ADDICTION MEDICINE

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Bridging The Gaps
MAY 24, 2018

Objectives

- Definition
- Epidemiology
- Disease model
- Natural History
- Addictions Medicine Consult Team
- AMCT Needs Assessment
- Clinical Opioid Withdrawal Scale

DSM V definition

1. Substance often taken in larger amounts or over a longer period of time than intended.
2. Persistent desire or unsuccessful efforts to cut down or control use.
3. Great deal of time is spent in activities necessary to obtain, use, or recover from the effects of using.
4. Craving, or a strong desire to use.
5. Recurrent use resulting in failure to fulfill major role obligations at work, school or home.
6. Continued use despite having persistent or recurrent social or interpersonal problems caused or exacerbated by the effects of using
7. Important social, occupational or recreational activities are given up or reduced because of use.
8. Recurrent use in situations in which it is physically hazardous
9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by using.

DSM V cont'd

10. *Tolerance, as defined by either of the following:
(a) need for markedly increased amounts used to achieve intoxication or desired effect
(b) markedly diminished effect with continued use of the same amount
11. *Withdrawal, as manifested by either of the following:
(a) the characteristic withdrawal syndrome
(b) the same (or a closely related) substance taken to relieve or avoid withdrawal symptoms

Definition of Addiction: the 4 C's

- Compulsive drug use/behaviour
- Inability to Control use/behaviour
- Continued use/behaviour despite negative Consequences
- Craving to use even after becoming abstinent

Compulsive Use

1. Substance often taken in larger amounts or over a longer period of time than intended.
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Loss of Control

1. Substance often taken in larger amounts or over a longer period of time than intended.
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Use Despite Consequences

1. Substance often taken in larger amounts or over a longer period of time than intended.
2. Persistent desire or unsuccessful efforts to cut down or control use.
3. Great deal of time is spent in activities necessary to obtain, use, or recover from the effects of using.
4. Craving, or a strong desire to use.
5. Recurrent use resulting in failure to fulfill major role obligations at work, school or home.
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9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by using.

Craving

1. Substance often taken in larger amounts or over a longer period of time than intended.
2. Persistent desire or unsuccessful efforts to cut down or control use.
3. Great deal of time is spent in activities necessary to obtain, use, or recover from the effects of using.
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8. Recurrent use in situations in which it is physically hazardous
9. Continued use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by using.

Severity

- 2-3 = mild
- 4-5 = moderate
- 6-7 = severe

What happened to 'Addiction'?

- 2-3 = mild
- 4-5 = moderate
- 6-7 = severe

Addiction

- 2-3 = mild
- 4-5 = moderate
- **6-7 = severe**

Who Is An Addict?

"Our whole life and thinking was centered in drugs in one form or another—the getting and using and finding ways and means to get more. We lived to use and used to live. Very simply, an addict is a man or woman whose life is controlled by drugs. We are people in the grip of a continuing and progressive illness whose ends are always the same: jails, institutions, and death"

the Little White Booklet, Narcotics Anonymous 1986

Dependence

10. *Tolerance, as defined by either of the following:
(a) need for markedly increased amounts used to achieve intoxication or desired effect
(b) markedly diminished effect with continued use of the same amount
11. *Withdrawal, as manifested by either of the following:
(a) the characteristic withdrawal syndrome
(b) the same (or a closely related) substance taken to relieve or avoid withdrawal symptoms

Pseudoaddiction:

- Both Tolerance and Withdrawal will occur in any patient consuming long-term opioids for whatever reason
- Tolerance and Withdrawal are neither *necessary* nor *sufficient* to diagnose addiction.

Epidemiology of Addiction

- 1 in 5 Canadians experience mental illness in their lifetime; of these, 20% have a co-occurring substance use problem
- 1 in 10 Canadians report symptoms consistent with illicit drug dependence

Canadian Alcohol and Drug Use Monitoring Survey 2009

Epidemiology

- An estimated 25% of male drinkers and 9% of female drinkers meet criteria for high-risk drinking
- 200,000 Canadians are currently addicted to painkillers
- $40 Billion are spent on addiction-related injuries and treatment a year in Canada

www.camh.ca

Mortality

- Unintentional overdose is the leading cause of accidental death, killing more Americans than car accidents.

Centers for Disease Control and Prevention (CDC). CDC grand rounds: prescription drug overdoses—a U.S. epidemic. MMWR Morb Mortal Wkly Rep. 2012;61(1):10–13.

Addiction in Hospitals

- 36% of hospitalized pts smoke cigarettes
- 20% drink alcohol hazardously
- 8% use illicit drugs
- 4% use illicit opioids

Liebschutz et al **Buprenorphine treatment for hospitalized, opioid-dependent patients** *JAMA Intern Med.* 2014;174(8):1369-1376

Complications of IDU

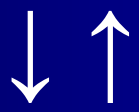
- Direct consequences:
  - Intoxication
  - Overdose
  - Withdrawal
- Infectious:
  - Soft-tissue
  - Endocarditis
- Trauma:
  - Spinal/orthopaedic
  - Sustained while intoxicated
- Psychiatric:
  - Related to procurement
  - Psychosis
  - Suicidality

Start with Harm Reduction

1. Don't use
2. Use safe(r) alternative
3. If using, don't inject
4. If injecting, reduce risks
   - Don't share needles, use clean works, clean skin
5. Reduce risks of OD (naloxone)

