CICAD Meeting with the Universities of the Americas Concerning the Drug Phenomenon Focusing on the Use of Scientific Evidence

The Process of Using Scientific Evidence in the Development of Policies, Programs, and Projects in the Americas

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Sept. 12-14, 2012

Presentation overview

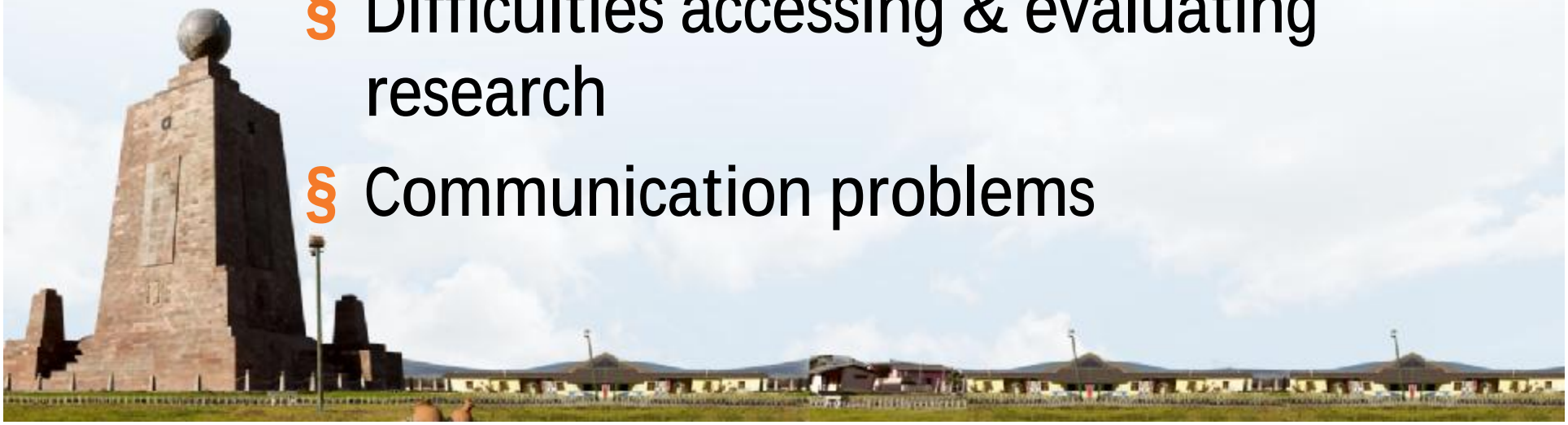
- How can evidence influence the policy and program process?
- Three examples (one success and two failures) where evidence and policy/programming could have communicated
- General discussion of current areas where evidence can be useful in support of policy and programming considerations in the Americas

§ “Muddling through” policy making?

(Lindblom, 1959, 1973)

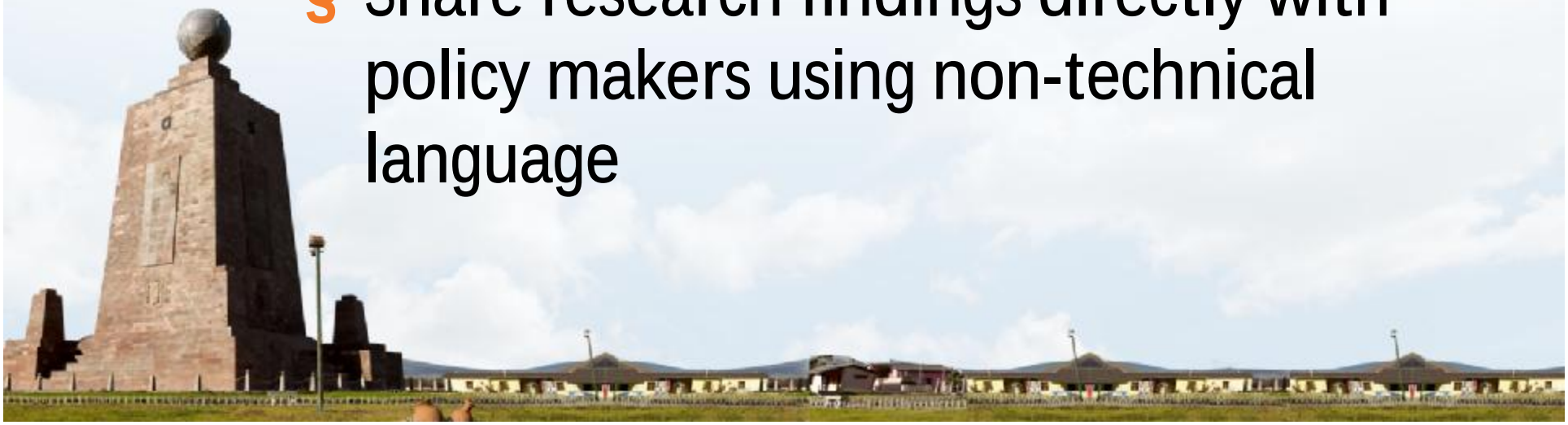
Barriers to use of evidence in policy making

- Different time frames
- Shifts in policy environment
- Difficulties accessing & evaluating research
- Communication problems



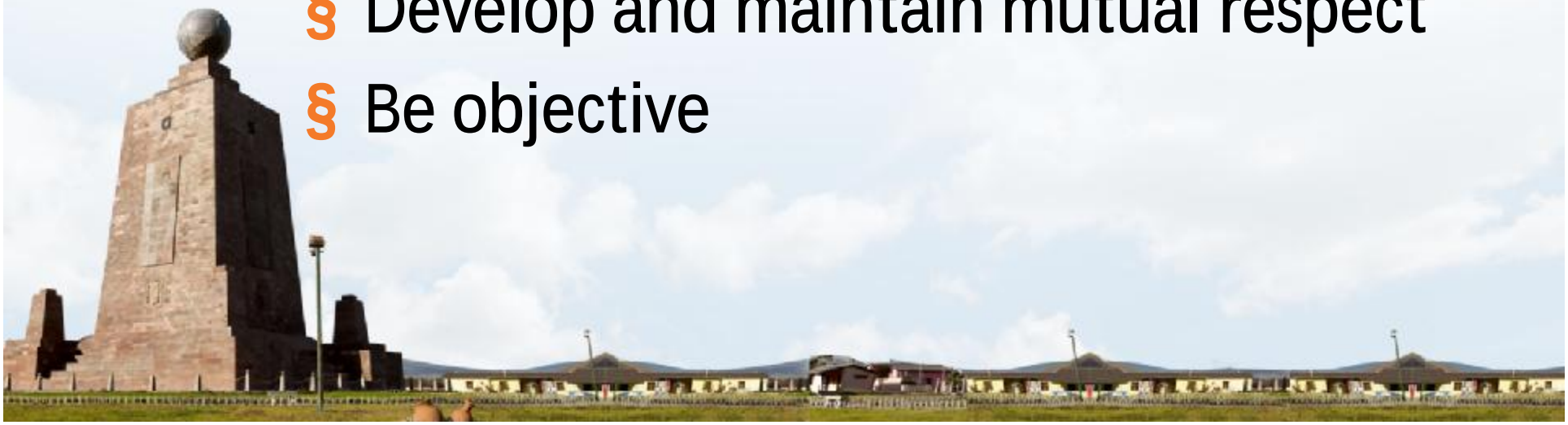
Strategies to improve communication

- Researchers should determine what they have that governments need
- Share research findings directly with policy makers using non-technical language



Strategies (cont'd)

- Be brief and to the point
- Develop and maintain mutual respect
- Be objective



Policy development

- Policy development is a definable process.
- Research has a role inside and outside that process
- Policy is often not developed through a rational step-by-step process

Primary influences on policies

- Ideology and governing party's election platform
- Economic change
- Special interests and advocates
- Specific events
- Health, social, cultural trends

Approaches to policy-making

- Small adjustments to existing policies
  - Research consistent with overall goal may be influential

(Lindblom, 1959, 1973)

Approaches to policy

- Policy reflects the vision of powerful interest groups
  - Research may be strategically used, particularly if changes are expected

(Weiss, 1983)

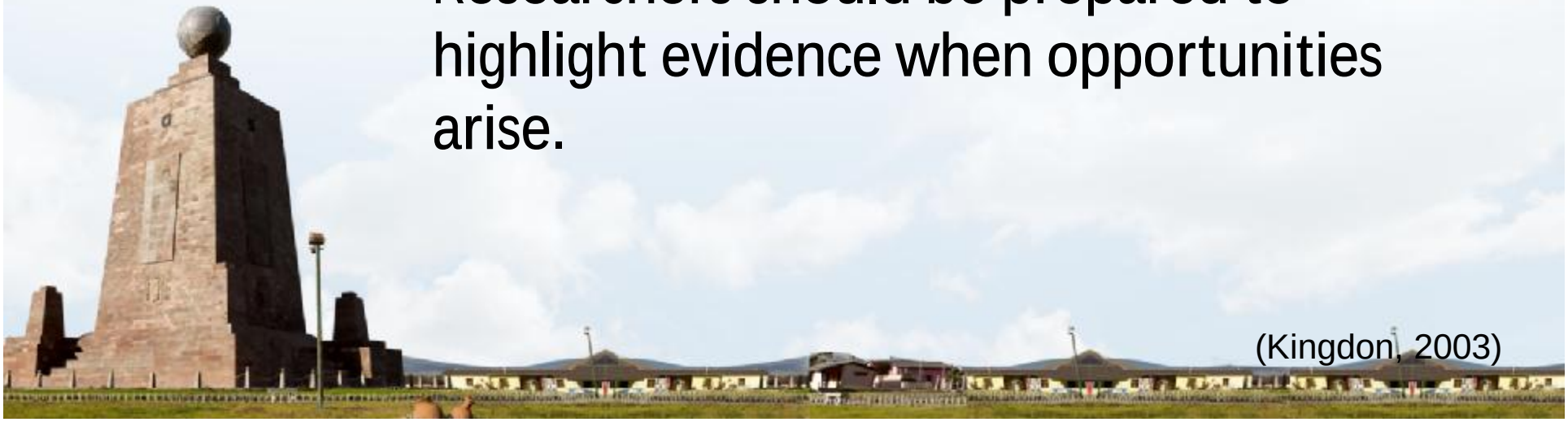
Approaches to policy

- Policy reflects a balance between multiple coalitions
  - Researchers may focus on changing a specific aspect of a coalition's belief

(Sabatier, 1988)

