

# Changing healthcare provider behaviour: how do psychological approaches help us understand barriers to deprescribing and develop de-implementation interventions?

**Nicola McCleary, PhD**

Postdoctoral Fellow

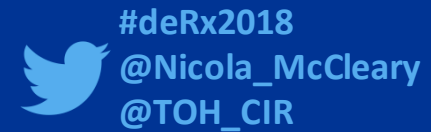
Ottawa Health Psychology Group and Centre for Implementation Research

Ottawa Hospital Research Institute

Ottawa, Canada



# Session outline



- Outline how deprescribing guideline implementation can be conceptualised as a behaviour change issue
- Present step-by-step process for developing behaviour change interventions & discuss application to deprescribing
- Overview of ongoing project using audit and feedback to encourage deprescribing
- Introduce dual process approaches: may be helpful for informing interventions to target routines impeding deprescribing

## Overall aim:

Get you thinking about ways in which these approaches can be capitalized on to support your own deprescribing work

- Questions throughout & discussion at end



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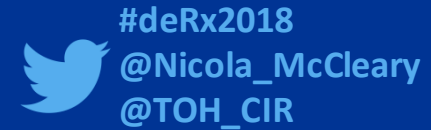
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# Today's theme: implementation



- Gaps in quality of healthcare: 20-25%<sup>1</sup> of care provided is not required/potentially harmful (e.g. inadequate deprescribing)
- Efforts to address this include development of evidence-based clinical guidelines
  - Necessary, but generally not sufficient to change practice
  - Targeted dissemination & implementation efforts needed for guidelines to be taken up

## How to do this in an evidence-based way? Implementation Science



<http://www.ohri.ca/cir/>

- Interdisciplinary group of 14 implementation scientists
  - Biostatistics, clinical epidemiology, cognitive psychology, engineering, health economics, health psychology, health services research, human factors/user centred design, knowledge translation, medical education, medical sociology, medicine, nursing, shared decision making
- Application of behaviour change approaches to implementation

<sup>1</sup>Schuster, McGlynn, Brook (1998)  
Grol (2001); Grol (1997)



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# Why apply behaviour change approaches?

- Successful implementation requires healthcare providers to change the way they do things
- Implementation process can be broken down into the specific behaviours of those involved
- This allows us to draw decades of research in psychology about what influences behaviour and effective ways of changing behaviour

Ottawa Health Psychology Group  
Lead: Dr Justin Presseau



# Applying behaviour change approaches to deprescribing

## CLINICAL PRACTICE GUIDELINES

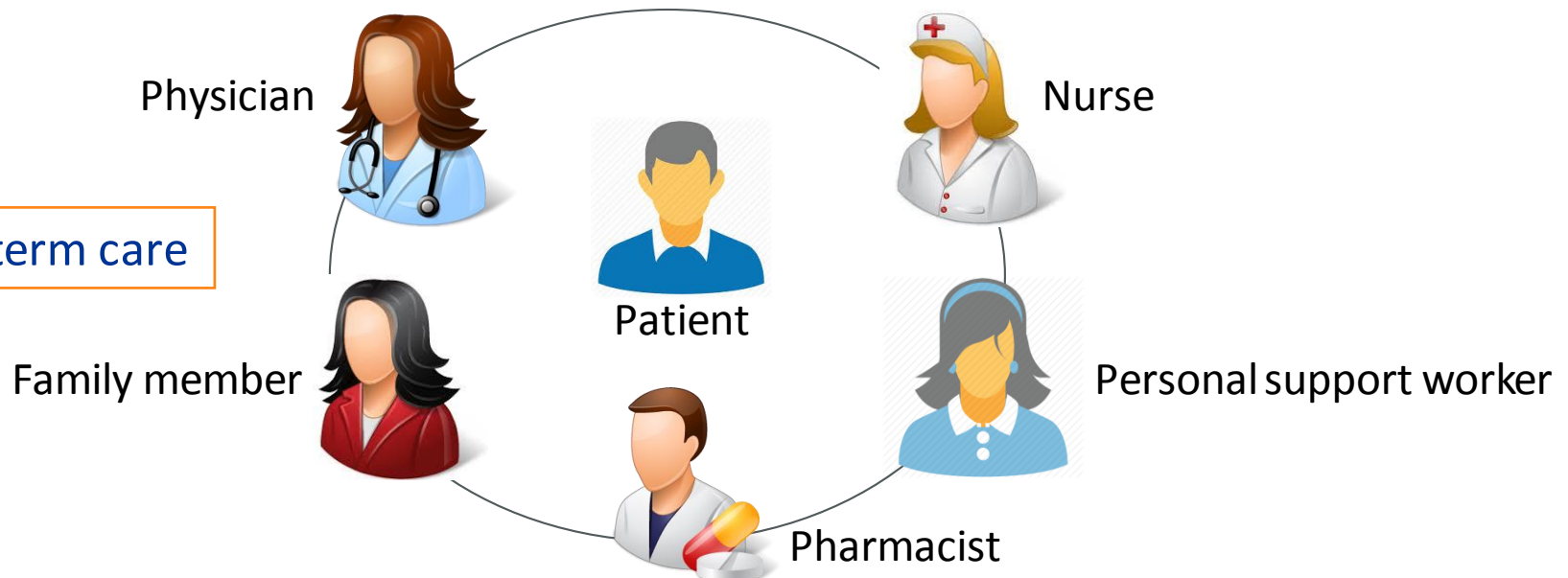
### Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia

Evidence-based clinical practice guideline

Lise M. Bjerre MD PhD CCFP Barbara Farrell PharmD ACPR FCSHP Matthew Hogel PhD Lyla Graham MD  
Geneviève Lemay MD MSc FRCPC Lisa McCarthy PharmD MSc Lalitha Raman-Wilms PharmD FCSHP  
Carlos Rojas-Fernandez PharmD Samir Sinha MD DPhil FRCPC Wade Thompson RPh MSc Vivian Welch PhD Andrew Wiens MD

Who needs to do what,  
differently?

