# Decision Models to Compare Treatments in Older Patients with AML

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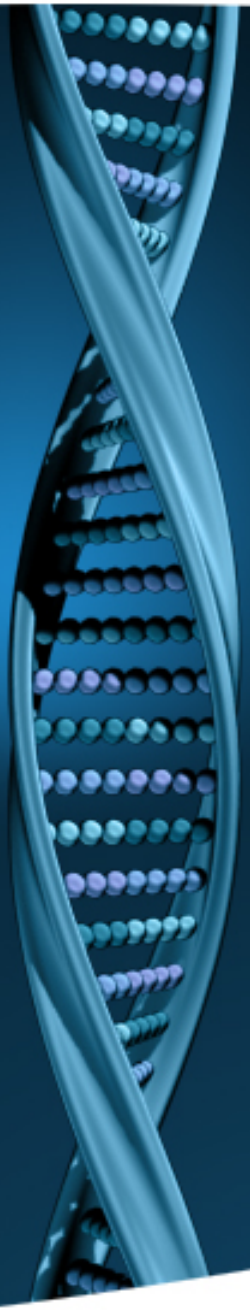
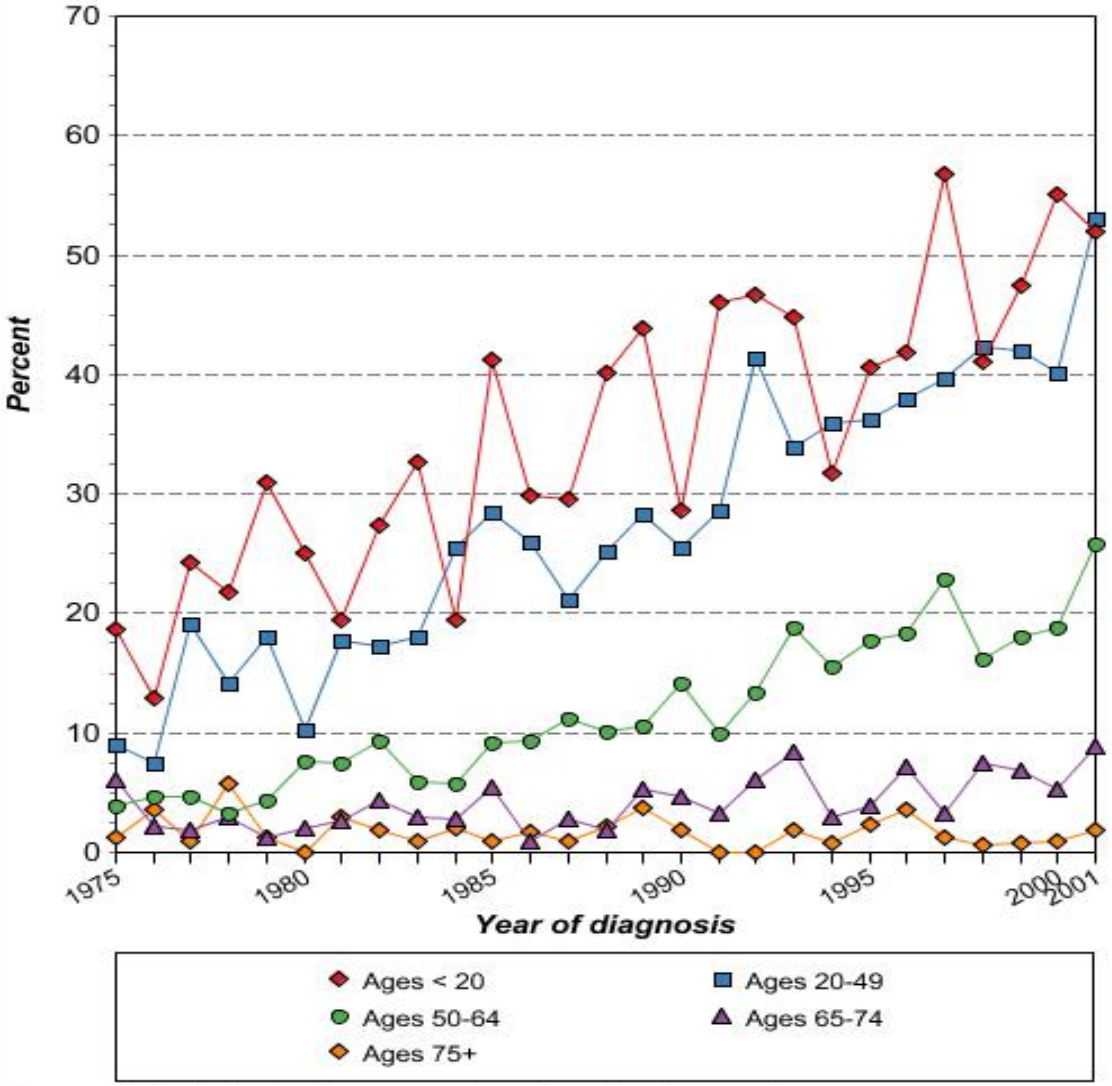


