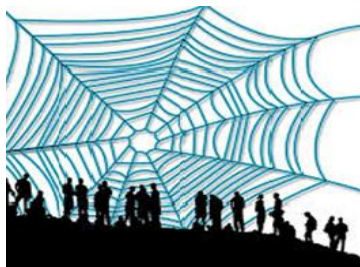


SPIDER, a Structured approach to quality improvement for deprescribing: feasibility evaluation



TRILLIUM CONFERENCE
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Disclosures

Faculty: **Michelle Greiver**

Relationship with financial sponsors:

Funded grants, research or clinical trials:

Canadian Institutes of Health Research (CIHR) SPOR
Operating Grants for SPIDER: C\$1M + C\$1.6M match
Astra-Zeneca: grant for an unrelated project (severe
asthma registry)

Membership on advisory boards or speakers' bureaus: **None**

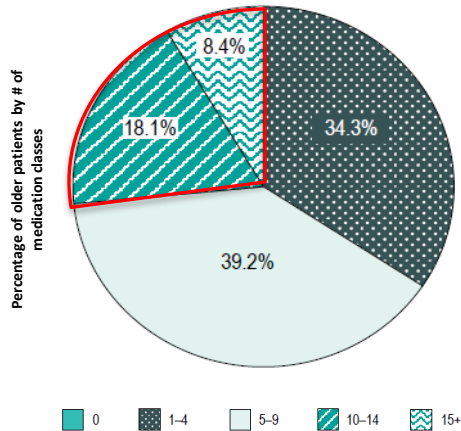
Patents for drugs or devices: **None**

Other: **None**

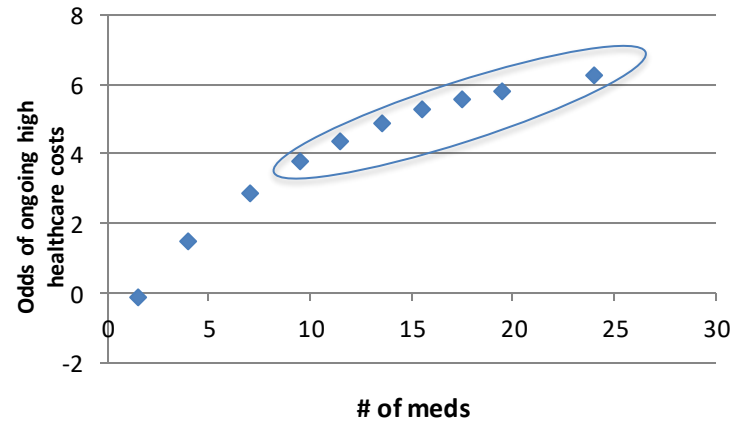
Background

➤ Polypharmacy amongst seniors is prevalent

- **1 out of 4 Canadian seniors (26.5%)** fill prescriptions for **10+ different meds** each year¹
- # of meds prescribed to a patient is the single most reliable index of **persistent complexity** after age²
 - 10+ meds prescribed for seniors is strongly associated with **high care needs for 3 consecutive years**: specificity = 95.3%²



1. Canadian Institute for Health Information. *Drug Use Among Seniors in Canada*, 2016. Ottawa, ON: CIHI; 2018.



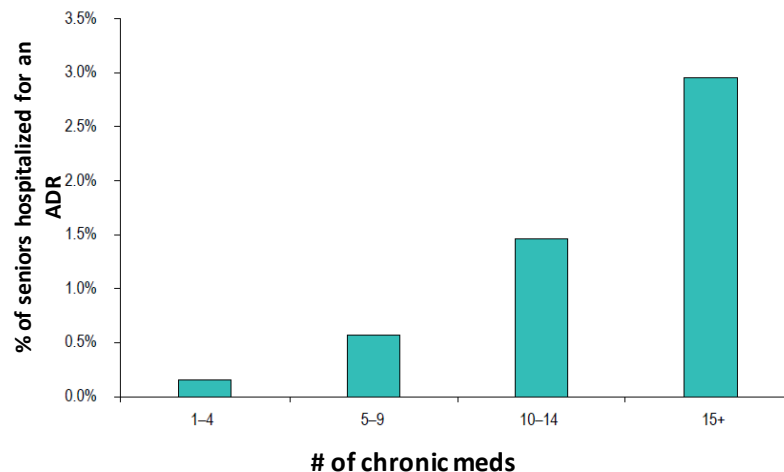
2. Dahrouge S, Wodchis W. Identifying high users in Ontario - an algorithm for use in primary care practices. *in preparation*