Long-term care



# Applying behaviour change approaches to deprescribing

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## CLINICAL PRACTICE GUIDELINES

### Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia

Evidence-based clinical practice guideline

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Who needs to do what,  
differently?

Implementation of this guideline involves a whole range of behaviours by different interacting people: could be barriers to change anywhere in the process

Approaches from psychology can help us to work through this to increase the likelihood that the behaviour change necessary for this guideline to be taken up, actually happens

# Where to begin when applying behaviour change approaches?

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1

## Step 1: *Who needs to do what, differently?*

Establish whose behaviour need to change, and which behaviours  
What is the evidence supporting this?

2

## Step 2: What factors determine whether or not they do it?

Investigate the barriers and enablers to behaviour change

3

## Step 3: Which intervention components can be effectively used to target those factors?

Select the behaviour change techniques and modes of delivery best suited to target the identified barriers and enablers

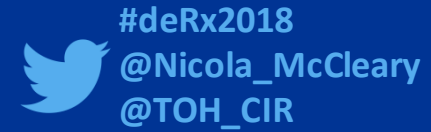
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## Step 4: How can behaviour change be measured and understood?

Select appropriate outcome measures



# Step 1: Identifying the target behaviour



- Specify ‘Who needs to do what differently, when, where, how, and with whom?’
- If multiple behaviours relevant, initially focus on 1/2 by prioritising based on
  - How amendable to change it is
  - How key it is for bringing about desired change in clinical practice
  - The positive or negative effect on other related behaviours if it changed
  - How easy it is to measure
- Selection should be evidence-based
  - Evidence-based deprescribing guidelines source material

## CLINICAL PRACTICE GUIDELINES

### Deprescribing antipsychotics for behavioural and psychological symptoms of dementia and insomnia

Evidence-based clinical practice guideline

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“Long-term care physicians reducing the dosage of antipsychotics for the residents in their long-term care facility with BPSD treated for at least 3 months (symptoms stabilized or no response to adequate trial) every 1-2 weeks”

Atkins et al. (2017); Fishbein (1967);  
Francis & Presseau (in press);  
Presseau et al. (2009); Presseau et al. (2011)



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# Where to begin when applying behaviour change approaches?

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## Step 1: *Who needs to do what, differently?*

Establish whose behaviour need to change, and which behaviours  
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## Step 2: What factors determine whether or not they do it?

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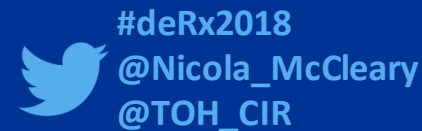
Select the behaviour change techniques and modes of delivery best suited to target the identified barriers and enablers

4

## Step 4: How can behaviour change be measured and understood?

Select appropriate outcome measures

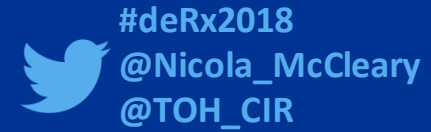
# Step 2: Identifying barriers and enablers to deprescribing



- Barriers & enablers identified in previous studies:
  - Providers' knowledge, skills, attitudes, self-efficacy
  - Providers' insight into appropriateness of own prescribing
  - Providers not acting on awareness of potentially inappropriate prescribing
  - Patient goals for care
  - Complexity: polypharmacy, multimorbidity, multiple providers, poor communication
  - Health system structure
  - Time & resource constraints

Also want to know what the barriers and enablers to our specific behaviour are:  
helps us design a targeted intervention

# Step 2: Identifying barriers and enablers



- Application of theories from psychology which describe how and why we behave the way we do
- Value of using theory
  - **More efficient:** Helps us build on what we already know
  - **Shared understanding through shared language**
  - **Beyond intuitive/insufficient approaches** (e.g. beyond knowledge + awareness + attitudes as means for changing behaviour)
  - **Informs intervention design**
  - **Cumulative evidence:** Contributes to building a cumulative evidence base

**BUT...**

Numerous behavioural theories: no guidance on how to select a theory



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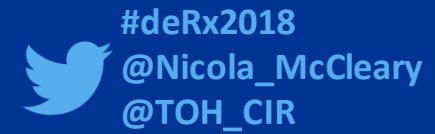
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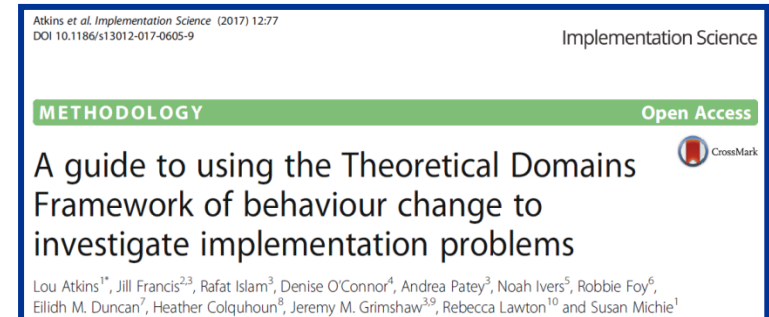
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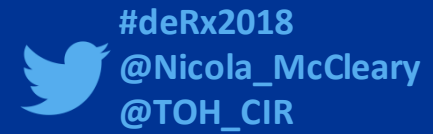
# Theoretical Domains Framework (TDF)



- Developed to facilitate researchers in using behavioural approaches
- Synthesizes 33 theories into 12 domains covering key factors that influence behaviour change
- Used to develop questions to ask in a research interview with healthcare providers to understand their views about what helps and hinders them in doing a behaviour