# 5-Year Relative Survival Rates By Year Dx
# By Age At Diagnosis/Death
# Acute Myeloid Leukemia, All Races, Both Sexes
# 1975-2001




Cancer sites include invasive cases only unless otherwise noted.
Survival source: SEER 9 areas (San Francisco, Connecticut, Detroit, Hawaii, Iowa, New Mexico, Seattle, Utah, and Atlanta).
Survival rates are relative rates expressed as percents. The 5-year survival estimates are calculated using monthly intervals.

# Our hypothesis

- Although part of the lack of progress in the elderly is due to changes in AML biology and unavailability of transplant, a significant part is due to suboptimal use of currently available treatments
- Progress could be made if the available treatments were better applied. Data suggest a potential to triple the 2-year survival.

# Swedish data

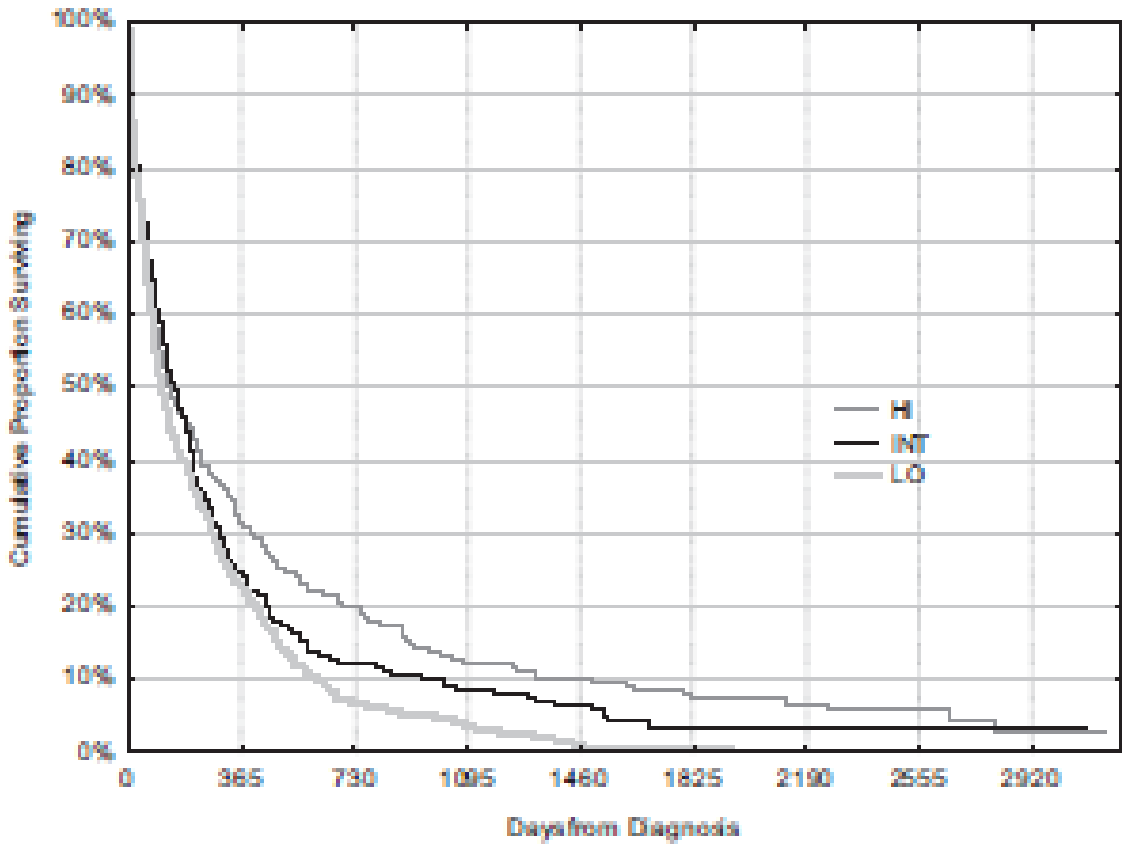
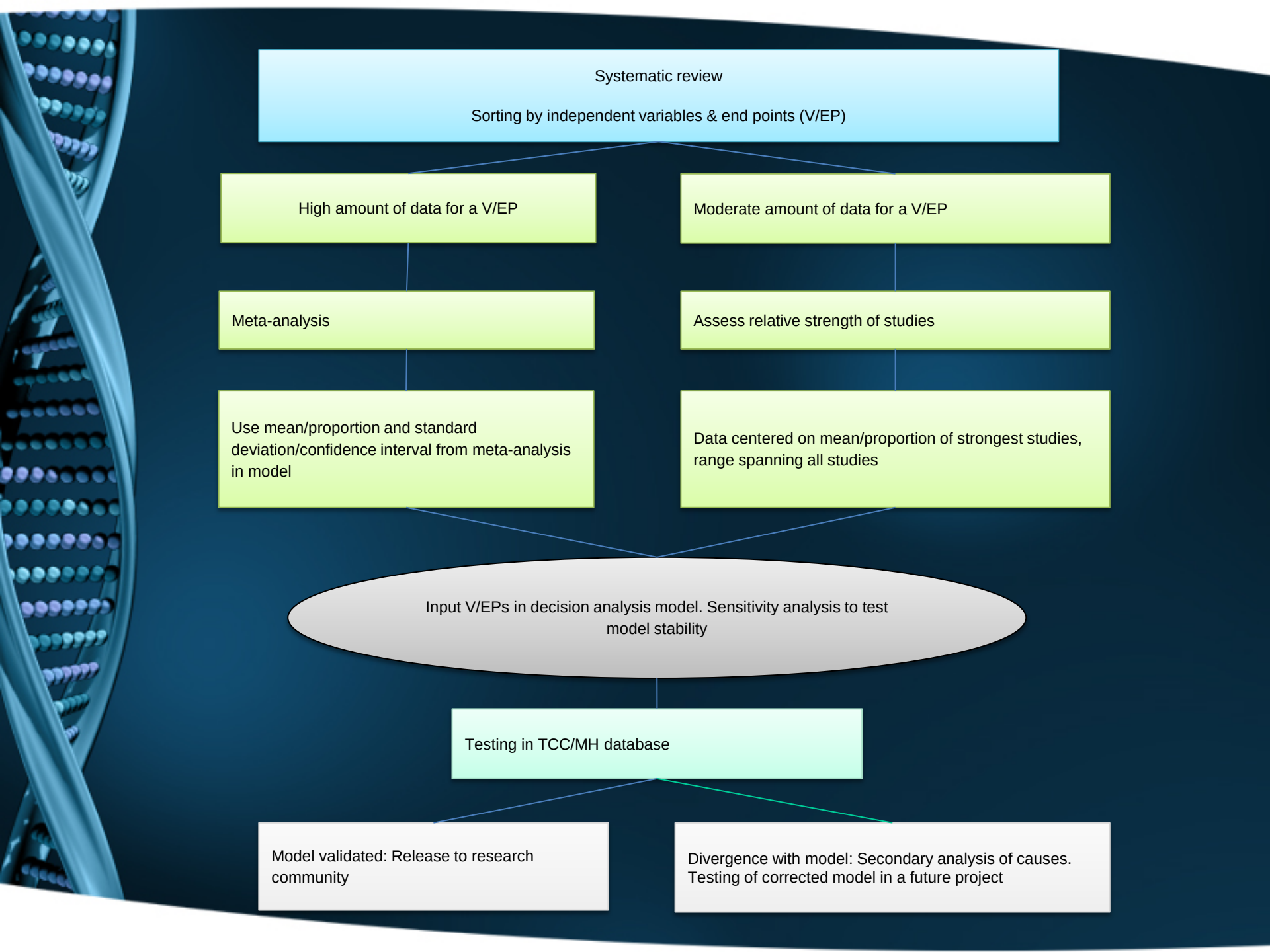