Treatment Continuum

- Harm reduction→ needle exchange, substitution



- Abstinence→ residential treatment, 12-step programs, naltrexone

Disease Model: evidence

1. **Consistent Medical History, Signs and Symptoms** (across ethnic, cultural and socioeconomic boundaries)

2. **Strong Tendency to Relapse** (despite long periods of abstinence)

3. **Cravings** (induces use despite powerful social sanctions & effects contrary to patient's own interests)

4. **Pathophysiologic Changes in the Brain** following continuous exposure (D2 receptors, glucose metabolism, twin studies, PET scan studies)

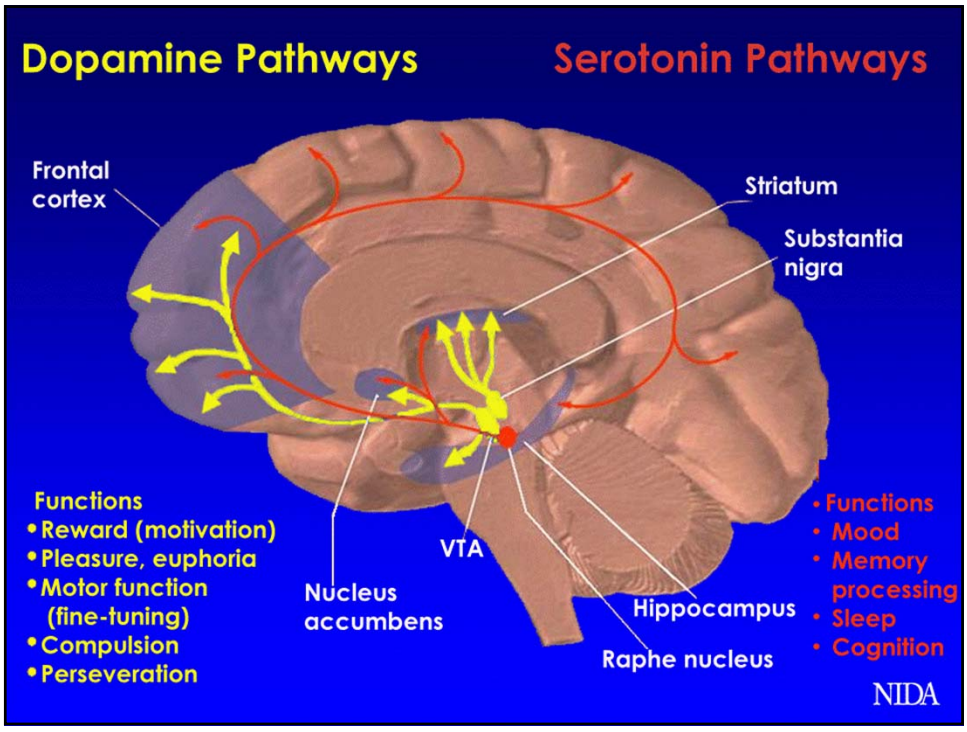
Disease Model

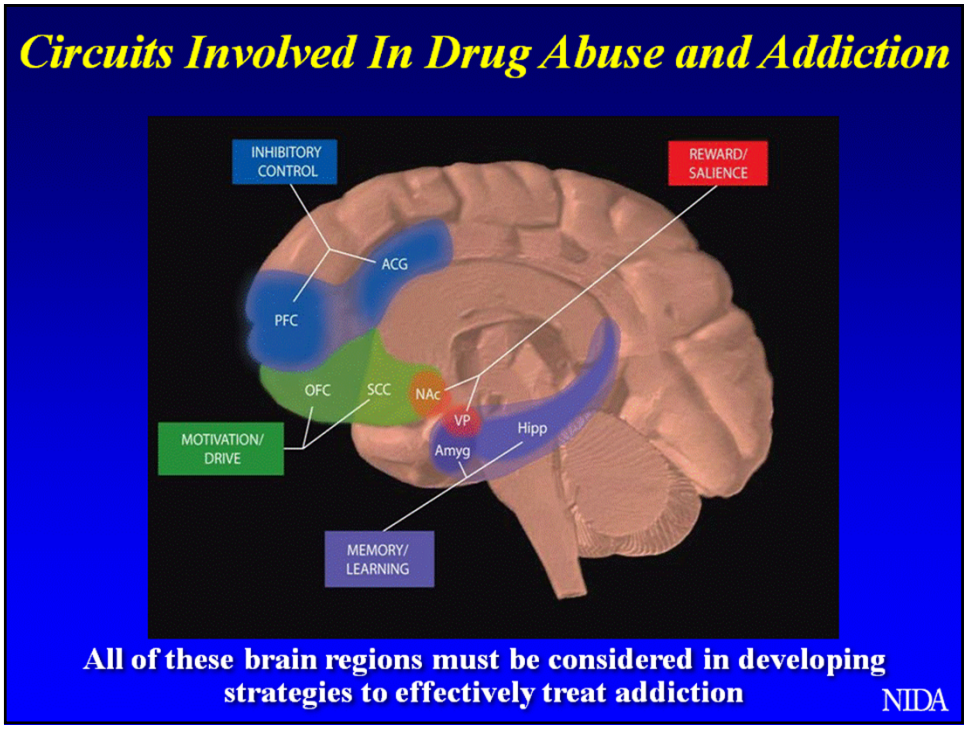
- "It is estimated that 40 – 60% of the vulnerability to addiction is attributable to genetic factors"

