZRA prescription
- Involvement of residents in the decision process

- Support the deprescribing process of BZRA in the institution:
 - Support to the General Practitioner
 - Support to NHR and their family



Evrard et al. Barriers and enablers for deprescribing BZRA in older adults: a systematic review of qualitative and quantitative studies using the theoretical domains framework. Implement Sci. 2022;17(1):41. Evrard et al. Barriers and enablers towards benzodiazepine-receptor agonists deprescribing in nursing homes: A qualitative study of stakeholder groups. Exploratory Research in Clinical and Social Pharmacy 2023.





General practitioners



Other Healthcare professionals Knowledge and skills gaps

BZRA refilling happens automatically

Competing priorities

Social pressure to prescribe

Environmental issues

Intervention

Intervention components

<u>Behaviour change</u> <u>techniques (</u>BCTs):

A strategy that helps an individual change their behaviour to promote better health

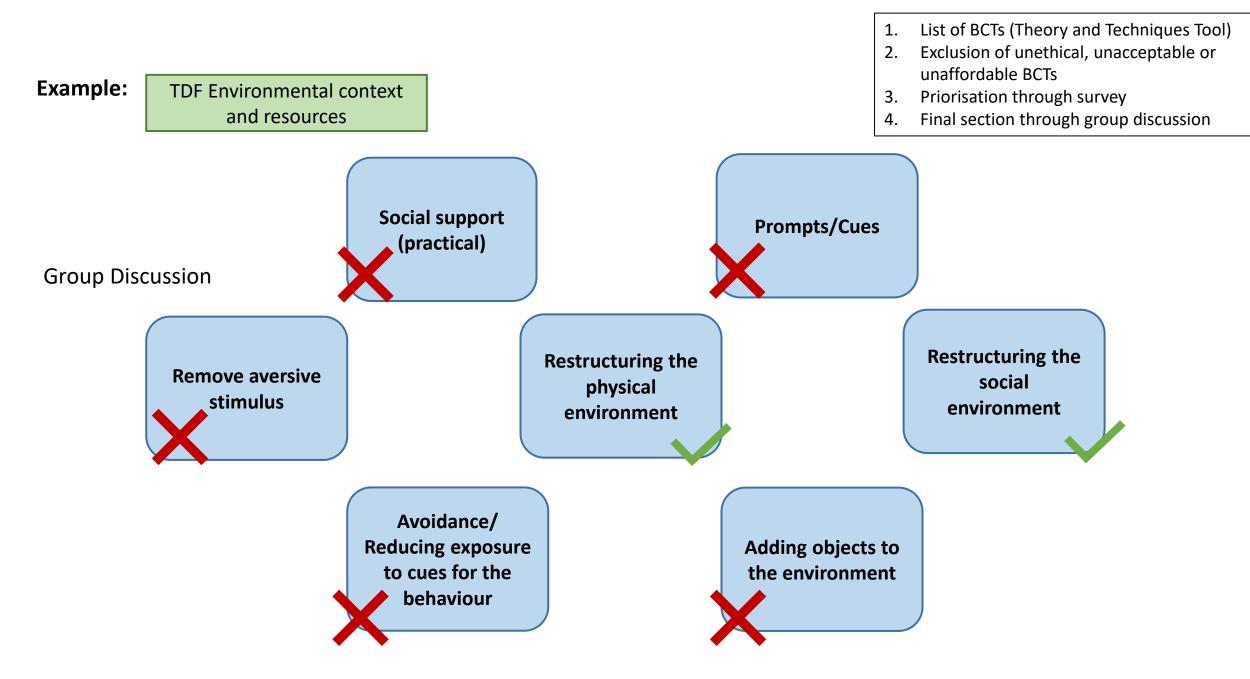
An observable, replicable, and irreducible component of an intervention designed to alter or redirect causal processes that regulate behaviour

9 Behaviour Change Techniques (BCTS) selected

Final list of BCTs (9)

