McMaster University

Family Medicine

@McMasterFamMed

Knowledge to Action Cycle: In Action

A project to support access to treatment for people with opioid use disorder in correctional facilities

Claire Bodkin, Erin Beaulieu, Fiona Kouyoumdjian, Marina Sadik

February 28, 2022

Michael G. DeGroote SCHOOL OF MEDICINE

Land Acknowledgement

Objectives

- To provide an overview of the knowledge-to-action cycle
- To demonstrate the KTA cycle in practice, using the CRISM project as an example
- To apply KT concepts through an interactive activity

Agenda

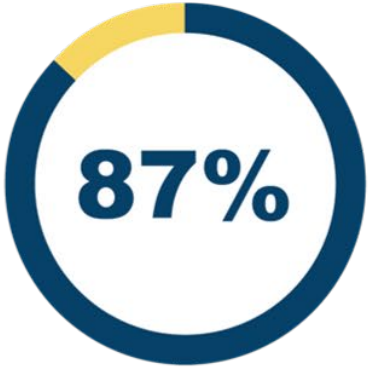
- Case scenario: The Opioid Poisoning Crisis
- KT and KTA cycle overview
- CRISM project as an example

Agenda

- **Case scenario: The Opioid Poisoning Crisis**
- KT and KTA cycle overview
- CRISM project as an example

2,426 opioid-related deaths occurred in 2020, a 60% rise from 1,517 deaths in 2019

There was a **79% increase** in monthly opioid-related deaths in 2020, from **139 deaths in February 2020** to **249 deaths in December 2020**.



Fentanyl directly contributed to 87% of opioid-related deaths during the pandemic, compared to 75% before the pandemic.

The involvement of all other opioids, particularly **methadone**, **hydromorphone**, **oxycodone**, and **morphine**, did not increase during this time.

Ontario, 2000 to 2012:

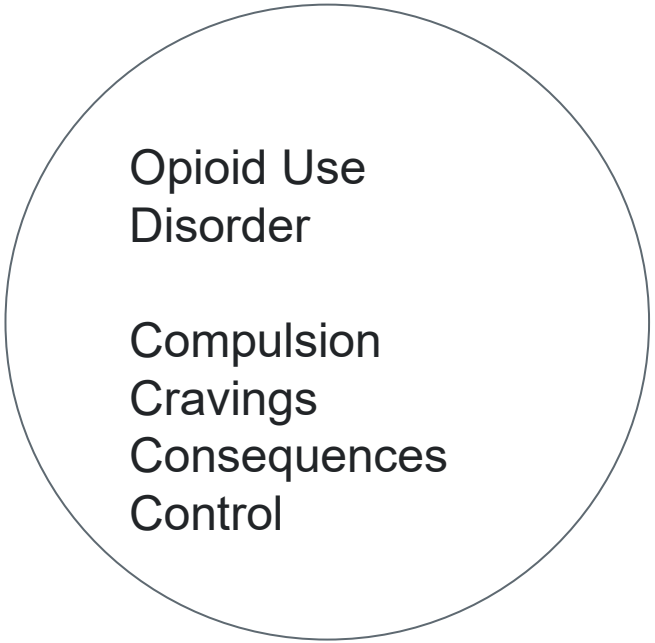
2 weeks after release, standardized mortality ratio 5.7

overall and 56 for overdose death

50%

Increase in the number of opioid-related deaths **among those recently released from a correctional facility** during the pandemic.

McMaster University



GUIDELINE VULNERABLE POPULATIONS CPD

Management of opioid use disorders: a national clinical practice guideline

Addiction
Original research

Rates of opioid agonist treatment prescribing in provincial prisons in Ontario, Canada, 2015–2018: a repeated cross-sectional analysis

Claire Bodkin [1], Susan Bondy [2], Leonora Regenstreif [1], Lori Kiefer [2, 3], Fiona Kouyoumdjian [1]

WORST CASE SCE

Knowledge Immobilization

How can we ensure the ***worst possible outcome*** for ***translating research*** on buprenorphine-naloxone prescribing in prison ***into action?***