Approaches to policy

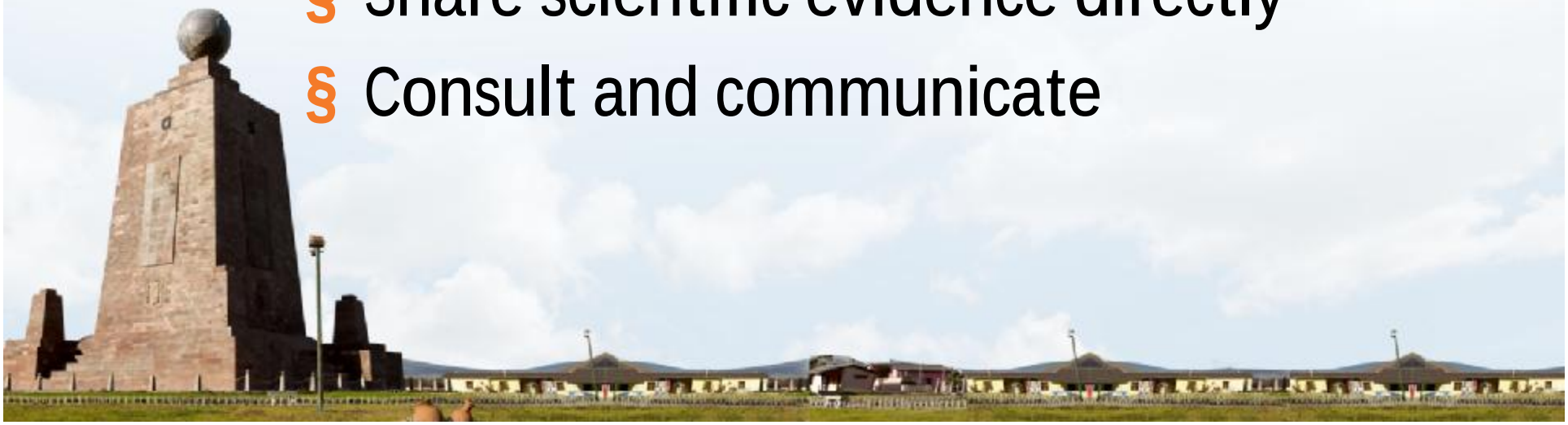
- Policy is in response to a specific event that highlighted a problem or issue
  - Researchers should be prepared to highlight evidence when opportunities arise.



(Kingdon, 2003)

Summary

- Know the decision-makers and advocates
- Share scientific evidence directly
- Consult and communicate



Can research and programming/policy work together?

Can research and programming/policy work together?

- Evidence-based policies, evidence-based programs, evidence-based projects
- The common element in all of these is…. Evidence!

Can research and programming/policy work together?

- Three examples where evidence and policy/programming could have worked together, with one success and two failures

Comparison of "Mature" and "Emerging" Issues in Canada

Stream	Drugs and Driving	Government control/regulation of alcohol retailing	Safe injection sites
Problem	• well understood by stakeholders • Evidence on effects of drugs on driving still developing	• Alcohol availability is a major determinant of alcohol problem rates • Science is very clear • Big economic interests involved • stakeholders not connected around an issue	• Injection drug use is a major contributor to HIV, Hep C • many stakeholders inside and outside government • a picture is emerging • government focus: CDPAC and OCDPA
Solutions / Policy	• Many possible solutions, clear need for more evidence • debate re: policy levers	• Maintain/expand government control of alcohol retailing • many solutions, no clear direction; thus hard to be feasible, concrete, acceptable	• Harm reduction approach • Evidence is still emerging
Political	• progress has been made • Research seen as a legitimate response • resonates with the public	• Ideological conflict • Economic conflict • little political appreciation for role of policy • Failure to understand role of research in ideological context	• Ideological conflict • little political or public appreciation for role of evidence

Drugs and driving

- Our clear success story
- For many years the issue of drugs and driving was overlooked because we were focusing on the alcohol and driving issue

Drugs and Driving

- There was also little *evidence* on the issue
- Many researchers and policy makers thought that drug use and driving posed few risks, or that it played only a very small role in the overall traffic safety picture

Drugs and Driving

- Others thought that some drugs had no impairing effects on driving skills, or even improved them

•Marijuana safer than drink, says crash study, *The Advertiser* 6/8/95 p 6

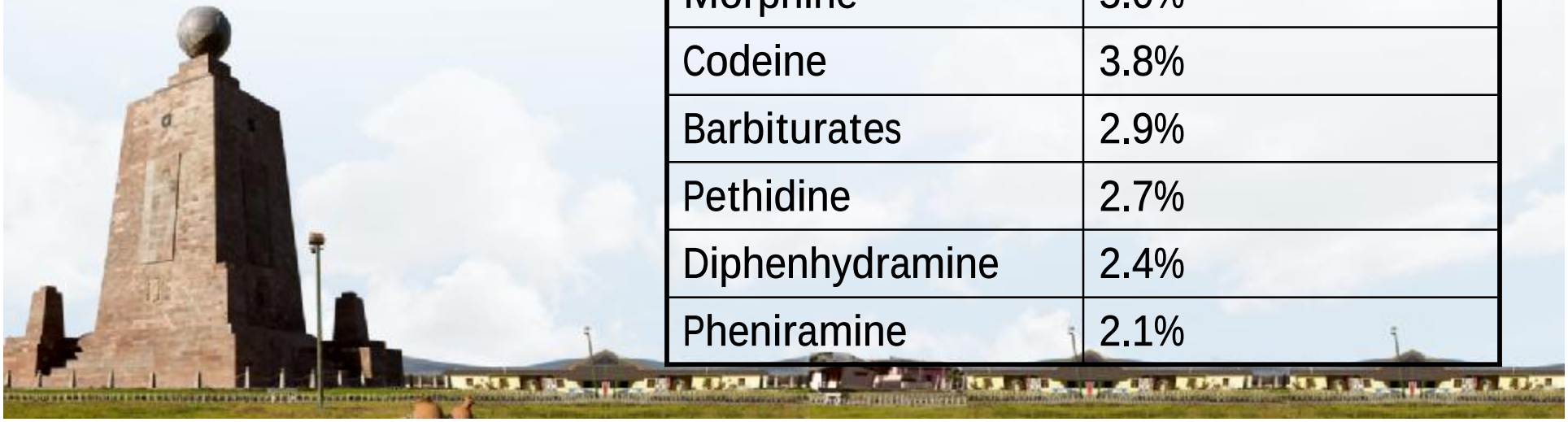
Drugs and Driving

- However, in recent years evidence has accumulated to show that drugs appear to play an important role in traffic safety problems – possible even larger than alcohol
- A major reason for this is government decisions to increase the amount of evidence available on this issue

Drugs and Driving

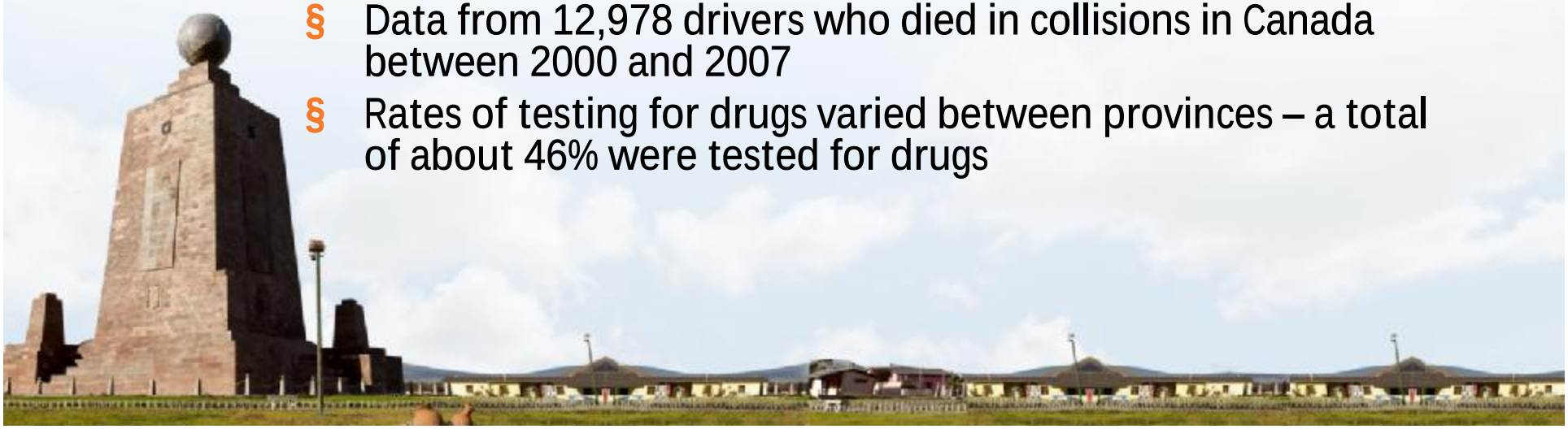
Sunnybrook Study – Drugs in seriously injured drivers: Stoduto et al, 1996

Substance	*% of drivers*
Cannabis	13.9%
Benzodiazepines	12.4%
Cocaine	5.3%
Morphine	5.0%
Codeine	3.8%
Barbiturates	2.9%
Pethidine	2.7%
Diphenhydramine	2.4%
Pheniramine	2.1%



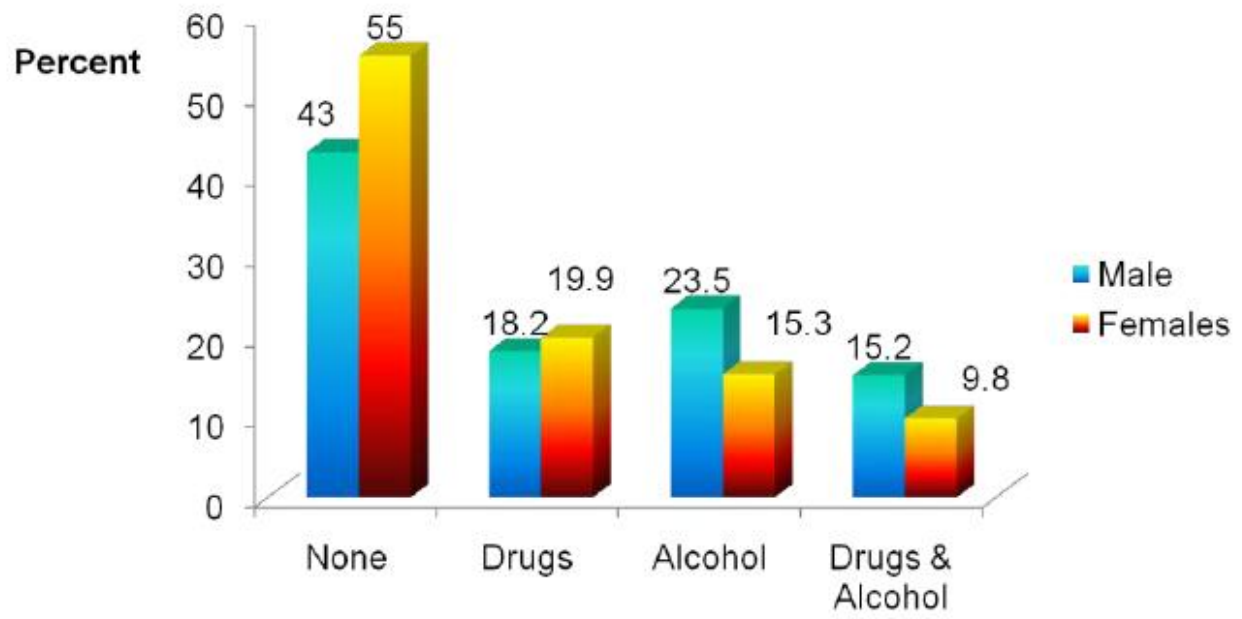
Drugs and Driving

- Canadian Centre for Substance Abuse study – Beasley et al, 2011
- Combined data from the Fatality Database maintained by TIRF for Transport Canada and the National Collision Database maintained by Transport Canada
- Data from 12,978 drivers who died in collisions in Canada between 2000 and 2007
- Rates of testing for drugs varied between provinces – a total of about 46% were tested for drugs