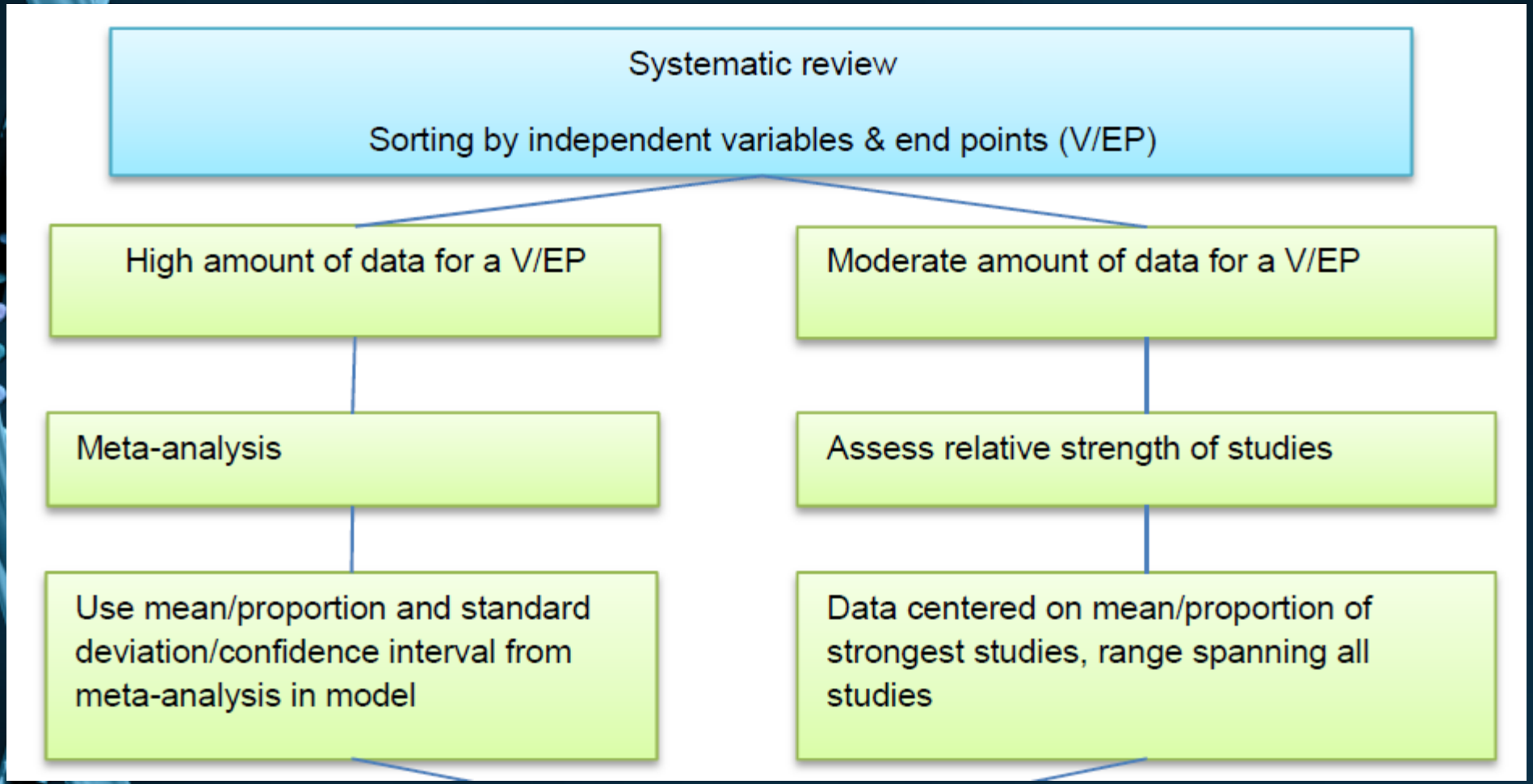

Figure 7. Overall survival of all patients, treated and untreated, 70 to 79 years of age according to geographic region, with different proportions of patients given intensive therapy (Table 4).

# The questions

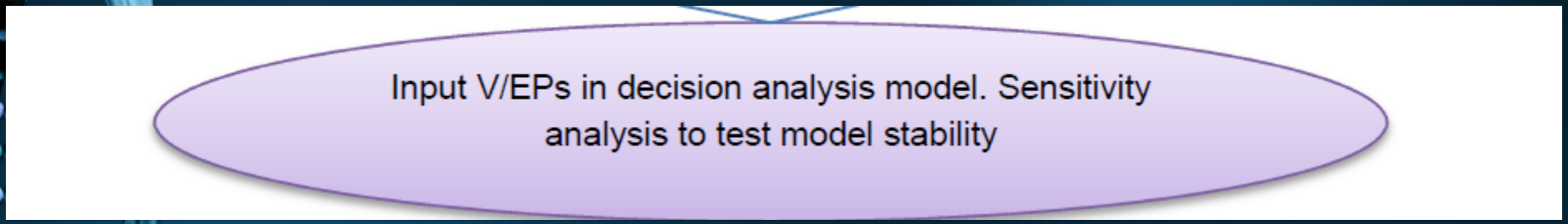
- Although “old” is defined in the AML world as age >60, what data do we have on treating AML patients age 70 and above?
- What choices should be made in patients with poor PS or high comorbidity?
- How can we provide objective prognostic estimates to help physician and patient decision-making?


Systematic review
Sorting by independent variables & end points (V/EP)
High amount of data for a V/EP
Moderate amount of data for a V/EP
Meta-analysis
Assess relative strength of studies
Use mean/proportion and standard deviation/confidence interval from meta-analysis in model
Data centered on mean/proportion of strongest studies, range spanning all studies
Input V/EPs in decision analysis model. Sensitivity analysis to test model stability
Testing in TCC/MH database
Model validated: Release to research community
Divergence with model: Secondary analysis of causes. Testing of corrected model in a future project

