MITRE / FLUX NOTES **TREATMENT OPTIONS v5.1**

EDWIN CHOI, DANIEL REEVES, JUHAN SONIN, 19.DEC.2018

goinvo

M-CODE Pilot
Dr. Bran24 Michel09A

Debra24
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Date of birth
5 Apr 1966 (51)

Admin. sex
Female

Location
Boston, MA

Ductal carcinoma of the breast ▾

🔍 Debra24 search...

Treatment Options — Ductal carcinoma of the breast

Outcomes and criteria for 156,765 patients with Ductal carcinoma of the breast were collected by CancerLinQ ...more

› **Similar patients**   156 patients
   excluded criteria: race, received radiation therapy, received chemotherapy

› **Outcomes**   overall survival rate, ECOG impact, hospitalization due to side effects

	👤	Overall survival rates			ECOG impact	Hospitalization due to side effects	
		1 yr	2 yr	5 yr		all	leading causes
include only: add/remove							
surgery	(11)	67%	54%	43%	0.2	19%	pain (9%) neuropathy (4%)
combine with: select treatments							
hormonal therapy & chemotherapy	(64)	87% ▲20%	74% ▲20%	58% ▲15%	0.5 ▲0.3	15% ▼4%	pain (9%) dyspnoea (2%)
hormonal therapy	(76)	77% ▲10%	59% ▲5%	49% ▲6%	0.5 ▲0.3	23% ▲4%	dyspnoea (11%) blood clots (4%)
chemotherapy	(12)	68% ▲1%	53% ▼1%	41% ▼2%	0.9 ▲0.7	22% ▲3%	pain (11%) dyspnoea (7%)

■ survived with surgery alone
■ additional survivors due to treatment
□ cancer related deaths
▌ deaths due to other causes

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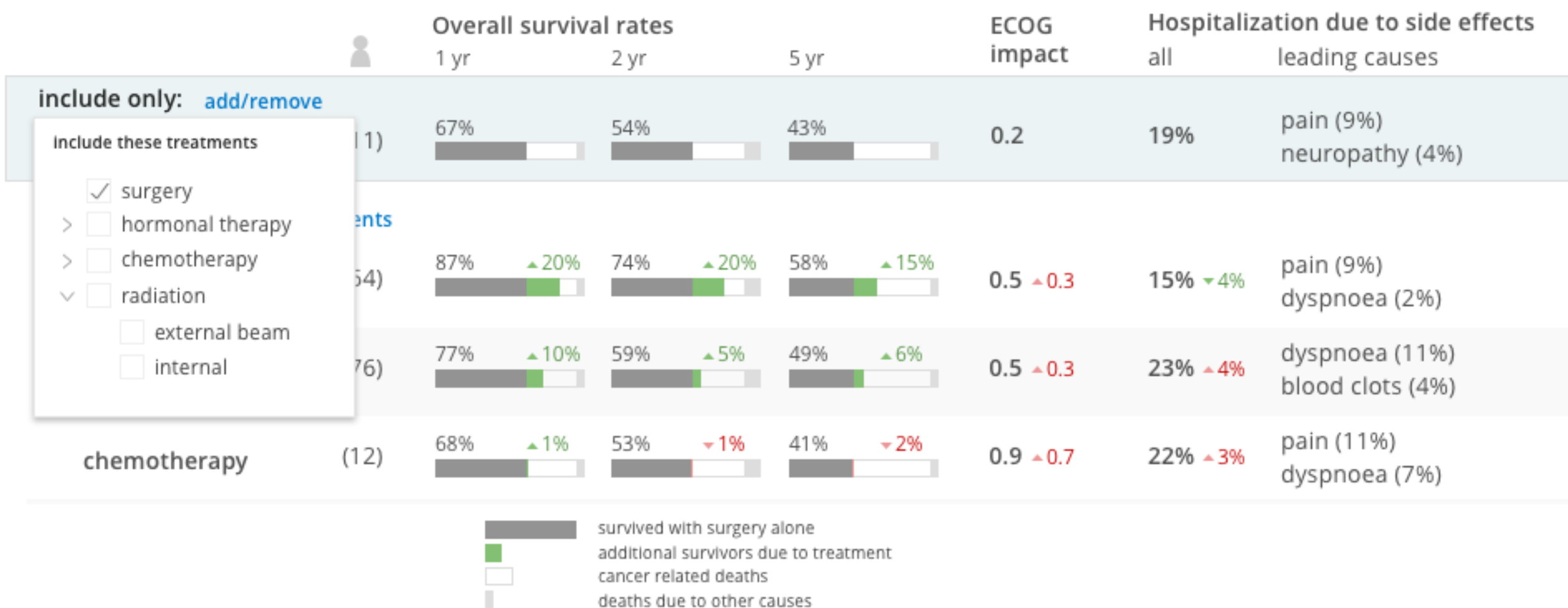🔍 Debra24 search...

