E: Buying information

Decision tree application:

- May be useful to buy information to reduce uncertainty.

Previous Medicaid example:

Current approach (C):
- Focus on health care only
- Cost = $20 M
- Benefit = $100 M

Proposed alternate approach (A):
- Integrated delivery of health care and other services
- Cost = $40 M
- Benefits uncertain:

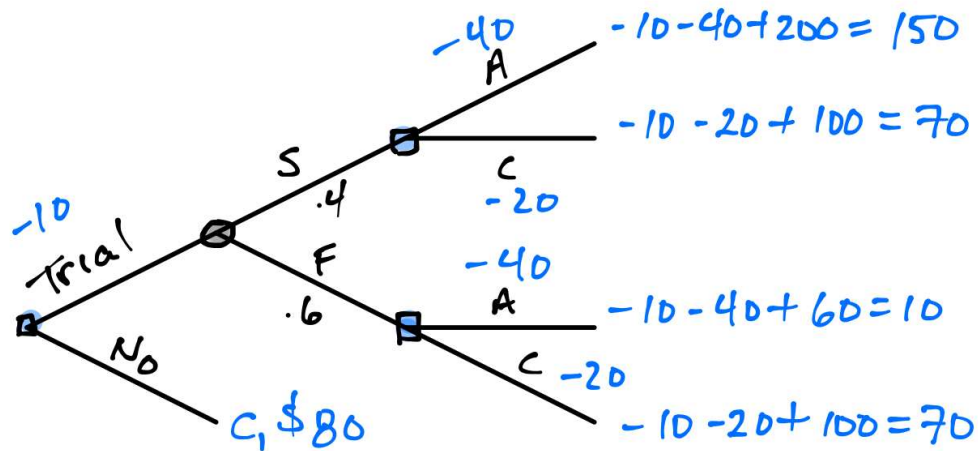| Probability	State	Benefit
40%	Succeeds and works well (S)	$200M
60%	Does not work well (F)	$60M

Conclusion was to stick with C
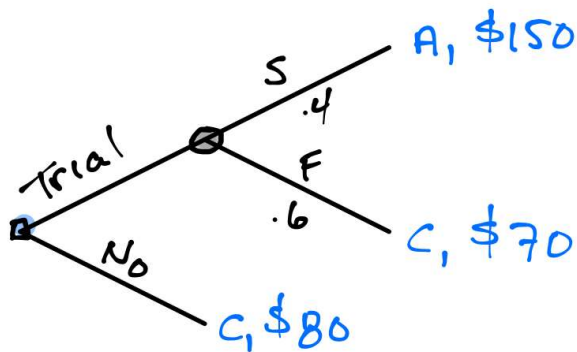
Extension:

Suppose possible to run a trial of policy A:
- Trial would cost $10 M
- Would show whether S or F would occur
- Could then choose C or A after result known
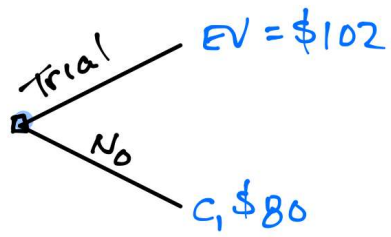
Revised tree:

Decision about trial is now first:

The tree shows (handwritten annotations):

Trial -10

S .4 → node:
- A -40 → $-10-40+200 = 150$
- C -20 → $-10-20+100 = 70$

F .6 → node:
- A -40 → $-10-40+60 = 10$
- C -20 → $-10-20+100 = 70$

No → C, $80

Evaluating the two right-most nodes:

Trial
- S .4 → A, $150
- F .6 → C, $70
- No → C, $80

Evaluating the new right-most node:

EV = 0.4*150 + 0.6*70 = 102

Trial — EV = $102

No — C, $80

Conduct the trial: EV is $22 million higher than C

Exercise on GC