

Academic detailing to improve appropriate opioid prescribing: a mixed-methods process evaluation

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Abstract

Background: Academic detailing, an educational outreach service for family physicians, was funded by the Ontario government to address gaps in opioid prescribing and pain management. We sought to evaluate the impact of academic detailing on opioid prescribing, and to understand how and why academic detailing may have influenced opioid prescribing.

Methods: In this mixed-methods study, we collected quantitative and qualitative data concurrently from 2017 to 2019 in Ontario, Canada. We analyzed prescribing outcomes descriptively for a sample of participating physicians and compared them with a matched control group. We invited physicians to participate in qualitative interviews to discuss their experiences in academic detailing. Development and analysis of qualitative interviews was informed by the Theoretical Domains Framework. We triangulated qualitative and quantitative findings to understand the mechanisms that drove changes in opioid prescribing.

Results: Physicians receiving academic detailing ($n = 238$) achieved a greater reduction in opioid prescribing than matched controls ($n = 238$). Seventeen physicians completed interviews and reported that academic detailing addressed barriers to pain care, including lack of confidence, difficult interactions with patients and prescribing and tapering decisions. Academic detailing reinforced knowledge about opioid prescribing and pain management. Discussion of complex patients and talking points to use during challenging conversations were described as key drivers of practice change.

Interpretation: The findings of this real-world, mixed-methods evaluation explain how an academic detailing service addressed key barriers and enablers to limit high-risk opioid prescribing in primary care. This nuanced understanding will be used to inform, spread and scale academic detailing.

Canada has the highest rate of prescription opioid dispensing per capita internationally, highlighting the growing need for implementing and evaluating management supports for chronic, non-cancer pain (henceforth, pain) across its health system.¹⁻⁵ In the province of Ontario, a large proportion of prescription opioids originate from the primary care sector, with about 7 million opioid prescriptions from primary care providers filled in 2016.⁶

Managing pain and opioid therapy is complex, operating amidst conflicting tensions that challenge the balance between patient-centred care and guideline-concordant prescribing.⁷ Numerous interventions for behaviour change have been implemented to support primary care, yet gaps between knowledge and practice in opioid prescribing and pain management persist. Academic detailing is an evidence-based approach that effectively addresses knowledge-to-practice gaps to improve prescribing behaviours and evidence-based, guideline-concordant care.^{8,9} This approach leverages the techniques of persuasive communication that are characteristic of commercial detailing and adapts them to deliver health care providers with balanced comparative information.¹⁰

Although this approach is promising, whether and how academic detailing can affect pain management and opioid prescribing among family physicians in Ontario remains unclear.

Rigorous evaluations of quality improvement interventions are needed to ensure they effectively address the known drivers of prescribing, as well as the barriers family physicians encounter in applying knowledge to practice.^{11,12} In Ontario, an academic detailing service for interested family physicians was launched in 2018, covering 3 specific topics, namely the management of patients with chronic non-cancer pain on existing opioid therapies, those considering opioid therapy

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and alternatives and those with problematic opioid use or opioid use disorder. Academic detailers spent up to 3 visits with family physicians covering these topics, as determined by providers' needs. Detailers were Ontario-licensed pharmacists trained in both clinical evidence and the service-oriented academic detailing approach. The Centre for Effective Practice, an independent not-for-profit organization focused on supporting primary care providers in Ontario, was responsible for the delivery of the academic detailing service.¹³ We sought to evaluate the impact of the academic detailing service on select opioid prescribing outcomes through analyzing pharmacy claims data and understand how and why the academic detailing service influenced (or failed to influence) opioid prescribing behaviours through qualitative interviews with family physicians who participated in the academic detailing service.

Methods

Study design

A mixed-methods process evaluation was embedded alongside the implementation of the academic detailing service in primary care. The concurrent triangulation design allowed for qualitative and quantitative data to be collected concurrently and compared at the end of all data collection.¹⁴ The members of the research team (L.D., N.K., C.C., N.I. and M.T.) were responsible for conducting the evaluation, independent from the Centre for Effective Practice. We followed both the Consolidated Criteria for Reporting Qualitative Research (COREQ)¹⁵ and the Standards for Quality Improvement Reporting Excellence (SQUIRE) 2.0 to report the methods and findings.¹⁶

This process evaluation was embedded within a larger, system-level evaluation comparing the academic detailing service and other interventions. The findings from this evaluation will be used to inform the outcomes for the system-level evaluation. For this study, we conducted a longitudinal analysis of prescribing outcomes with 4-month observation windows (Figure 1). These windows included baseline (T0, before launch), time 1 (T1, 2–6 mo after launch), time 2 (T2, 8–12 mo after launch) and time 3 (T3, 14–18 mo after launch). We collected data between November 2017 and August 2019. We conducted qualitative semistructured interviews with participants of the academic detailing service during T2, and used results to inform and interpret the quantitative analysis.

Study setting and intervention

The academic detailing service was offered to family physicians in Ontario, Canada. As of 2018, around 14747 family physicians were working in Ontario.¹⁷ Family physicians across Ontario were notified that the service was available to them through various outreach efforts (e.g., survey, email invitations, word of mouth, information sheet at the end of each academic detailing visit), and interested family physicians volunteered to participate by contacting their local academic detailer (trained Ontario-licensed pharmacists) directly or by signing up through the Centre for Effective Practice's website. Participating family physicians received 1-on-1, in-person visits by their local academic detailer who worked to understand the physician's knowledge gaps and barriers to change, and who tailored the discussion of evidence-based information, community supports and practice resources around a series of key messages targeting behaviour change (Appendix 1, Supplementary File 1, available at www.cmajopen.ca/content/11/5/E932/suppl/DC1). There were 19 detailers and each detailer supported 12–115 family physicians. Additional details about the academic detailing service can be found in Appendix 1, Supplementary File 1.

