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# Costs and benefits of improving access to psychotherapy for adults suffering from common mental disorders in Canada

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Study supported by Canadian Institutes of Health Research:

"Assessing the system level costs and benefits of improving equity in access to psychological services for depression in Canada"

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# Background

- The economic and social impact of untreated common mental disorders is quite high (1)
- Evidence-based psychotherapies are cost-effective (2)
- The largest barrier for not turning to / referring patients to psychotherapy is cost, since services are not covered by public health insurance plans (3)
  - Only 1/4 Quebecers are covered for psychological sessions
    - Private insurance usually covers 4 sessions, while clinical practice guidelines recommend 6+ sessions
  - Long waiting list in free public clinics

# Objectives

- Objectives of the research
  - To determine the costs and effects of increased access to psychotherapy for adults suffering from depression/ anxiety disorders, from a societal perspective
    - Societal perspective: government /patient perspective and indirect costs (lost of productivity, quality of life, premature mortality)
- Objectives of this presentation
  - To present an introduction of our methodology and parts of our model

# Methods (ESCC 2012)

- Many components are estimates from the *Canadian Community Health Survey (CCHS cycle 2.2)-Mental Health 2012* (ESCC *Enquête sur la santé dans les collectivités Canadiennes*):
  - Developed by *Statistics Canada*
  - Cross-sectional design
  - Random sampling: stratified, multistage, clustered area design -> nationally representative sample
  - 25.113 respondents
  - Response rate=69%
- Instrument: WMH-CIDI
  - Lifetime/ past year prevalence was assessed using version of the *World Mental Health Composite International Diagnostic Interview* questionnaire
- Our sample:
  - Non-institutionalized adults 20-85 years old
  - Living in 1 of the 10 provinces

# Methods (Components)

Components	Sources	Data
Incidence, prevalence of disorder	CCHS 2.2 + literature	Incidence Depression: 2.9% Prevalence Depression: 5.4%
Course of disorder (number, length, age)	CCHS 2.2 + compared with literature	Depression: 1st episode lasts 147 days. 50% have 2 <sup>nd</sup> one
Prevalence + Course of suicide attempts (number, age)	CCHS 2.2 + literature	Prevalence among depressive people: 15%
Spontaneous recovery without treatment	Literature	15 to 30%
Health services / Psychotropic drugs use	CCHS 2.2	MH users 57.2% Antidepressant: 54%
-> Costs of health services / treatment	Reports and public databases	...
Loss of productivity	CCHS 2.2	Unemployed -12% Absenteeism -6% Permanent disability 9%
Costs of suicide	Literature	\$30,000
QALYs (Quality Adjusted Life Year)	Literature	0.55 to 0.40
Adequate/ non adequate treatment	Clinical guidelines + Literature	Non adequate: from 31% to 48%
Number of sessions required	National/ international clinical practice guidelines	12
Cost of session of psychotherapy	National psychological associations	\$80-120
Remission attributable to psychotherapy	Literature	30% +/-10%
Financial barriers for mental health care	CCHS 2.2	29.5%
Without or inadequate private health care insurance	Literature	73%

# Methods (DES)

- Results integrated in a Discrete event simulation (DES) model
  - Depict the course of disorders, estimate the mean cost / mean QALY, per patient associated with the time spent in health states<sup>(1)</sup>
  - Takes into account multiple episodes; prognosis depends on history of disease
- DES includes 3 key elements:
  - 1) Entities = the individuals with attributes (i.e. age, sex, duration of disorder)
  - 2) Events = anything that can change prognosis or future events (remission, chronicity, death)
  - 3) Time = a simulation clock which keeps track of time (permits beginning/ end of the exercise + identifying episode duration)
- Analyses are performed with *Arena Simulation* software

[QALY is the product of life expectancy and a measure of the quality of the remaining life-years. QALY takes into account the quality and quantity of life (from 0 –death– to 1 –perfect health) generated by healthcare interventions]

[(1) Caro 2005; Lelay 2006]

# Methods

- The time horizon and costs will be for lifetime
- Total costs and effects with each health state (health/no disorder, disorder, death)