# Theoretical Domains Framework



**Table 1** Domains from the TDF [30] and their descriptions adapted from Francis et al. [47]

Knowledge	Existing procedural knowledge, knowledge about guidelines, knowledge about evidence and how that influences what the participants do
Skills	Competence and ability about the procedural techniques required to perform the behaviour
Social/professional role and identity	Is the behaviour something the participant is supposed to do or someone else's? (When discussing 'we'/the collective) Boundaries between professional groups
Beliefs about capabilities	Perceptions about competence and confidence in doing the behaviour
Beliefs about consequences	Perceptions about outcomes and advantages and disadvantages of performing the behaviour or previous experiences that have influenced whether the behaviour is performed or not
Motivation and goals	Priorities, importance, commitment to a certain course of actions or behaviours Intentions
Memory, attention and decision processes	Attention control, decision-making, memory, i.e. is the target behaviour problematic because people simply forget?
Environmental context/resources	How factors related to the setting in which the behaviour is performed (e.g. people, organisational, cultural, political, physical and financial factors) influence the behaviour
Social influences	External influence from other people, views of other professions, patients and families, doing what you are told and how that influences what you do
Emotion	How feelings, affect (positive or negative) may influence behaviour
Behavioural regulation	Ways of doing things that relate to pursuing and achieving desired goals, standards or targets Strategies the participants have in place to help them perform the behaviour Strategies the participants would like to have in place to help them
Nature of the behaviours	What is the participant's history of the behaviour, have they any experience (done it often or not at all in the past), is the behaviour routine or automatic?

# Theoretical Domains Framework: example

Example deprescribing behaviour: “Long-term care physicians reducing the dosage of antipsychotics for the residents in their long-term care facility with BPSD treated for at least 3 months (symptoms stabilized or no response to adequate trial) every 1-2 weeks”

- Review the list of 5 questions from a mock interview guide developed to investigate barriers and facilitators to enacting the behaviour
- Review the list of domains with brief descriptions
- Identify which domain you think the question is targeting

## Note...

In a real study, important to include questions covering ALL domains, so that we don't miss any key barriers to behaviour change

# Theoretical Domains Framework: example

Example deprescribing behaviour: “Long-term care physicians reducing the dosage of antipsychotics for the residents in their long-term care facility with BPSD treated for at least 3 months (symptoms stabilized or no response to adequate trial) every 1-2 weeks”



- Do you see it as your job to reduce the dosage of antipsychotics for the residents with BPSD in your long-term care facility?  
**Social/ Professional Role and Identity**
- How confident are you in your ability to reduce the dosage of antipsychotics for the residents with BPSD in your long-term care facility?  
**Beliefs about Capabilities**
- What are the benefits or positive impacts of reducing the dosage of antipsychotics for the residents with BPSD in your long-term care facility?  
**Beliefs about Consequences**
- How much of a priority is it for you to reduce the dosage of antipsychotics for the residents with BPSD in your long-term care facility in the grand scheme of everything you do to care for residents?  
**Motivation and Goals**
- In what situations could you see yourself forgetting to reduce the dosage of antipsychotics for the residents with BPSD in your long-term care facility?  
**Memory, attention and decision processes**





# Where to begin when applying behaviour change approaches?

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- 
- Step 1: *Who needs to do what, differently?***  
Establish whose behaviour need to change, and which behaviours  
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- Step 2: What factors determine whether or not they do it?**  
Investigate the barriers and enablers to behaviour change
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Select appropriate outcome measures

# What is the existing evidence for implementation interventions?

Implementation intervention strategy	# of trials	Median improved performance	Interquartile range
Printed educational materials <sup>1</sup>	7	2%	0-11%
Meetings and workshops <sup>2</sup>	81	6%	2-16%
On-screen point of care reminders <sup>3</sup>	28	4%	1-19%
Audit and Feedback <sup>4</sup>	140	4%	1-16%
Educational outreach visits <sup>5</sup>	69	6%	3-9%

- Wide variation in results of studies evaluating these interventions
- Strategies not necessarily always the most appropriate for barriers/enablers to behaviour change in that context
- Largely methods of delivery rather than intervention techniques

**To target specific behaviours with interventions, we need to unpack this more**

<sup>1</sup>Giguere et al. (2012) <sup>2</sup>Forsetlund et al. (2009)

<sup>3</sup>Shojania et al. (2009) <sup>4</sup>Ivers et al. (2012)

<sup>5</sup>O'Brien et al. (2007)

# How to describe content of behaviour change interventions?

- Susan Michie and colleagues developed a way to specify content in terms of behaviour change techniques
- Smallest components of behaviour change interventions that on their own can bring about change
- The resulting list of 93 distinct techniques is known as the behaviour change techniques taxonomy
- It is used by both researchers and practitioners working to achieve behaviour change



# Behaviour change techniques taxonomy (Michie et al. 2013)

## Feedback and monitoring

- Monitoring of behaviour by others without feedback
- Feedback on behaviour/outcomes of behaviour
- Feedback on outcomes of behaviour
- Self-monitoring of behaviour
- Self-monitoring of outcomes of behaviour
- Monitoring of outcome(s) of behaviour without feedback
- Biofeedback

## Regulation

- Conserving mental resources
- Pharmacological support
- Reduce negative emotions
- Paradoxical instructions

## Goals and Planning

- Goal setting (behavior) OR Goal setting (outcome)
- Problem solving
- Action planning
- Review behavior goal(s) OR Review outcome goal(s)
- Discrepancy between current behavior and goal
- Behavioral contract
- Commitment

## Repetition and substitution

- Behavioural practice/rehearsal
- Behaviour substitution
- Habit formation
- Habit reversal
- Overcorrection
- Generalisation of target behaviour
- Graded tasks