Study recruitment

Quantitative data

Family physicians were informed of the evaluation by their academic detailer, who provided a study information sheet at the end of each visit. Family physicians were given the option to opt out of the evaluation. We included all family physicians who participated in the academic detailing service and who did not opt out in the analysis at the start of data collection (T1). There were no other exclusion criteria.

Qualitative data

A routine survey, administered by the Centre for Effective Practice about 8 months after launch of the academic detailing service, provided an opportunity for family physicians to express interest in participating in a qualitative interview. Email invitations were also sent over the course of qualitative data collection by the Centre for Effective Practice to potential participants. We used purposive sampling (e.g., surveys and email invitations directed to specific family physicians) for qualitative interviewing to enable variation

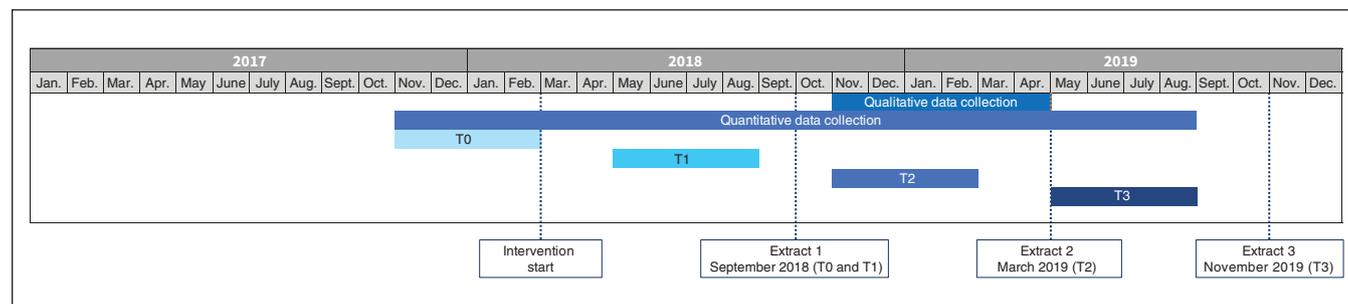


Figure 1: Data collection timeline. Note: T0 = baseline (4 mo before launch), T1 = time 1 (2–6 mo after launch, May to August 2018), T2 = time 2 (8–12 mo after launch, November 2018 to February 2019), T3 = time 3 (14–18 mo after launch, May 2019 to August 2019).

in years of practice, gender and geography. Detailers made initial contact through email or in person to confirm participants' interest and direct them to the research team. Participant recruitment continued until we reached saturation of themes.¹⁸

Data collection

Quantitative data

Quantitative data were available for the 18-month period following intervention launch. Previous work suggested that about 6 months were needed to observe practice change;¹⁹ therefore, we included a subsample of family physicians who had participated in the first 6 months of the academic detailing service. We created a 1-to-1 matched control group — matched on geography, years since graduation, specialty and baseline prescribing behaviour — to control for potential factors influencing prescribing rates over time. Control participants were available in the data sets analyzed. Baseline prescribing behaviour was based on total opioid prescribing and average morphine equivalent dose.

Quantitative prescribing outcomes of interest included the mean morphine equivalent opioid dose per prescription, the total number of high-risk opioid prescriptions (defined as > 200 mg morphine equivalent dose), the number of patients on high-dose or low-dose opioid prescriptions and the average days' supply (prescription duration) per patient. These outcomes were measured using the IQVIA Xponent and Longitudinal Prescription data sets, which contain prescription claims data, linked with encrypted identifiers for family physicians.²⁰ The Xponent database captured 55%–59% of outpatient prescriptions dispensed by community pharmacies in Ontario during the time frame of the study. IQVIA uses aggregated claims and sales data and applies a proprietary geospatial extrapolation algorithm to project to 100% of all prescriptions. IQVIA projection methodology is internally validated, but not publicly available (Matthew Norton, IQVIA Canada, personal communication, 2023). The Longitudinal Prescription data set includes longitudinal, patient-level prescription data, and directly measures the prescriptions dispensed at pharmacies in Ontario. The Xponent data set is also sourced from pharmacies in Ontario and contains information on prescriptions. These data sets have been commonly used in other studies measuring prescribing trends.^{21–23} A detailed description of metrics used and the calculation and data source for each, can be found in Appendix 2, Supplementary File 2, available at www.cmajopen.ca/content/11/5/932/suppl/DC1.

Qualitative data

We collected qualitative data over a 6-month time period (T2), which was 9–14 months after intervention launch (Figure 1). We conducted semistructured interviews with participating family physicians to explore their perceptions and experiences of the academic detailing service. We developed an interview guide based on the academic detailing curriculum and included questions that asked family physicians to describe

their experience and learning from the academic detailing service. The interview guide was informed by the Theoretical Domains Framework, which offers a theory-informed approach to identifying determinants of a behaviour (Appendix 3, Supplementary File 3, available at www.cmajopen.ca/content/11/5/E932/suppl/DC1).^{24,25} We selected this framework as it aligned with our objective to understand how and why the academic detailing service influenced opioid prescribing behaviours and because it has been applied previously in the context of understanding prescribing behaviours.^{19,26,27} A member of the research team with no potential relationship to eligible participants and expertise in qualitative research (N.K.) conducted interviews over the phone in English; interviews were audio-recorded and transcribed by a third party. At the beginning of the interview, we collected participants' demographic information.