Summary

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Treatment Options

	👤	Overall survival rates			ECOG impact	Hospitalization due to side effects	
		1 yr	2 yr	5 yr		all	leading causes

include only: add/remove

include these treatments		67%	54%	43%	0.2	19%	pain (9%) neuropathy (4%)
✓ surgery							
❯ ☐ hormonal therapy	ents						
❯ ☐ chemotherapy	(54)	87% ▲20%	74% ▲20%	58% ▲15%	0.5 ▲0.3	15% ▼4%	pain (9%) dyspnoea (2%)
⌄ ☐ radiation							
☐ external beam	(76)	77% ▲10%	59% ▲5%	49% ▲6%	0.5 ▲0.3	23% ▲4%	dyspnoea (11%) blood clots (4%)
☐ internal							
chemotherapy	(12)	68% ▲1%	53% ▼1%	41% ▼2%	0.9 ▲0.7	22% ▲3%	pain (11%) dyspnoea (7%)

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In combination with surgery:

compare across categories
● treatment categories
☐ surgery
☑ hormonal therapy
☑ chemotherapy
☐ radiation

compare within a category
○ chemotherapy regimens
○ hormonal therapy regimens
○ radiation therapies

▬▬ survived with surgery alone
▪ additional survivors due to treatment
☐ cancer related deaths
▪ deaths due to other causes

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Treatment
Options

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hormonal therapy	(76)	77% ▲10%	59% ▲5%	49%			
		8% ▲1%	53% ▼1%	41%			

Surgery

19%   All hospitalization due to side effects

9%	pain	Generalized pain
4%	neuropathy	A description of neuropathy that is ten words or less
3%	dyspnoea	A description of dyspnoea that cannot fit on this line and requires... more
2%	bleeding	Another description.
1%	other	

add to "include only:" list

remove from comparisons

compare across hormonal therapies

▬ survived with surgery alone
▬ additional survivors due to treatment
▫ cancer related deaths
▮ deaths due to other causes

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Treatment Options   Ductal carcinoma of the breast

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∨ **Similar patients**   156 patients

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select all   select none

∨ — demographic 3/4
- ✓ age: 41-61 👤
- ✓ age
- ☐ race
- ✓ sex:

∨ ✓ genetics
- ✓ BRC
- ✓ BRA

∨ ✓ pathology 5/5
- ✓ ER: negative 👥
- ✓
- ✓ ve 👥
- ✓ 0-20 👥

age (years)   reset to +/- 10

50   **60**

56

◀▶   ◀▶

∨ — treatment history 1/3
- ✓ had surgery: yes 👥
- ☐ received radiation therapy: yes 👥
- ☐ received chemotherapy: yes 👥

∨ ✓ medical history 1/1
- ✓ ECOG score: 2-3 👥

∨ **Outcomes**   overall survival rate, ECOG impact, hospitalization due to side effects

survival rates
- ☐ Relative survival rate   textual description
- ☐ Cancer specific survival rate   textual description
- ☐ Disease free survival rate   textual description
- ✓ Total survival rate   textual description

impact on quality of life indices
- ☐ Quality of Life-Cancer Survivor   textual description
- ☐ ECOG Performance Status   textual description
- ☐ Karnofsky Score   textual description

side effects
- ✓ Hospitalizations due to side effects   textual description
- ☐ Most severe side effects   textual description
- ☐ Most common side effects   textual description