## Comparison of outcomes

- Credible source
- Pros and cons
- Comparative imagining of future outcomes

## Reward and threat

- Incentive (outcome)
- Material incentive (behaviour)
- Social incentive
- Non-specific incentive
- Self-incentive
- Self-reward
- Reward (outcome)
- Material reward (behaviour)
- Non-specific reward
- Social reward
- Future punishment

## Shaping Knowledge

- Instruction on how to perform behaviour
- Information about Antecedents
- Re-attribution
- Behavioural experiments

## Social Support

- Social support (unspecified)
- Social support (practical)
- Social support (emotional)

## Natural Consequences

- Info about health consequences
- Info about emotional consequences
- Info re social and environment consequences
- Salience of consequences
- Monitoring of emotional consequences
- Anticipated regret

## Identity

- Identification of self as role model
- Framing/reframing
- Incompatible beliefs
- Valued self-identify
- Identity linked with changed behaviour

## Scheduled consequences

- Behaviour cost
- Punishment
- Remove reward
- Reward approximation
- Rewarding completion
- Situation-specific reward
- Reward incompatible behaviour
- Reward alternative behaviour
- Reduce reward frequency
- Remove punishment

## Antecedents

- Adding objects to the environment
- Restructuring the physical environment
- Restructuring the social environment
- Avoidance/reducing exposure to cues
- Distraction
- Body changes

## Associations

- Prompts/cues
- Cue signalling reward
- Reduce prompts/cues
- Remove access to the reward
- Remove aversive stimulus
- Satiation
- Exposure
- Associative learning

## Comparison of behaviour

- Demonstration of the behaviour
- Social comparison
- Information about others' approval

## Covert learning

- Imaginary punishment
- Imaginary reward
- Vicarious consequences

# Step 3: What strategies to use to change behaviour?



TDF-based barrier	Behaviour Change Techniques
Beliefs about Capabilities (Interpersonal) Skills	<ul style="list-style-type: none"> <li>• Demonstration of the behaviour</li> <li>• Verbal persuasion of capability</li> <li>• Graded tasks</li> <li>• Behavioural practice/rehearsal</li> </ul>
Social/Professional Role & Identity	<ul style="list-style-type: none"> <li>• Feedback on behaviour</li> <li>• Behavioural contract</li> <li>• Action Planning</li> <li>• Behavioural practice/rehearsal</li> </ul>
Social influences	<ul style="list-style-type: none"> <li>• Social support (practical)</li> <li>• Information about others' approval</li> <li>• Social comparison</li> <li>• Social reward</li> </ul>
Beliefs about consequences	<ul style="list-style-type: none"> <li>• Information about health consequences</li> <li>• Salience of consequences</li> <li>• Credible source</li> </ul>
Goals	<ul style="list-style-type: none"> <li>• Goal setting (outcome)</li> </ul>
Memory, attention, decision processes	<ul style="list-style-type: none"> <li>• Prompts/cues</li> <li>• Action Planning</li> <li>• Problem solving</li> </ul>

# Where to begin when applying behaviour change approaches?

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Questions?

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# Using Audit & Feedback to facilitate deprescribing



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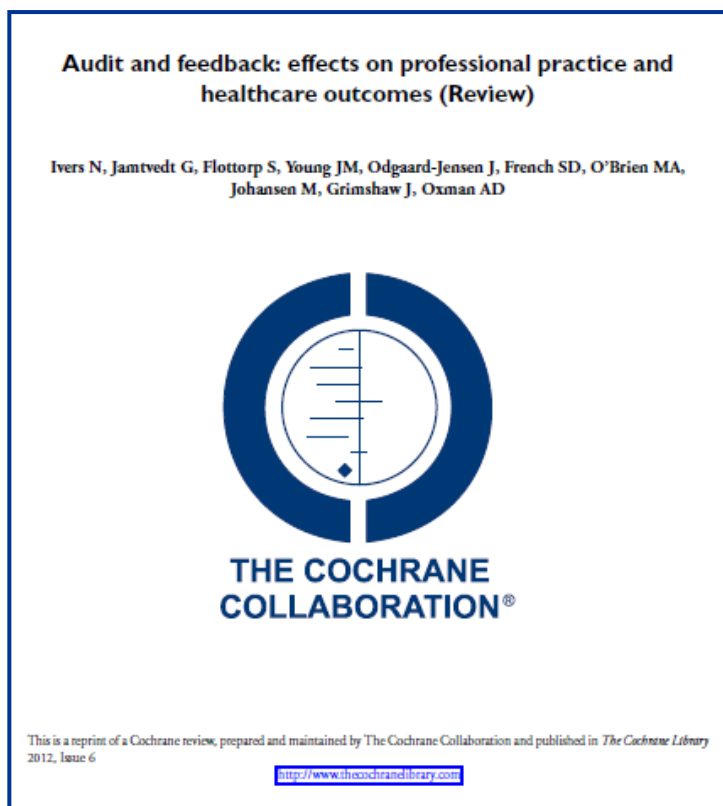
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# Audit & feedback (A&F)

- Implementation intervention which involves measuring a healthcare provider's practice, comparing it to a professional standard, and relaying this information back to the provider

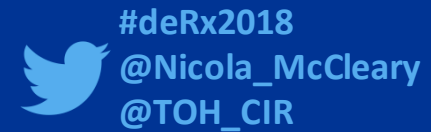


- Generally effective
- Variation in effectiveness
- **Opportunities to use existing theory, evidence, and design approaches to optimise it**