- Instruction on how to perform the behaviour
- Information about health consequences
- Problems solving
- Pros and cons
- Graded tasks
- Goals setting (behaviour)
- Restructuring physical environment
- Restructuring social environment
- Social comparison

Evrard P et al. Development of a behavior-change intervention toward benzodiazepine deprescribing in older adults living in nursing homes. JAMDA 2024





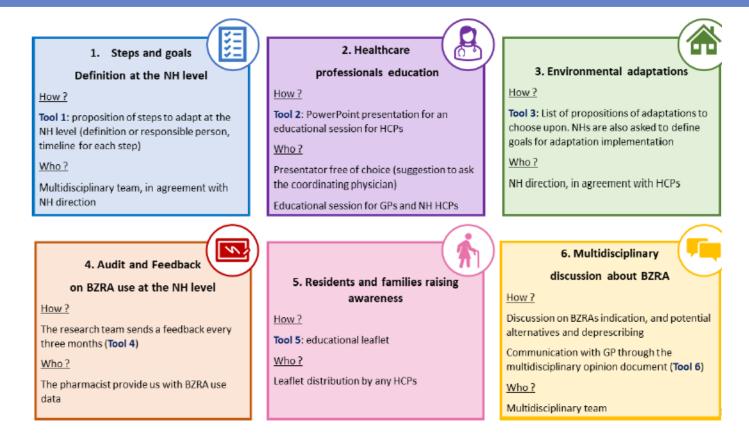


General practitioners



Other Healthcare professionals





Problem to address	Behaviours	Influences on behaviour	Intervention components [and BCTs]	Intervention processes	Behavioural outcomes	Longer term outcomes
BZRA have an unfavourable benefits-to-risk ratio among older adults and should be limited to a 4- weeks use. Guidelines recommend deprescribing chronic BZRA. Despite that, BZRA use in Belgian NHs remains high (52,4% Evrard et al, 2020), and 98% of users take BZRA for more than 4 weeks. This shows a poor uptake of BZRA deprescribing in Belgian NHs.	 Who: GP What: Deprescribe (the process of stopping the use or reducing the dosage) BZRA, through slow tapering Where: in NH When: During a medical health consult at the NH To/with whom: Patients of the GP institutionalizedin a NH and under BZRA prescription, involved through shared-decision making, Who: HCPs involved in multidisciplinary NH care What: Support the deprescribing process of BZRA in the institution, with two levels involved: Support to NHR and their family Where: in NH Where: in NH Where: As part of NHRs' daily care To/with whom: Action taken for NHRs, involving various HCPs. 	Knowledge* Skills Social/ Professional rôle and identity* Beliefs about capabilities Beliefs about consequences* Memory, attention and decision process Goals Environmental context and resources Social influences	Process and Goals setting [Graded tasks] [Goals setting (behavior)] HCPs education [Instructions on how to perform the behaviour] [Information about health consequences] [Problems solving] [Pros and cons] Physical environment adapations [Restructuring physical environment] Audit and feedback [Social comparison] NHRs and relatives education [Instructions on how to perform deprescribing] [Information about health consequences] [Pros and cons] Multidisciplinary work [Restructuring social environment]	 -Increased interdisciplinary collaboration -Increased HCPs' perceived knowledge regarding BZRA -Increased HCPs' beliefs about capability for BZRA deprescribing -Increased HCPs' priorisation of BZRA deprescribing -More sleep-friendly environment - Decrease in social influences of NHRs reluctance towards deprescribing (:Increased NHRs' self-efficacy regarding BZRA deprescribing, Increased NHRs' knowledge regarding BZRA deprescribing, Increased NHRs' intention for BZRA deprescribing, Increased NHRs' intention for BZRA 	-Multidisciplinary discussion on potential BZRA deprescribing and non- pharmacological alternatives -HCPs discussion with NHRs about BZRA use and potential deprescribing - BZRA tapering plans prescribed	-More appropriate use of BZRA in NHs -Lower prevalence of BZRA use without substitution to other medications (e.g. antidepressants, antipsychotics) -Increased NHRs safety (reduction in falls, dependence, oversedation, increased mobility, increased daytime functioning)