Data analysis

Quantitative data

We conducted a descriptive analysis to quantify changes. We used repeated-measures analysis of variance (ANOVA) to compare longitudinal changes between treatment groups, where the 4 observation time points (baseline, T1, T2, T3) were accounted for using within-subject effects and differences between academic detailing and control groups were accounted for as between-subject effects. A *p* value less than 0.05 indicated a statistically significant difference in outcome measurements over time between the 2 treatment groups. We analyzed quantitative data in Microsoft Excel and SPSS.

Qualitative data

We coded deidentified transcripts in Microsoft Word using the comments feature. We analyzed transcripts using a 2-step approach, first using a directed content analysis by applying domains of the Theoretical Domains Framework as deductive codes.^{28–32} We used qualitative description to develop themes close to the data.^{33,34} We generated inductive codes when data did not align with the Theoretical Domains Framework. Two reviewers (L.D., N.K.) independently reviewed and coded the first 5 transcripts. Codes were compared for consistency and conflicts were resolved through discussion. Once consensus was reached, we generated a codebook and 1 reviewer (N.K.) coded the remaining transcripts. The second reviewer (L.D.) randomly reviewed coded excerpts from the transcript and assisted with iterative theme development. Once initial themes were generated, a third team member (N.I.) was engaged to further refine the themes and explore the drivers of success from a clinical perspective. We used qualitative findings to understand the effects observed in the quantitative data, including the mechanisms that drove change (or lack thereof) in quantitative outcomes.

Ethics approval

This study received approval from the Women's College Hospital Research Ethics Board.

Table 1: Participant baseline characteristics			
Characteristic	No. (%) of participants*		Cohen <i>d</i> †
	Intervention <i>n</i> = 238	Matched control <i>n</i> = 238	
Sex, female	113 (47)	83 (35)	0.724
Age, yr, mean ± SD	46.0 ± 13.4	49.2 ± 14.9	−0.226
Years in practice, mean ± SD	22.0 ± 13.4	25.2 ± 14.9	−0.226
Daily dose per patient, mean ± SD	83.3 ± 365.0	81.3 ± 163.1	0.007
Days supply (prescription duration) per patient, mean ± SD	23.9 ± 13.0	23.4 ± 14.4	0.036
No. of patients on opioids, mean ± SD	41.0 ± 37.3	39.9 ± 31.6	0.032
No. of patients on opioids by type, mean ± SD			
Buprenorphine	1.6 ± 1.0	1.7 ± 1.6	−0.075
Codeine	16.7 ± 17.3	16.5 ± 15.1	0.012
Fentanyl	2.3 ± 1.7	2.1 ± 1.5	0.125
Hydromorphone	8.9 ± 9.0	8.1 ± 7.7	0.096
Meperidine	1.6 ± 1.1	1.6 ± 0.9	0.000
Methadone	1.0 ± 0.0	4.0 ± 5.2	−0.816
Morphine	3.1 ± 2.7	3.4 ± 4.1	−0.086
Oxycodone	12.4 ± 17.2	13.1 ± 12.1	−0.047
Pentazocine	1.1 ± 0.3	1.0 ± 0.0	0.471
Tapentadol	1.3 ± 0.7	1.5 ± 1.0	−0.232
Tramadol	6.6 ± 6.3	7.1 ± 8.1	−0.069

Note: SD = standard deviation.
 *Unless indicated otherwise.
 †A Cohen *d* value greater than 0.1 was considered meaningfully different.

Results

We included 238 detailed physicians and 238 matched controls in the quantitative analysis. Baseline characteristics of the detailed physician and matched control groups are described in Table 1. At baseline, the matched control group had a lower proportion of females and an average age and time in practice that were both 3.2 years greater than the intervention group. Both groups had a similar mean daily dose per patient, days supply and number of patients on opioids.

Quantitative data

Over the 18-month observation period, detailed physicians had a 18.9% reduction in the mean morphine equivalent dose of opioids per prescription, compared with a 18.2% increase among matched controls (Figure 2). A 50.4% reduction in total number of high-risk opioid prescriptions (> 200 mg morphine equivalent dose) was also observed among detailed physicians, compared with a 7.7% increase in the matched control group at T3 (Figure 3). In the detailed physician group, the number of patients on low-dose opioid prescriptions (< 50 mg morphine equivalent dose) slightly decreased by T3 and the number of patients on high-dose opioid prescriptions (≥ 50 mg morphine equivalent dose)

decreased more rapidly. The matched control group experienced an increase in low-dose and high-dose prescriptions from T2 to T3 (Figure 4). Finally, the change in average days supply (prescription duration) per patient was −1.3% in the detailed physician group, while the change in the matched control group was −1.2%. After completing repeated measures ANOVA on all dependent variables, there was a statistically significant difference in morphine equivalent opioid dose per prescription between the detailed physician and control groups ($F_{3,472} = 5.57, p < 0.05$; Wilk $\Lambda = 0.966$). However, there were no statistically significant differences in the number of high-risk opioid prescriptions, number of patients on low-dose and high-dose prescriptions and total average days supply per patient between detailed physicians and the matched controls (Table 2).

Qualitative data

We interviewed a total of 17 family physicians. Interviews ranged from 27 to 45 minutes. Nine participants were female, with most practising in urban settings (Table 3). Two key themes helped to describe the quantitative data, including the knowledge-to-practice gaps before academic detailing and the impact of the academic detailing intervention on these gaps.