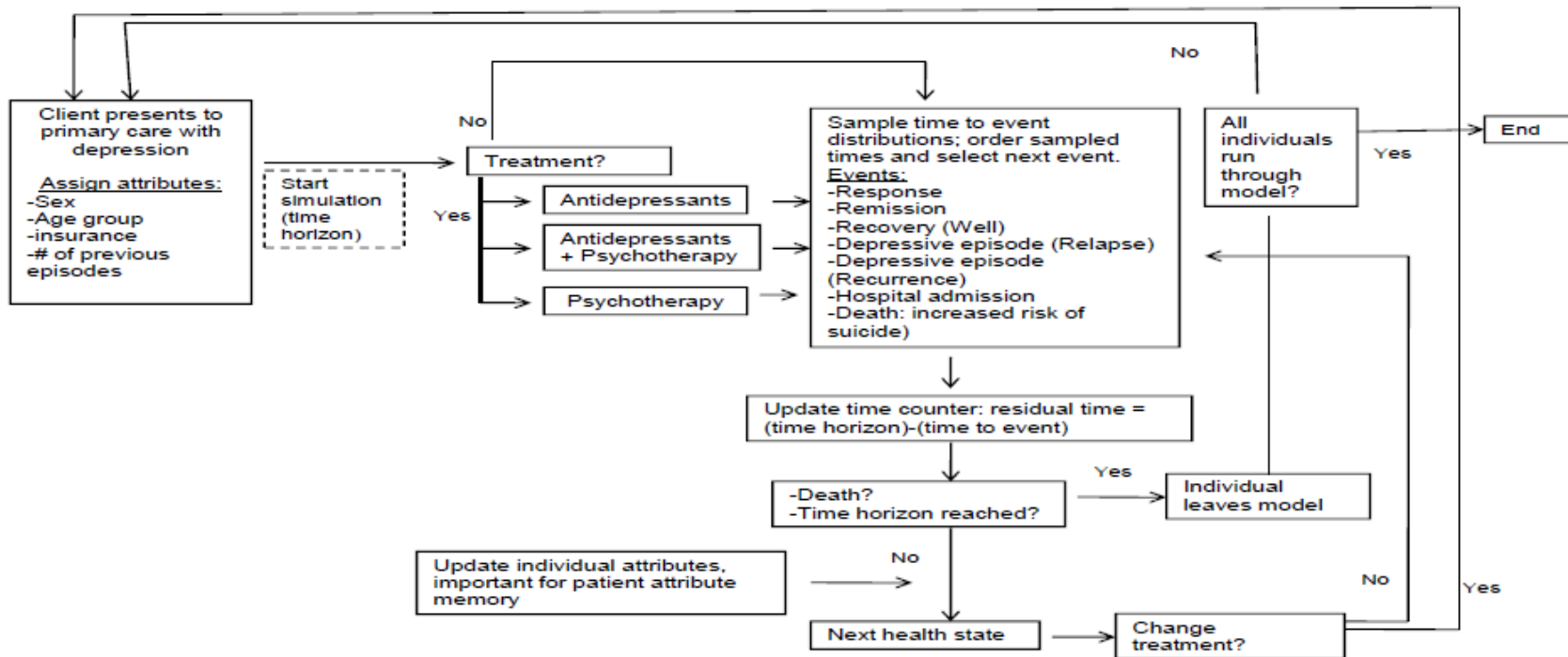


Figure 1. DES computational framework. Adapted for our study from Caro (2005), Le Lay et al., (2006) and Hajji Ali Afzali et al. (2011) (100-102).

## Methods (2 scenarios)

- 2 scenarios will be built:
  1. *Statu quo*: the present situation
  2. Increasing access to psychotherapy
    - the number of patients to be treated is based on the number of Canadians:
      - without -or with inadequate- private health care insurance
      - who would agree to and then attend psychotherapy