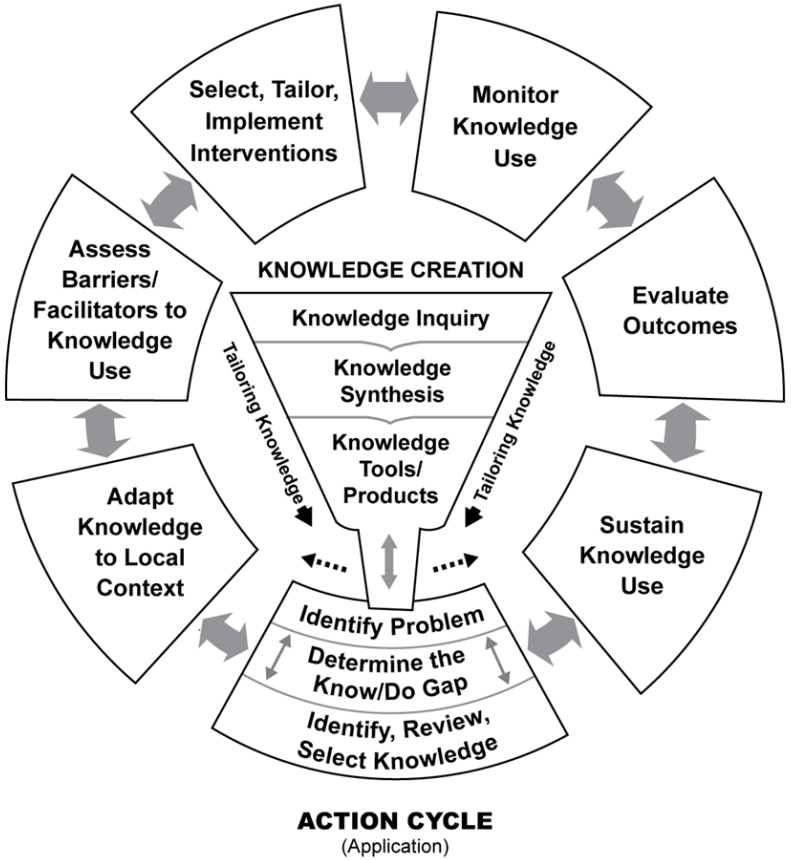
Get creative!

Go to menti.com and use the code [xxx xxx]

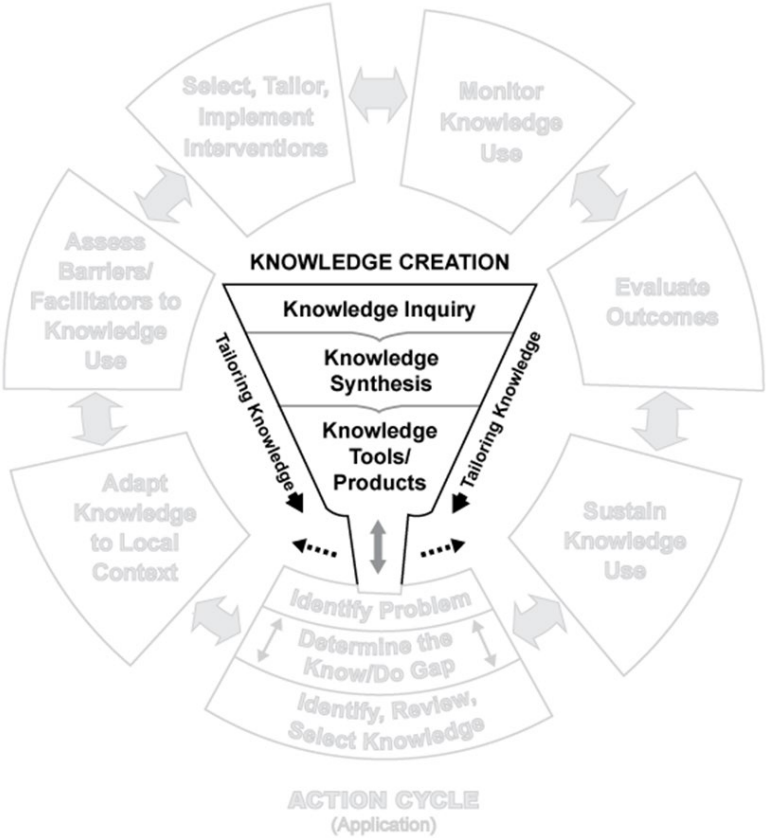
Agenda

- Case scenario: The Opioid Poisoning Crisis
- **KT and KTA cycle overview**
- CRISM project as an example