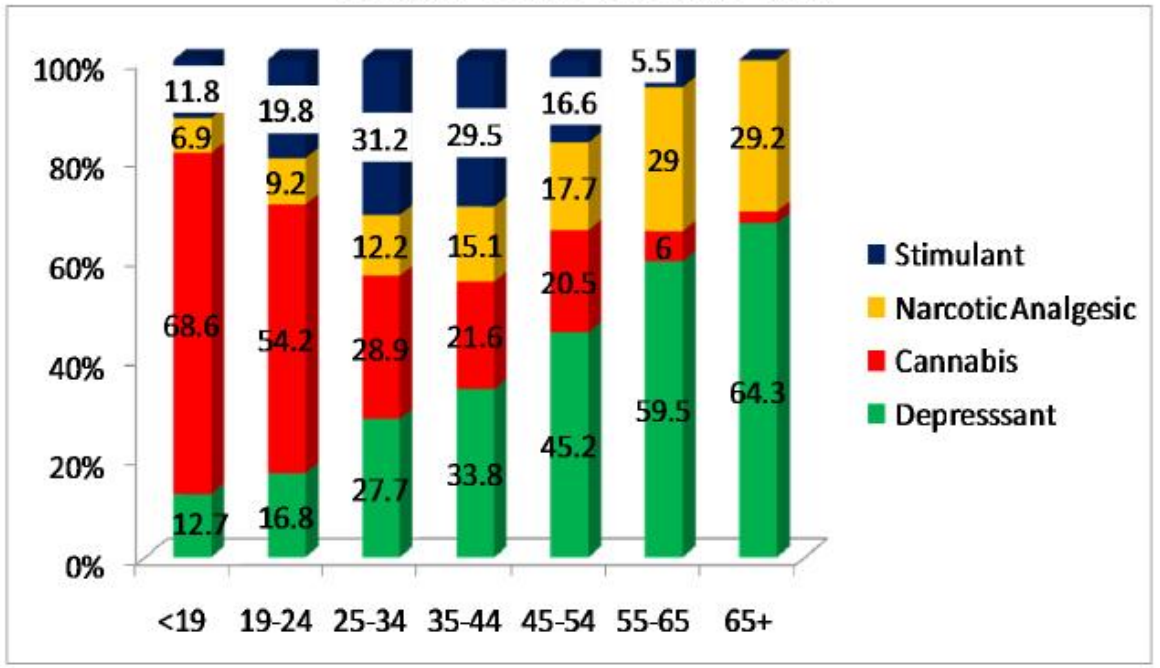
Drugs and Driving

Figure 8: Alcohol and Drug Positive Cases According to Sex



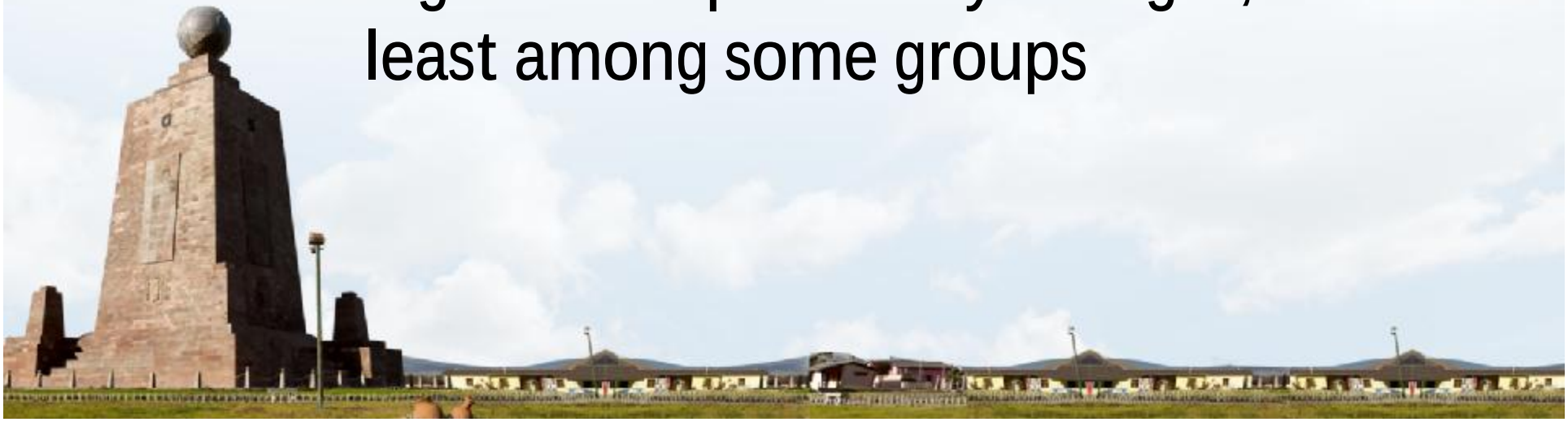
Drugs and Driving

Figure 11: Frequency of Drug Categories According to Age Among Drivers Testing Positive for Drugs Only



Drugs and Driving

- Other research is suggesting that the prevalence of driving after drug use is higher than previously thought, at least among some groups



Drugs and Driving

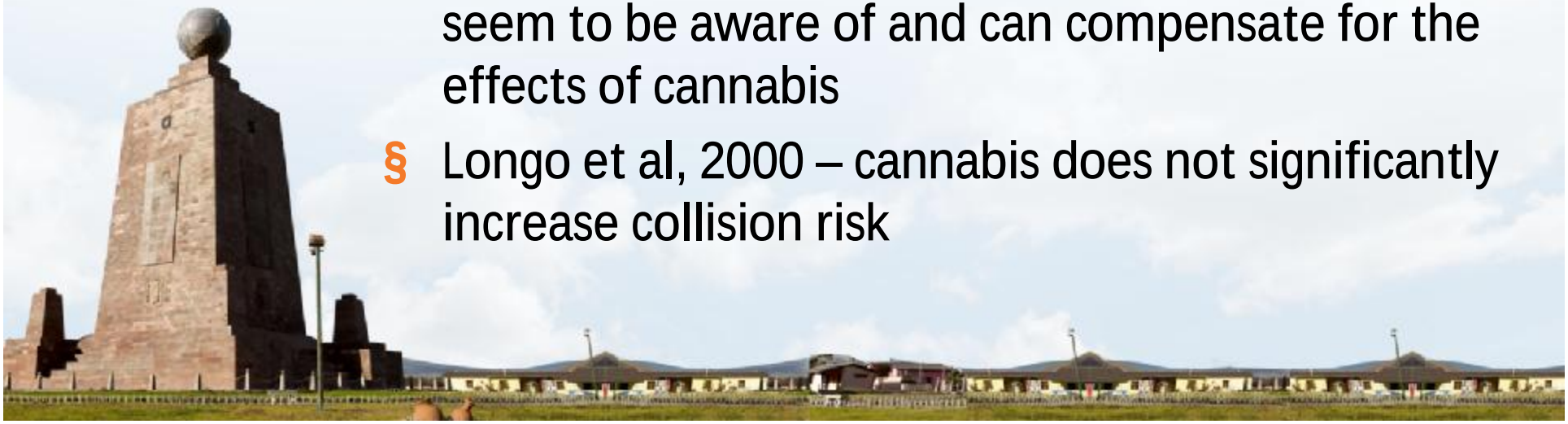
- Driving after alcohol and after cannabis in OSDUHS data; Adlaf, Mann and Paglia, 2003
- Examined driving after cannabis use among Ontario high school students (grades 10-13)
- Among those with a drivers license, 15.0% reported driving after drinking at least once in the previous year
- Proportion reporting driving after cannabis use - 19.3%

Drugs and Driving

Does drug use increase collision risk?

Early perceptions

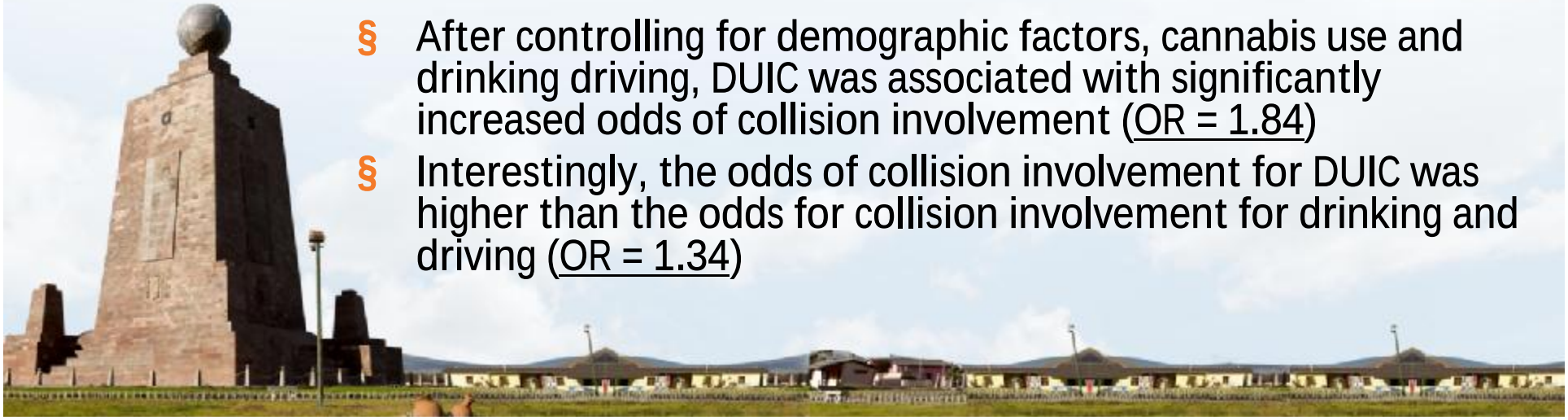
- Smiley, 1998 – experienced cannabis users don't seem to be at increased collision risk because they seem to be aware of and can compensate for the effects of cannabis
- Longo et al, 2000 – cannabis does not significantly increase collision risk