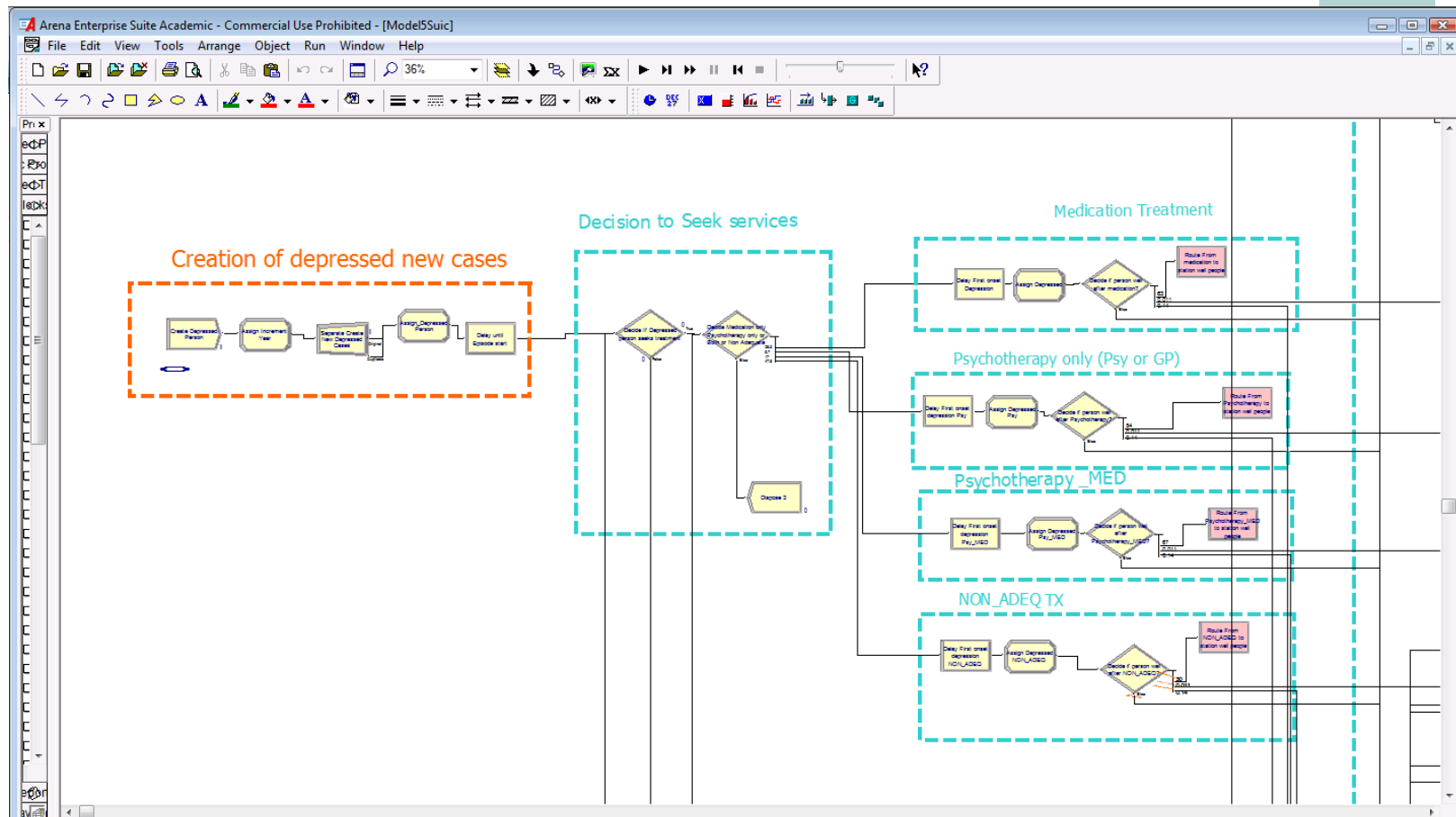


# Methods (Cost analyses)

- The analyses will take a societal perspective
- The cost analyses follow guidelines for the economic evaluation of health technologies (1-3)
  - 5% discount rate for the base case, discounting both effects and costs (1)
- Costs will be for the latest fiscal year
  - updated using changes from *Statistics Canada Consumer Price index*
- Costs and benefits will be estimated, in currency unit and cost-benefit ratio