# Step I: Systematic review (Ben Djulb.)



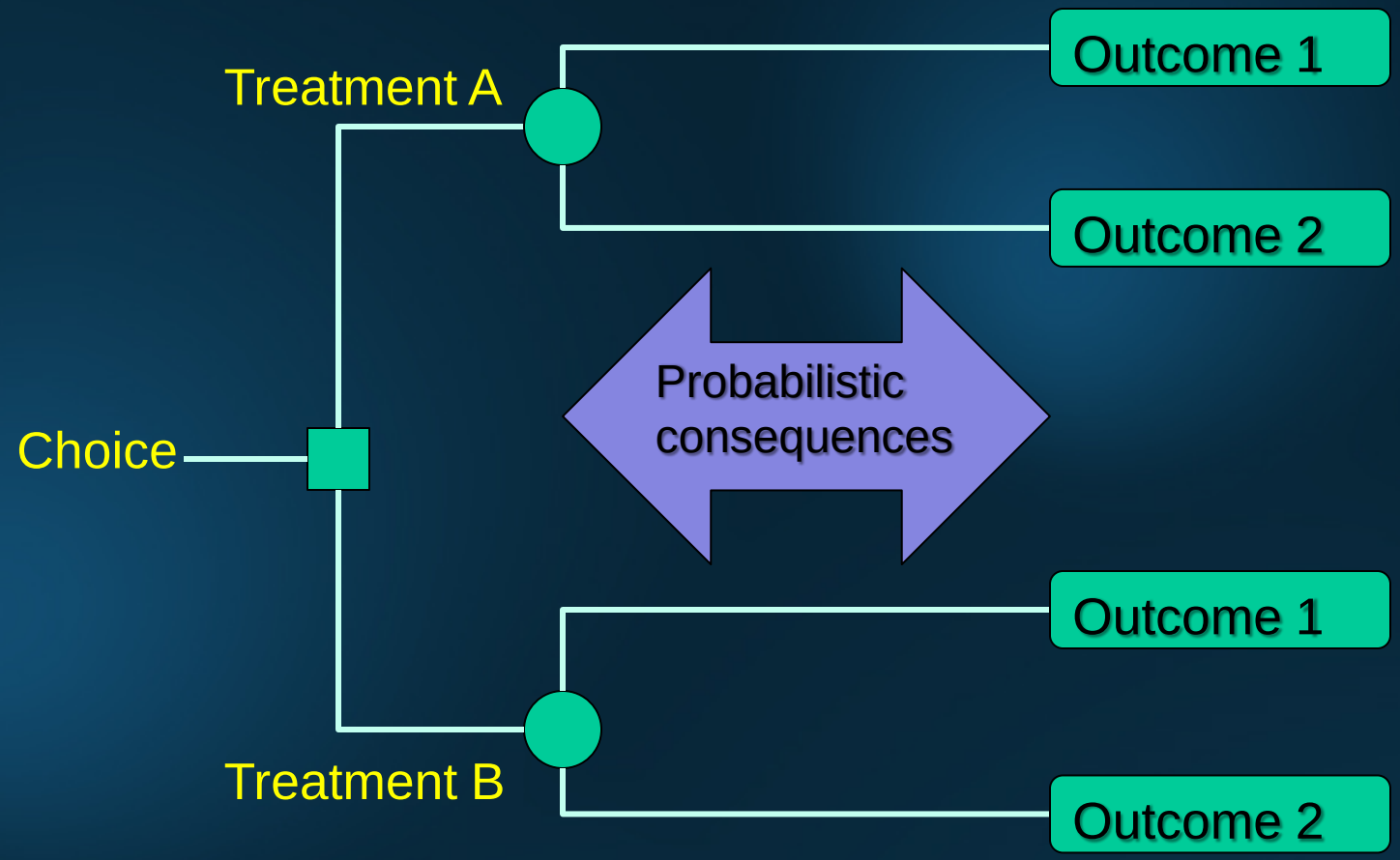
# Step II: Decision analysis model (M. Ext.)