Drugs and Driving

However, more recent evidence is painting a different picture…

- Mann et al, 2010 - We examined the impact of self-reported driving after cannabis use in the past year on self-reported collision involvement in the past year in a sample of 6907 drivers
- After controlling for demographic factors, cannabis use and drinking driving, DUIC was associated with significantly increased odds of collision involvement (OR = 1.84)
- Interestingly, the odds of collision involvement for DUIC was higher than the odds for collision involvement for drinking and driving (OR = 1.34)



Drugs and Driving

Meta-analyses are now confirming that cannabis increases collision risk – e.g., Li et al, 2011

First Author, Year (Reference No.)	Statistics for Each Study: Odds Ratio	95% CI	% Weight
Asbridge, 2005 (66)	3.88	3.17, 4.75	15.16
Blows, 2005 (64)	7.16	2.77, 18.52	4.88
Brault, 2004 (68)	3.43	2.69, 4.36	14.55
Fergusson, 2001 (70)	2.37	1.98, 2.84	15.44
Gerberich, 2003 (69)	1.70	1.25, 2.32	13.40
Mann, 2010 (62)	3.28	2.29, 4.71	12.42
Movig, 2004 (63)	2.10	1.10, 4.01	7.88
Mura, 2003 (67)	2.11	1.46, 3.06	12.26
Woratanarat, 2009 (65)	0.85	0.29, 2.50	4.01
Overall (random-effects model)	2.66	2.07, 3.41	100.00

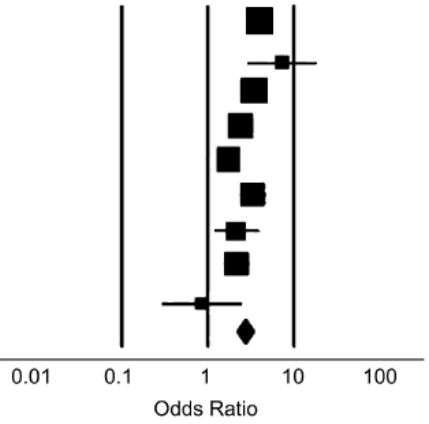
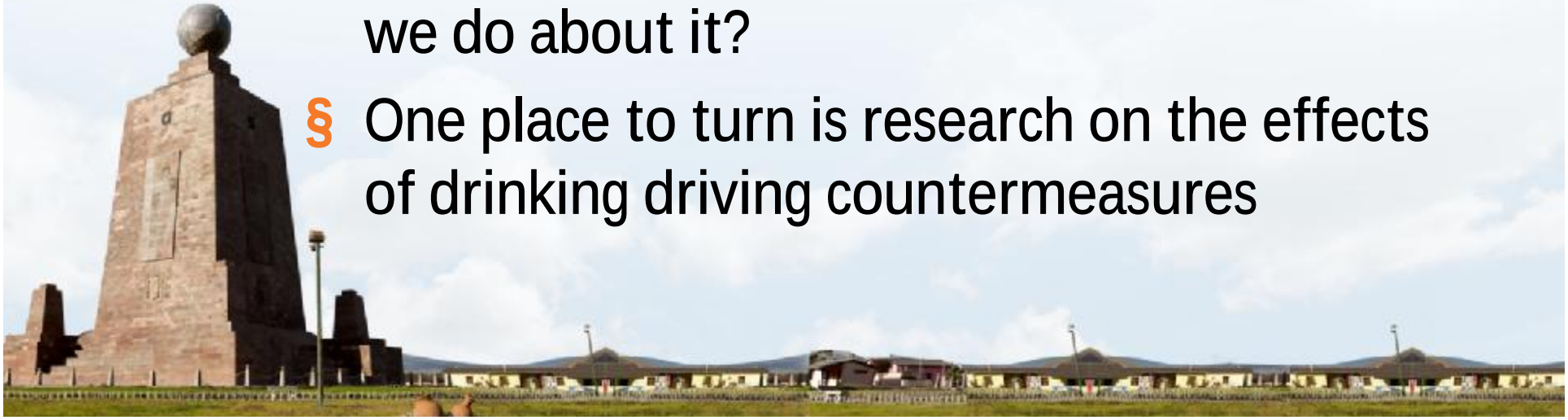


Figure 2. Forest plot of study level, summary odds ratio, and 95% confidence interval (CI) of crash involvement associated with marijuana use. The size of each square is proportional to the relative weight that each study contributed to the summary odds ratio. The summary odds ratio is indicated by the diamond. Horizontal bars indicate the 95% confidence interval. Heterogeneity: $Q = 38.21$; $P < 0.0001$; $I^2 = 79.1$.

Drugs and Driving

- Data is now confirming that drugs impair driving and increase crash risk
- The next important question is – what can we do about it?
- One place to turn is research on the effects of drinking driving countermeasures



Drugs and Driving

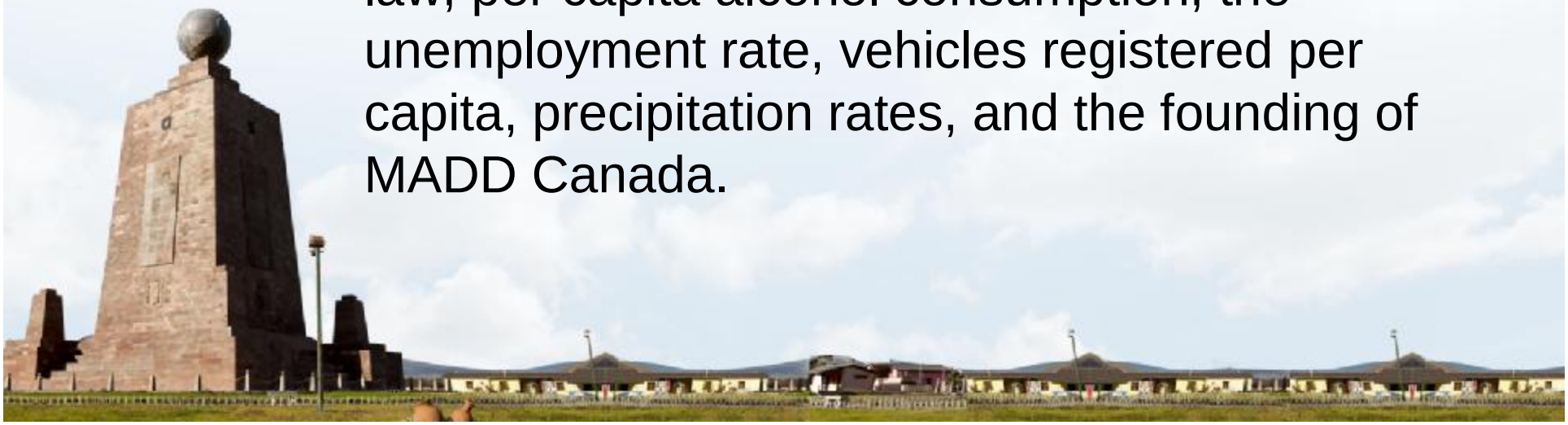
- Drinking driving a mature research area with much solid information on what measures can affect drinking driving rates, and which is very relevant to the drugs and driving issue
- In recent years many policies and programs have been implemented in efforts to reduce deaths resulting from alcohol-impaired driving
- Efforts to reduce drinking driving are considered to be a very important public health success story

Drugs and Driving

- *Asbridge et al, 2004* assessed the long-term effectiveness of Canada's Breathalyser Law introduced in 1969 in reducing drinking driver fatalities
- Used time series methods to assess factors influencing annual drinking driver deaths in the province of Ontario
- *Journal of Studies on Alcohol*, 2004, v. 65, 450-459.

Drugs and Driving

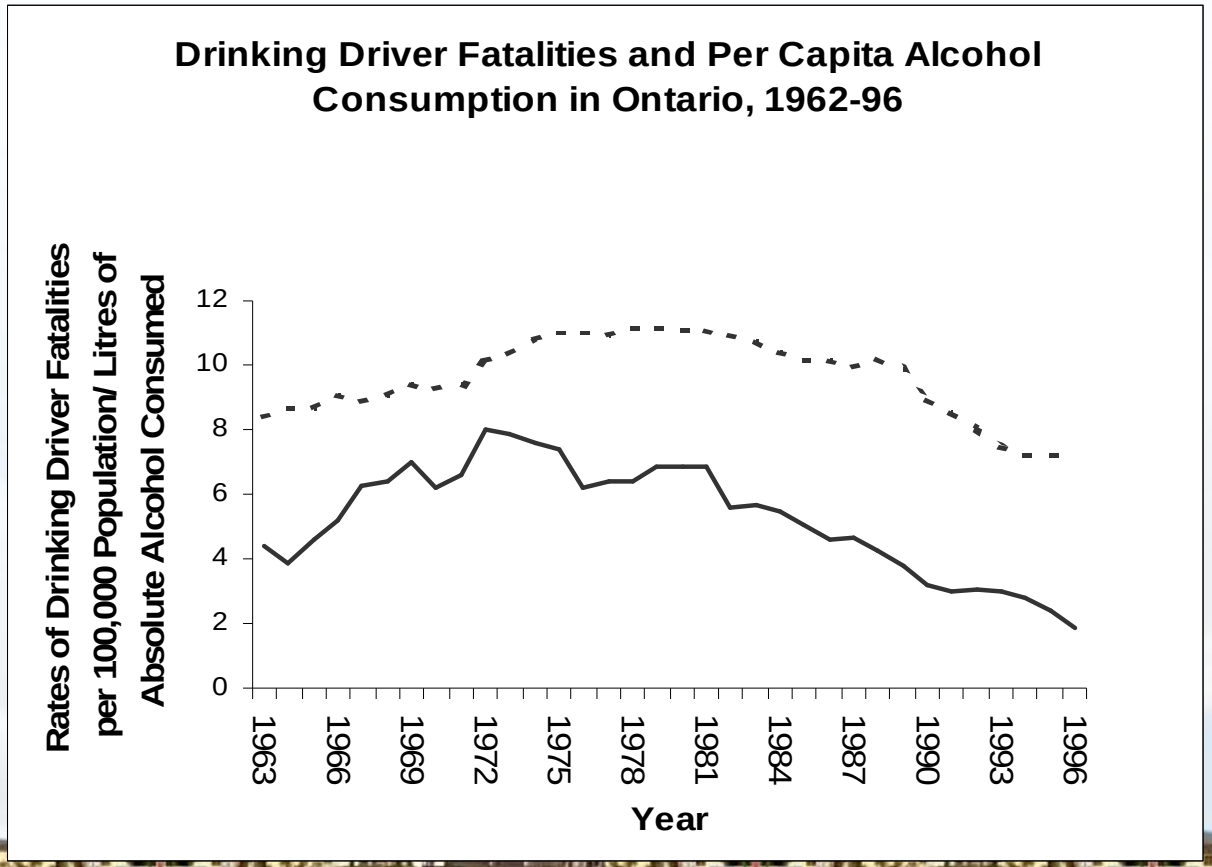
- We included in the analyses other potential influences on driver fatality rates, such as the introduction of Ontario's mandatory seatbelt law, per capita alcohol consumption, the unemployment rate, vehicles registered per capita, precipitation rates, and the founding of MADD Canada.