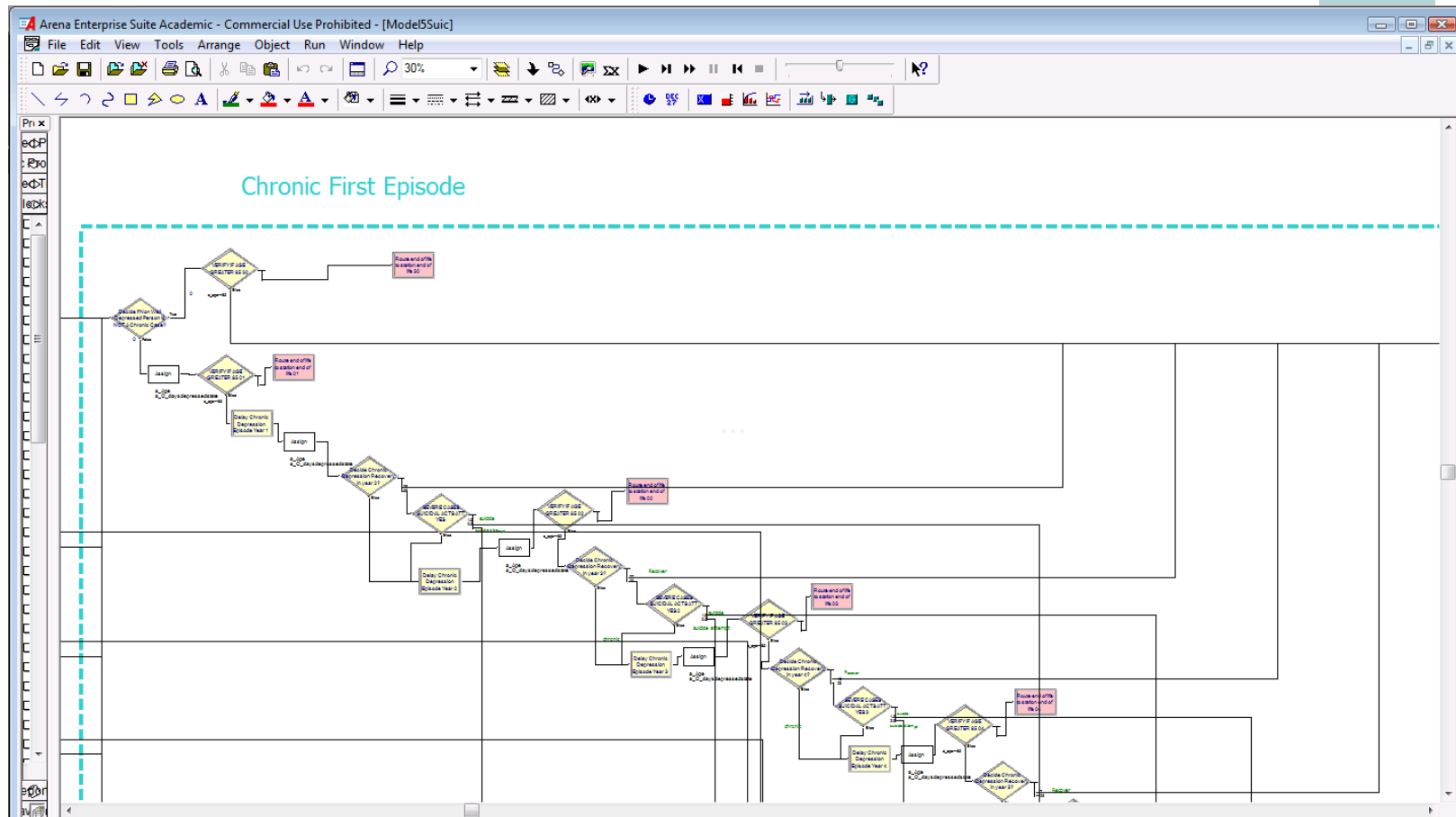
# Statu quo Model (1)

- Each person enters the model at the age of 1<sup>st</sup> episode ->85 yo
  1. Annual incidence rate of MDD: 2,9%
  2. Decision to seek services: 65%
  3. Types of treatment (medication only, psychotherapy only, both)
  4. The treatment is adequate? Yes=52,2%



