Assessing the Relationship Between Gambling Availability and Problem Gambling Prevalence

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25 years of prevalence research

- ## What do we know?
  - Growth of prevalence research
  - Specific gambling activities & PG prevalence
  - Looking below the surface

- ## Where do we go?
  - Conceptualizing gambling problems
  - Improving prevalence research
  - Future directions

SEIGMA SOCIAL AND ECONOMIC IMPACTS OF GAMBLING IN MASSACHUSETTS

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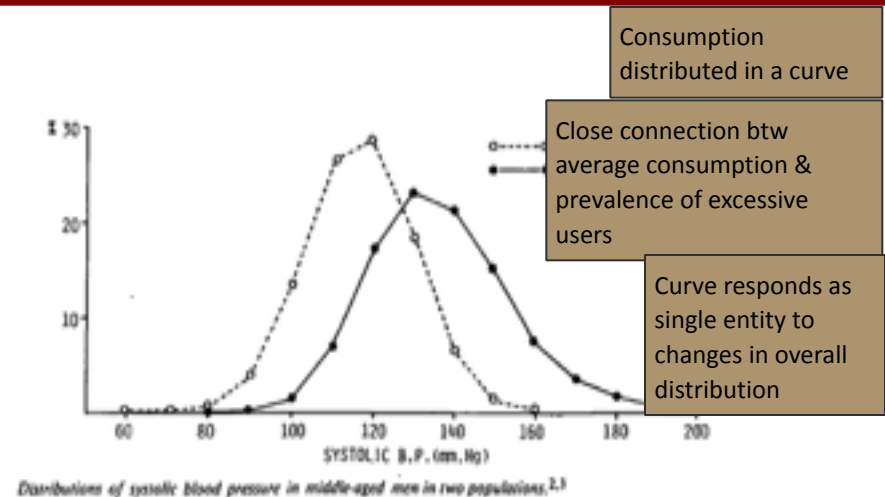
What do we know?

- A lot of prevalence research has been done around the world

- But relatively little use has been made of the research
  - Is this a problem with the research?
  - Or is it a translational issue?

The utility of gambling research

- Growth of legal, commercial gambling has been accompanied by an increase in interested stakeholders
  - Policy makers, planners, government agencies
  - Regulators & operators
  - Public health professionals & healthcare providers
  - Law enforcement
  - Banking, insurance & credit card industries
  - MH treatment professionals
  - Non-profit organizations

Framing the issue: Exposure vs. adaptation

- Single distribution theory
- But is the relationship between exposure and harm a straightforward one?

Consumption distributed in a curve

Close connection btw average consumption & prevalence of excessive users

Curve responds as single entity to changes in overall distribution

Distributions of systolic blood pressure in middle-aged men in two populations.[2,3]

- Ongoing debate about whether individuals and/or communities adapt to gambling availability over time
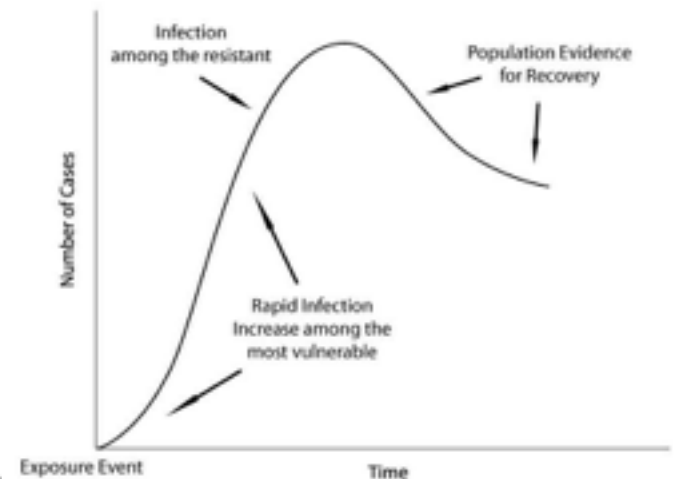
Orford, 2005; Shaffer, 2005

Reviewing the research on availability

- Meta-analysis of 120 prevalence surveys
  - All cross-sectional
  - Identified link btw time & PG prevalence
  - Higher rates in more recent years
- Productivity Commission
  - Comprehensive survey across all Australian states & territories
  - Identified relationship btw PG prevalence & EGM numbers, EGM expenditures
- Researchers have challenged notion of linear relationship btw availability & prevalence
  - Argue for need to consider change over time within jurisdictions as well as across jurisdictions
  - Also argue for need to consider different types of exposure
- Separate challenge relates to focus on different types of gambling in different jurisdictions

Abbott, 2006; LaPlante & Shaffer, 2007; Shaffer, 2005; Storer, Abbott & Stubbs, 2009

Occupational exposure

- Studies completed in U.S., Alberta, Ontario, Macau, Queensland

- Significantly higher rates of problem gambling among employees compared to general population in same jurisdictions