Drugs and Driving

- *Method:* Interrupted time series analysis with ARIMA modelling was applied to the annual number of motor vehicle driver fatalities in Ontario for the period 1962 to 1996, examining drinking and non-drinking driver fatalities.

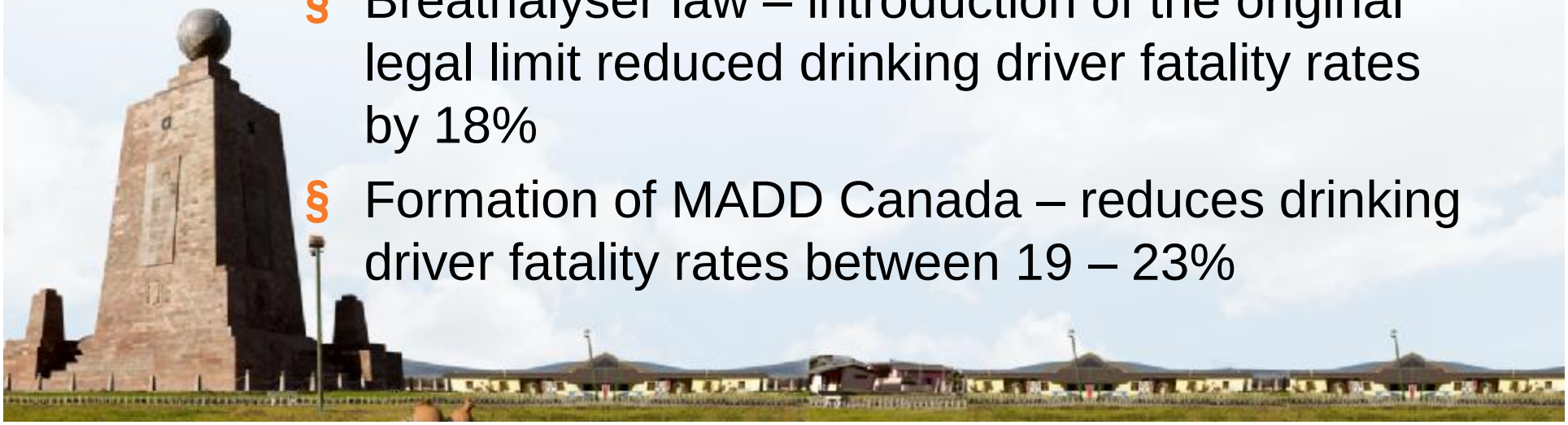
Drugs and Driving



Drugs and Driving

Factors influencing alcohol-related driver fatalities:

- Alcohol consumption – 1 litre increase in per capita consumption increases drinking driver fatalities between 8 –14%
- Breathalyser law – introduction of the original legal limit reduced drinking driver fatality rates by 18%
- Formation of MADD Canada – reduces drinking driver fatality rates between 19 – 23%



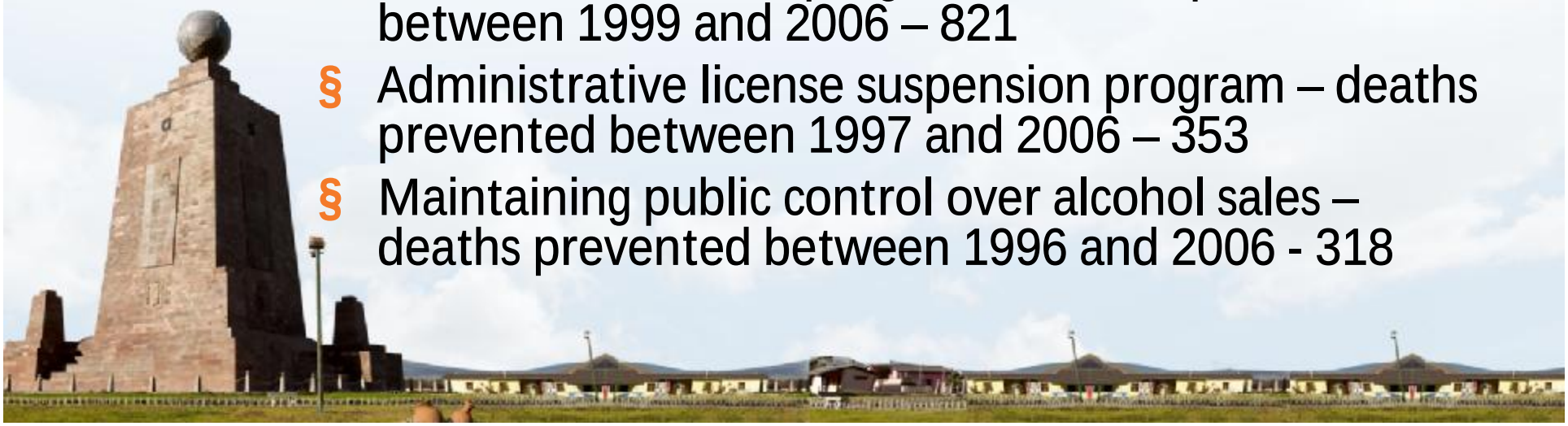
Drugs and Driving

- More recently we have been able to provide the first large scale estimates of the effects of a variety of drinking driving countermeasures in Ontario over the years

Drugs and Driving

Estimating cumulative benefits of drinking driving countermeasures:

- Per se law – deaths prevented between 1970 and 2006 – 3,072
- Remedial measures program – deaths prevented between 1999 and 2006 – 821
- Administrative license suspension program – deaths prevented between 1997 and 2006 – 353
- Maintaining public control over alcohol sales – deaths prevented between 1996 and 2006 - 318



Drugs and Driving

Estimated total impact of these and other countermeasures between 1970 and 2006:

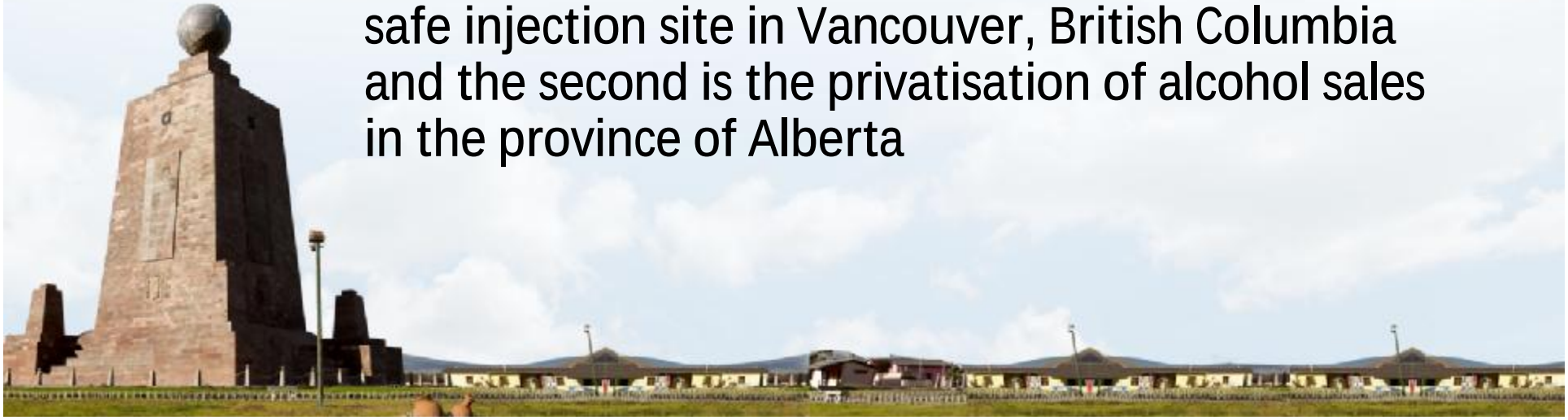
- Deaths prevented – 4,887; injuries prevented – 178,238; no-injury collisions prevented – 132,182
- Estimated costs prevented range from $8.5 billion to $78 billion

Drugs and Driving

- So far, it appears that that researchers and policy makers are cooperating successfully to understand and address the drugs and driving issue
- Policy makers are looking to the example of drinking driving success and using it as a model for understanding how we might approach the drugs and driving issue

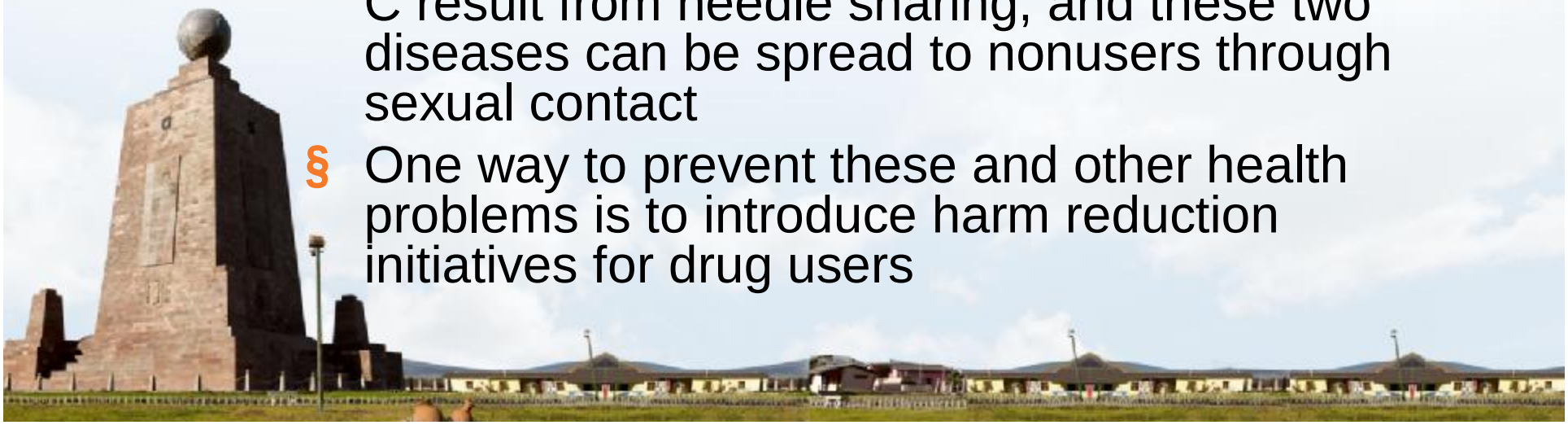
Two examples of failure to cooperate…

- The next two examples reflect a failure of researchers and policy makers to work together on issues
- The first example is government attempts to close a safe injection site in Vancouver, British Columbia and the second is the privatisation of alcohol sales in the province of Alberta



