

**Food, sex, gambling, Internet --
Where do we draw the line with the
behavioural addictions?**

Shawn R. Currie, Ph.D.

University of Calgary and Alberta Health Services

DSM-V Proposed Changes

- Substance Use and Addictive Disorders
 - Includes all substance-related disorders
 - Abuse vs. dependence distinction removed
 - Pathological gambling moved from Impulse-Control Disorders and renamed Gambling Disorder
 - No other process addictions but Internet addiction is under consideration
 - No definition of 'addictive disorders' in section
- Disruptive, Impulse Control, and Conduct Disorders
 - No disorders resembling addictions in new category
- Sexual Disorders
 - Hypersexual Disorder under consideration - probably will be in appendix
 - Sexual addiction one of three models informing hypersexual disorder

Definition of Addiction

- No universally agreed upon definition
- WHO discontinued 'addiction' label in 1964
- Addictive disorders referred to in popular and scientific media
 - Addictive personality
 - Love addiction
 - Internet addiction
 - Gaming addiction
 - Shopping addiction
 - Exercise addiction
 - Food addiction
 - Tanning addiction

Globe and Mail, July 25, 2011

Metalhead gets disability pay for heavy-metal 'addiction'

- Swedish dishwasher succeeded in having heavy-metal dependency declared an addiction requiring disability payments
- Attends up to 300 concerts a year
- Part-time income to be supplemented by state benefits
- Secured workplace accommodations to listen to music on job and attend concerts

Proposed definitions of addiction

American Society of Addiction Medicine (2011)

Addiction is a primary, chronic disease of brain reward, motivation, memory and related circuitry. Dysfunction in these circuits leads to characteristic biological, psychological, social and spiritual manifestations. This is reflected in an individual pathologically pursuing reward and/or relief by substance use and other behaviors. Addiction is characterized by inability to consistently abstain, impairment in behavioral control, craving, diminished recognition of significant problems with one's behaviors and interpersonal relationships, and a dysfunctional emotional response. Like other chronic diseases, addiction often involves cycles of relapse and remission. Without treatment or engagement in recovery activities, addiction is progressive and can result in disability or premature death.

Potenza (2006)

- A maladaptive pattern and impaired control despite the negative consequences

Griffiths (1996) – Six criteria for addiction to a behaviour

- | | |
|--------------------------|--|
| ✓ Salience (importance↑) | ✓ Withdrawal |
| ✓ Mood modification | ✓ Conflict (distress or interpersonal) |
| ✓ Tolerance | ✓ Relapse |

DSM- IV Criteria for Substance Dependence

A maladaptive pattern of substance use, leading to clinically significant impairment or distress. At 3 of:

(1) Tolerance, as defined by either of the following:

(a) A need for markedly increased amounts of the substance to achieve intoxication or desired effect.

(b) Markedly diminished effect with continued use of the same amount of the substance.

(2) Withdrawal, as manifested by either of the following:

(a) The characteristic withdrawal syndrome.

(b) Substance is taken to relieve or avoid withdrawal symptoms.

(3) The substance is often taken in larger amounts or over a longer period than was intended.

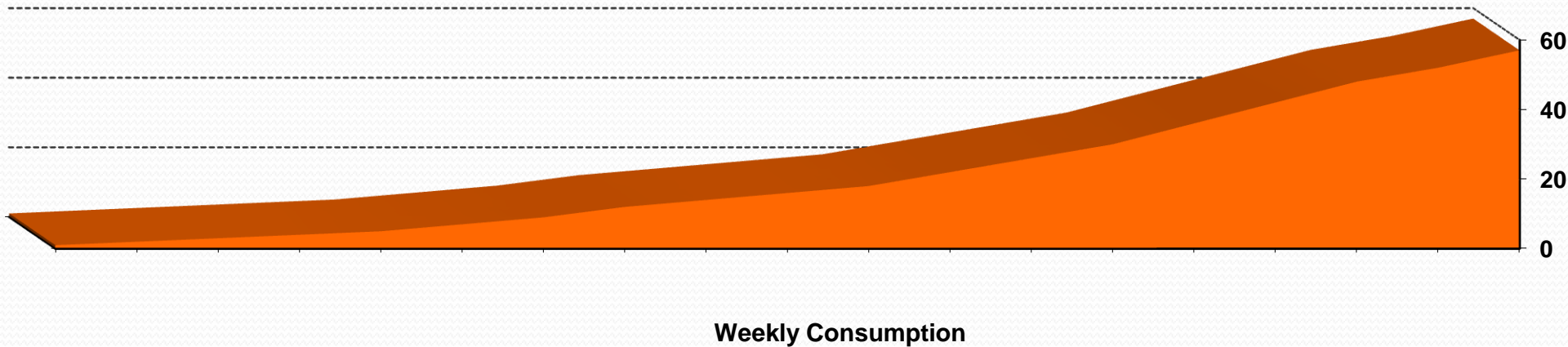
(4) There is a persistent desire or unsuccessful efforts to cut down or control substance use.

(5) A great deal of time is spent in activities necessary to obtain the substance, use the substance or recover from its effects.

(6) Important social, occupational, or recreational activities are given up or reduced because of substance use.