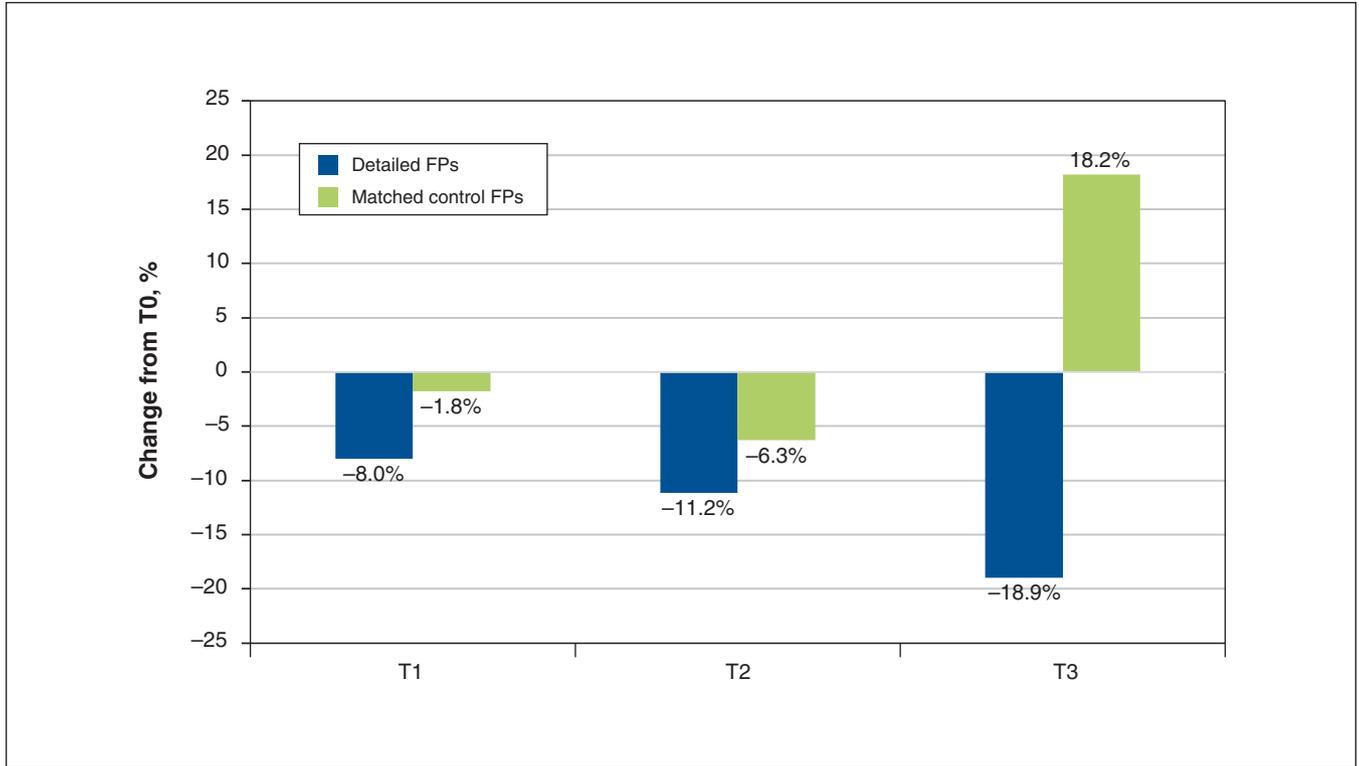


Figure 2: Change in mean morphine equivalent opioid dose per prescription. Note: FP = family physician, T0 = baseline (4 mo before launch), T1 = time 1 (2–6 mo after launch, May to August 2018), T2 = time 2 (8–12 mo after launch, November 2018 to February 2019), T3 = time 3 (14–18 mo after launch, May 2019 to August 2019).