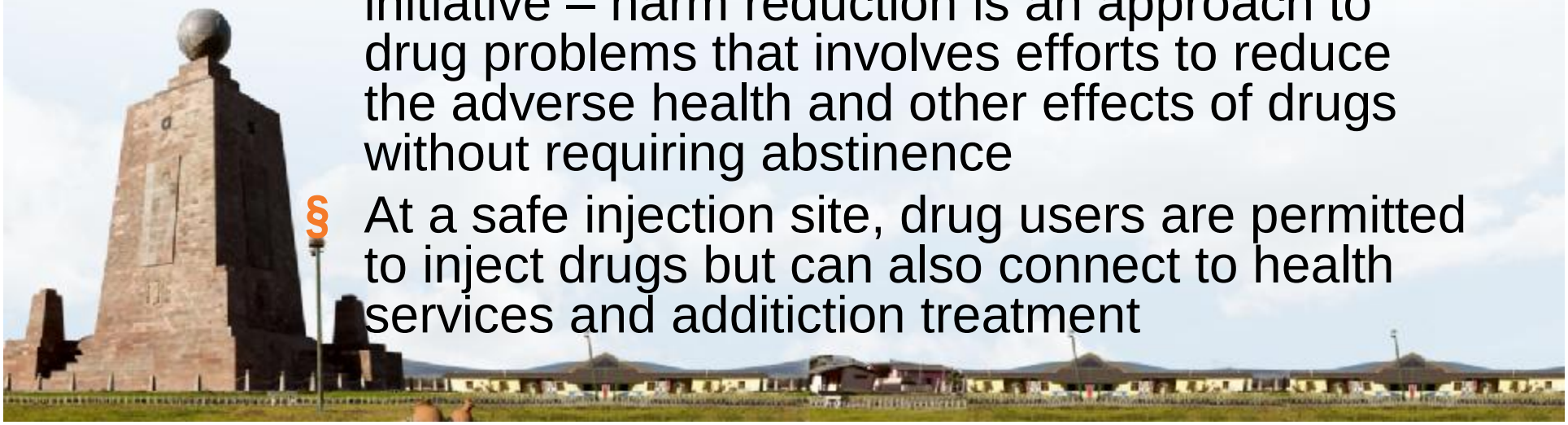
Government attempts to close a safe injection site in Vancouver, Canada

- Injection drug use can create major health problems for users which can be spread to the nonusing population
- For example, many cases of HIV and Hepatitis C result from needle sharing, and these two diseases can be spread to nonusers through sexual contact
- One way to prevent these and other health problems is to introduce harm reduction initiatives for drug users



Government attempts to close a safe injection site in Vancouver, Canada

- These harm reduction initiatives can include needle exchange programs and safe injection sites
- A safe injection site is a harm reduction based initiative – harm reduction is an approach to drug problems that involves efforts to reduce the adverse health and other effects of drugs without requiring abstinence
- At a safe injection site, drug users are permitted to inject drugs but can also connect to health services and addiction treatment



Government attempts to close a safe injection site in Vancouver, Canada

The timeline...

2003

- When Insite was opened in September 2003, it was originally awarded a three-year exemption from Section 56 of the *Controlled Drugs and Substances Act* , for scientific and research purposes.

2006

- In September 2006, the Federal Health Minister announced an extension to the site's exemption that allowed Insite to operate for another 15 months.

2007

- In October 2007 the exemption was extended until June 30, 2008.
- In August 2007, the PHS Community Services Society, the two Insite clients and Vancouver Area Network of Drug Users (VANDU) filed a statement of claim in BC Supreme Court seeking to have the court declare Insite the exclusive jurisdiction of the province and for the federal government not to play any role in its future.

2008

- In May 2008, the BC Supreme Court struck down the provisions of the *Controlled Drugs and Substances Act* that deal with possession and trafficking but suspended the declarations of invalidity for one year to allow Parliament to bring the law into compliance with the Constitution, and the Court's reasons, which ensure Insite a permanent constitutional exemption. The Attorney General of Canada appealed the decision.

2010

- On January 15, 2010, the BC Court of Appeal dismissed the appeal by the Attorney General of Canada, allowing Insite to continue operations. The Attorney General filed a further appeal with the Supreme Court of Canada.

2011

- On May 12, 2011, the Supreme Court of Canada will hear the appeal from Attorney General of Canada.
- On September 30, 2011, the Supreme Court of Canada denied the appeal by the Attorney General of Canada, allowing Insite to continue operations.

Government attempts to close a safe injection site in Vancouver, Canada

Supreme Court of Canada rules on Insite

September 30, 2011

VANCOUVER, BC – Vancouver Coastal Health today confirmed it will continue to operate Insite, North America's only supervised injection site, following a unanimous Supreme Court of Canada ruling today that supported its ongoing operation.

The ruling, handed down at 6:45am Pacific Time, follows a lengthy legal process that commenced in 2006 when a statement of claim was filed in BC Supreme Court seeking a declaration that the Federal Government could not constitutionally prevent Insite from operating.

The Supreme Court of Canada denied an appeal to previous rulings that supported that approach, ordering the Federal Minister of Health to grant an immediate exemption from the Controlled Drug and Substances Act in order to allow Insite to continue to operate.

Government attempts to close a safe injection site in Vancouver, Canada

Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study

Brandon D L Marshall, M-J Milloy, Evan Wood, Julio S G Montaner, Thomas Kerr

Summary

Background Overdose from illicit drugs is a leading cause of premature mortality in North America. Internationally, more than 65 supervised injecting facilities (SIFs), where drug users can inject pre-obtained illicit drugs, have been opened as part of various strategies to reduce the harms associated with drug use. We sought to determine whether the opening of an SIF in Vancouver, BC, Canada, was associated with a reduction in overdose mortality.

Methods We examined population-based overdose mortality rates for the period before (Jan 1, 2001, to Sept 20, 2003) and after (Sept 21, 2003, to Dec 31, 2005) the opening of the Vancouver SIF. The location of death was determined from provincial coroner records. We compared overdose fatality rates within an a priori specified 500 m radius of the SIF and for the rest of the city.

Findings Of 290 decedents, 229 (79·0%) were male, and the median age at death was 40 years (IQR 32–48 years). A third (89, 30·7%) of deaths occurred in city blocks within 500 m of the SIF. The fatal overdose rate in this area decreased by 35·0% after the opening of the SIF, from 253·8 to 165·1 deaths per 100 000 person-years (p=0·048). By contrast, during the same period, the fatal overdose rate in the rest of the city decreased by only 9·3%, from 7·6 to 6·9 deaths per 100 000 person-years (p=0·490). There was a significant interaction of rate differences across strata (p=0·049).

Interpretation SIFs should be considered where injection drug use is prevalent, particularly in areas with high densities of overdose.

Lancet 2011; 377: 1429–37

Published Online
April 18, 2011
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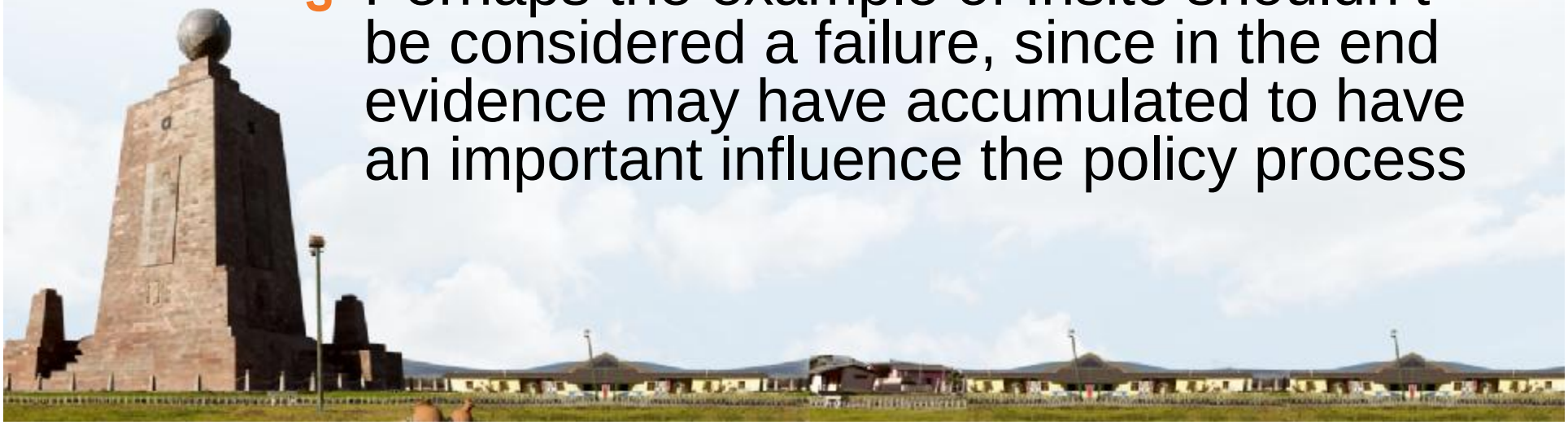
See Comment page 1385

British Columbia Centre for Excellence in HIV/AIDS (B D L Marshall PhD, M-J Milloy MSc, E Wood PhD, Prof J S G Montaner MD, T Kerr PhD), Faculty of Medicine (E Wood, J S G Montaner, T Kerr), School of Population and Public Health, University of British Columbia (M-J Milloy), Vancouver, BC, Canada; and Department of Epidemiology, Mailman School of Public Health, Columbia University, New York, NY, USA (B D L Marshall)