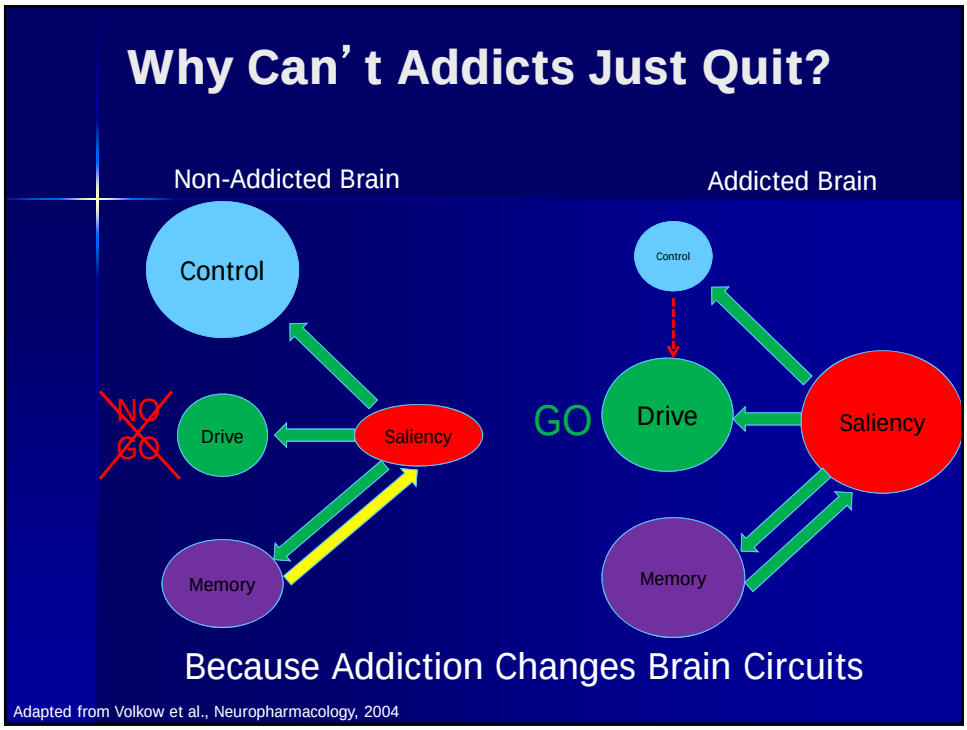
  - *Volkow ND, Li TK, Drug Addiction: the Neurobiology of Behavior gone Awry*
    - *In: Principles of Addiction Medicine 2010*

Disease Model

Substance	Locus / product
Alcohol	ADH1B, ALDH2, GABRG3, GABRA2, Per2, Neuropeptide Y, DRD2 (A1 allele), Htr1b, IL10, BDNF, 5HTT/SERT, DAT1
Nicotine	CYP450 2A6, CHRN A5/A3/B4
Opioids	CYP450 2D6, OPRM1, COMT, Creb
Cocaine	Htr1b, DRD2, DAT1, 5HTT/SERT
Barbiturates	Mpdz



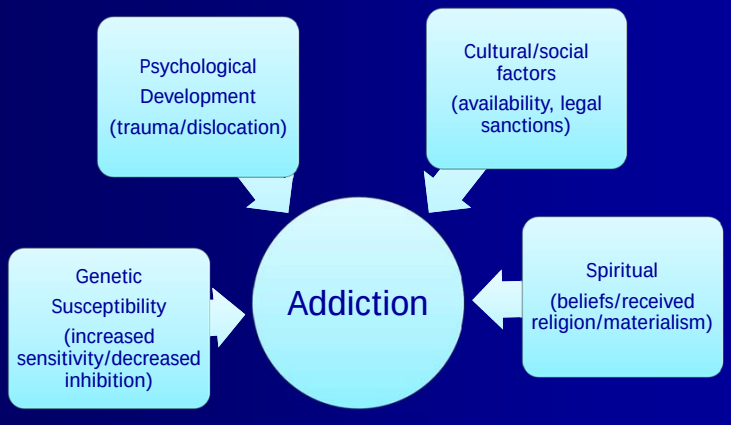

Circuits Involved In Drug Abuse and Addiction
INHIBITORY CONTROL
REWARD/ SALIENCE
ACG
PFC
OFC
SCC
NAc
VP
Hipp
Amyg
MOTIVATION/ DRIVE
MEMORY/ LEARNING
All of these brain regions must be considered in developing strategies to effectively treat addiction
NIDA


Why Can't Addicts Just Quit?
Non-Addicted Brain
Addicted Brain
Control
NO GO
Drive
Saliency
Memory
Control
GO
Drive
Saliency
Memory
Because Addiction Changes Brain Circuits
Adapted from Volkow et al., Neuropharmacology, 2004

Disease Model?!