costs
- ☐ Days expended   textual description
- ☐ Out-of-pocket cost   textual description
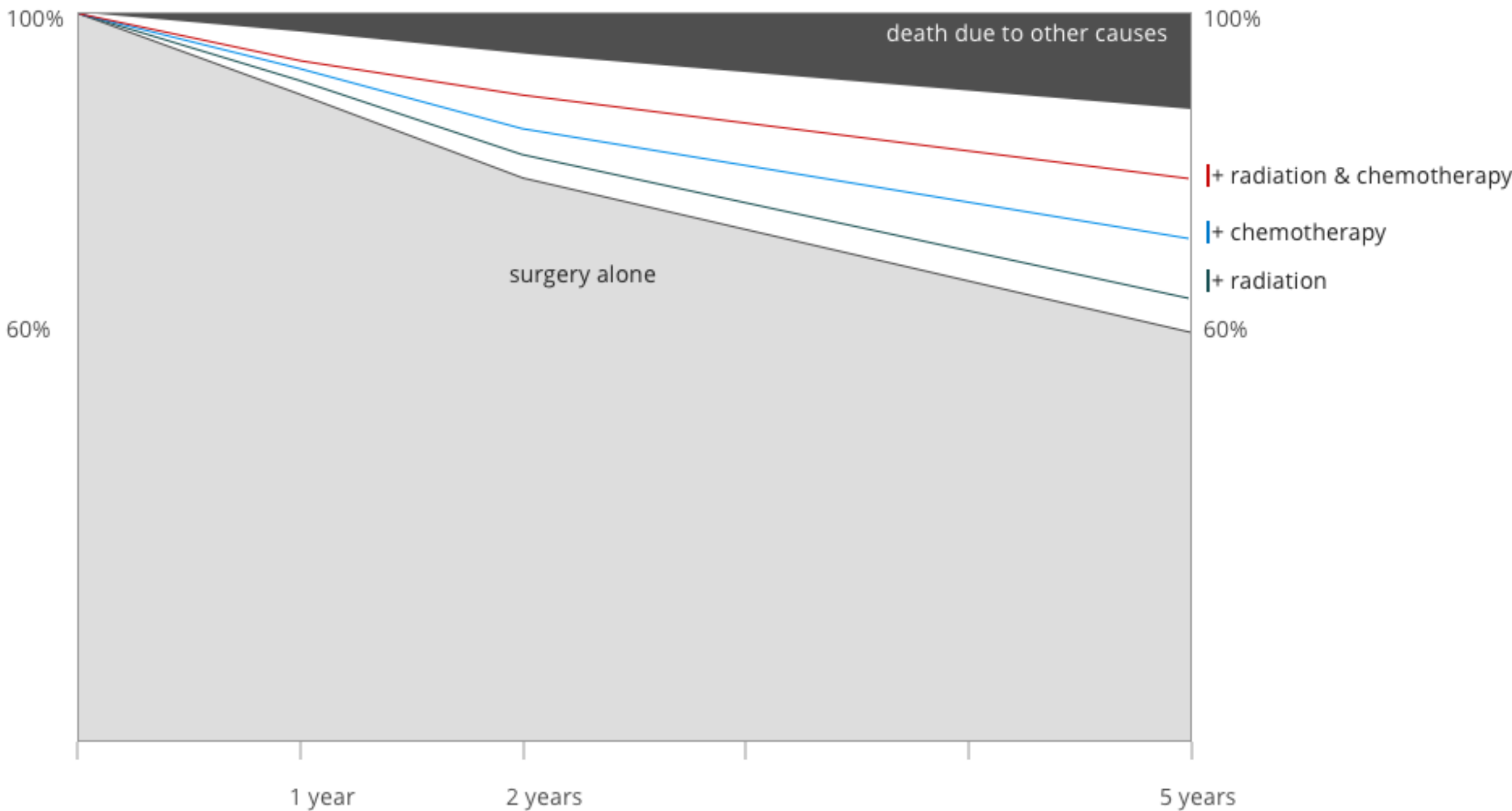- ☐ Hospital stays   textual description

1 yr   2 yr   5 yr

With **surgery alone**, **68%** of patients will survive 1 year, with 30% dying due to cancer. **10%** are hospitalized due to side effects, most commonly due to **pain**.