<http://www.ohri.ca/auditfeedback/>

# Using audit & feedback to facilitate deprescribing



- Working with Health Quality Ontario (HQO), who provide feedback to long-term care (LTC) physicians across province about high-risk medication prescribing
- Conducting a trial to assess effects of two aspects of A&F design
  - Framing of performance (positive vs. negative)
  - Standard used for comparison (median vs. top quartile)

Ivers et al. *Implementation Science* (2017) 12:86  
DOI 10.1186/s13012-017-0615-7

Implementation Science

## STUDY PROTOCOL

Open Access



Testing feedback message framing and comparators to address prescribing of high-risk medications in nursing homes: protocol for a pragmatic, factorial, cluster-randomized trial

Noah M. Ivers<sup>1,2,3,4\*</sup>, Laura Desveaux<sup>1</sup>, Justin Presseau<sup>5,6,7</sup>, Catherine Reis<sup>1</sup>, Holly O. Witteman<sup>5,8,9,10,11</sup>, Monica K. Taljaard<sup>5,6</sup>, Nicola McCleary<sup>5</sup>, Kednapa Thavorn<sup>6</sup> and Jeremy M. Grimshaw<sup>5,12</sup>

BEHAVIOUR: “Long-term care physicians appropriately adjusting prescribing for antipsychotics for the residents in their long-term care facility”



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# A&F report version 1

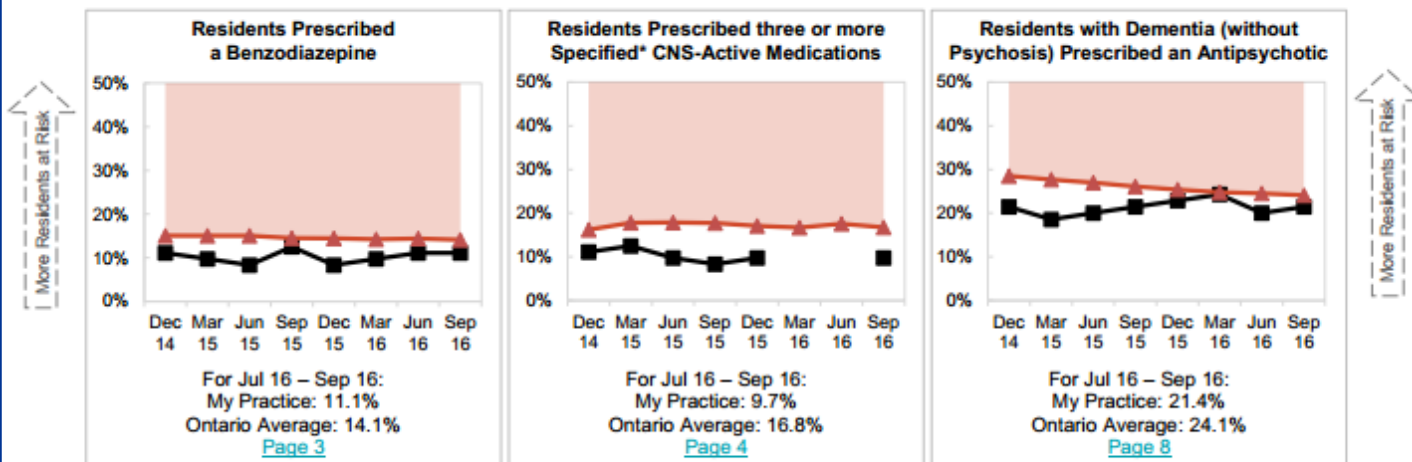
## Summary

This practice report provides feedback on certain prescribing practices that may be associated with a risk of harm for your LTC residents when not appropriate.

### How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.



**2 fewer resident(s) in my practice are at increased risk associated with benzodiazepines (compared to the average prescribing rate among Ontario LTC physicians).**

**Who are all my residents?** Between July 1, 2016 and September 30, 2016, my LTC practice had 75 residents (26% male, 74% female), with a mean age of 84, and 15% were new residents (in LTC home for less than 100 days.)

Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

\*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to [page 17](#) for more details.

**Negative framing**  
No. patients for whom care generally not in line with guidelines (prescribed high-risk medication)

**Comparator**  
Ontario median

# A&F report version 2

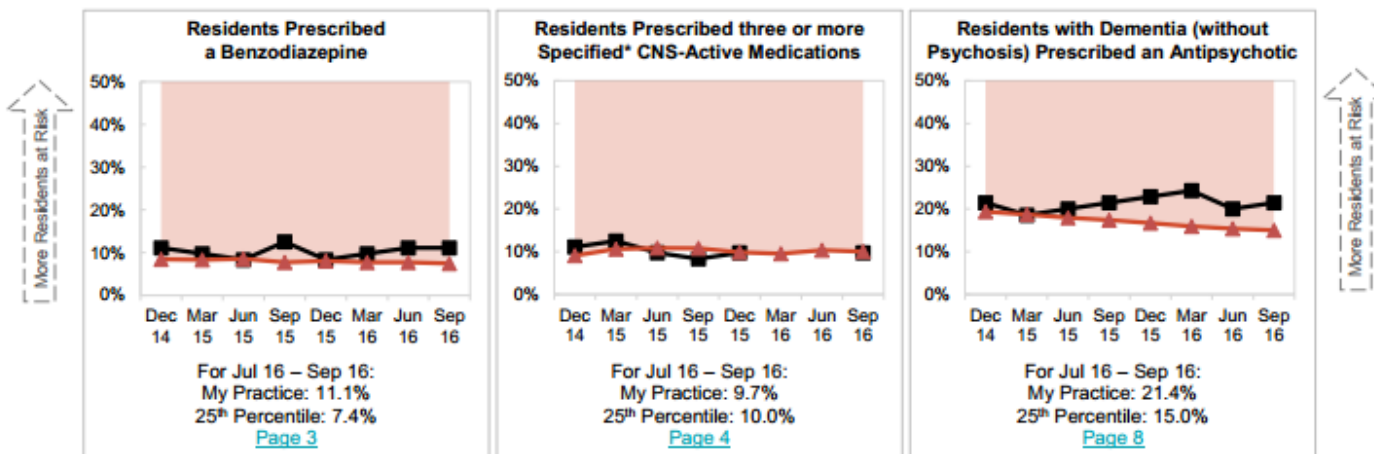
## Summary

This practice report provides feedback on certain prescribing practices that may be associated with a risk of harm for your LTC residents when not appropriate.