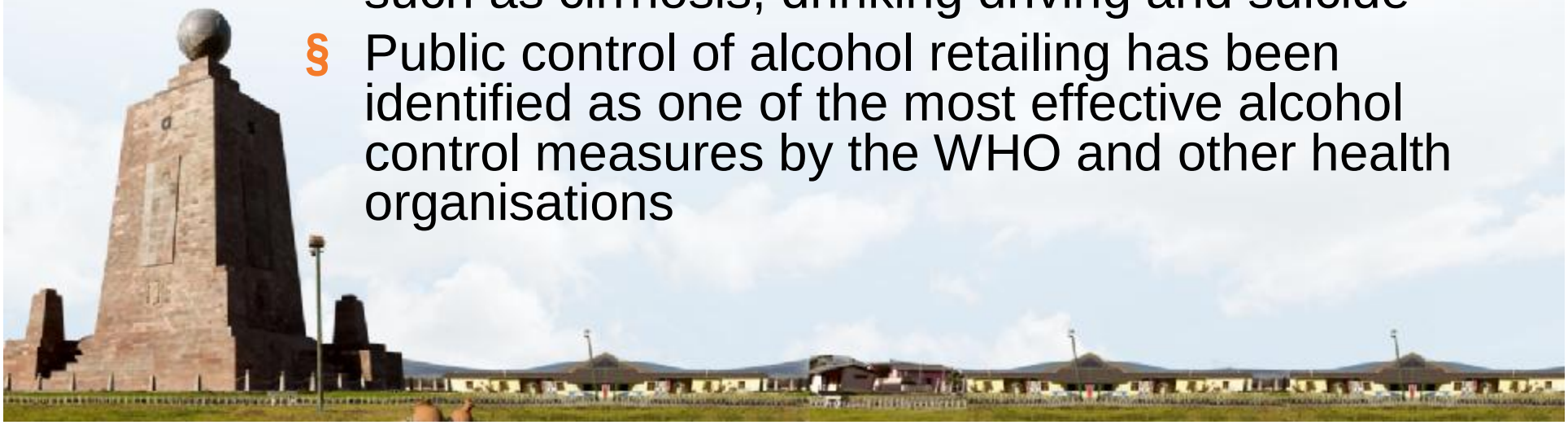
Government attempts to close a safe injection site in Vancouver, Canada

- This example illustrates the complexity of factors that are involved in policy and program decisions
- Perhaps the example of Insite shouldn't be considered a failure, since in the end evidence may have accumulated to have an important influence the policy process



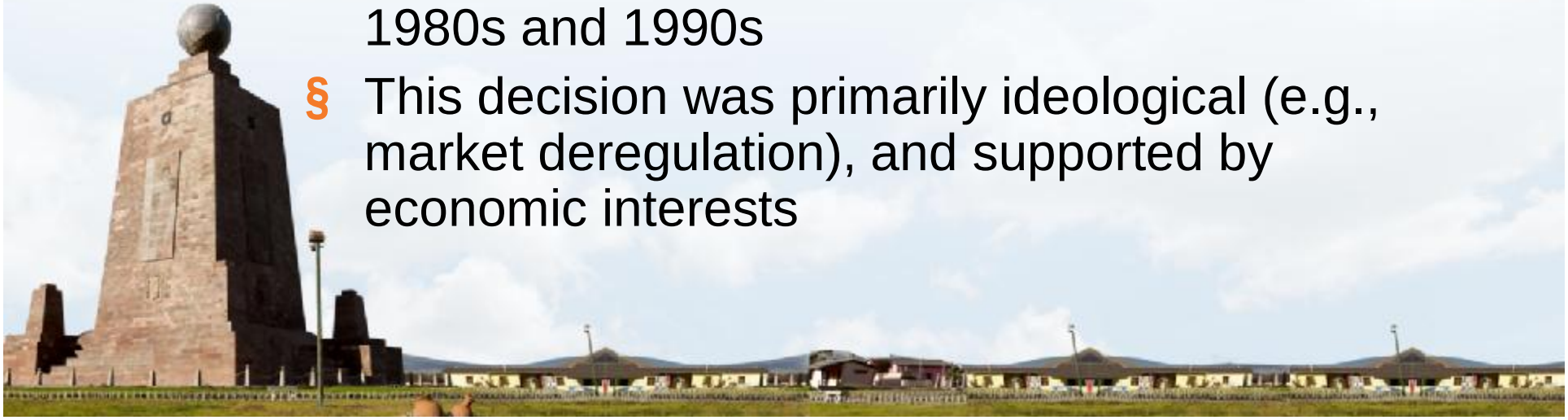
Privatisation of alcohol sales in Alberta

- Considerable evidence indicates that public control of alcohol retailing is a very effective way to control or reduce alcohol problems, including deaths from alcohol-related causes such as cirrhosis, drinking driving and suicide
- Public control of alcohol retailing has been identified as one of the most effective alcohol control measures by the WHO and other health organisations



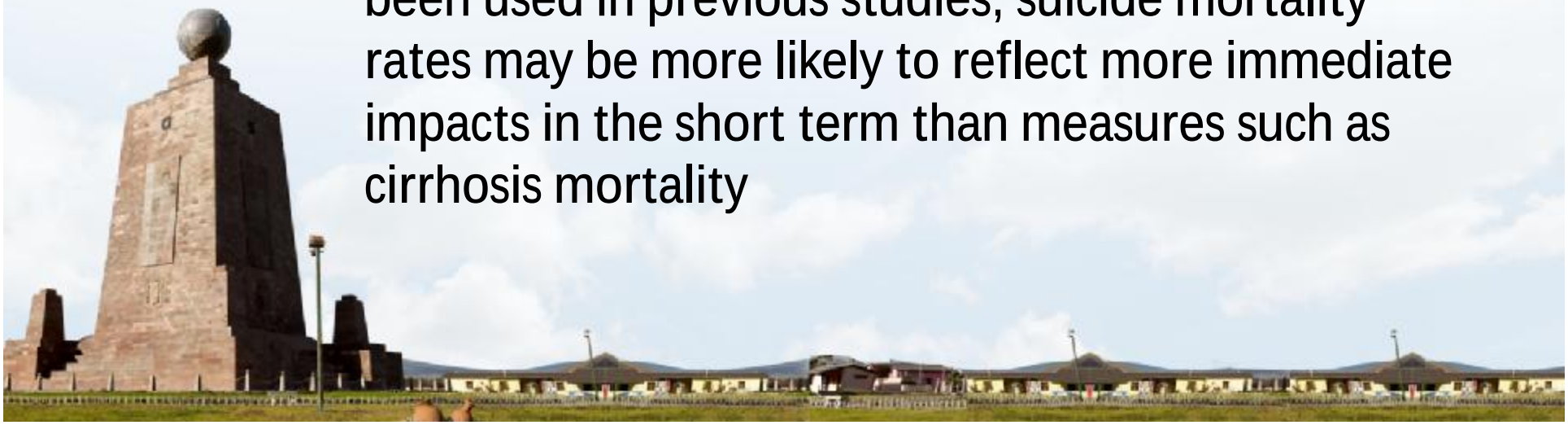
Privatisation of alcohol sales in Alberta

- However, private sector interests are continually seeking control over alcohol retailing
- In Alberta, the government privatised all alcohol retailing in a series of policy decisions in the 1980s and 1990s
- This decision was primarily ideological (e.g., market deregulation), and supported by economic interests



Privatisation of alcohol sales in Alberta

- We examined data from Alberta to see if there were any indications of privatization effects
- Of measures of alcohol-related mortality that had been used in previous studies, suicide mortality rates may be more likely to reflect more immediate impacts in the short term than measures such as cirrhosis mortality



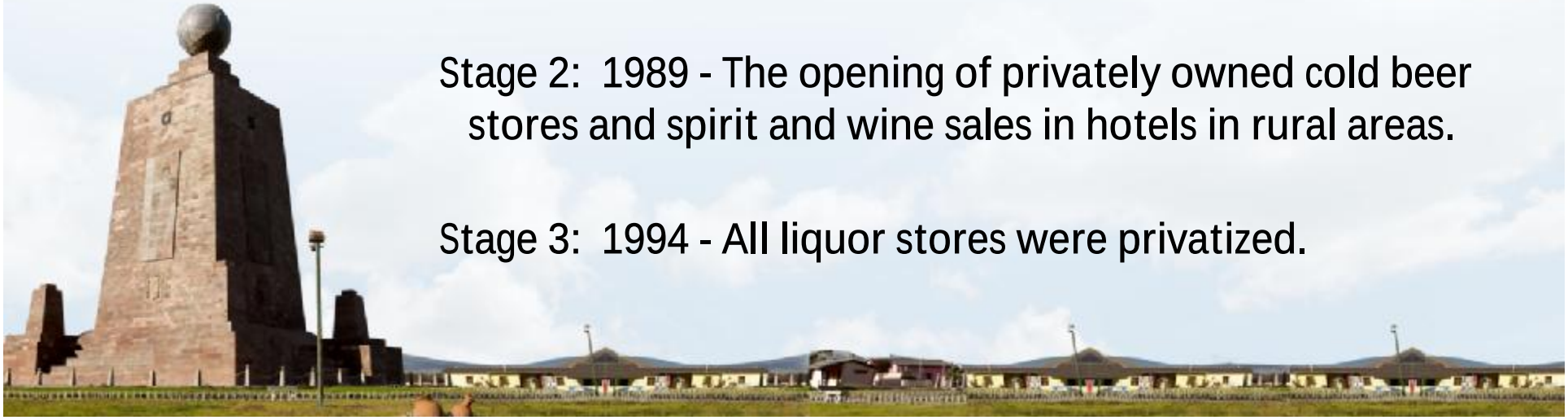
Privatisation of alcohol sales in Alberta

The privatization of alcohol retail sales in Alberta took place in three stages:

Stage 1: 1985 - The opening of privately owned wine stores.

Stage 2: 1989 - The opening of privately owned cold beer stores and spirit and wine sales in hotels in rural areas.