(7) The substance use is continued despite knowledge of having a persistent or recurrent physical or psychological problems .

What is Normal Alcohol Use?



Neurotransmitter implications

Dopamine

- Release associated with pleasurable effects many substances and food
- Drugs cause changes in Dopamine levels especially nucleus accumbens
- Low levels of D2 receptors create a *predisposition* for substance addiction and binge eating

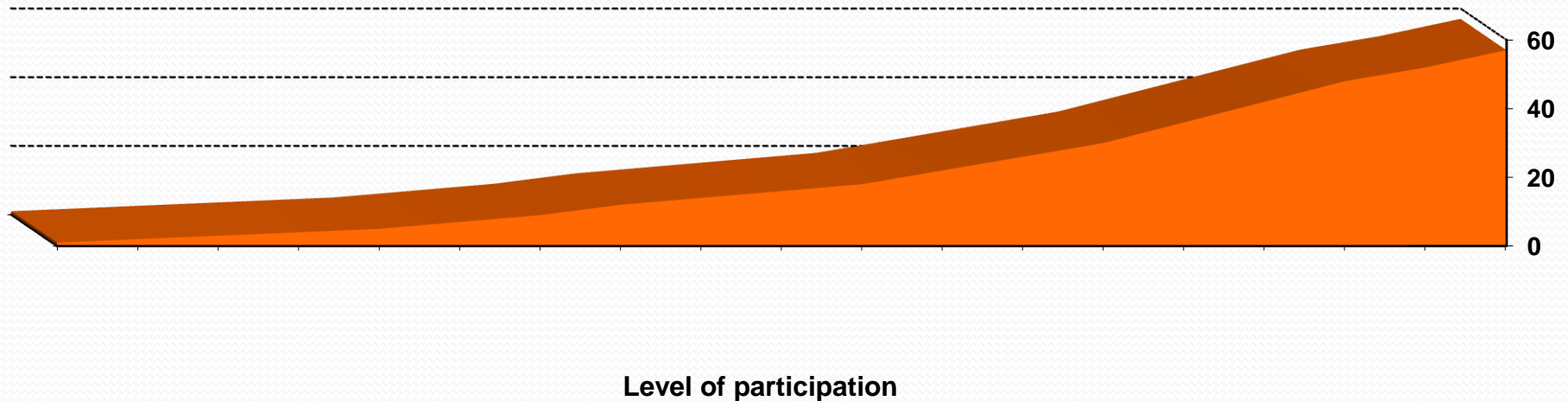
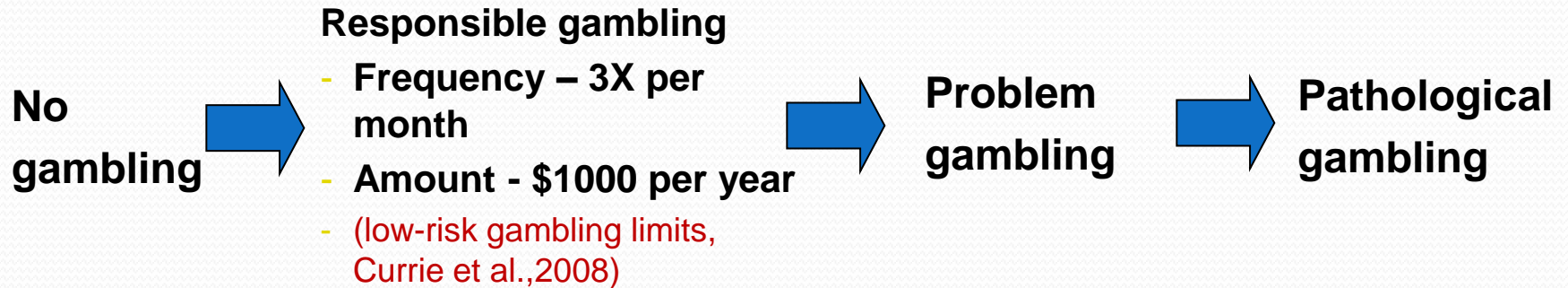
Opioids

- Endogenous opioids released when ETOH, calorie-dense foods consumed, during exercise.