### How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.



**3 additional resident(s) in my practice may be at increased risk associated with benzodiazepines (compared to Ontario LTC physicians with lower prescribing rates†).**

**Who are all my residents?** Between July 1, 2016 and September 30, 2016, my LTC practice had 75 residents (26% male, 74% female), with a mean age of 84, and 15% were new residents (in LTC home for less than 100 days.)

†Lower prescribing rates reflect the 25<sup>th</sup> percentile. | Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

\*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to [page 17](#) for more details.

**Negative framing**  
No. patients for whom care generally not in line with guidelines (prescribed high-risk medication)

**Comparator**  
Top quartile

# A&F report version 3

## Summary

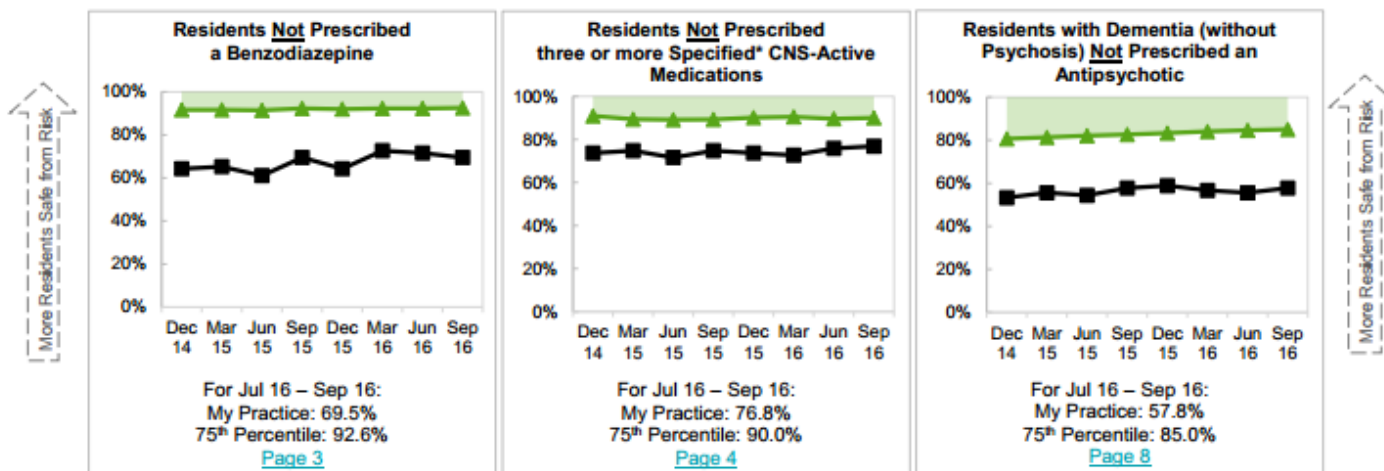
This practice report provides feedback on certain prescribing practices where you are ensuring safety for your LTC residents.

### How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.

■ My Practice ▲ 75<sup>th</sup> Percentile



**22 fewer resident(s) in my practice may be safe from risks associated with benzodiazepines (compared to Ontario LTC physicians with lower prescribing rates<sup>†</sup>).**

**Who are all my residents?** Between July 1, 2016 and September 30, 2016, my LTC practice had 100 residents (30% male, 70% female), with a mean age of 85, and 12% were new residents (in LTC home for less than 100 days.)

<sup>†</sup>Lower prescribing rates reflect the 75<sup>th</sup> percentile. | Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

\*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to [page 17](#) for more details.

2 Long-Term Care Practice Report

Health Quality Ontario

**Positive framing**  
No. patients for whom care generally in line with guidelines (high-risk medication avoided)

**Comparator**  
Top quartile



# A&F report version 4

## Summary

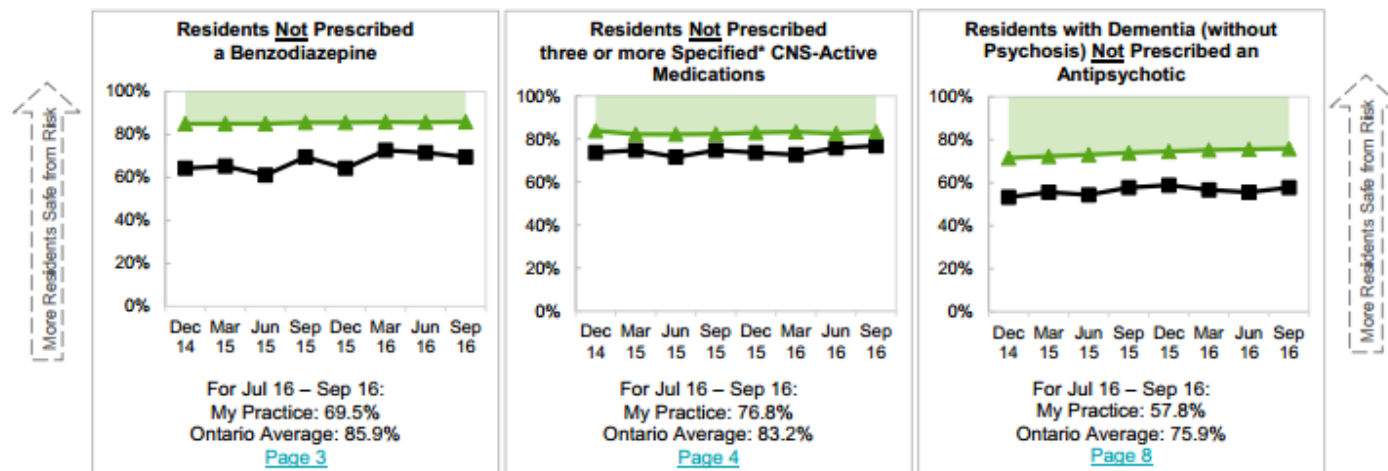
This practice report provides feedback on certain prescribing practices where you are ensuring safety for your LTC residents.