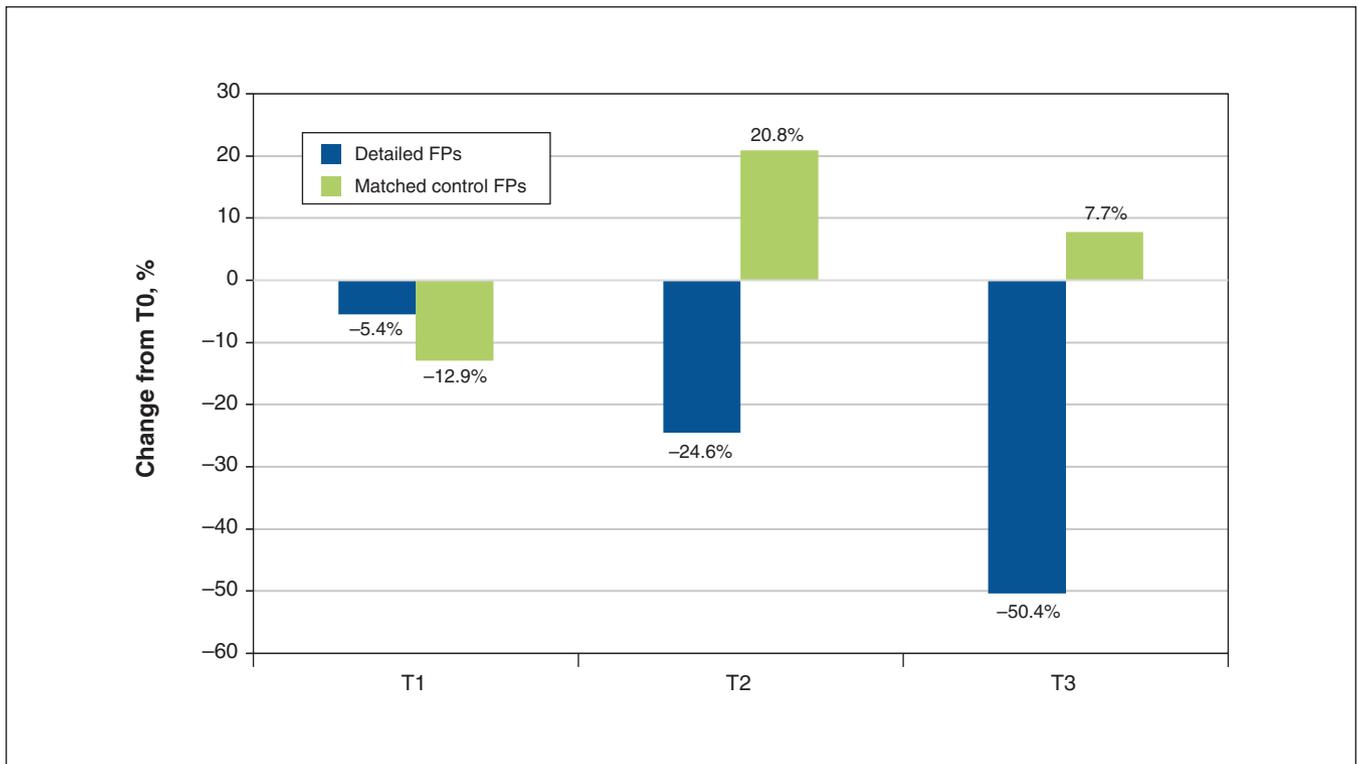


Figure 3: Change in total number of high-risk opioid prescriptions (defined as > 200 mg morphine equivalent dose). Note: FP = family physician, T0 = baseline (4 mo before launch), T1 = time 1 (2–6 mo after launch, May to August 2018), T2 = time 2 (8–12 mo after launch, November 2018 to February 2019), T3 = time 3 (14–18 mo after launch, May 2019 to August 2019).

Understanding gaps in practice before academic detailing

Tensions between professional role and skills

Family physicians' perceived professional role in pain management was to optimize function rather than reducing pain, although this was inconsistently achieved. Misinformation regarding medication alternatives, the desire to make a tapering plan but the inability to create and implement one that they would feel confident with, and lack of skills to implement known nonpharmacological alternatives to opioids created challenges to effective pain management. This disconnect between family physicians' perceived professional role and suboptimal skills led to unproductive and potentially harmful emotions before, during and after interactions with patients (Table 4, quote 1).

Emotions at the core of the therapeutic relationship

Frustration, stress and angst were routine emotions that often extended beyond the patient interaction. Several family physicians described delays in starting tapering or avoiding addressing opioid management altogether in response to these emotions. In addition, the empathy that family physicians felt for their patient often led to anxiety and were described as "patients that keep you up at night" (Table 4, quote 2).

Lack of confidence in optimal pain management

The downstream effects of a perceived lack of skills to address opioids in practice, a conflict in professional role and identity, and the emotions experienced during patient encounters led to suboptimal situations, including the adoption of a rigid model of care whereby family physicians

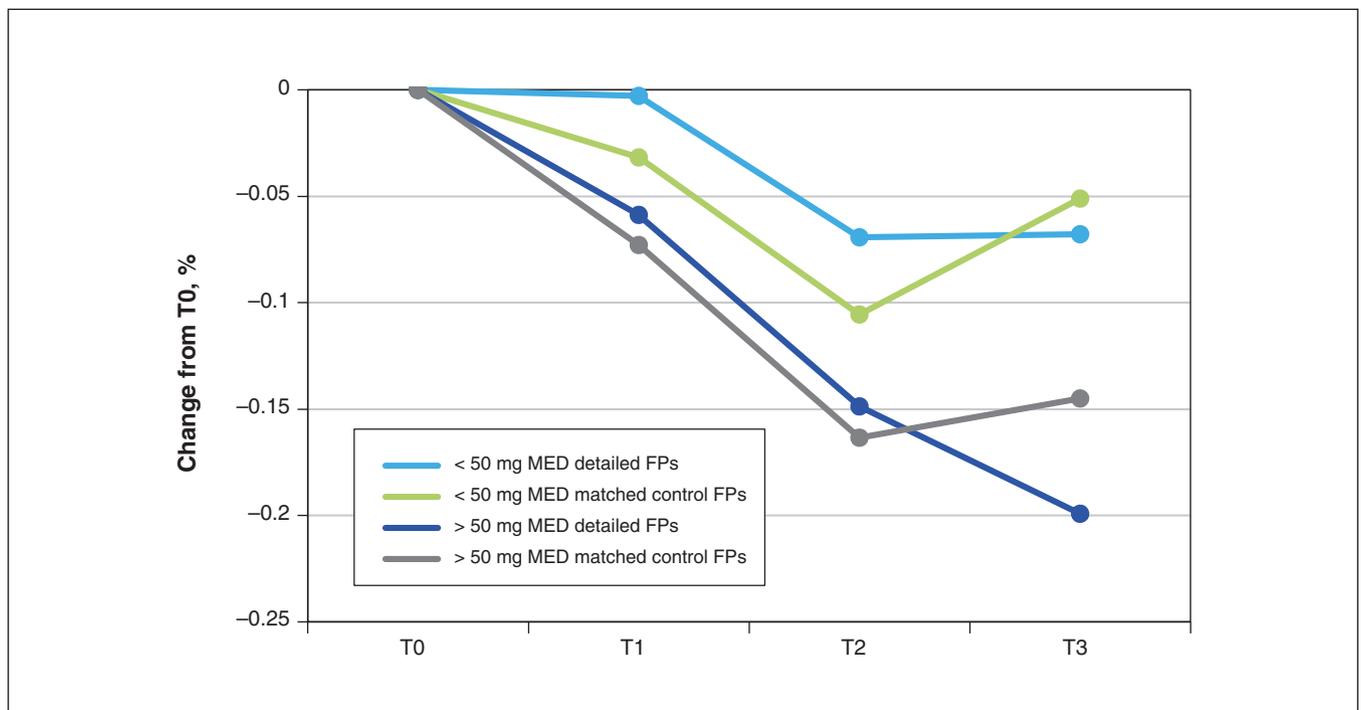


Figure 4: Change in total number of patients on low-dose (< 50 mg morphine equivalent dose [MED]) and high-dose (> 50 mg morphine equivalent dose) prescriptions. Note: FP = family physician, T0 = baseline (4 mo before launch), T1 = time 1 (2–6 mo after launch, May to August 2018), T2 = time 2 (8–12 mo after launch, November 2018 to February 2019), T3 = time 3 (14–18 mo after launch, May 2019 to August 2019).