# Variables included

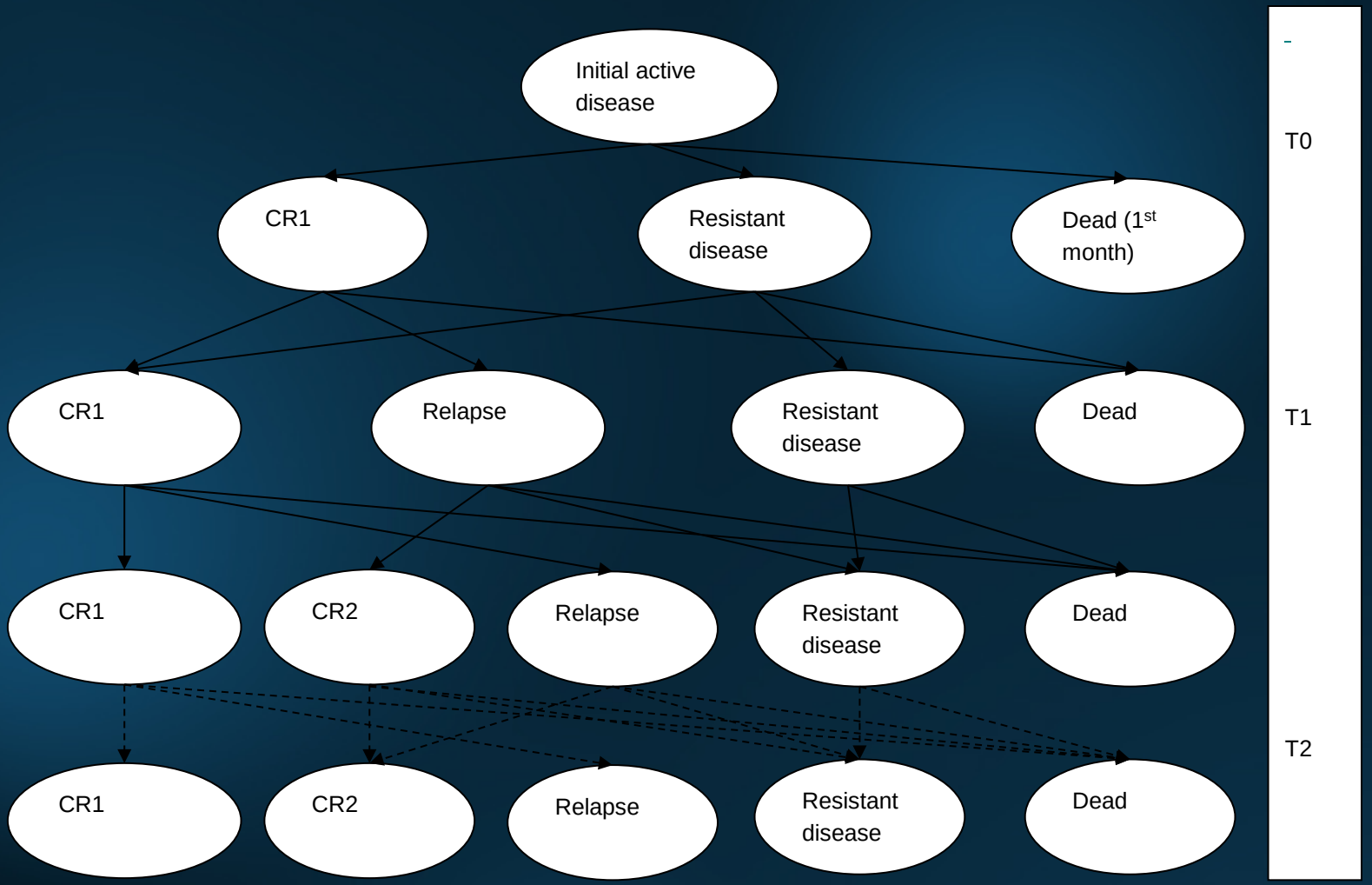
- Cytogenetics (3 categories)
- Age
- Comorbidity (Charlson /Sorror)
- Functional status (ECOG/ Karnofsky PS)
- 4 treatment options:
  - Intensive chemotherapy
  - Low-dose chemotherapy
  - Hypomethylating agents
  - Supportive care

# Decision model




General structure of a microsimulation model

# Decision model outline



# Decision models

- Primary: 1-year survival
- 2-year survival
- 30d mortality vs 1y and 2y survival
- Regret model