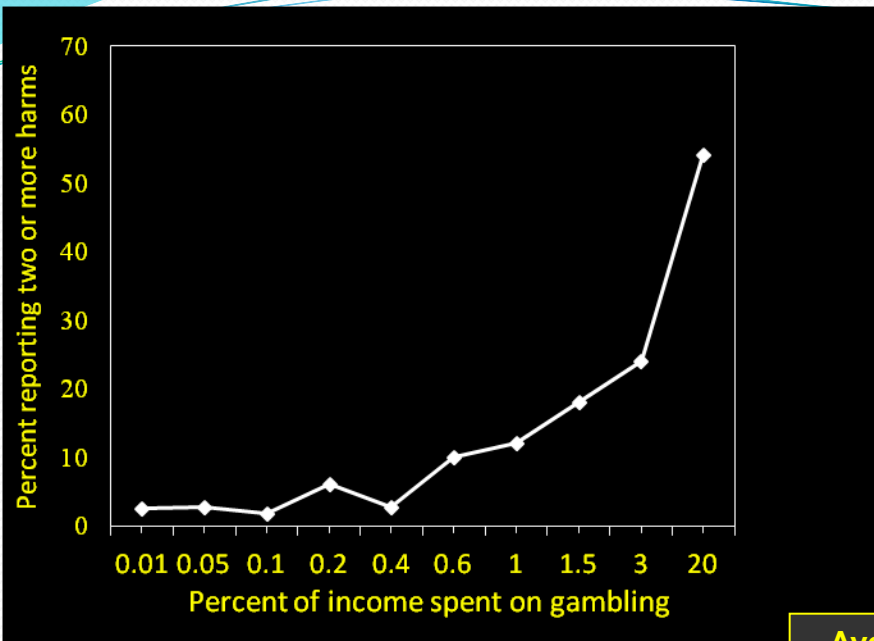
DSM- V Criteria for Gambling Disorder

- A. Persistent and recurrent maladaptive gambling behavior as indicated by five (or more) of the following:
1. is preoccupied with gambling (e.g., preoccupied with reliving past gambling experiences, handicapping or planning the next venture, or thinking of ways to get money with which to gamble)
 2. needs to gamble with increasing amounts of money in order to achieve the desired excitement
 3. has repeated unsuccessful efforts to control, cut back, or stop gambling
 4. is restless or irritable when attempting to cut down or stop gambling
 5. gambles as a way of escaping from problems or of relieving a dysphoric mood (e.g., feelings of helplessness, guilt, anxiety, depression)
 6. after losing money gambling, often returns another day to get even (“chasing” one’s losses)
 7. lies to family members, therapist, or others to conceal the extent of involvement with gambling
 8. has jeopardized or lost a significant relationship, job, or educational or career opportunity because of gambling
 9. relies on other to provide money to relieve a desperate financial situation caused by gambling
- B. The gambling behavior is not better accounted for by a Manic Episode.

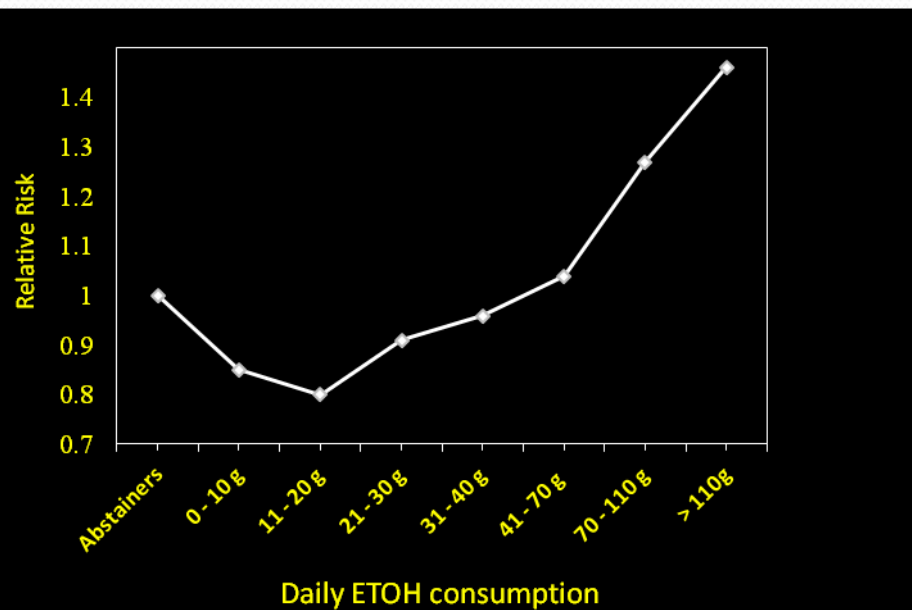
What is Normal Gambling?