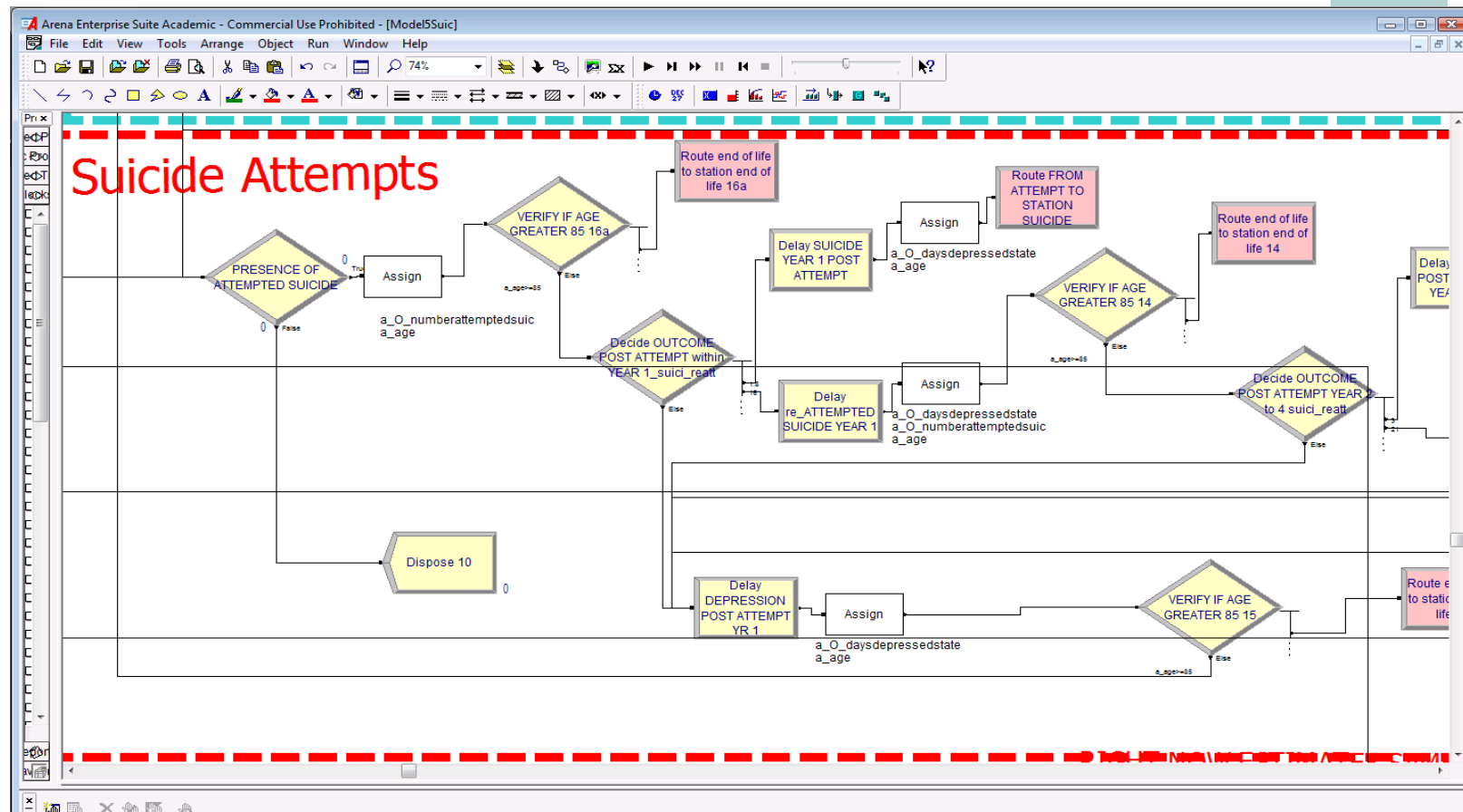
# Statu quo Model (2)

- Health status post adequate/ non adequate treatment
  - The 1<sup>st</sup> episode lasts 147 days -> have 80% probability of a 2<sup>nd</sup> episode -> The 2<sup>nd</sup> episode lasts 126 days -> have 50% probability of a 3<sup>rd</sup> episode...
- + Spontaneous recovery without treatment = 15-30%



# Statu quo Model (3)

- Suicide attempts
  - 7.8% of suicide attempts among the 5.2% of people suffering from MDD
  - > Determined by level of severity, age, sex, use of services...



## Next steps

- Assign level of remission attributable to psychotherapy
  - 30% +/-10%
- Assign the costs
  - Avoidable costs: use of health services/ treatment, productivity, QALY, mortality
  - Cost of psychotherapy
- Estimate the number of Canadian to treat

## Expected results

- We expect that increasing the number of patients accessing psychotherapy will
  - decrease the number of episodes
  - > decrease health care costs
  - > decrease indirect costs (lost of productivity, premature mortality due to suicide)
  - increase quality of life.



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