Outcome	Mean value	F value	Hypothesis DF	Error DF	p value
Mean morphine equivalent opioid dose per prescription	0.966	5.57	3	472	0.0009
No. of high-risk opioid prescriptions (> 200 mg morphine equivalent dose)	0.993	1.13	3	472	0.3384
No. of patients on low-dose opioid prescriptions	0.988	1.85	3	472	0.1376
No. of patients on high-dose opioid prescriptions	0.988	1.89	3	472	0.1302
Total average days supply (prescription duration) per patient	0.992	1.3	3	472	0.2729

Note: DF = degrees of freedom.
*From repeated-measures analysis of variance.

turned away potentially problematic patients or refused to prescribe opioids altogether. It also led to ineffective and emotionally charged conversations during the clinical encounter, with the potential to damage the immediate therapeutic relationship. Family physicians' beliefs about capabilities in effectively managing pain were mostly negative, contributing to a negative feedback loop (Figure 5).

In Figure 5, emotion is portrayed as affecting all aspects of the loop. Lack of confidence and negative beliefs regarding opioid prescribing and pain management can lead to avoidant behaviour, challenging conversations or inaction, which affect the patient's access to care and emotions.

Understanding the impact of academic detailing

Family physicians described the academic detailing intervention's lack of bias, the practicality and convenience, the approachable manner of the detailer and the tailored and flexible approach to topics discussed.

Table 3: Interview participant characteristics

Characteristic	No. (%) of participants n = 17*
Sex (self-identified)	
Female	9 (53)
Male	8 (47)
Years in practice, mean (range)	22 (3.5–41)
Practice funding model	
Fee-for-service	7 (41)
Capitation	9 (53)
Hourly	1 (6)
Practice location	
Urban	15 (88)
Rural	2 (12)
No. of academic detailing visits	
2	7 (41)
3	10 (59)

*Nine detailers are represented.

Bridging the knowledge-to-practice gap

Many family physicians described familiarity with the knowledge presented in the academic detailing visit through other resources, workshops and self-learning. Academic detailing reinforced this knowledge but, more importantly, allowed for skill development (i.e., moved beyond knowledge provision to support the application of knowledge-to-practice), specifically, navigating challenging patient conversations — the missing link in many other resources (Table 4, quote 3).

Enabling a proactive versus reactive approach

In the past, family physicians reacted to patients' problems, whereas new knowledge and skills now enabled them to anticipate negative or adverse events and act to mitigate them. Reviewing explicit talking points with their detailer allowed for more effective patient interactions. Academic detailing brought a wealth of existing evidence, knowledge of other programs and practical resources together in an accessible format that linked family physicians to system resources that addressed their needs.

Increasing confidence in chronic noncancer pain management

Family physicians' beliefs about capabilities improved through reinforced knowledge and skill development (Figure 6). The resources, strategies and tools provided through the academic detailing visit were tailored to the unique family physician. Active discussions allowed for a focus on high-risk and complex patients who were previously avoided or kept on the same treatment plans.

In Figure 6, emotion is portrayed again as affecting all aspects of the loop. Increased confidence and positive beliefs regarding opioid prescribing and pain management may lead to proactive behaviour, conversation attempts and tapering, rotation or referral attempts to manage ongoing or new opioid therapy, and thus to increased access for patients and a more willing and positive interaction.

Academic detailing helped diffuse emotion through the discussion of ideas for navigating challenging patient conversations with supporting printed material. It is important to note that emotional elements were not completely resolved for some family physicians. This gradual reduction of negative emotions in relation to challenging patient conversations

Table 4: Supporting participant quotes

Quote ID	Theme	Quote
1	Tensions between professional role and skills	"So, there's this angst of oh no, right, how is this going to go? Is the patient going to be angry, are they going to be upset, am I doing the right thing? Am I putting them at risk by titrating back or you know, am I reducing harm by doing this or are there other things to consider?" (P05)
2	Emotions at the core of the therapeutic relationship	"The patients that keep you up at night ... the ones that it feels like nothing else works [for]." (P08)
3	Bridging the knowledge-to-practice gap	"I was able to kind of give examples or talk about certain situations so that it — at the very least it reinforces that I'm on the right track. Yeah. You don't get to do that at one of these other talks." (P04)

Note: ID = identification.