Percent monthly income spent on gambling activities and harm



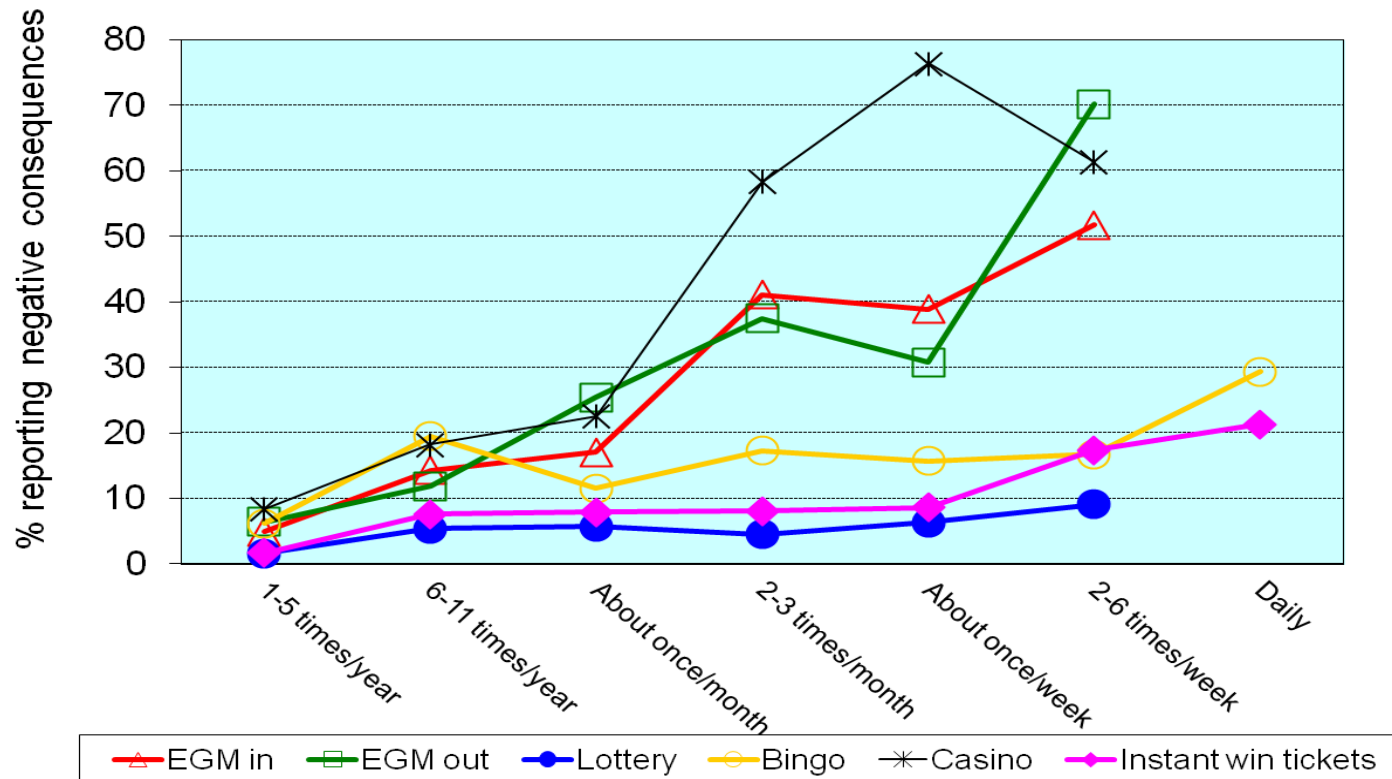
Average daily alcohol consumption and risk of all-cause mortality



Source: Babor et al. (2003)

Is Gambling an Addiction?

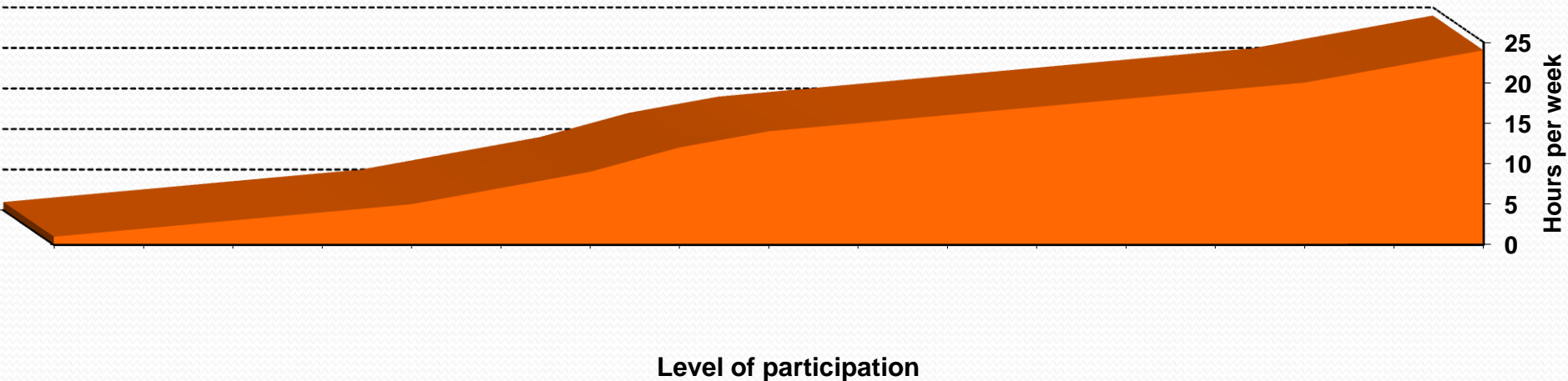
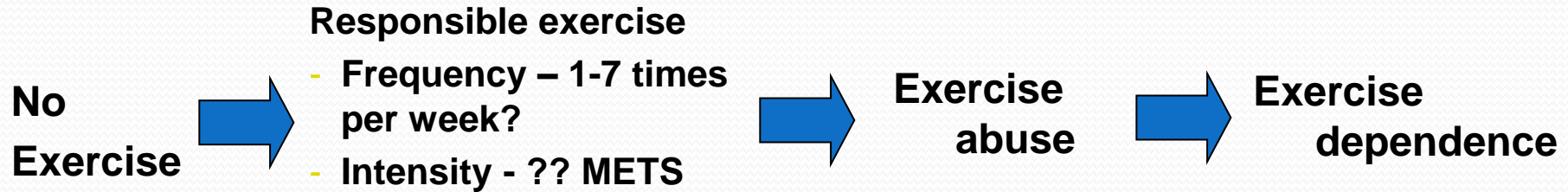
- Evidence of withdrawal weak—no physiological withdrawal symptoms (irritable/restless not really withdrawal Sx)
- No standard unit of gambling (cf. standard drink)
- Addictive elements of gambling not clear; games differ in their addictive



Exercise Addiction

- > 50 articles in Medline/PsychInfo on exercise addiction or exercise dependence since 2001
- Symptom profile:
 - Preoccupation with exercise
 - Use of exercise to manage mood
 - Tolerance : increased exercise over time
 - Irritable if exercise session is missed
 - Amount of exercise results in conflict with others

What is a normal amount of exercise?