Background

- There is an association between **# of meds** dispensed to seniors and **proportion of Adverse Drug Reaction (ADR)** related hospitalizations¹
- Seniors using **10+ different meds** accounted for **58.6%** of ADR-related hospitalizations

➤ Polypharmacy amongst seniors is associated with

- ↑ risk of negative patient outcomes
 - Falls, ADRs, drug-drug interactions, ED visits and hospitalizations
- ↑ healthcare costs



1. Canadian Institute for Health Information. *Drug Use Among Seniors in Canada, 2016*. Ottawa, ON: CIHI; 2018.

Background

➤ What to improve?

○ Medication Appropriateness:

○ ↓ use of potentially inappropriate meds

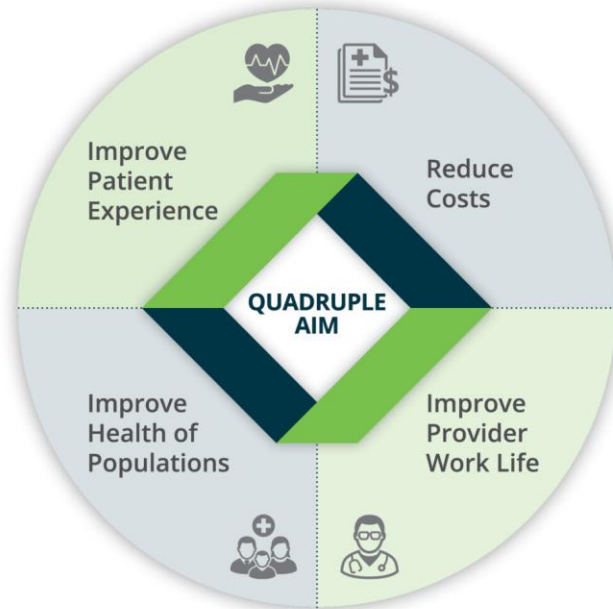
- PPIs
- benzos/Z-drugs
- antipsychotics
- sulfonylureas

➤ How could we improve?

○ SPIDER*: evidence-based QI initiatives

➤ How to measure the impact?

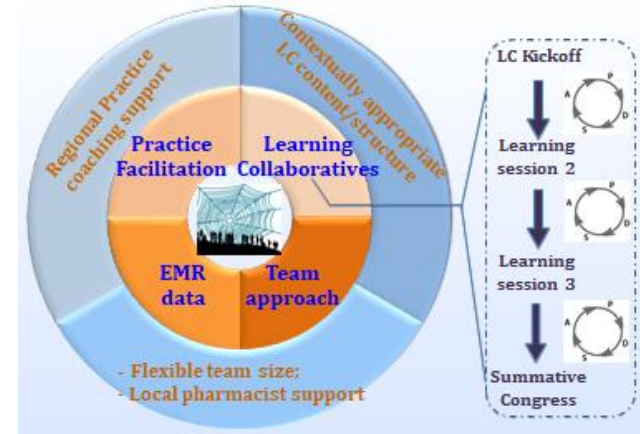
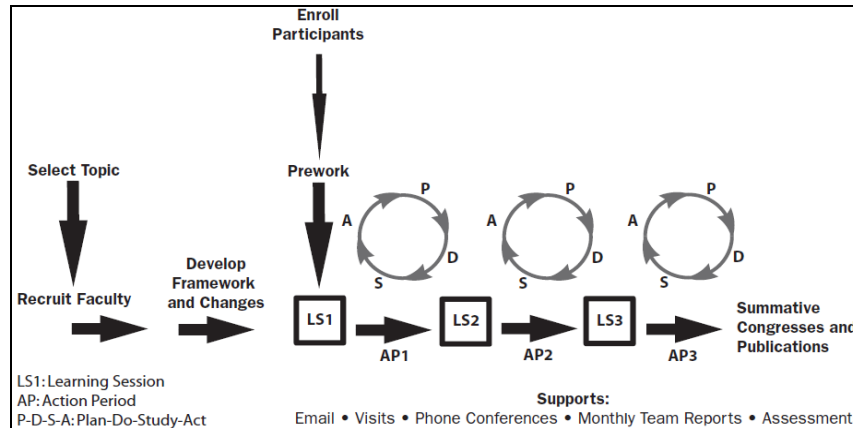
○ Quadruple Aim