Knowledge to Action Cycle

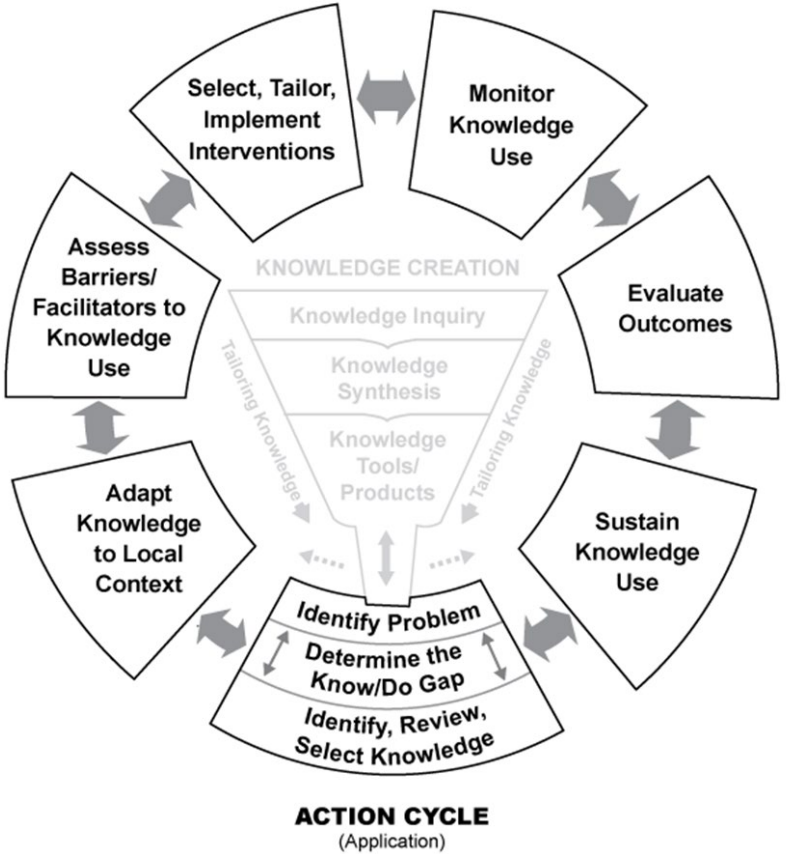


Knowledge Creation



Knowledge Creation

Action Cycle



Using the KTA framework

- Used to guide or describe the process of translating research into action
- Can help make your KT activities more systematic
- Depending on the project and available resources:
  - Can use all or parts of the framework
  - Can be combined or adapted by with other frameworks

Agenda

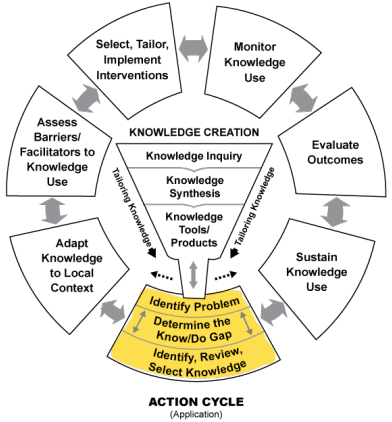
- Case scenario: The Opioid Poisoning Crisis
- KT and KTA cycle overview
- **CRISM project as an example**

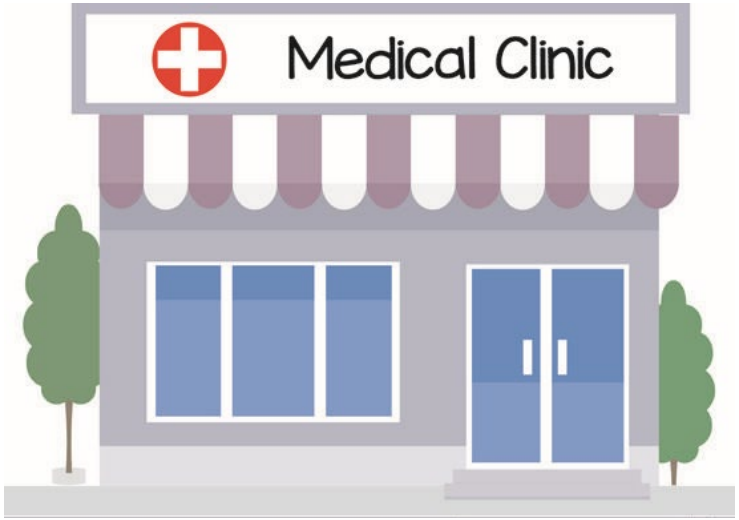
Our CRISM Project

Our CRISM Project

- *Objective:*
  - To develop evidence-based tools for health care providers in provincial correctional facilities in Ontario to facilitate the adoption of best practices for buprenorphine/naloxone treatment initiation.
- *Project team:*
  - Dr. Fiona Kouyoumdjian
  - Dr. Lori Regenstreif
  - Dr. Claire Bodkin
  - Dr. Lori Kiefer, Senior Medical Consultant in the Ontario Ministry of the Solicitor General
  - Erin Beaulieu
  - Marina Sadik