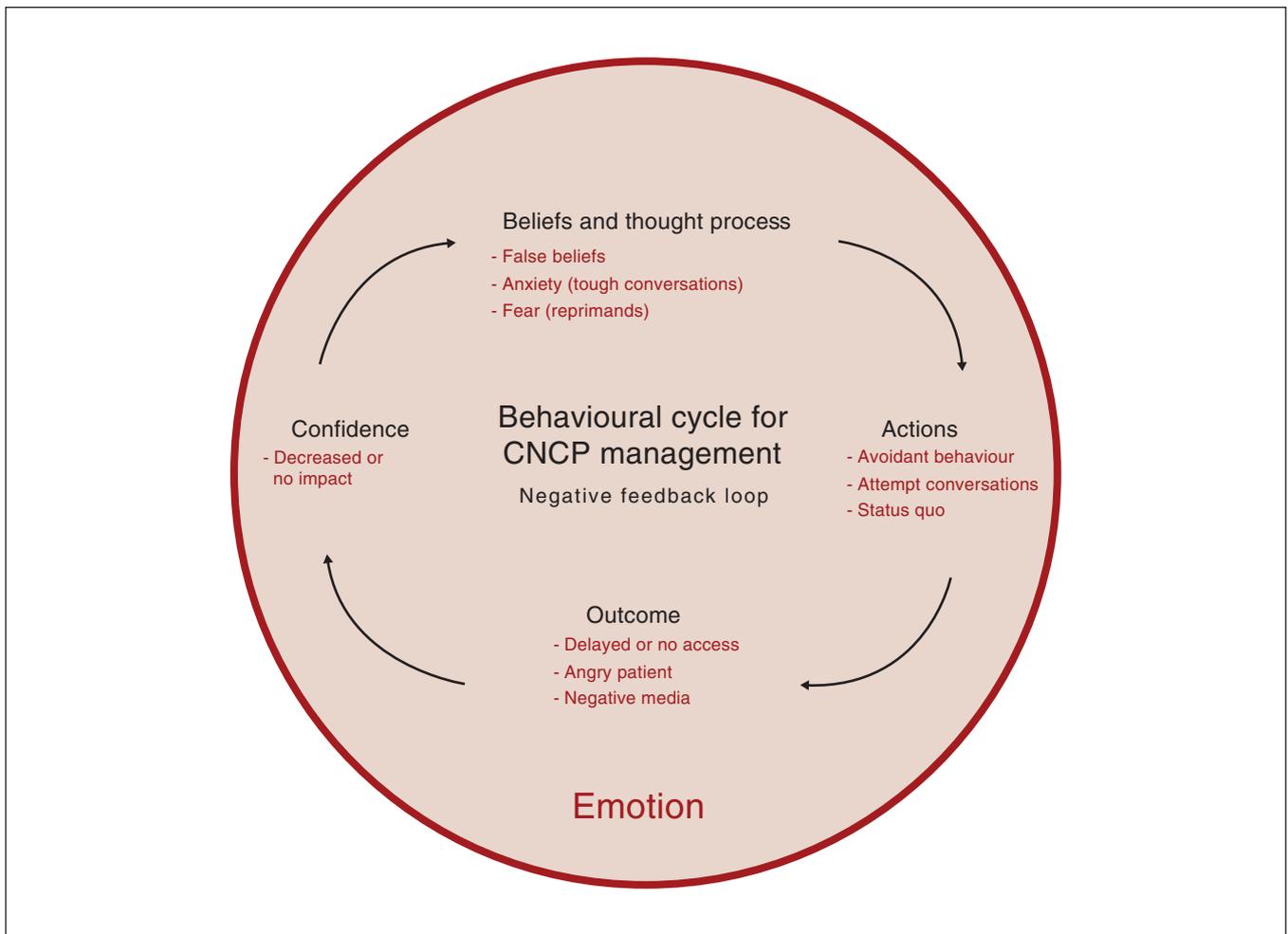


Figure 5: Negative behavioural cycle of chronic non-cancer pain (CNCP) management before the introduction of the academic detailing service.

aligned with the relative change in prescribing outcomes observed in the later stages on the intervention (18.9% reduction in the average morphine equivalent dose per prescription by T3). Family physicians described that these changes take time and require multiple patient conversations to implement.

Interpretation

This mixed-methods process evaluation showed that academic detailing for family physicians has the potential to positively affect prescribing practices and reduce harms in patients using or requiring opioids for therapy. Detailed physicians had a greater reduction in opioid prescribing patterns than matched controls. Before the academic detailing service, family physicians felt a lack of confidence in their ability to manage chronic noncancer pain, which had cascading effects on their emotions, interactions with patients and prescribing decisions. The qualitative results illustrated how the academic detailing service successfully addressed these barriers by reinforcing knowledge and developing specific skills to apply knowledge to practice. Key drivers of change included the ability to discuss deidentified complex patient cases and the provision of talking points to assist with challenging patient conversations.

The reduction in opioid prescribing patterns among detailed physicians highlighted academic detailing's unique ability to help physicians move beyond knowledge to build the skills required to address the knowledge-to-practice gap. Other interventions aimed at supporting prescriber behaviour related to opioid therapy and pain management have largely focused solely on educating the provider. These interventions have shown limited effectiveness,³⁵ suggesting that skill development plays a critical role. Family physicians are often familiar with best practice evidence but report challenges in implementing it in practice.^{11,32} Barriers include access to preferred alternatives for pain management and effectively navigating challenging patient conversations.^{11,12,31} In contrast, academic detailing equipped family physicians with the skills needed to deliver evidence-based care. Similar effects with academic detailing have been observed in reducing the risks of prescribing for various drugs, including opioids, antibiotics and sedatives.³⁶⁻³⁸ The multifaceted approach of academic detailing helps address the variability in patient cases and family physician needs, provided a tailored mechanism to address chronic non-cancer pain management and opioid therapy. Family physicians often juggle a wide range of resources when attempting to manage complex patients³⁹ and the academic detailing service brought these resources together in a tailored, streamlined way.