Internet Addiction

>150 articles in Medline/PsychInfo on Internet addiction since 2001

Symptom profile:

- *Excessive Use* resulting in loss of sense of time, neglect of basic needs
- *Withdrawal* – irritation and tension when unable to access computer
- *Tolerance* – need to spend more time online, better equipment and access
- *Negative consequences* – social isolation, academic underachievement

Internet Addiction

China

- 2004 established Internet Addiction Centre, a military-run boot camp in Beijing
- Defining Internet addiction as consecutive usage of the Web for 6 hr. a day for three straight months is addiction.

South Korea

- High school students spend avg. 23 hours/week gaming
- Trained >1,000 counselors to treat internet addiction
- 2% of children thought to have addiction to Internet or gaming





e-waste

Almost 80% of the discarded electronics come from overseas, including the United States



Shopping Addiction

10 articles in Medline/PsychInfo on shopping addiction or compulsive buying disorder since 2001

Proposed criteria for compulsive buying disorder (McElroy et al. 1994)

1. Maladaptive preoccupation with buying or shopping, or maladaptive buying or shopping impulses or behavior, as indicated by:
 - A. Frequent preoccupation with buying or impulses to buy that is/are experienced as irresistible, intrusive and/or senseless
 - B. Frequent buying of more than can be afforded, frequent buying of items that are not needed, or shopping for longer periods of time than intended
2. The buying preoccupations, impulses or behaviors cause marked distress, are time consuming, significantly interfere with social or occupational functioning, or result in financial problems (for example, bankruptcy)
3. The excessive buying or shopping behavior does not occur exclusively during periods of hypomania or mania

Sexual Addiction

> 150 articles in Medline/PsychInfo on sexual addiction since 2001

Hypersexual Disorder (proposed DSM-V criteria)

A. Recurrent and intense sexual fantasies, sexual urges, and sexual behavior in association with:

- (1) Excessive time is consumed by sexual fantasies and urges, and by planning for and engaging in sexual behavior.
- (2) Repetitively engaging in these sexual fantasies, urges, and behavior in response to dysphoric mood states.
- (3) Repetitively engaging in sexual fantasies, urges, and behavior in response to stressful life events.
- (4) Repetitive but unsuccessful efforts to control or significantly reduce these sexual fantasies, urges, and behavior.
- (5) Repetitively engaging in sexual behavior while disregarding the risk for physical or emotional harm to self or others.

B. There is clinically significant personal distress or impairment in social, occupational or other important areas of functioning.

C. Behaviour not due to direct physiological effects of exogenous substances or to Manic Episodes.

Sexual Addiction

Defining features of sexual addiction (Society for Advancement of Sexual Health):

1. Person reports loss of control over the behaviours
2. Negative consequences arising from out of control behaviours
3. Obsessional thoughts about sexual behaviours

Diagnostic problems:

- Minimal evidence of withdrawal-like symptoms
- Abstinence is unlikely goal for treatment
- Problems with defining “out of control”
- What is clinically significant impairment or distress?

Tanning addiction

<http://tlc.discovery.com/videos/my-strange-addiction-tanning.html>

	Addiction	Compulsion
Motivation	Obtain pleasure or gratification Ego-synotonic	Reduce anxiety/distress associated with obsession Ego-dystonic
Action	Impulse to use/behavior	Impulse to engage in behaviour
Outcome	Tension reduction Short-term pleasure Amplify +ve or -ve mood	Tension reduction No pleasure

Food Addiction

> 50 articles in Medline/PsychInfo on food addiction since 2001

Food addiction thought to underlie two health problems:

Obesity

- BMI > 30
- 23% of population is obese

Binge eating disorder

Recurrent episodes of binge eating defined as:

- Eating, in a discrete period of time (e.g., within any 2-hour period), an amount of food that is definitely larger than most people would eat in a similar period of time under similar circumstances;
- A sense of lack of control over eating during the episode (e.g., a feeling that one cannot stop eating or control what or how much one is eating).

Similarities to Substance Dependence

Tolerance

- Frequency of binges and quantity of food consumed increase over time in BED
- Reduced level of glucose in blood triggers increased craving for high sugar food

Withdrawal

- Anecdotal accounts of severe mood disruption and physical symptoms of withdrawal following abstinence from hyperpalatable (calorie-dense) foods

Similarities to Substance Dependence

Loss of control

- Repetitive episodes of overeating
- Inability to resist hyperpalatable foods
- Report distress and guilt

Repeated failures to reduce consumption

- High relapse rates for BED and diet changes in general

Preoccupation with food consumption or acquisition

- Giving up of other activities to eat, or
- Eating during other activities (watching TV, driving, etc.)