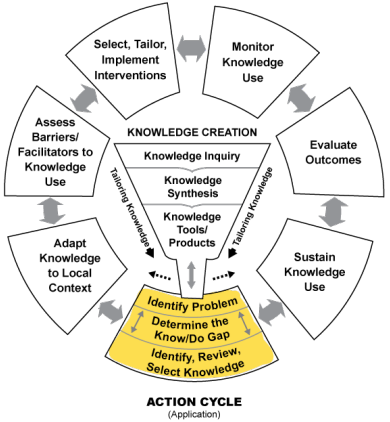
Identify the problem or knowledge gap





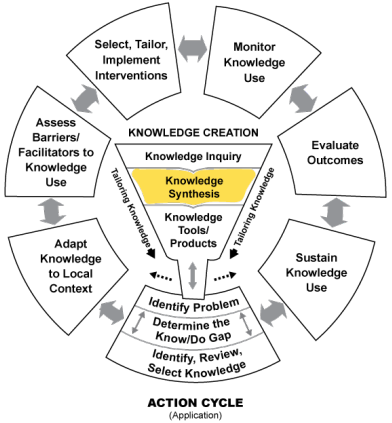
Identify the problem or knowledge gap

- Inconsistent access to treatment
- Current guidelines/tools do not address scenarios encountered in corrections
- Lack of guidelines



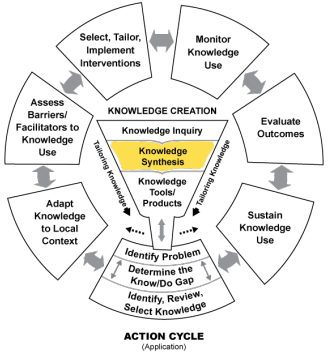
Synthesize knowledge

Study	Study type
(Garcia et al., 2007)	Intervention with no control group: daily bup/nal in prison and post-release
(Springer et al., 2010)	Intervention with no control group (nested in an RCT) comparing outcomes pre- and post- bup/nal treatment
(Zaller et al., 2013)	Intervention with two non-randomized groups: pre- and post-release initiation of treatment
(Vocci et al., 2015) (Gordon et al., 2014)	RCTof in-prison buprenorphine treatment vs. counselling only (series of 12 weekly sessions)



Synthesize knowledge

Study	Study type	Participants	Treatment procedures†	Efficacy
(Garcia et al., 2007)	Intervention with no control group: daily bup/nal in prison and post-release	42 males in total, most were opioid tolerant, with ~6 months prior to release	Treatment initiated pre-release. Opioid nontolerant participants were initiated at 2mg, and increased by 2mg increments prn. Participants were assessed 1x/week in first month, then every 2 weeks until release. Goal was to reach a therapeutic dose and to eliminate cravings.	Results were not stratified by opioid tolerance. Comparing drug use in the 30 days before incarceration and the 30 days after release, those who remained on treatment (n=33) reported a median reduction in days of drug use of 22 for heroin use and 25 for cocaine use, whereas those who did not remain in treatment (n=9) reported no reduction in days of heroin or cocaine use after release.
(Springer et al., 2010)	Intervention with no control group (nested in an RCT) comparing outcomes pre- and post- bup/nal treatment	People with HIV and OUD: 23 received bup/nal: 18 males and 5 females	Treatment initiated around the day of release. Initial dose was 2mg and dose was increased by 2mg prn. Participants were assessed daily during induction and monthly thereafter.	91% of participants completed induction and 74% completed 12-week treatment. Likert scale rating of opioid craving reduced from a mean of 6.0/10 to 2.2/10 and satisfaction level was 9.5/10 throughout the 12 weeks. For those who completed induction, no change in undetectable viral load for those in treatment at 12 weeks compared to baseline: 61% vs. 63% $\log_{10}$ copies/mL, or negative urine drug screen: 83% vs. 71%.
(Zaller et al., 2013)	Intervention with two non-randomized groups: pre- and post-release initiation of treatment	44 people: 37 males and 7 females	12 subjects started treatment within 2 weeks pre-release and 32 subjects started treatment 3 days post-release. Dose was adjusted based on symptom review.	For those who initiated treatment in prison vs. post-release, mean time to first post-release prescriber appointment was 3.9 vs. 8.8 days. At the study conclusion 6 months after release, 91% of those who initiated treatment in prison remained in treatment vs. and median post-release treatment duration was 24 vs. 9 weeks.
(Vocci et al., 2015) (Gordon et al., 2014)	RCTof in-prison buprenorphine treatment vs. counselling only (series of 12 weekly sessions)	211 people with heroin dependence prior to imprisonment: 148 males and 63 females	Treatment initiated 3-9 months pre-release. The standard protocol was induction at 1mg, then dose increased 1 mg/week to 4mg, then 2mg/week to 8mg, then to 16mg after 2 weeks and administered every other day. If tolerated, dosing was changed to 3x/week. Dosing was changed based on side effects and patient requests.	Results were not stratified for those who were not opioid tolerant. Compared with those randomized to counseling only, those randomized to the buprenorphine treatment group were more likely to initiate treatment in prison: 99.0% started buprenorphine vs. 80.4% started counselling, and to continue treatment in the community after release: 47.5% vs. 33.7%. There was no difference in completing treatment in prison: 61.5% of the buprenorphine group remained in treatment at release vs. 63.6% of those randomized to counselling only.