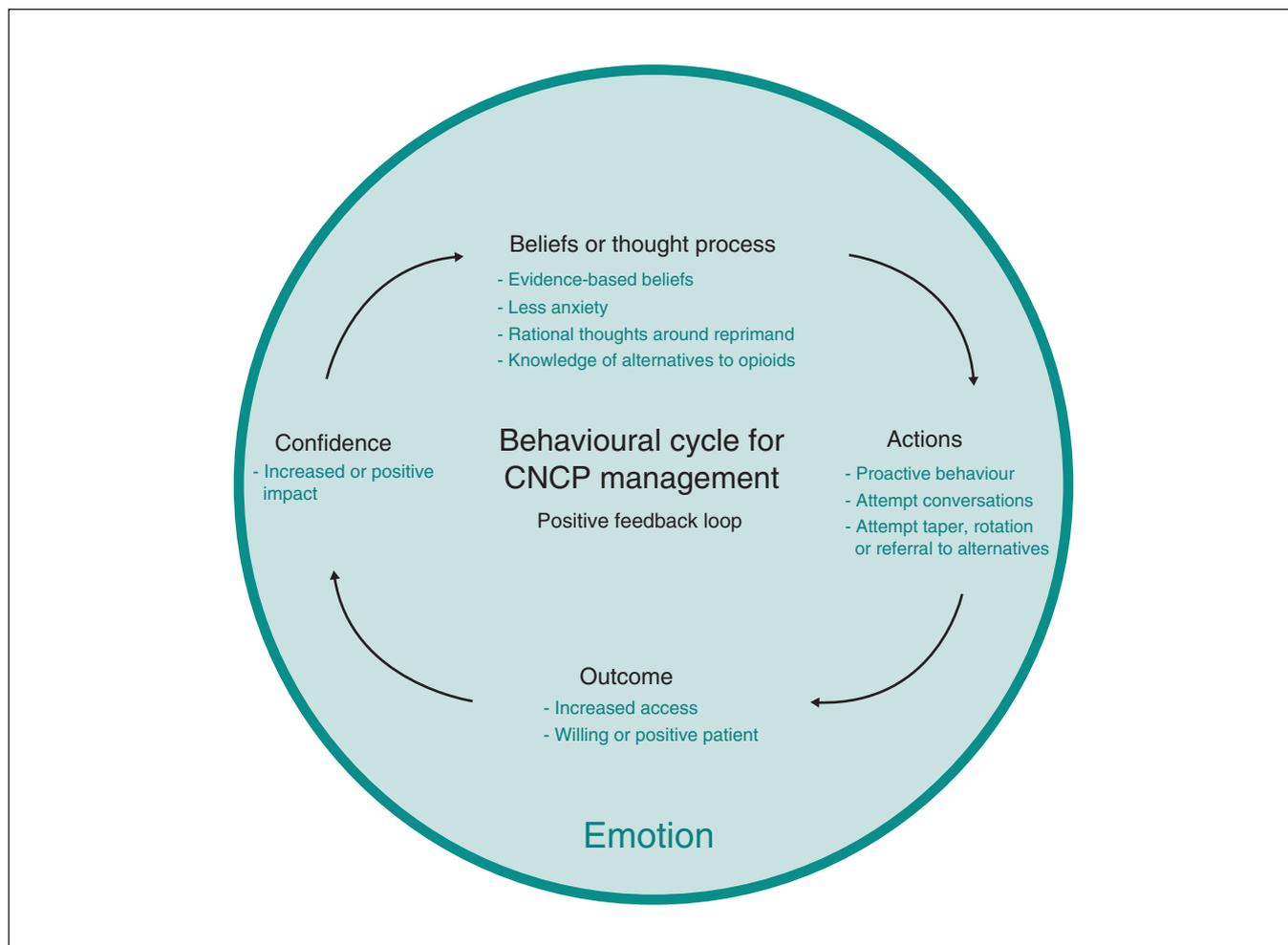


Figure 6: Positive behavioural cycle of chronic non-cancer pain (CNCP) management after the introduction of the academic detailing service.

Limitations

The data sources used for the quantitative analysis were incomplete as they did not capture all outpatient prescriptions. However, IQVIA applied a proprietary methodology to project 100% of outpatient prescriptions. A limitation of the controlled before–after quantitative design used is the risk of unidentified confounders as a result of not randomizing groups, such as the geographic areas in which family physicians work, patient type, years since graduation, age, years of practice, prescriptions for opioid use disorder and the average age of patients. The matched control group differed slightly from the detailed physician group in gender. It is possible that the differences seen between groups are a result of random sampling variability. In addition, as 19 detailers supported 12–115 family physicians, it is possible that detailer heterogeneity could induce a clustering, creating type 1 errors. The qualitative sample was biased toward family physicians in urban practices. The planned larger evaluation is needed to validate these findings among a broader population.

This subsequent evaluation will also compare the impact of academic detailing to the impact of another intervention present in the Ontario health care system, specifically audit and feedback, on family physicians’ prescribing of opioids for

patients living with chronic noncancer pain. The insights from this process evaluation will inform the design of this larger, system-level evaluation. A key focus will be the identification of behaviour change techniques and implementation strategies that were effective in changing behaviour, to further unpack the mechanisms of impact of the academic detailing service.

Conclusion

The Centre for Effective Practice’s academic detailing service gave family physicians actionable strategies, resources and practical guidance to implement more appropriate chronic noncancer pain management and opioid prescribing, while addressing the negative emotions often experienced in relation to this topic. The analyses suggest a decrease in prescribed opioids and high-risk prescriptions among detailed physicians when compared with matched controls. Family physicians described improved ability to apply the guidelines in practice (skills), increased levels of confidence (beliefs about capabilities) and more positive approaches and engagement with patients (emotion). This resulted in targeted skill development, meaningful practice change, family physician autonomy and reduced risk of unintended consequences.

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