**SPIDER: Structured Process Informed by Data, Evidence and Research*

The SPIDER approach

- Based on IHI's Breakthrough Series Model
- Core elements: Learning Collaboratives, coaching, EMR data for audit & feedback
- **Feasibility study (3 PBRNs)** → clustered pragmatic RCTs (7 PBRNs)



Measures for feasibility

➤ Feasibility across 7 dimensions

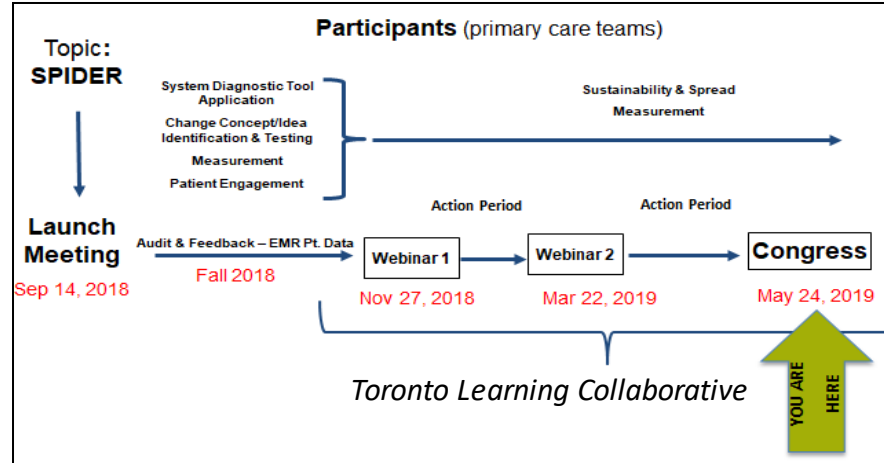
- Demand
- Implementation
- Adaptation
- Integration
- Practicality
- Acceptability
- Efficacy

Demand

Sites							
PBRNs	# approached	#declined/no response	# enrolled	# withdrawn	Total	Target	# enrolled /# approached
UTOPIAN (Toronto)	15	5	10	0	10	8	67%
NAPCReN (Edmonton)	8	4	4	1	3	8	50%
RRSPUM (Montreal)	4	0	4	0	4	8	100%
Total	27	9	18	1	17	24	67%

	Toronto	Edmonton	Montreal	Total
FPs	33	8	21	62
NPs	3		5	8
Nurses	4	1		5
Pharmacists	8		4	12
PAs	1			1
QI agent	2	3	2	7
Residents	4	6		10
Admin	2	1	2	5
Patients partners			5	5
Total participants	57	19	39	115

Implementation



Outcome measure	Data Source	Method and timing of data collection
Ability to apply the SPIDER elements as planned	Coordinator's log	Maintained by RC and QI coach
Implementation facilitators and barriers; best practices	Coordinator's log/ QI coach log	