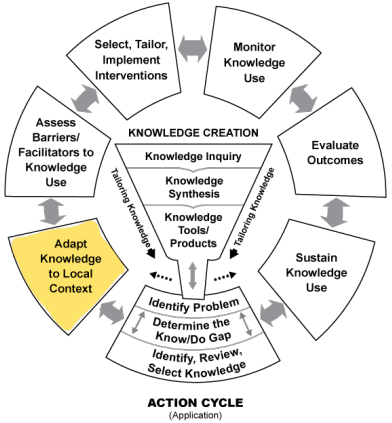
Adapt knowledge to a local context

Health care providers

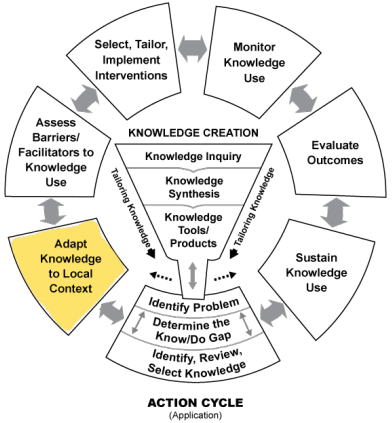
Project team

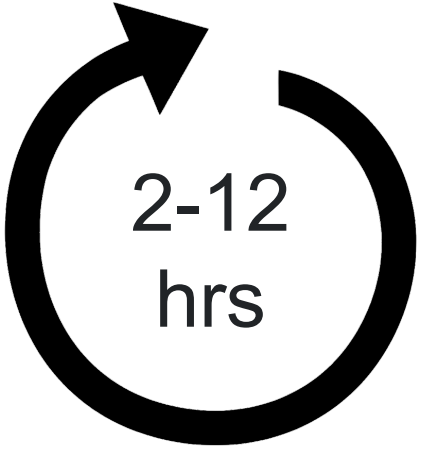
People with lived experience

Ministry of the Solicitor General

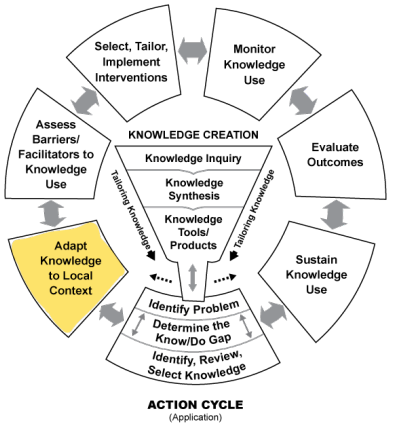


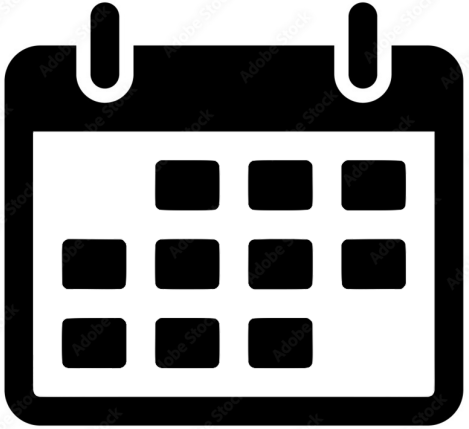
Local adaptations we made



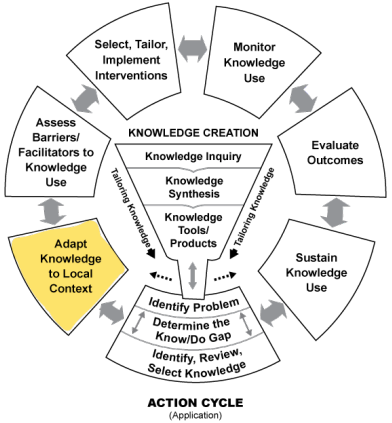


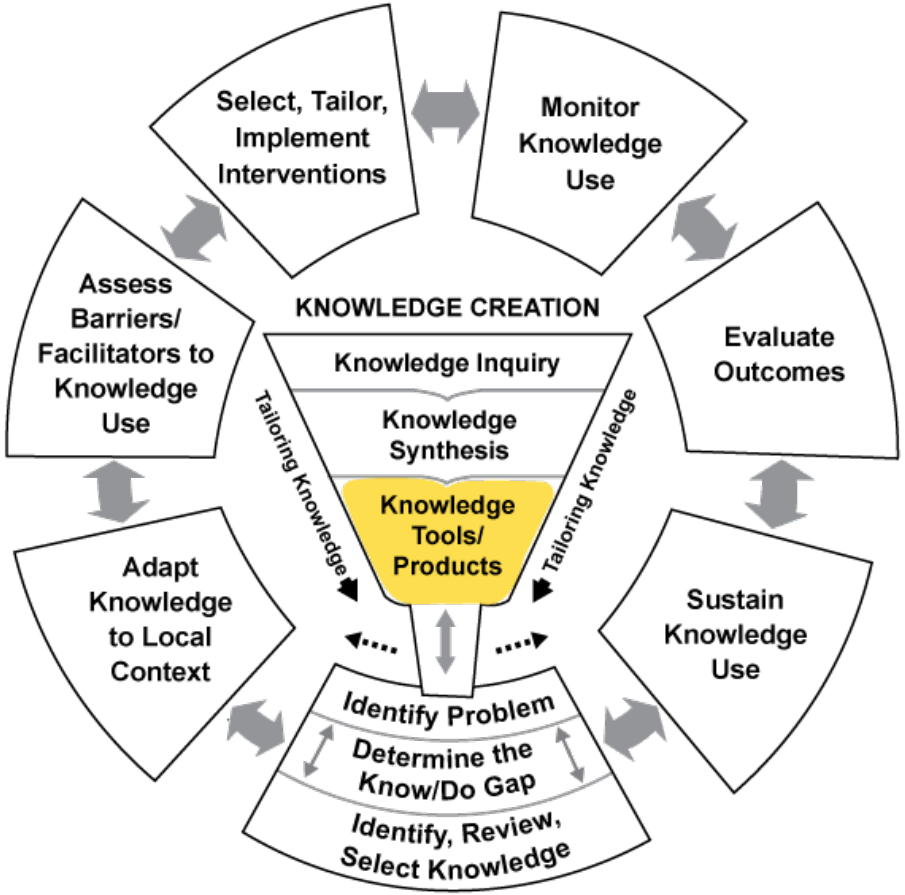
Local adaptations we made





Local adaptations we made





ACTION CYCLE
(Application)

Initiating buprenorphine/naloxone (bup/nal) in correctional facilities

1. **Screen for opioid use disorder (OUD) according to DSM-V criteria***
2. **Assess most recent use of substances** including but not limited to opioids
3. **Assess Clinical Opiate Withdrawal Scale (COWS)***
4. **Assess for contraindications**
   - Allergy to buprenorphine/naloxone
   - Severe respiratory distress
5. **Initiate bup/nal based on guidance below**

*OUD and COWS screening tools on reverse

Dip urine
- Urine dip is recommended but not required for treatment initiation.

Order lab investigations
- Not required to start treatment.
- Consider which labs to order based on risk factors, recent testing, patient preference, and anticipated length of time in custody.
- CBC, electrolytes, Cr, AST/ALT, Hepatitis A, B, C, HIV.
- Copy clinician(s) in the community in case patient is released before results come back.