Cravings and Relapse

- Preference for sweet and fatty foods

Similarities to Substance Dependence

Continued use despite harm

- Inability to change eating pattern despite emergence of health risks
- 139/1200 (12%) of participants with elevated risk of heart disease dropped out of lifestyle intervention because of inability to abstain from chocolate.

High comorbidity

- High rates of other addictive disorders, mood/anxiety disorders

Clinically significant impairment or distress

- Inadequately studied
- What is clinically significant?

Evidence against the Addiction Model

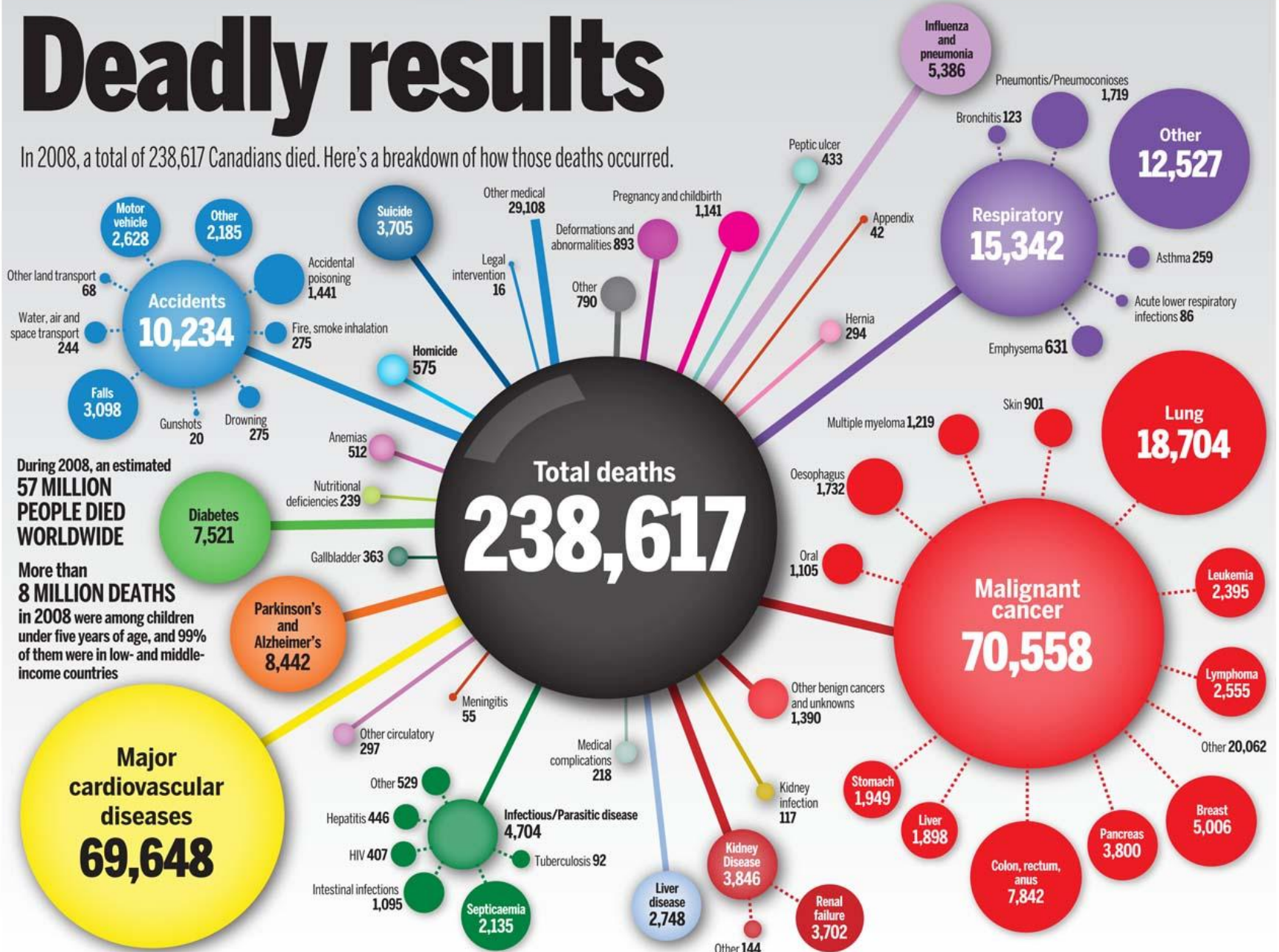
- Addictive elements of food not identified
 - Sugar, fat in unrefined forms do not evoke same response or craving
 - No evidence that binge eaters crave for a particular type of food
- Convenience and cost are big part of junk food appeal
 - Food-seeking behaviour is minimally evident
 - Lower income homes= less healthy eating habits
 - Single parent homes

Evidence against the Addiction Model

- True withdrawal is not evident (no change in physiologic functioning with abstinence from calorie-dense foods)
- Abstinence is not an option
- Dose-response curve difficult to conceptualize (what is the response?)
- Addiction is not needed to account for rise in obesity

Deadly results

In 2008, a total of 238,617 Canadians died. Here's a breakdown of how those deaths occurred.