Audit and feedback
Coaching notes
Learning Collaborative

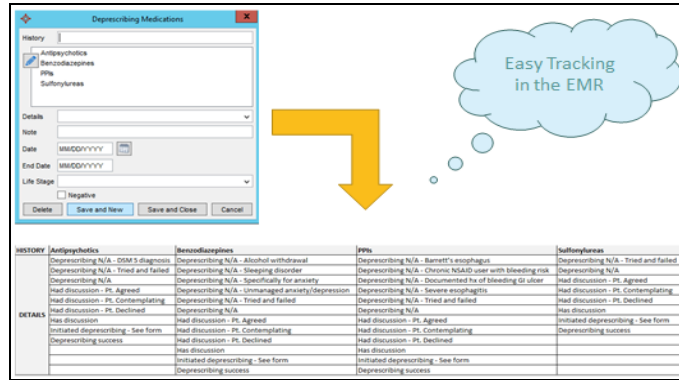
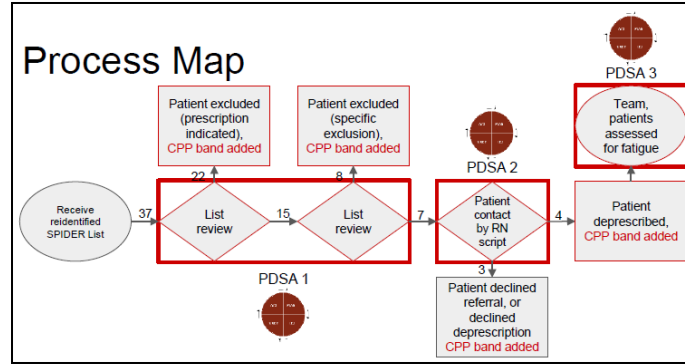
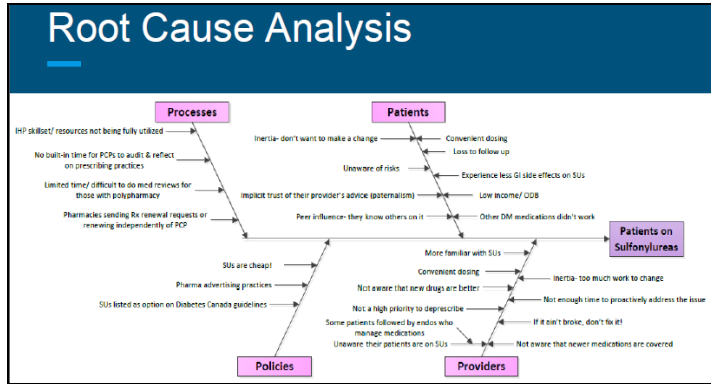
Yes
In some settings (Toronto)
In some settings (Toronto); Scheduling was difficult

Adaptation, integration, practicality

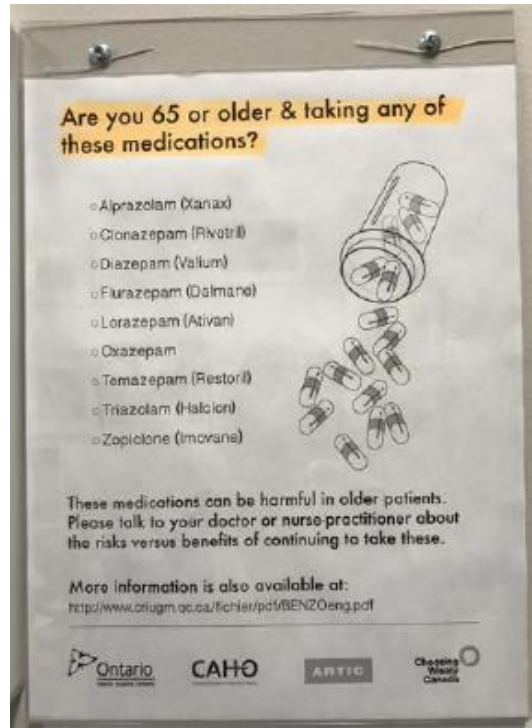
Outcome measure	Data Source	Method and timing of data collection
Ability to integrate the process into existing practice	Semi-structured interview with selected practices	Interview, post LC