### How do my prescribing practices compare?

Data reporting period: July 1, 2016 – September 30, 2016

Note: 'Sep-16' represents data from July 1 to September 30, 2016.

—■ My Practice —▲ Ontario Average



**16 fewer resident(s) in my practice may be safe from risks associated with benzodiazepines (compared to the average prescribing rate among Ontario LTC physicians).**

**Who are all my residents?** Between July 1, 2016 and September 30, 2016, my LTC practice had 100 residents (30% male, 70% female), with a mean age of 85, and 12% were new residents (in LTC home for less than 100 days.)

Suppression denoted by N/R (Not Reported) or a gap in graph; N/A: Not Available.

\*Specified medications include: antipsychotics, opioids, benzodiazepines (oral), and antidepressants (including TCAs and trazodone). Refer to [page 17](#) for more details.

**Positive framing**  
No. patients for whom care generally in line with guidelines (high-risk medication avoided)

**Comparator**  
Ontario median

#deRx2018  
@Nicola\_McCleary  
@TOH\_CIR

Comparator  
Top quartile



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# Process evaluation alongside the A&F trial

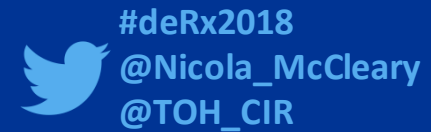
- While the trial will evaluate whether the feedback improves performance, it will not be able to tell us **how** this occurred
- Process evaluations are used to help understand how complex interventions work<sup>1</sup>



- One of the process evaluation aims
  - Explore the contextual factors shaping how LTC physicians use the report as part of their practice: **interviews**

<sup>1</sup>Moore et al. (2015)

# Process evaluation: interviews



- All Ontario LTC physicians who accessed their report, completed a questionnaire, and indicated interest were invited to take part
- 267 physicians received a report; 89 accessed report; 33 completed questionnaire; 5 physicians interviewed
  - 3 received positive-frame report with top quartile comparator
  - 2 received negative-frame report with median comparator
- Questions focused on:
  - A&F report use and ideas for improvement
  - Understanding how the report might achieve change
- Interviews coded by two independent researchers & key themes identified
- Many themes: will introduce two today



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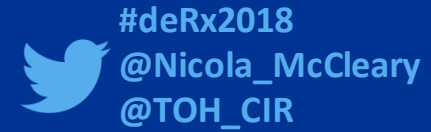


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# Including a higher target has potential to encourage further deprescribing



- Those compared to the Ontario average and also those compared to the top 25% aimed to achieve similar prescribing rates to the comparator
- Top 25% comparator was higher target

*“The useful information for me is that either I am using less or I’m using the same as others... in Ontario... that’s good enough” (LTC4, negative, median)*

*“Well I just feel that, when I’m at the 75th percentile or better, I maybe don’t put as much emphasis on it... because often there’s a certain amount that you will never be able to remove” (LTC1, positive, top quartile)*

- BUT... Participants considered their deprescribing targets in context of their individual residents & principles of patient-centred care

*“Each one of my patients in long-term care is an individual... and in my opinion every person deserves an individual attention and individual consideration and... I didn’t want to get into the habit of changing my prescribing habits because I want to lower my overall numbers.” (LTC3, negative, median)*



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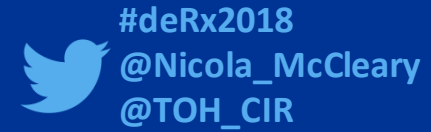


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# Feedback provided in a positive frame is not immediately actionable



- Those receiving positively-framed report found it difficult and time-consuming to interpret
- Preferred negatively-framed report: format matches others and is more practical

*“...a little bit confusing... how many of my residents are **safe** from the risks of falls... you have to think about it a little bit more... you’re saying “if my percentage is lower that’s **not** good.”... I almost prefer the other way.... just because that’s the way it’s reported, you know, in our PAC meetings and it’s reported in CIHI that way so it’s almost like it would be better to be, you know, kind of universal... I had to sort of figure it out.... I think the negative has more impact... it’s a little bit easier to visualize.” (LTC5, positive, top quartile)*



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# Summary & key lessons for A&F design

- Ongoing trial to assess effects of two aspects of A&F design on high-risk medication prescribing rates in long-term care
  - Framing of performance (positive vs. negative)
  - Standard used for comparison (median vs. top quartile)

BEHAVIOUR: “Long-term care physicians appropriately adjusting prescribing for antipsychotics for the residents in their long-term care facility over the next month”

- Process evaluation alongside trial to explore contextual factors shaping how physicians use the report: interviews
- Including a comparator representing a higher target has the potential to encourage further deprescribing, but balance with patient-centred care important
- Use negative framing: feedback provided in a positive frame is not immediately actionable




Questions?