- "In our detailed study of over 17,000 middle-class American adults of diverse ethnicity, we found that the compulsive use of nicotine, alcohol, and injected street drugs increases proportionally in a strong, graded, dose-response manner that closely parallels the intensity of adverse life experiences during childhood… **Our findings are disturbing to some because they imply that the basic causes of addiction lie within *us* and the way we treat each other, not in drug dealers or dangerous chemicals**".
  - *Felitti,VJ. The Origins of Addiction: Evidence from the Adverse Childhood Experiences Study.* 2004

Biopsychosocialspiritual Model



Natural History

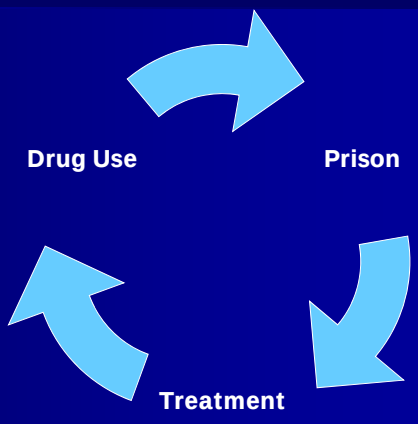
"...substance abuse exacts a considerable toll on Canadian society in terms of morbidity and mortality, accounting for 21% of deaths, 23% of years of potential life lost, and 8% of hospitalizations."

Am J Public Health 1999;89:385-390

Natural History

(of addiction over 20 year study period)

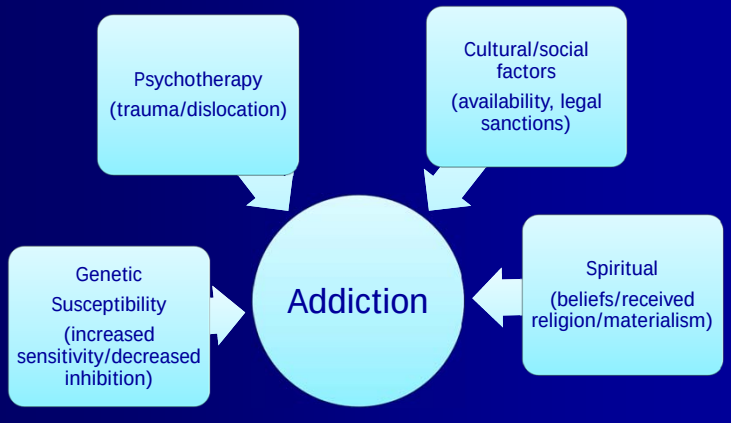
- **~1/3** achieves abstinence;
- **~1/3** dies prematurely;
- **~1/3** cycles:



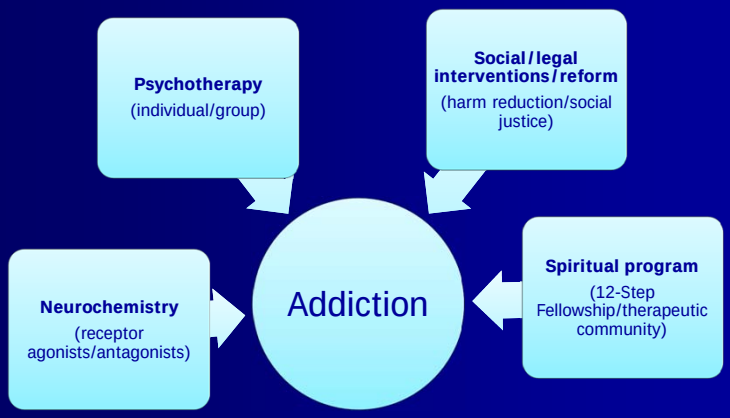
Natural History

In other words: **"...jails, institutions, and death"**

Biopsychosocialspiritual Model



Approaches to Treatment:



Opioid addiction: an 'epidemic'?

- 200,000 Canadians currently addicted to painkillers
- Since 2005 the number of Ontarians
  - seeking treatment for Rx opioid abuse has **DOUBLED**
  - in Methadone Maintenance Therapy has **TRIPLED**

THE GLOBE AND MAIL

CBC news

- "OxyContin and other opioids tied to 1 in 8 deaths in young adults, Ontario study shows" A. Zofar, *CBC News* Jul 7, 2014
- "Doctors' groups agree painkillers are overprescribed" C. Weeks, *The Globe and Mail* Monday October 6, 2014
- "Opioid crisis strikes 'close to home' for many, poll says" Nicole Ireland, *CBC News* January 11, 2018
- "It's time for an all-out war on fentanyl in Canada" Editorial, *The Globe and Mail,* February 16, 2018

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OBSTETRICS

Infants Born to Opioid-Dependent Women in Ontario, 2002–2014

Susan B. Brogly, PhD;[1] Suzanne Turner, MBS, MD;[2] Katherine Lajkosz, MSc;[3] Greg Davies, MD;[4] Adam Newman, MD;[5] Ana Johnson, PhD, MEcon;[3,6] Kimberly Dow, MD[7]

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[5]Department of Family Medicine, Queen's University, Kingston, ON
[6]Department of Public Health Sciences, Queen's University, Kingston, ON
[7]Department of Pediatrics, Queen's University, Kingston, ON