- **Change strategies varied**
 - Dependent on local context (capacity, resources and previous experience in QI)
 - Solutions focused on
 - **Cleaning medication data in EMR**
 - Adding **functionalities in EMR**: e.g., CPP band, side panel, flag SPIDER patients
 - Improving **documentation** of discussion and shared decision-making: e.g., customized deprescribing form
 - Enhancing **routine medication reconciliation**: e.g., appointments specifically for med reconciliation/deprescription
- Access to a Pharmacist was a key enabler

What participants did



What participants did



Assessment for Sulfonylurea Deprescribing				
Last DM Visit:		Original Prescriber: Choose item.		
Last HbA1C:		Current Provider: Choose item.		
Measured on:				
HbA1C target:				
At target:		Choose item.		
Diabetes Management				
	Current	Stopped	N/A	Additional Details (e.g. current doses, adjustments, side-effects/intolerance)
Acubose	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
DPP4i	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
GLP1RA	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Inodin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Meglitide	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Metformin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
SGLT2i	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sulfonylurea	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
T2D	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Symptoms of Hypoglycemia

☐ No known hypoglycemic episodes
☐ Asymptomatic hypoglycemia
☐ Episodes requiring third party assistance

Other adverse effects:

☐ Anxiety
☐ Concentration issues
☐ Confusion
☐ Dizziness
☐ Drowsiness
☐ Hunger
☐ Nausea

☐ Palpitations
☐ Speech issues
☐ Sweating
☐ Tugging
☐ Tremor
☐ Vision Changes
☐ Weakness

Please list previous deprescribing attempts and outcomes

Assessment and Plan
 To the best of our knowledge, is the patient an appropriate candidate for sulfonylurea deprescribing? ☐ Yes ☐ No

Please comment on rationale below:

If yes, discussion with patient about deprescribing was initiated, and Choose item.
 If patient is agreeable, next steps include:

☐ Follow-up booked
☐ Patient resources provided, [infographic](#) and [handout](#) from deprescribing.org

Resources for providers
[Deprescribing Algorithm](#)
[Quick Practice Guidelines](#)

Acceptability

- High level of engagement
 - **High willingness to share** and high degree of collaboration
 - Teams' work documents were shared between sites
 - Under-resourced teams received external pharmacist support: e.g., the solo practice and the CHC
 - Higher than anticipated **access to coaching** support
 - The majority had a monthly hour-long meeting with the coach
 - Engagement of **FM residents**

Efficacy

Toronto

- Average # of pts/physician: 24 (range 6-116)
- Number of PIPs/patient: 1 (SD .8)

Efficacy

Absolute reduction in PIP prevalence per patient*

3.6% ($p = n. s.$)

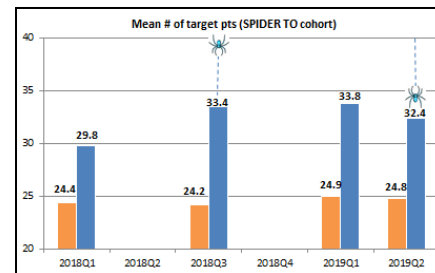
Absolute reduction in % of patients with at least 1 PIP

1.4% ($p = n. s.$)

Network	Baseline surveys completed	PCP enrolled	percentage
Edmonton	15	20	75%
Toronto	25	58	43%
Total	40	78	51%

* PIP prevalence =

$\frac{\# \text{ of PIP in target population}}{\# \text{ of patients in target population}}$



■ SPIDER TO cohort Mean ■ UTOPIAN cohort2 Mean

Patient participants			
PBRNs	# approached	#declined/no response	# enrolled
UTOPIAN	70	67	3
NAPCReN	0	0	0
RRSPUM	0	0	0
Total	70	67	3

Conclusions

- Feedback and coaching can be implemented in practice
- Learning Collaboratives may present scheduling challenges
- Team resources were needed to support the intervention
- Access to **coaching support and pharmacist services** were important
- **SPIDER was feasible, with a trend towards improved outcomes**
- Pandemic required shift to **Virtual Learning Collaboratives** during RCT
- We used what we learned for the RCT

Thank You!

Questions?

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<https://www.spiderdeprescribing.com/>