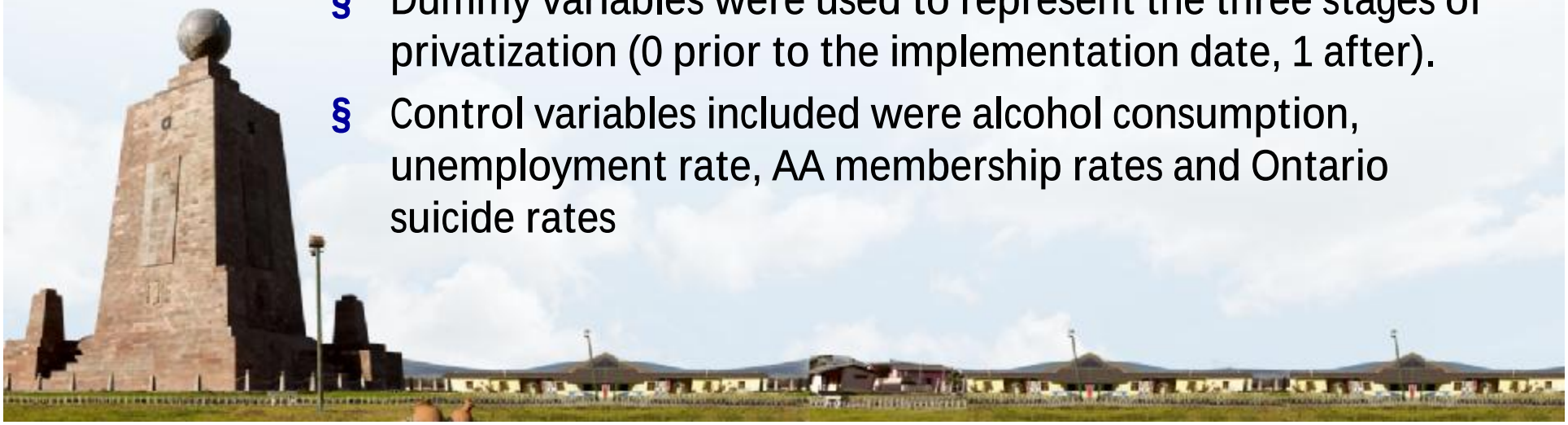
Stage 3: 1994 - All liquor stores were privatized.



Privatisation of alcohol sales in Alberta

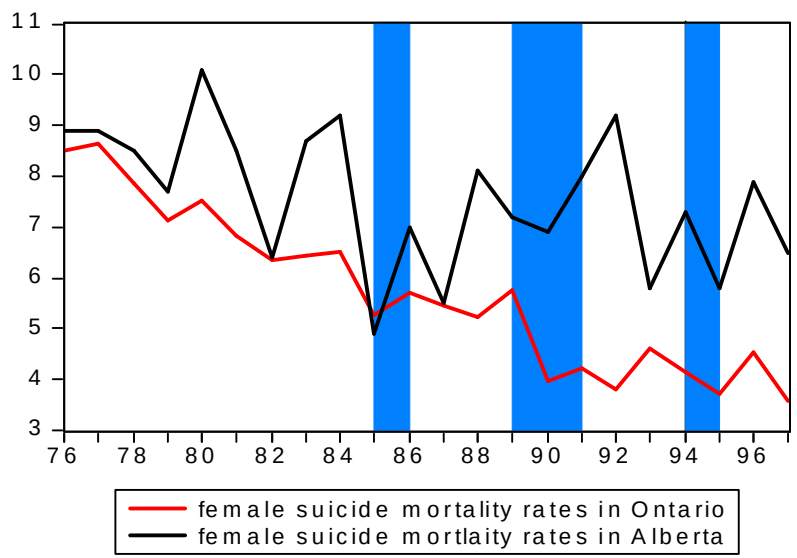
Methods

- A multiple interventions time series design was used to estimate the effects of implementation of the privatization of retail alcohol sales on male and female suicide rates.
- Dummy variables were used to represent the three stages of privatization (0 prior to the implementation date, 1 after).
- Control variables included were alcohol consumption, unemployment rate, AA membership rates and Ontario suicide rates

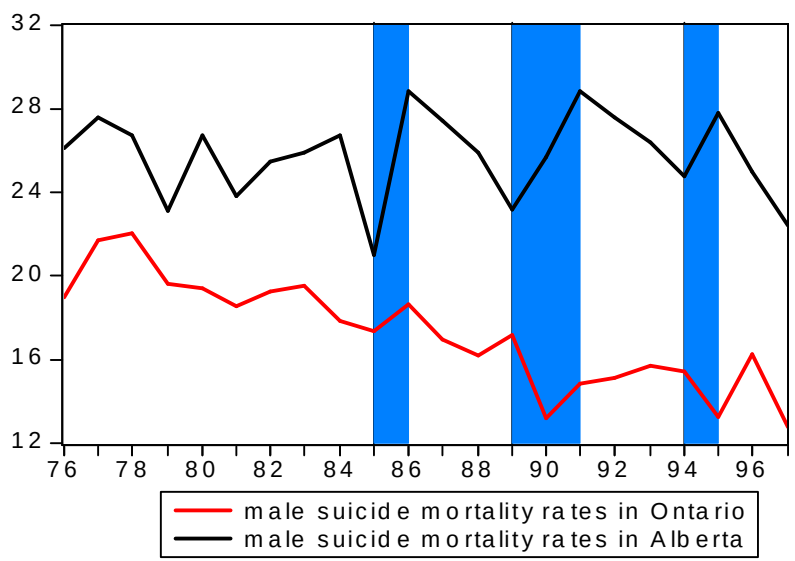


Privatisation of alcohol sales in Alberta

Female Suicides in Alberta and Ontario



Male Suicides in Alberta and Ontario

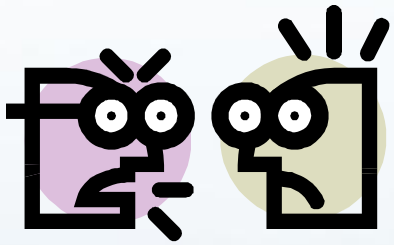


Privatisation of alcohol sales in Alberta

Significant effects of privatisation components on suicide mortality rates

1985 privatization stage:	→	51% increase of male suicide rates and 35% increase of female suicide rates
1989 privatization stage:	→	17% increase (temporary) of male suicide rates 52% increase (temporary) of female suicides
1994 privatization stage:	→	19% increase (temporary) of male suicide rates

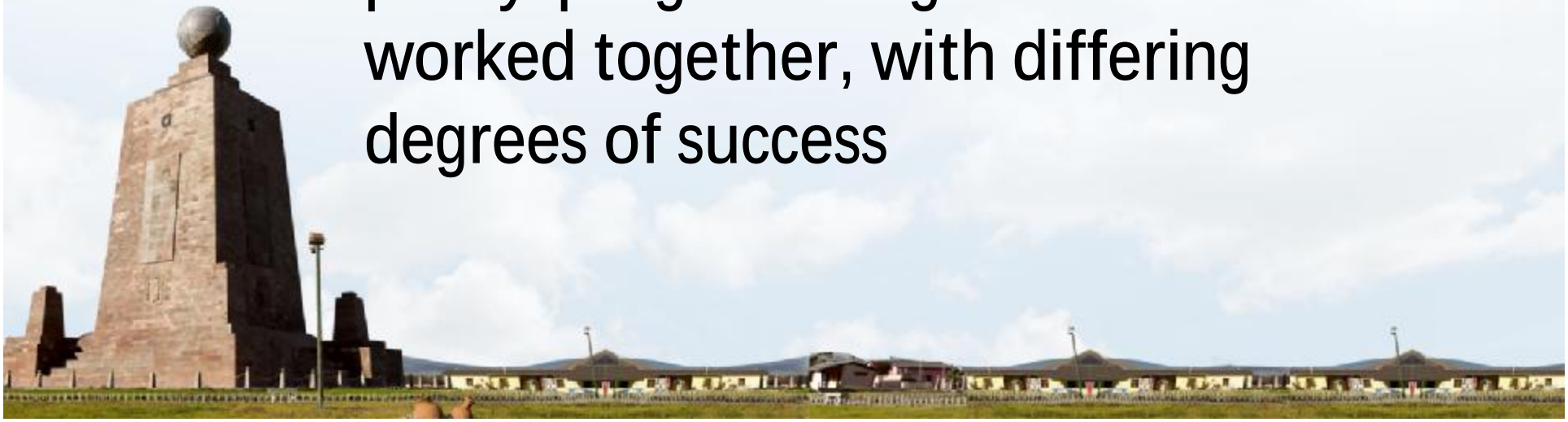
Privatisation of alcohol sales in Alberta



- Privatisation of alcohol sales illustrates what can happen when policy and research don't cooperate
- This is an important example of a failure of policy makers and researchers to communicate effectively
- The results show that a failure like this can have a potentially catastrophic effect on health measures

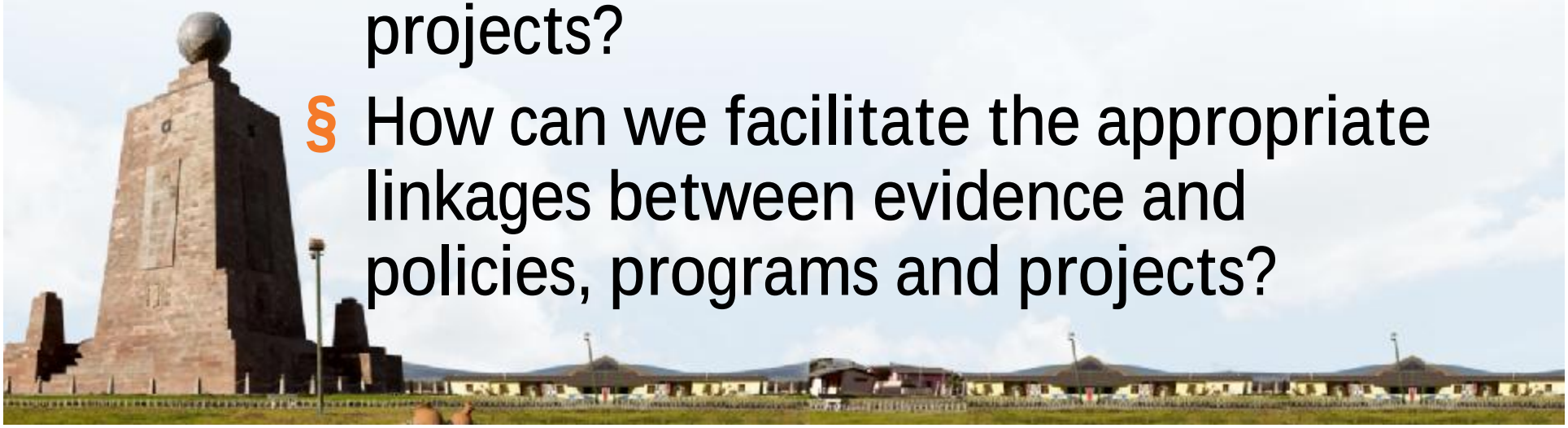
Discussion

- These three examples illustrate different areas where evidence and policy/programming should have worked together, with differing degrees of success



Discussion

- What are current areas in the Americas where evidence needs to be linked with policies, programs and projects?
- How can we facilitate the appropriate linkages between evidence and policies, programs and projects?



- Gracias!
- Obrigado!
- Merci!
- Thank you!