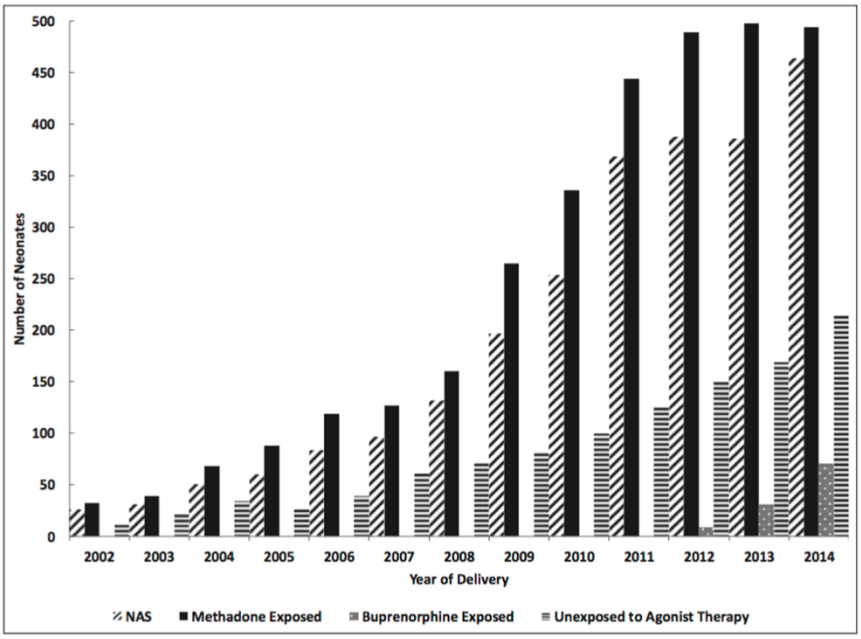
Abstract

Background: There is a paucity of data characterizing mother-infant pairs with prenatal opioid dependence in Canada. We therefore conducted a study of relevant births in Ontario from 2002 to 2014.

Résumé

Contexte : Vu le manque de données caractérisant les couples mère-enfant avec une dépendance prénatale aux opioïdes au Canada, nous avons mené une étude sur les naissances pertinentes en

Figure 1. Number of infants born to opioid-dependent pregnant women in Ontario by prenatal opioid agonist therapy exposure and NAS, 2002–2014.



Where are we now?

- Currently NO Addictions Team at KGH
  - Akin to having no psychiatry or palliative care service at a tertiary hospital
- No standard of care for addictions
- Rarely referrals to outpatient therapy

The Patient Experience

- Frequently stigmatized
- Often deemed drug seeking or difficult
- People with addictions have pain too!
  - Their pain often not addressed, under investigated or undertreated
- Scared with few helpful coping strategies other than using substances
- Looking for ways to acquire their drug of choice while in hospital to manage cravings and withdrawal

Physician Experience

Physician Experience

- Physicians prioritize the admitting dx
- The patient often prioritizes their symptoms of discomfort (pain, cravings, or withdrawal)
- Most physicians have not been specifically trained in addiction and find it overwhelming to try and manage this issue without support

Hospital Experience

- Patients with SUD frequently leave against medical advice and are admitted repeatedly for diagnoses related to their substance use
- Long hospital stays (6 weeks of antibiotics for infective endocarditis), repeated ER visits and readmissions are extremely expensive for the hospital and healthcare system
  - An estimate of an endocarditis patient's cost to the healthcare system is **$154 494.00**

Enter: The AMCT!

- The Core Team: practitioners with experience and interest in Addictions Medicine
  - Shannon Ernst, MSW, RSW
  - Dr. Louise Good, MD CCFP
  - Dr. Priya Gupta, MD, MPH, CCFP
  - Dr. Raistlin Majere, MD (FRCPC – in four days!)
  - Dr. Adam Newman, MD CCFP

AMCT

- **What we can do: currently**
  - In depth in-hospital addictions assessment
  - Initiation of opioid agonist therapy (OAT) with methadone or suboxone
  - Assessment and co-management of concurrent mental health disorders
  - Collaborative management of pain syndromes
  - Opioid stewardship
  - Psychosocial interventions to promote coping skills, education and adherence to medical interventions
  - Assistance with basic needs such as housing, income, OHIP, legal issues
  - Connection to outpatient addiction services
  - Transition to outpatient care by liaising with patient's family physician

AMCT

- **What we can do: in the near future**

- Peer support programs by patients with lived experience
- Harm reduction strategies such as providing clean needles to IVDU patients and putting sharps containers in all the rooms
- Comfort care such as food/snacks, warm socks, lounge area
- In-services for healthcare professionals in addiction care (use of COWS, OAT induction)

- We have expanded to include:
  - Two more family doctors with expertise in addiction medicine
  - The head of General Internal Medicine at KHSC
  - A psychiatrist working in concurrent disorders

AMCT

- **What we have:**

- A grassroots organization with motivated practitioners
- Ideological and logistical support from The Department of Medicine
- Growing support from admitting services at KGH
- The opportunity to speak to you ☺

- **What we need:**

AMCT Future

- **Our vision – in Phases**

Phase 1: Establishment and consultation

Small team, non-admitting service, consultation and co-management for inpatients, some involvement of learners, development of pathways and protocols, data tracking