- Newer employees tend to have more problems compared with experienced employees

- Problem gamblers may be attracted to work in the industry

- Substantial proportion of problem casino employees report increasing their gambling after starting work in a gaming venue

Dangerfield, 2004; Guttentag, 2010; Hing & Gainsbury, 2011; Shaffer et al, 1999; Wu & Wong, 2008

Spatial exposure (proximity)

- Variability in PG rates in relation to distance from gambling venues
  - U.S. Gambling Impact Study (50 miles)
  - U.S. national survey (10 miles)
  - GIS "neighborhood" studies (AUS, NZ, CA)

- Investigative designs unable to detect causal relationships
  - Do casinos create problems?
  - Do casinos attract people who already have problems?
  - Are casinos located in areas where people already have problems?
  - Is casino location correlated with other factors (e.g. infrastructure, social capital)?

- Regional Impact of Gambling Exposure (RIGE)
  - "Standardized scale"
  - Dose = # of venues, # of venue employees
  - Potency = # of different types of gambling available
  - Duration = elapsed years of legal gambling

LaPlante & Shaffer, 2007; Shaffer et al, 2004

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Temporal exposure & adaptation

- Examined 34 AUS & NZ surveys
  - Identified relationship btw increasing EGM density & PG prev
  - Also found decreases in PG prev over time w/no change in EGM density
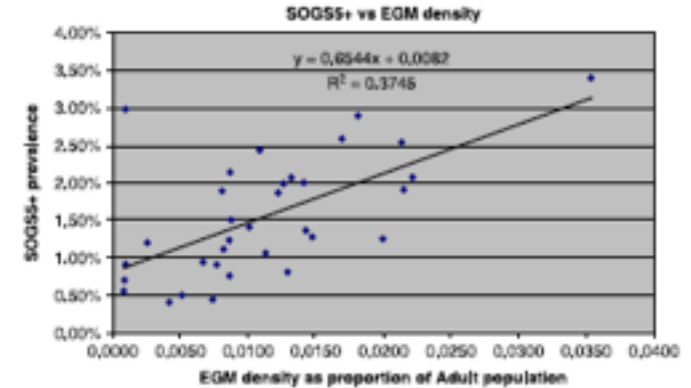
- Decreases in prevalence can occur due to reduction in incidence (new cases) or problem duration

- Adaptation occurs at different levels
  - Individual (natural recovery, professional intervention)
  - Community (novelty wears off, increased awareness of risks)
  - Population ("natural selection" & removal of unsuccessful gamblers)

- Different levels of adaptation suggest distinct policy approaches

Storer, Abbott & Stubbs, 2009

Standardization Study: Approach

- Funded by OPGRC and Ontario Ministry of Health & Long Term Care

- Created a comprehensive compilation of all published & unpublished studies that have included a jurisdiction-wide adult prevalence survey

- Standardized prevalence rates to facilitate comparison of rates between jurisdictions & within same jurisdiction over time

- Analyzed changes in standardized PG prevalence rates over time

Data & approach

- 202 studies extracted
  - 68 national
  - 27 Australian states/territories
  - 40 Canadian provinces
  - 67 U.S. states

- Five primary methodological variants
  - Differences in PG assessment instrument & differing thresholds to designate PG for the same instrument
  - Differences in time frame used to assess PG
  - Differences in method of survey administration
  - Differences in how survey is described to potential participants
  - Differences in the threshold for administering PG questions

- Weights developed for differences in instrument, time frame, administration format, survey description & response rates