# A final thought...

- Most implementation interventions focus on engaging providers to analyse their practice and modify where appropriate
- We don't analytically think about everything we do, so conscious reflection alone might be inadequate for change to occur
- Another approach from psychology that could be helpful: dual process approach
- Two cognitive processes operate to guide thinking and behaviour: 'fast' and 'slow' thinking

**'FAST'**  
automatic,  
experiential,  
intuitive  
**'System one'**



THINKING,  
FAST AND SLOW  
  
DANIEL  
KAHNEMAN  
WINNER OF THE NOBEL PRIZE IN ECONOMICS

**'SLOW'**  
effortful,  
analytical,  
intentional  
**'System two'**

# An everyday example...



- Learning: new information, overwhelmed, 'slow' thinking
- Now: highly experienced: same tasks, 'fast thinking'
- Automatic routine: expertise & environment
- Routines good, but may need updating: difficult to do



# Applying dual process approaches to deprescribing

- Providers perform certain actions repeatedly; same locations and colleagues; time pressure, resource constraints, competing demands
- To deal with this, develop automatic routines: don't need to analytically think about everything
- Good: conserves cognitive resources for when they are especially needed
- However, routines ingrained: hard to change: introducing deprescribing likely requires changes to these routines
- Dual process approaches could perhaps help tackle this
  - Combining the traditional intervention focus on analytical thinking with intervention components which target routines impeding deprescribing



*Brehaut & Eva (2012); Evans (2008); Kahneman (2011);  
Nilsen et al. (2012); Presseau et al. (2014);  
Sladek et al. (2006)*



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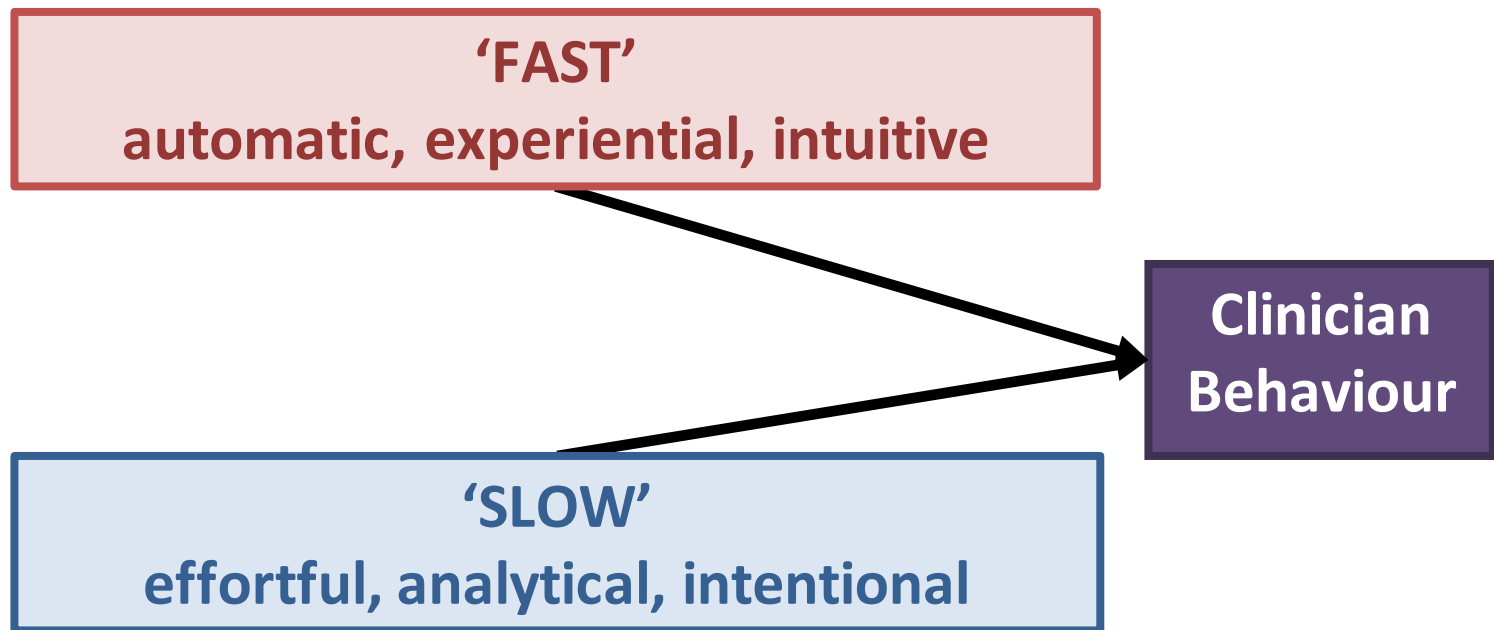
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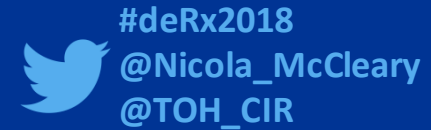
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# Dual process approaches in implementation

- Centre for Implementation Research: in process of developing a research agenda
- Potential for collaboration



# Take-home messages



1. Evidence-based clinical guidelines necessary but not sufficient to change practice: need targeted dissemination & implementation efforts
2. Implementation requires people to change the way they do things: behaviour change approaches can help
3. Process for developing & evaluating behaviour change interventions
  - a) Determine whose behaviour need to change, and which behaviours
  - b) Investigate barriers & enablers to behaviour change
  - c) Select behaviour change techniques best suited to target barriers & enablers
  - d) Select appropriate outcome measures to show practice change
4. Audit & feedback: implementation intervention with proven effectiveness: opportunities to use theory, evidence, and design approaches to optimise
5. Process evaluations help us understand how complex interventions work
6. Two systems (fast & automatic; slow & analytical) guide thoughts and behaviour
7. Lots of behaviour driven by automatic routines based on experience and prompted by aspects of environment: difficult to change
  - Dual process approaches could help: combining traditional intervention focus on intentions and analytical thinking with intervention components targeting routines impeding change



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