Phase 2: Expansion and Teaching

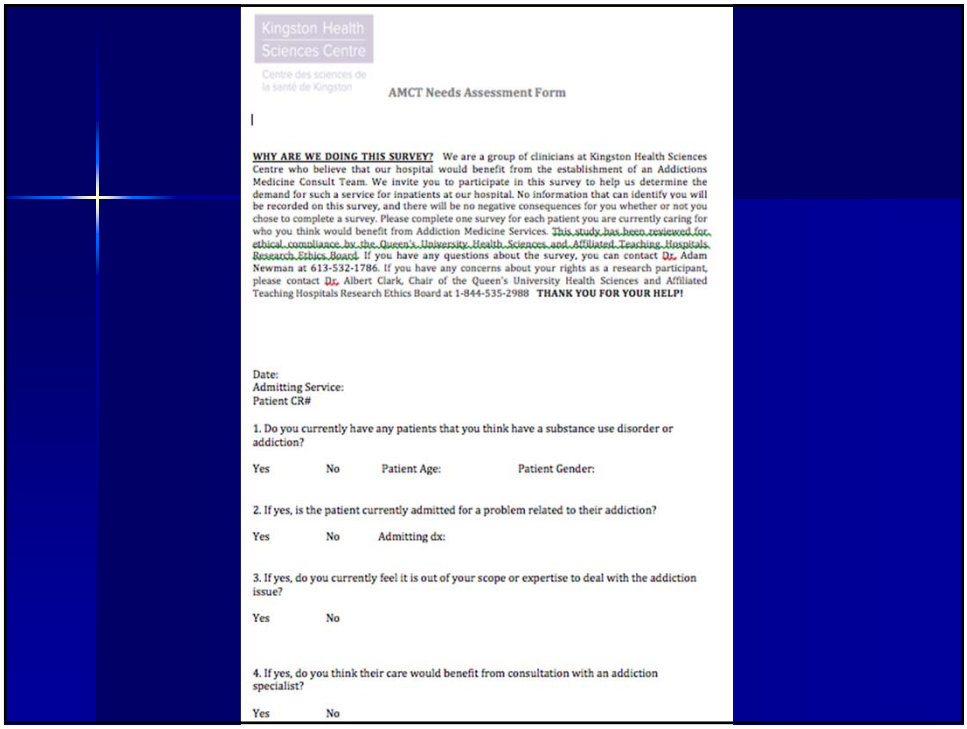
Larger team, permanent/full-time staff, **phone consultation for community physicians,** adoption of medical curriculum for medical students and residents

Phase 3: Residential Care and Outpatient Services

Inpatient management of SUD, medical detox, step-down unit, Centre for Excellence in the Treatment of Substance Use Disorders

We need your help!

- Need to show the hospital needs us
- Needs Assessment
  - June 1st – 30th
  - Hospitalwide – ALL departments!
  - Survey forms identify patients that would benefit from our service
  - Please recommend MRPs sign these!



Kingston Health Sciences Centre

Centre des sciences de la santé de Kingston

AMCT Needs Assessment Form

WHY ARE WE DOING THIS SURVEY? We are a group of clinicians at Kingston Health Sciences Centre who believe that our hospital would benefit from the establishment of an Addictions Medicine Consult Team. We invite you to participate in this survey to help us determine the demand for such a service for inpatients at our hospital. No information that can identify you will be recorded on this survey, and there will be no negative consequences for you whether or not you chose to complete a survey. Please complete one survey for each patient you are currently caring for who you think would benefit from Addiction Medicine Services. This study has been reviewed for ethical compliance by the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board. If you have any questions about the survey, you can contact Dr. Adam Newman at 613-532-1786. If you have any concerns about your rights as a research participant, please contact Dr. Albert Clark, Chair of the Queen's University Health Sciences and Affiliated Teaching Hospitals Research Ethics Board at 1-844-535-2988 **THANK YOU FOR YOUR HELP!**

Date:
Admitting Service:
Patient CR#

1. Do you currently have any patients that you think have a substance use disorder or addiction?

Yes No Patient Age: Patient Gender:

2. If yes, is the patient currently admitted for a problem related to their addiction?

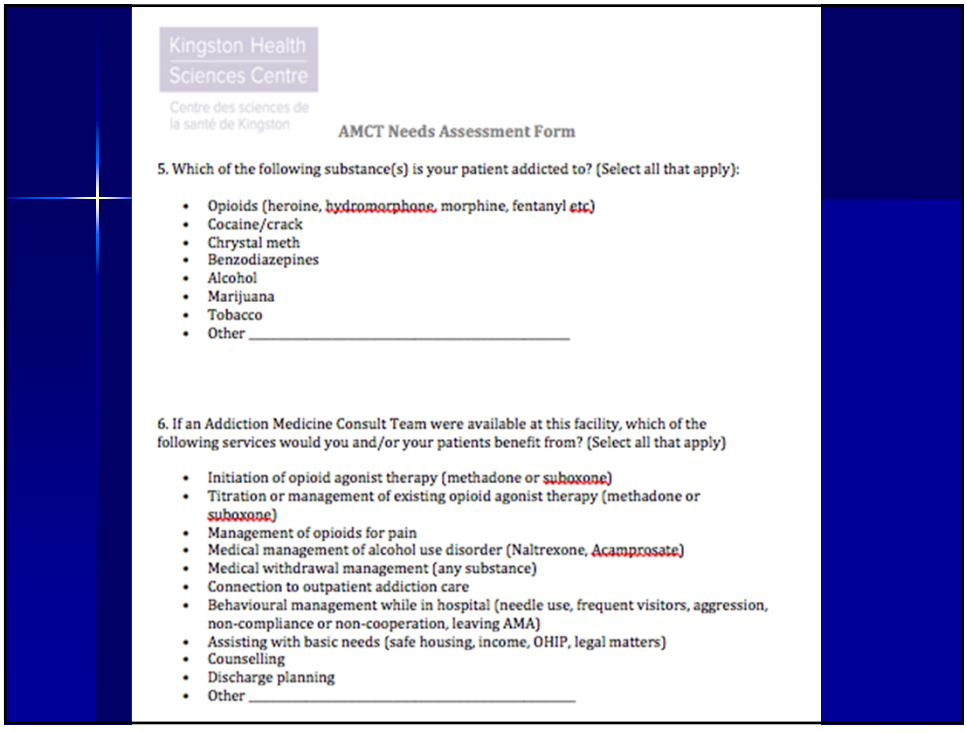
Yes No Admitting dx:

3. If yes, do you currently feel it is out of your scope or expertise to deal with the addiction issue?

Yes No

4. If yes, do you think their care would benefit from consultation with an addiction specialist?

Yes No



Kingston Health Sciences Centre

Centre des sciences de la santé de Kingston

AMCT Needs Assessment Form

5. Which of the following substance(s) is your patient addicted to? (Select all that apply):

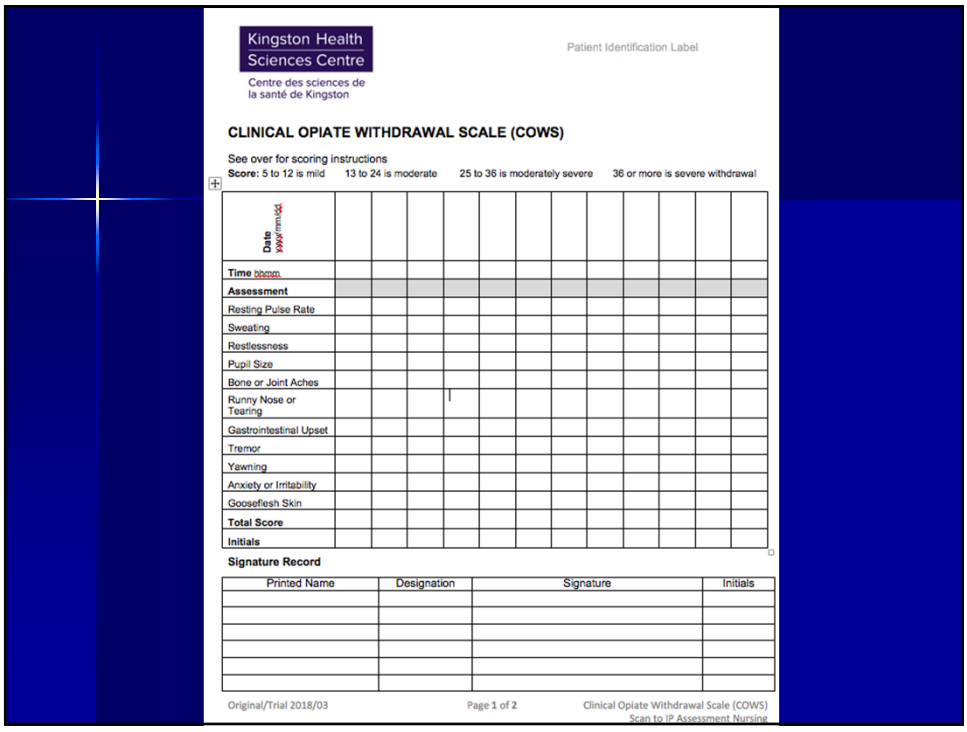
- Opioids (heroine, hydromorphone, morphine, fentanyl etc)
- Cocaine/crack
- Chrystal meth
- Benzodiazepines
- Alcohol
- Marijuana
- Tobacco
- Other _____

6. If an Addiction Medicine Consult Team were available at this facility, which of the following services would you and/or your patients benefit from? (Select all that apply)

- Initiation of opioid agonist therapy (methadone or suboxone)
- Titration or management of existing opioid agonist therapy (methadone or suboxone)
- Management of opioids for pain
- Medical management of alcohol use disorder (Naltrexone, Acamprosate)
- Medical withdrawal management (any substance)
- Connection to outpatient addiction care
- Behavioural management while in hospital (needle use, frequent visitors, aggression, non-compliance or non-cooperation, leaving AMA)
- Assisting with basic needs (safe housing, income, OHIP, legal matters)
- Counselling
- Discharge planning
- Other _____

AMCT Orders

- We are developing our own ordersets
- The first is:
  - Clinical Opioid Withdrawal Scale
  - Similar to CIWA (but for opioids)
  - Critical to managing opioid addictions



Kingston Health Sciences Centre
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Patient Identification Label

CLINICAL OPIATE WITHDRAWAL SCALE (COWS)