# Adjuvant! Online

## Decision making tools for health care professionals

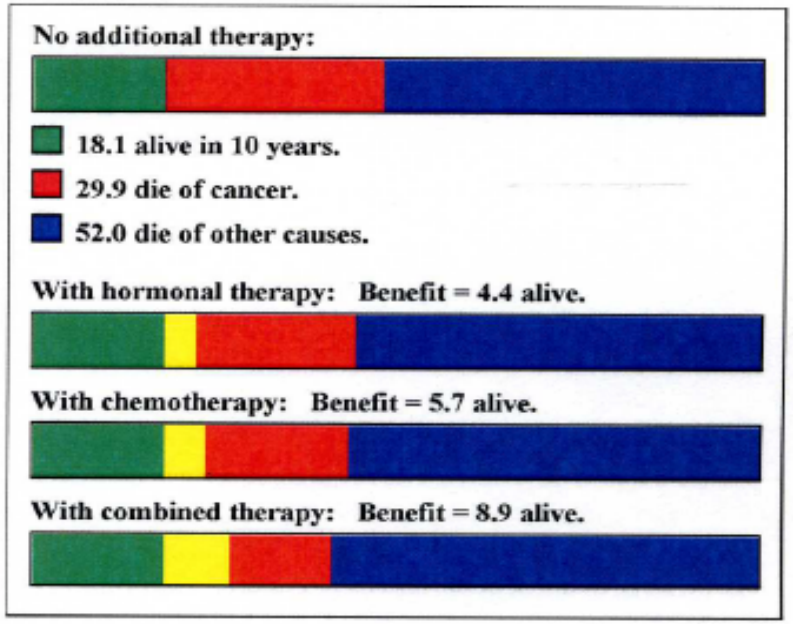
## Adjuvant! for Breast Cancer (Version 8.0)

**Patient Information**

| | |
|---|---|
| Age: | 72 |
| Comorbidity: | Major Prob. (+10) |
| ER Status: | Positive |
| Tumor Grade: | Grade 3 |
| Tumor Size: | 2.1 - 3.0 cm |
| Positive Nodes: | 1 - 3 |
| Calculate For: | Mortality |
| 10 Year Risk: | 45 Prognostic |

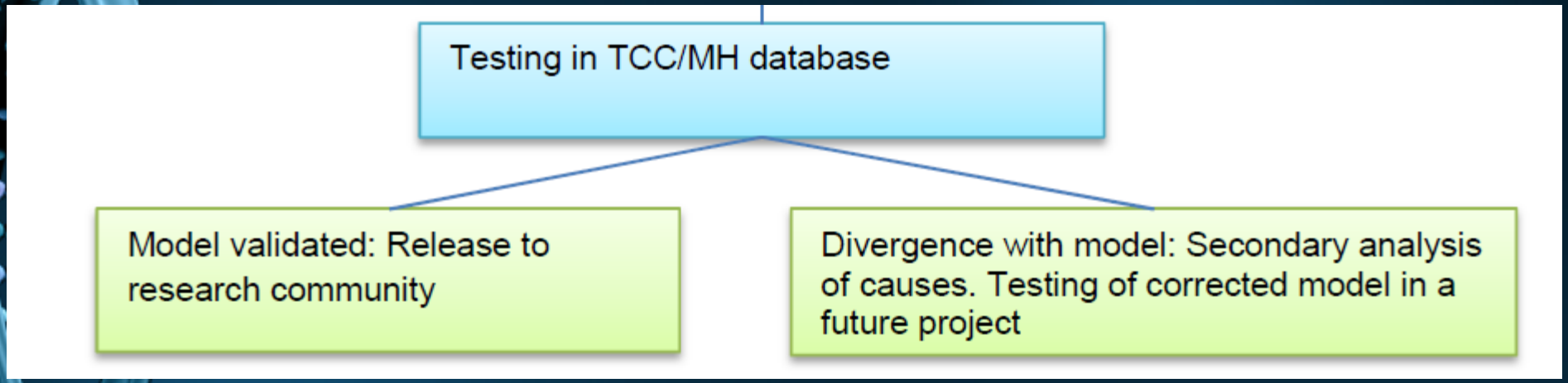
**Adjuvant Therapy Effectiveness**

| | |
|---|---|
| Horm: | Aromatase Inhibitor for 5 yrs |
| Chemo: | 3rd Generation Regimens |
| Hormonal Therapy: | 32 |
| Chemotherapy: | 40 |
| Combined Therapy: | 59 |




Print Results PDF | Access Help and Clinical Evidence | Images for Consultations

# Step III: Test in Transmed database (Jeff Lancet)



# Model testing

- A critical step that is too rarely done with prognostic/predictive models
- We will use the TCC database: estimated 900 Moffitt patients aged 70+ at time of analysis

# The goal