With **chemotherapy** in addition to surgery, **5% additional** patients will survive 1 year. **2% more** are hospitalized due to side effects, most commonly due to **neuropathy**.
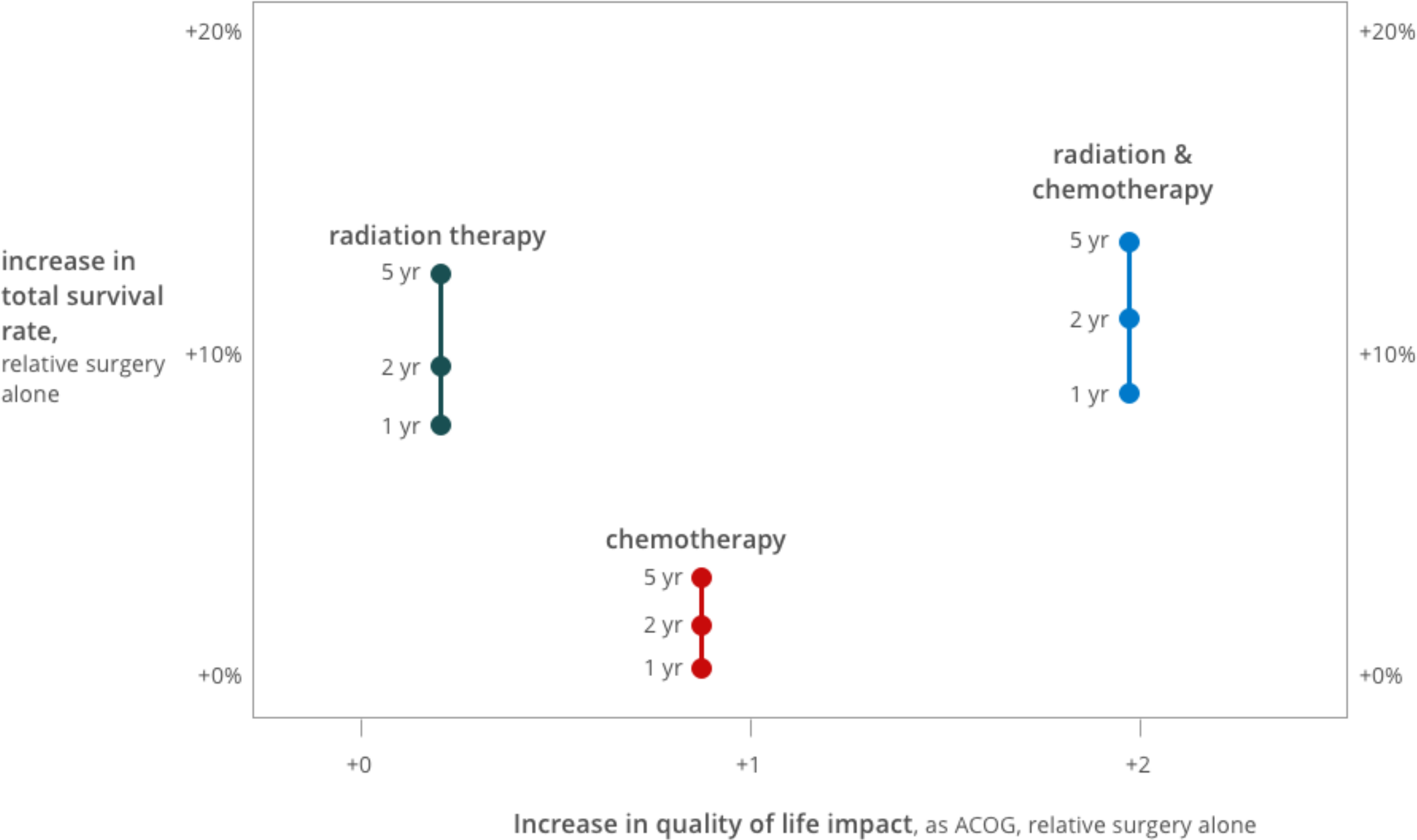
With **chemotherapy & radiation** in addition to surgery, **12% additional** patients will survive 1 year. **4% more** are hospitalized due to side effects, most commonly due to **blood clots**.

Additional visualization modes (draft ideas)

to supplement the the default tabular view

This chart compares treatments across two variables, relative to surgery alone. We compare impact on survival rate for 3 time points and quality of life.