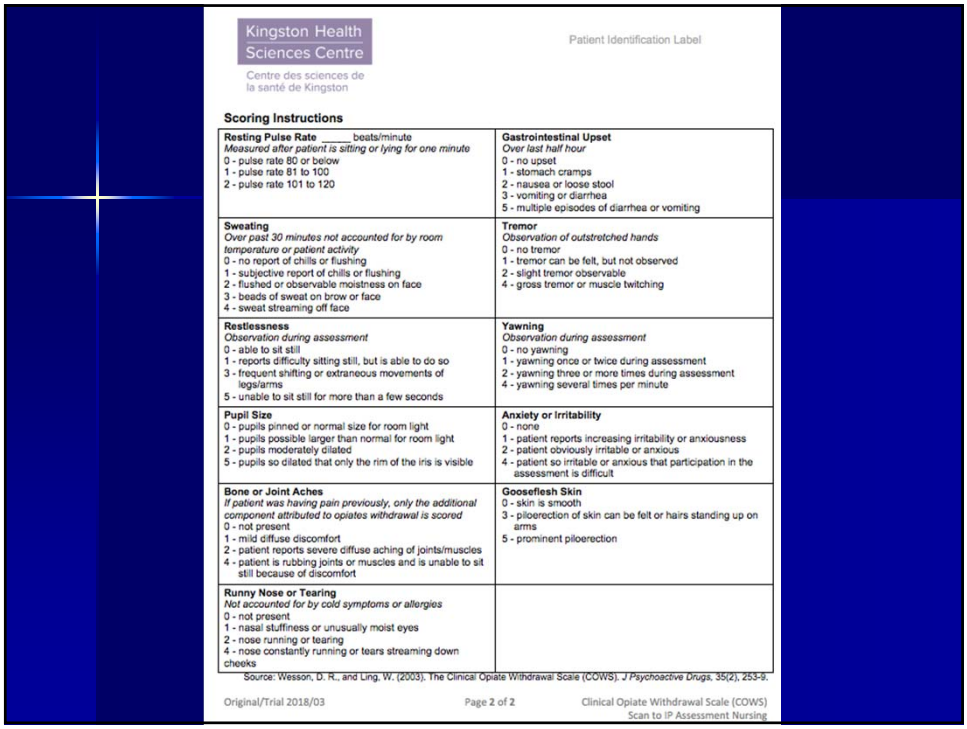
See over for scoring instructions
Score: 5 to 12 is mild 13 to 24 is moderate 25 to 36 is moderately severe 36 or more is severe withdrawal

Date yyyy/mm/dd												
Time hh:mm												
Assessment												
Resting Pulse Rate												
Sweating												
Restlessness												
Pupil Size												
Bone or Joint Aches												
Runny Nose or Tearing												
Gastrointestinal Upset												
Tremor												
Yawning												
Anxiety or Irritability												
Gooseflesh Skin												
Total Score												
Initials												

Signature Record

Printed Name	Designation	Signature	Initials

Original/Trial 2018/03 Page 1 of 2 Clinical Opiate Withdrawal Scale (COWS) Scan to IP Assessment Nursing



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Patient Identification Label

Scoring Instructions

Resting Pulse Rate _____ beats/minute *Measured after patient is sitting or lying for one minute* 0 - pulse rate 80 or below 1 - pulse rate 81 to 100 2 - pulse rate 101 to 120	**Gastrointestinal Upset** *Over last half hour* 0 - no upset 1 - stomach cramps 2 - nausea or loose stool 3 - vomiting or diarrhea 5 - multiple episodes of diarrhea or vomiting
Sweating *Over past 30 minutes not accounted for by room temperature or patient activity* 0 - no report of chills or flushing 1 - subjective report of chills or flushing 2 - flushed or observable moistness on face 3 - beads of sweat on brow or face 4 - sweat streaming off face	**Tremor** *Observation of outstretched hands* 0 - no tremor 1 - tremor can be felt, but not observed 2 - slight tremor observable 4 - gross tremor or muscle twitching
Restlessness *Observation during assessment* 0 - able to sit still 1 - reports difficulty sitting still, but is able to do so 3 - frequent shifting or extraneous movements of legs/arms 5 - unable to sit still for more than a few seconds	**Yawning** *Observation during assessment* 0 - no yawning 1 - yawning once or twice during assessment 2 - yawning three or more times during assessment 4 - yawning several times per minute
Pupil Size 0 - pupils pinned or normal size for room light 1 - pupils possible larger than normal for room light 2 - pupils moderately dilated 5 - pupils so dilated that only the rim of the iris is visible	**Anxiety or Irritability** 0 - none 1 - patient reports increasing irritability or anxiousness 2 - patient obviously irritable or anxious 4 - patient so irritable or anxious that participation in the assessment is difficult
Bone or Joint Aches *If patient was having pain previously, only the additional component attributed to opiates withdrawal is scored* 0 - not present 1 - mild diffuse discomfort 2 - patient reports severe diffuse aching of joints/muscles 4 - patient is rubbing joints or muscles and is unable to sit still because of discomfort	**Gooseflesh Skin** 0 - skin is smooth 3 - piloerection of skin can be felt or hairs standing up on arms 5 - prominent piloerection
Runny Nose or Tearing *Not accounted for by cold symptoms or allergies* 0 - not present 1 - nasal stuffiness or unusually moist eyes 2 - nose running or tearing 4 - nose constantly running or tears streaming down cheeks	

Source: Wesson, D. R., and Ling, W. (2003). The Clinical Opiate Withdrawal Scale (COWS). *J Psychoactive Drugs*, 35(2), 253-9.

Original/Trial 2018/03 Page 2 of 2 Clinical Opiate Withdrawal Scale (COWS)
Scan to IP Assessment Nursing

Thank You

- Thank you for having us!
- Special “Thank You” to Leanne Wakelin for all her dedication and support.
- Special “Thank You” to Barb Patterson for her patience and support.

Conclusions

- Addiction is a **chronic brain disease**
- Addiction is common in hospitalized patients
- Hospital staff are well-placed to identify, diagnose, and treat addiction
- Agonist therapy with methadone or buprenorphine is proven, effective treatment (but NOT a cure!!)
- Please support our team in creating the first Addictions Medicine Consult Team
- Support our consults with COWS forms

Community Resources:

- Addiction and Mental Health Services:
  Crisis line: 613 544-4229; Toll free: 866 616-6005
  amhs-kfla.ca
- Alcoholics Anonymous: kingstonaa.org
- Narcotics Anonymous: limestonena.com