During 2008, an estimated 57 MILLION PEOPLE DIED WORLDWIDE

More than 8 MILLION DEATHS in 2008 were among children under five years of age, and 99% of them were in low- and middle-income countries

Major cardiovascular diseases
69,648

Sources: Statistics Canada

SUSAN BATSFORD, GRAPHICS EDITOR, TWITTER @SBATSI; INFOGRAPHIC BY TARA CORRAN/QMI AGENCY

Treatment Parallels

- Pharmaceutical Naltrexone (opioid antagonist)
 - Reduces reinforcement value of ETOH and sweet foods.
 - Shown efficacy with gambling, kleptomania, hypersexual
- Behavioral – Incentive motivation, cognitive behavioral therapy, stimulus control, motivational interviewing
- 12 Step Programs
 - Overeater's Anonymous www.aa.org
 - Sex addicts anonymous saa-recovery.org
 - Gamblers anonymous www.gamblersanonymous.org
- High Relapse Rates associated with all addictions; similar relapse prevention protocols.

'Food' for Thought

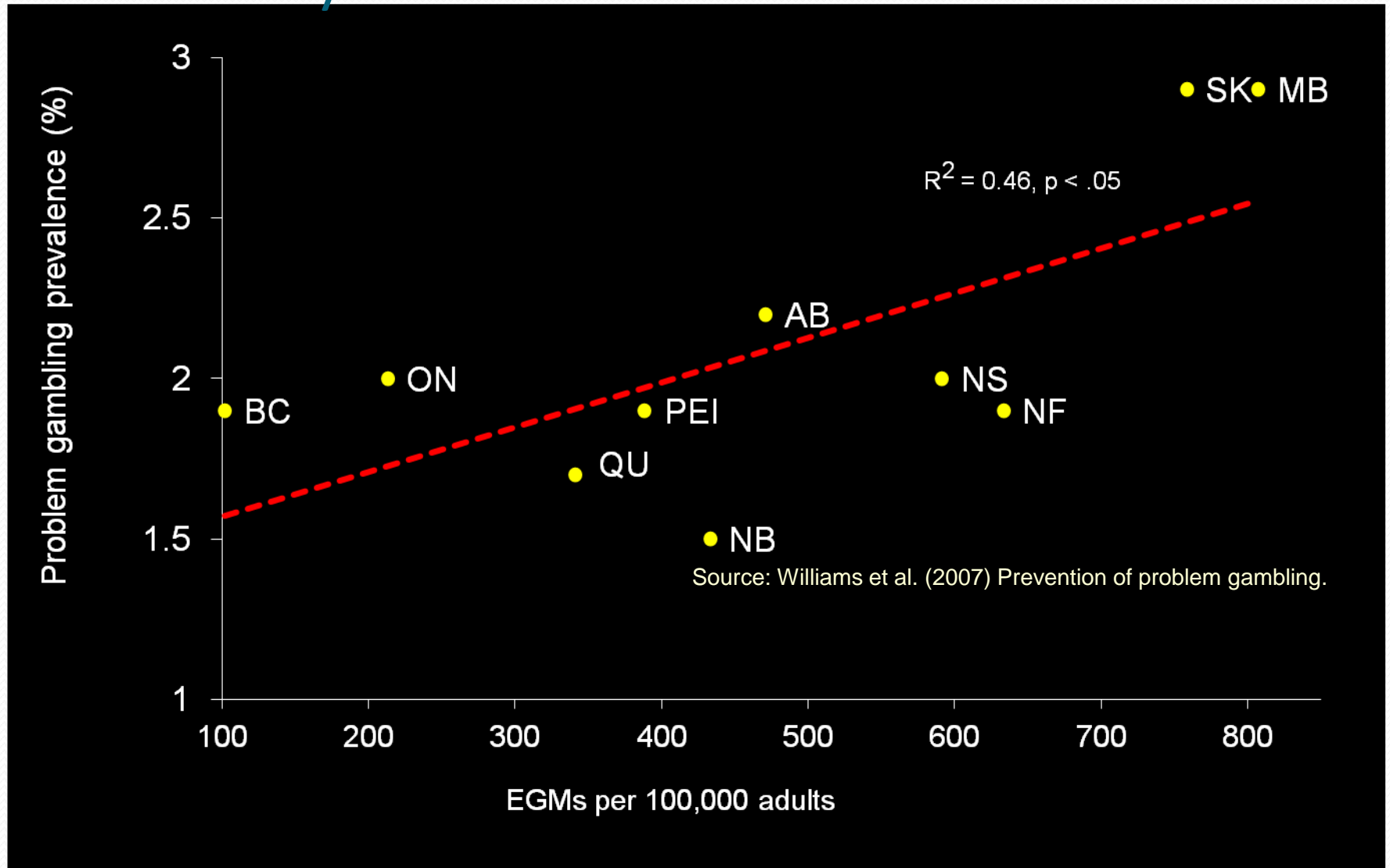
- Are we pathologizing social problems with disease label?
- Narrow versus broad definition of addiction