increase in total survival rate, relative surgery alone

radiation therapy
- 5 yr
- 2 yr
- 1 yr

radiation & chemotherapy
- 5 yr
- 2 yr
- 1 yr

chemotherapy
- 5 yr
- 2 yr
- 1 yr

+20%
+10%
+0%

+20%
+10%
+0%

+0   +1   +2

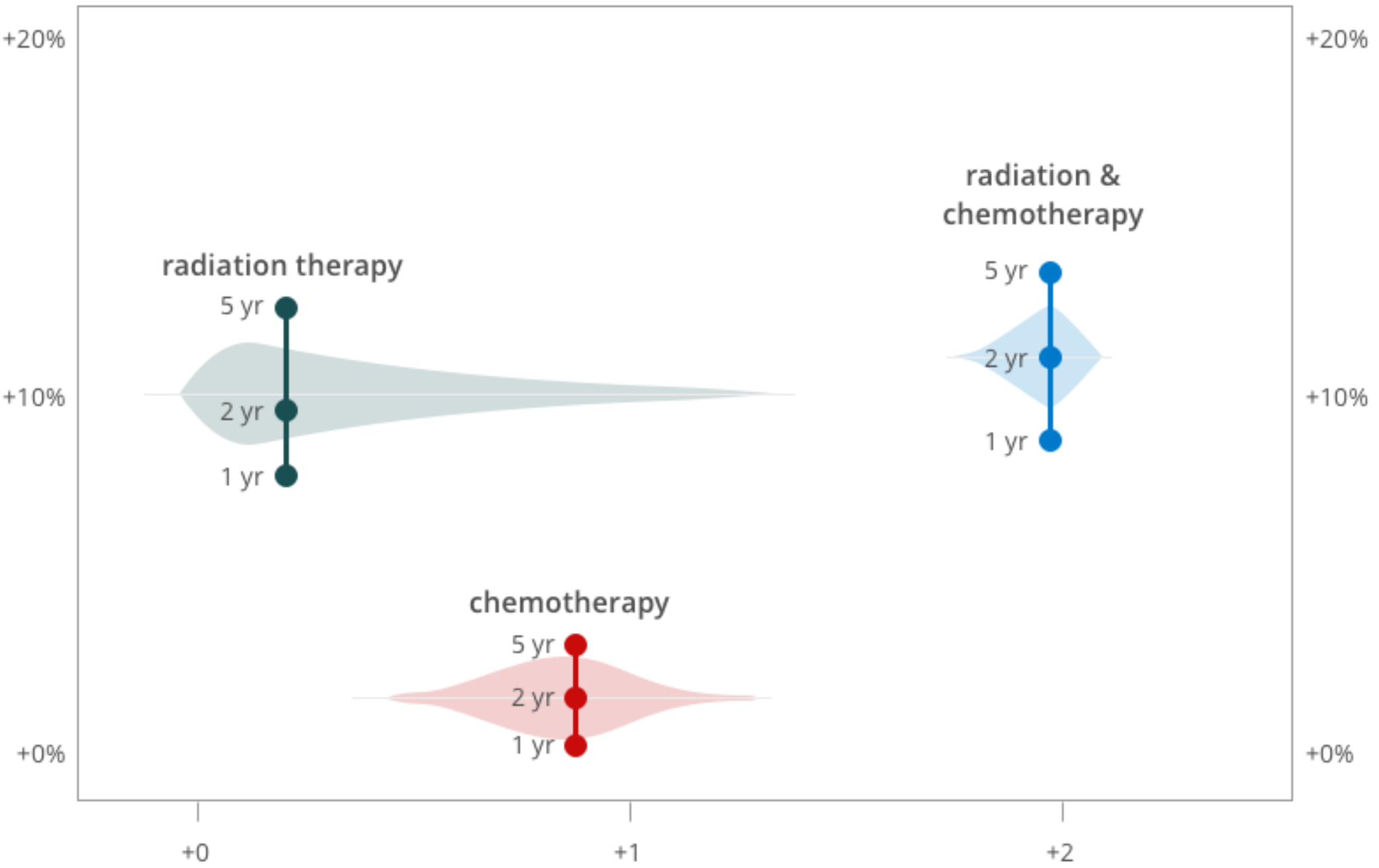**Increase in quality of life impact**, as ACOG, relative surgery alone

Additional visualization modes (draft ideas)

to supplement the the default tabular view
This includes distribution data for one of the variables.

increase in total survival rate, relative surgery alone

+20%
+10%
+0%

+20%
+10%
+0%

radiation therapy
5 yr
2 yr
1 yr

radiation & chemotherapy
5 yr
2 yr
1 yr

chemotherapy
5 yr
2 yr
1 yr

+0   +1   +2

Increase in quality of life impact, as ACOG, relative surgery alone

Additional visualization modes (draft ideas)

to supplement the the default tabular view

This visual shows expected outcomes for a statistical 100 patients. It graphically shows how many patients who would die without additional treatment survive with various treatments.

The user can tap on a treatment regimen to focus on that treatment and reveal additional data, such as hospitalization rates.

1 yr   2 yr   5 yr

55/100 survive with surgery only

+5 survive with chemotherapy

+3 survive with radiation

tap

+7 survive with radiation and chemotherapy

40/100 die from cancer with surgery only

5/100 die from causes other than cancer

1 yr   2 yr   5 yr

58/100 survive with **surgery and radiation**

of 16 hospitalizations due to side effects, 5 will be from **neuropathy**, 4 from **blood clots**, and 7 from other causes.

37/100 die from cancer with **surgery and radiation**

5/100 die from causes other than cancer