- **Obtain informed consent for treatment, including possible treatment side effects (e.g., nausea, sedation, euphoria)**
- **All patients require a plan to support access to treatment post-release**
- **Counsel regarding harm reduction in custody and post-release**

Patients in withdrawal (OUD and opioid use within 72 hours)

Indication to start bup/nal

❒ Opioid use disorder

AND

❒ No short-acting opioids for >12 hours
❒ No methadone for >48hours
❒ No fentanyl for >24hours

AND

❒ COWS score ≥ 12†
❒ No contraindications

†If COWS <12, reassess within 12-24 hours

Initiation
- Provide bup/nal 4 mg
- Reassess in 2-12 hours
- If ongoing withdrawal based on COWS score, administer an additional 2-4 mg
- Calculate and administer daily dose as per standard bup/nal treatment guidance

Reassess dose
- Reassess dose every 3-7 days and increase by 2-4 mg if indicated based on ongoing withdrawal symptoms, cravings, or non-prescribed opioid use

Patients with lost opioid tolerance (OUD and no opioid use within 72 hours)

Indication to start bup/nal

❒ Opioid use disorder

AND

❒ No opioids used for >72 hours

AND

❒ No contraindications

Initiation
- Provide bup/nal 2 mg
- Calculate and administer daily dose as per standard bup/nal treatment guidance

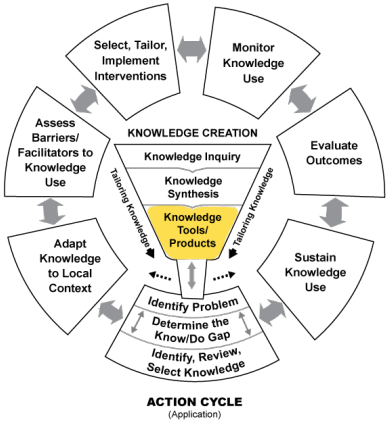
Reassess dose
- Reassess dose every 3-7 days and increase by 2 mg if indicated based on ongoing withdrawal symptoms, cravings, or non-prescribed opioid use

Precipitated withdrawal (PPWD)
- PPWD can occur with recent opioid use – usually when short-acting opioid consumed within past 12 hours, long-acting opioid (e.g. methadone, slow release oral morphine) within 24 hours. For fentanyl and methadone, at least 24 to 48 hours should elapse before starting bup/nal and start bup/nal at 1-2 mg on first day
- Presents like opioid withdrawal but occurs suddenly within 1-2 hours after dose
- Severity is dose related so start low if any concerns about most recent opioid intake

For an online interactive version of the tool visit PrisonBupStart.ca or scan the QR code with your mobile device.

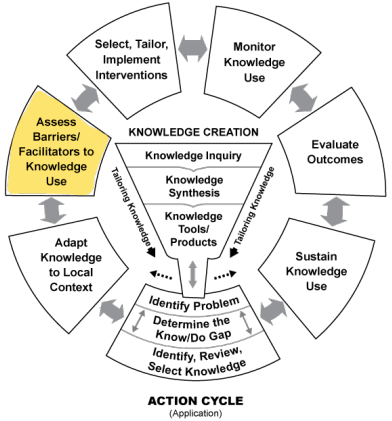
Funding support was provided by the Canadian Institutes of Health Research through the Canadian Research Initiative in Substance Misuse (SMN-139150).

Family Medicine
David Braley Primary Care Research Collaborative
McMaster University



Family Medicine | McMaster University

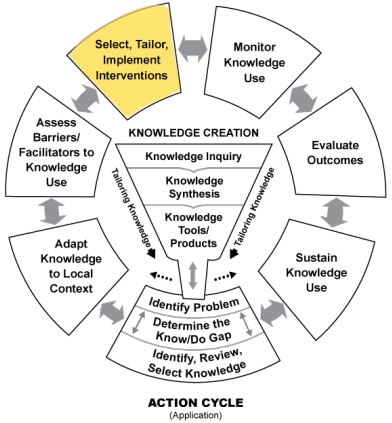
Assess Barriers & Facilitators to Knowledge Use



- Time = barrier for busy clinicians
  - Developed tools to be simple & easy-to-use
- Multiple formats of the tool depending on access
  - Offline access & mobile-friendly tool
- Support from the Ministry of the Solicitor General
  - Hoping to get support in disseminating the tool

Select, Tailor, and Implement Interventions

- Scope of the grant didn't allow for a comprehensive implementation strategy
- Focused on raising awareness of the tool through dissemination
- Developed resources to support uptake of the tool
- Used a strategic approach informed by project team, barriers & facilitators



Prescribing Tool For Opioid Agonist Treatment In Correctional Facilities

HELLO!

Enclosed in this package, you will find resources that we have put together for the use of health care staff in your correctional facility.