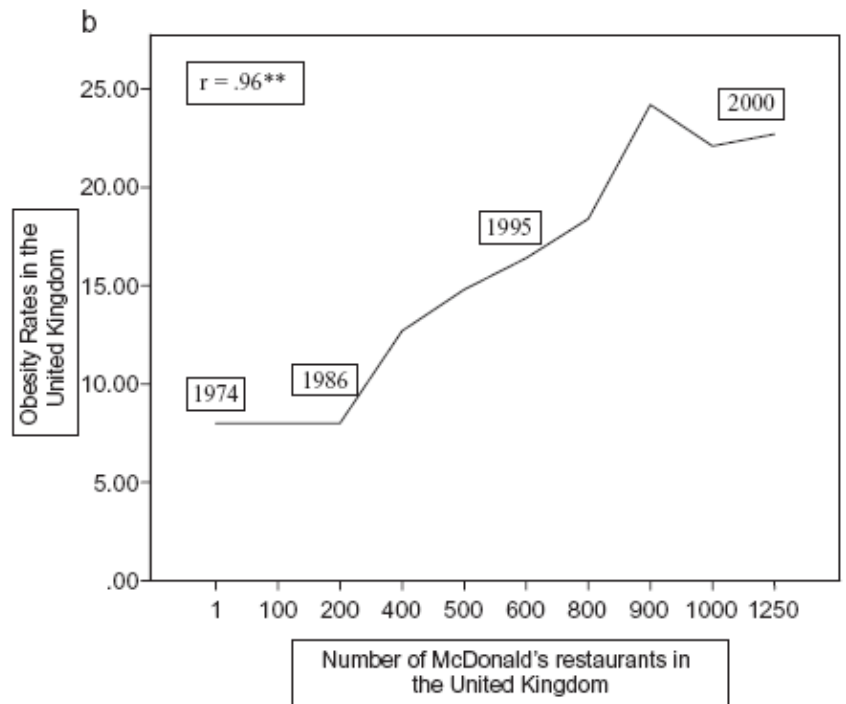
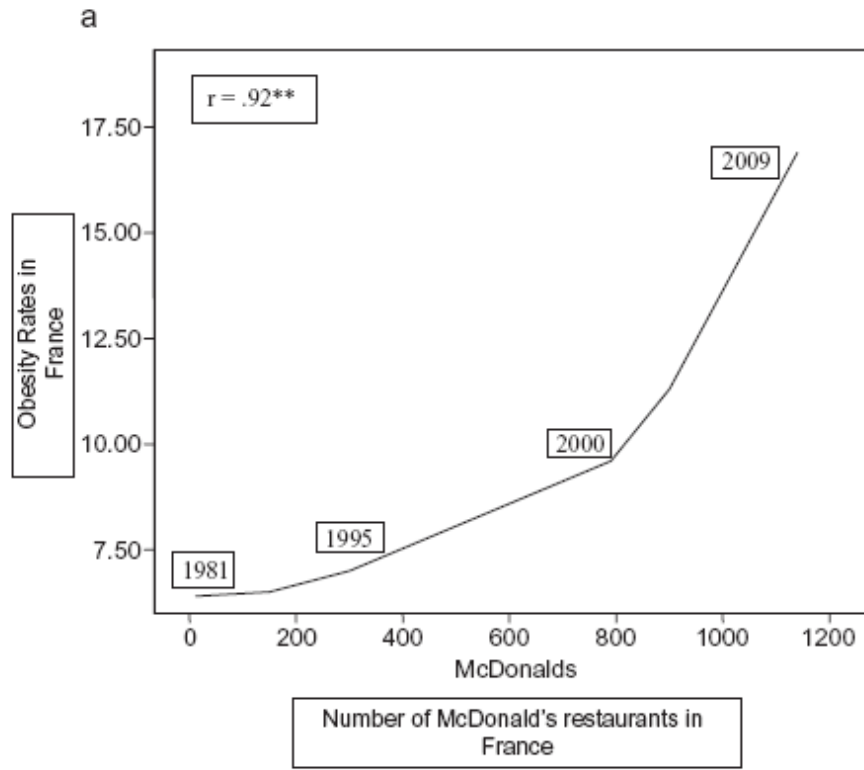
	Narrow	Broad
Pros	<ul style="list-style-type: none">-Increase diagnostic precision-More focused allocation of treatment resources	<ul style="list-style-type: none">-Identify and treat more categories of unhealthy behaviours-Reduce shame and hopelessness-Greater corporate accountable
Cons	<ul style="list-style-type: none">-May neglect some persons in obvious need of help	<ul style="list-style-type: none">-Credibility of diagnostic scheme questioned- Research resources spent on classifying new addictions better spent on prevention- Increase shame and hopelessness

Conclusions

- Focus more on etiology, prevention and less on looking for parallels with substance dependence
- Calling something an addiction does not direct more people into treatment (less than 20% of persons with ETOH, gambling, and nicotine addictions every seek treatment—number is stable over time)
- Addictive disorder label does not absolve personal responsibility
- Are addiction therapists the best health professionals to treat persons with sex, Internet, and food compulsions?
- Evidence for social-environment causative factors stronger than genetic-predisposition for gambling, Internet, food, and sexual addictions

Rate of problem gambling in relation to EGM availability





Source: Gearhardt et al. (2011) *Addiction*, 106, 1208-1212.