Figure 1: Programme theory of the END-IT NH intervention

Notes: BCT – Behaviour change technique, BZRA – Benzodiazepine Receptor Agonists, GP – General practitioner, HCP – Healthcare professional, NH – Nursing home, NHR – Nursing home resident *: These domains were identified as most relevant only for HCPs other than general practitioners



STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This study evaluates the feasibility of an intervention that has been developed with insights from implementation science and stakeholders' involvement.
- ⇒ Having this feasibility study stage will enhance the probability of success of the intervention in a future larger-scale trial and is likely to save resources.
- ⇒ This feasibility study encompasses different dimensions of feasibility, at intervention and study design levels.
- ⇒ Nursing homes (NHs) will be recruited voluntarily, and this may select NHs with extra motivation for benzodiazepine receptor agonists deprescribing.

FEASIBLITY

- Implementation of the intervention tested in 4 NHs, 45 NHRs
- Feasible, but would require refinements before larger scale implementation

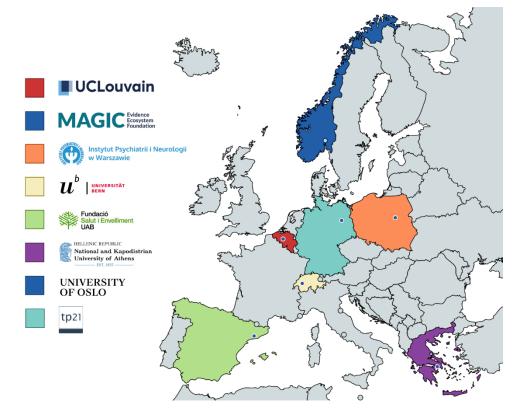


- Intervention implementation
 - Contextual differences between NHs?
 - Potential refinements of intervention components
- Intervention responsiveness

Evrard P. et al. Feasibility of a theory-based intervention towards benzodiazepine deprescribing in Belgian nursing homes: protocol of the END-IT NH cluster-randomised controlled trial. BMJ Open 2024;14:e085435



Implementing a patient-centred and evidence-based intervention to reduce **BE**nzodiazepine and sedative-hypnotic (BSH) use to improve patient **SAFE**ty and quality of care.



BE-SAFE: Key tasks

- Care trajectories and barriers
- Clinical guideline (MAGIC)
- Intervention development
 - Physicians
 - Patients and caregivers
- Cluster RCT, 470 patients (2024 2027)
- Process evaluation and case studies
- Patient Partnership Advisory Council (PAC)

Horizon Europe – 101057123 – 09/2022-08/2027



Barriers to BZRA deprescribing – theory-based surveys

240 hospital physicians from 6 European countries (Shapoval et al., under review)

TDF-based Domains and Items : examples of major barriers				
Skills				
I have been trained to engage patients about deprescribing their BZRA.				
Beliefs about capabilities				
I am confident that I can deprescribe BZRA in older adults with sleep problems even when I have limited time.				
Goals				
My patients often have other health problems that are usually more important for me to address than the BZRA				
deprescribing.				
Emotions				
I feel frustrated with all the challenges of the BZRA deprescribing in older adults with sleep problems.				
Environmental context and resources				
In the department or institution where I work, we have set goals (or policies) that encourage BZRA deprescribing;				
Social influence, patients				
Most of my older patients taking a BZRA for sleep problems or their relatives are reluctant to deprescribe their BZRA.				

Multivariable regression

- 5 TDF domains significantly associated with
- 3 TDF domains significantly associate with

intention to deprescribe self-reported routine BZRA deprescribing

@BESAFE_HORIZONEU

Thank you for your attention

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