We hope this tool will be useful in treating patients with opioid use disorder, based on best practices. Please display these resources prominently and share them with the physicians and nurses in your facility.

If you have feedback or questions, please email Dr. Fiona Kouyoumdjian at kouyouf@mcmaster.ca

ABOUT THIS PROJECT

Buprenorphine/naloxone is the first line treatment for people with opioid use disorder. While people with opioid use disorder are overrepresented in prison settings and are at high risk of opioid overdose, there may be institutional, clinical, and logistical barriers to buprenorphine/naloxone initiation. With support from the Ministry of the Solicitor General, our team at McMaster University has put together an evidence-based tool that helps guide clinicians through initial considerations and steps for starting patients on buprenorphine/naloxone, whether the patient is in withdrawal or not.

Q: What is included in this package?

A: You'll find printed copies of our tool to place on a wall or other accessible location in your correctional facility. We have also developed an interactive web-based version of the tool and a quick explainer video. Both can be accessed using the QR codes below.

Q: How do I use the tool?

A: Our tool is designed to be easy to follow. The top section provides an overview of the assessment and initiation process. The bottom section provides initiation and re-assessment guidelines based on recent opioid use and withdrawal status.

Q: Do I need internet access to access the online tool?

A: No, our website can be accessed offline.

Q: When should I use this tool?

A: You can use this tool with any patient with OUD who is interested in buprenorphine/naloxone treatment. You can use this tool with patients who are currently experiencing withdrawal or patients who are no longer in withdrawal and have lost their opioid tolerance but are still opioid dependant.

Access our online resources

Interactive tool available at PrisonBupStart.ca

Watch addictions medicine specialist Dr. Lori Regenstreif explain how to use the tool

McMaster University | Family Medicine
David Braley Primary Care Research Collaborative

Prescribing Tool for Opioid Agonist Treatment in Correctional Facilities

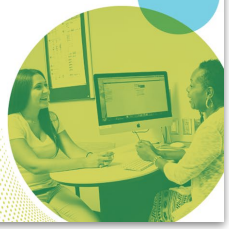
Tutorial with Dr. Lori Regenstreif

PrisonBupStart.ca

Family Medicine
David Braley Primary Care Research Collaborative
McMaster University

Prescribing Tool for Opioid Agonist Treatment in Correctional Facilities

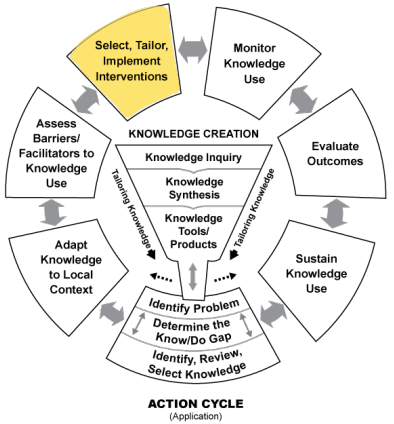
An evidence-based tool to guide clinicians through considerations and steps for starting patients on buprenorphine/naloxone in prison settings



PrisonBupStart.ca

McMaster University | Family Medicine
David Braley Primary Care Research Collaborative

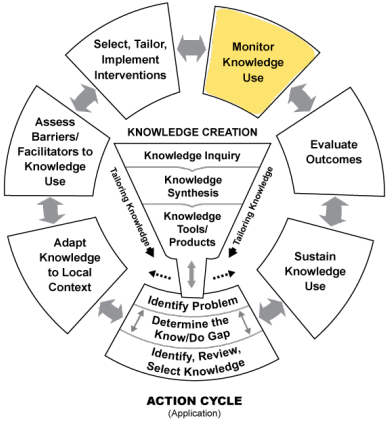
Family Medicine
McMaster University



Fiverr.com Video

Monitor Knowledge Use

- Will be able to measure the uptake of our dissemination strategy via:
  - Web analytics to PrisonBupStart.ca
  - Twitter analytics
  - Video views on tutorial and animated videos



Revisit Menti-meter results

How did we do?

Lessons learned

- Need substantial resources to do KT work well
  - In this project we worked through some steps of the knowledge to action framework but haven't implemented tool or assessed use, outcomes, etc.
- Need to optimize partnerships to shift knowledge into action
  - We had limited engagement with people with lived experience, which is critical for understanding key issues and needs.
  - Explicit involvement of those who can support implementation.

Next steps

- Disseminate information and tools
- Ongoing work with correctional authorities to share project information and tools
- Formal implementation and evaluation?