- Did not correct for differences in sampling strategy, data weighting

Changes w/in jurisdictions over time
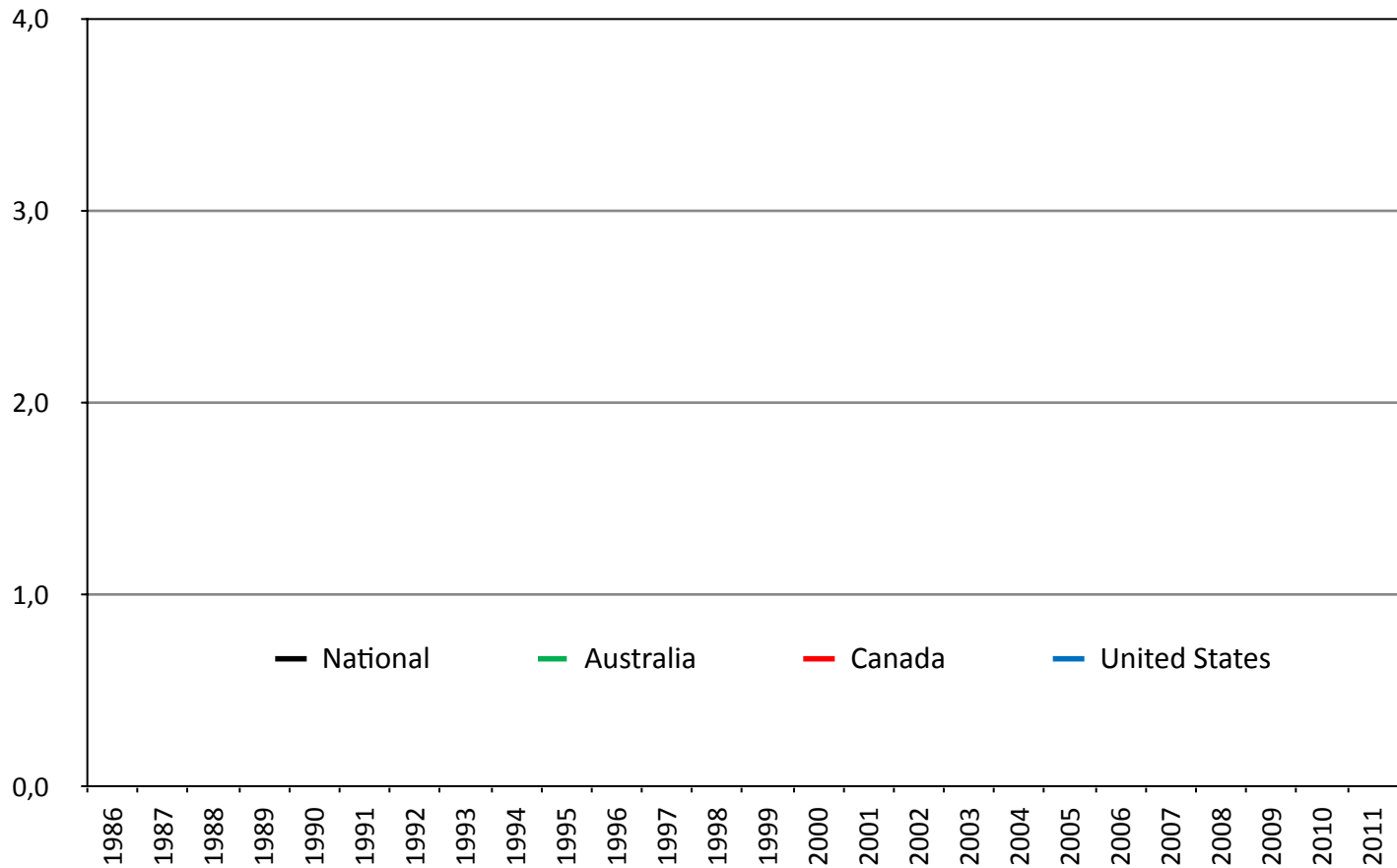
Standardized PG Prevalence Rates Over Time (5 Year Smoothed)

Conclusions

- Results support both exposure & adaptation
- Increased gambling availability is related to increased PG
- Populations appear to adapt over time
- Likely mechanisms include:
    - Increased population awareness of potential harms
    - Decreased population participation
    - Removal of PGs from pool due to severe adverse consequences (bankruptcy, imprisonment, suicide)
    - Increased industry and/or gov't efforts to provide gambling more safely, enact prevention programs, provide treatment
    - Increasing age of population

Operationalizing the concept(s)

- Exposure/availability can be conceptualized in multiple ways
    - Legal status of different types of gambling
    - Time since gambling opportunities were legalized
    - Physical closeness of gambling opportunities
    - Driving distance from major gambling venues
    - Awareness of gambling opportunities w/in driving distance
    - Number of different gambling opportunities
    - Number of outlets for the same gambling opportunity
    - Expenditures on different gambling types

- Accessibility is also likely important (geo-temporal, social & personal)

- Ecological factors beyond gambling could be important
    - Local environment – contextual (social & physical)
    - Local environment – compositional (population subgroups)
    - Availability/visibility of PG services
    - Harm minimization measures

Where do we go?

- Better measurement of gambling problems

- Improving data collection methods

- Directions for the future

Measuring problem gambling

- Worldwide, many instruments exist to assess PG
  - SOGS
  - CPGI
  - DSM-IV

- A new problem gambling screen
  - Problem & Pathological Gambling Measure (PPGM)

- What makes a good PG measure?
  - Recognizes importance of loss of control
  - Includes a concept of harm to others as well as self
  - Acknowledges levels of severity among individuals with gambling problems

How can prevalence research be improved?

- Larger sample sizes
- Multimodal approaches to data collection
  - Use of online, postal questionnaires, telephone
  - Dual-frame sampling
- Alternate research approaches
  - Prospective, longitudinal studies
  - Qualitative research
- Multidisciplinary teams
- Longer field times
- Cooperative efforts, bigger budgets & multi-year commitments

Directions for the future

- Making research relevant
  - Need to understand the full range of gamblers to direct services efficiently
  - Target "at risk" groups with education, prevention and early intervention to prevent progression
  - Fit treatment to different subgroups of problem gamblers
  - Evaluate effectiveness of services
- Continue to improve our concepts and measures
  - Gambling participation, gambling problems, impacts
  - Availability, accessibility, acceptability, advertising
- Monitor impacts over time