Recent Journal Articles That Changed My Practice

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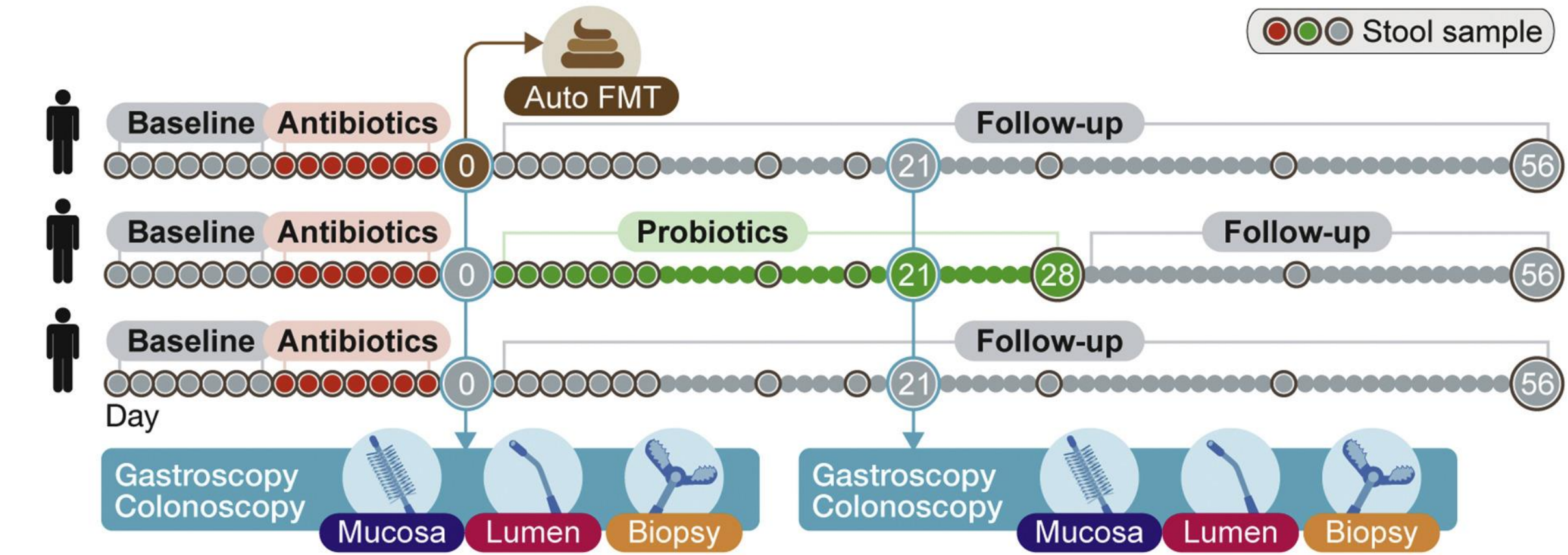
I <still> have no disclosures.

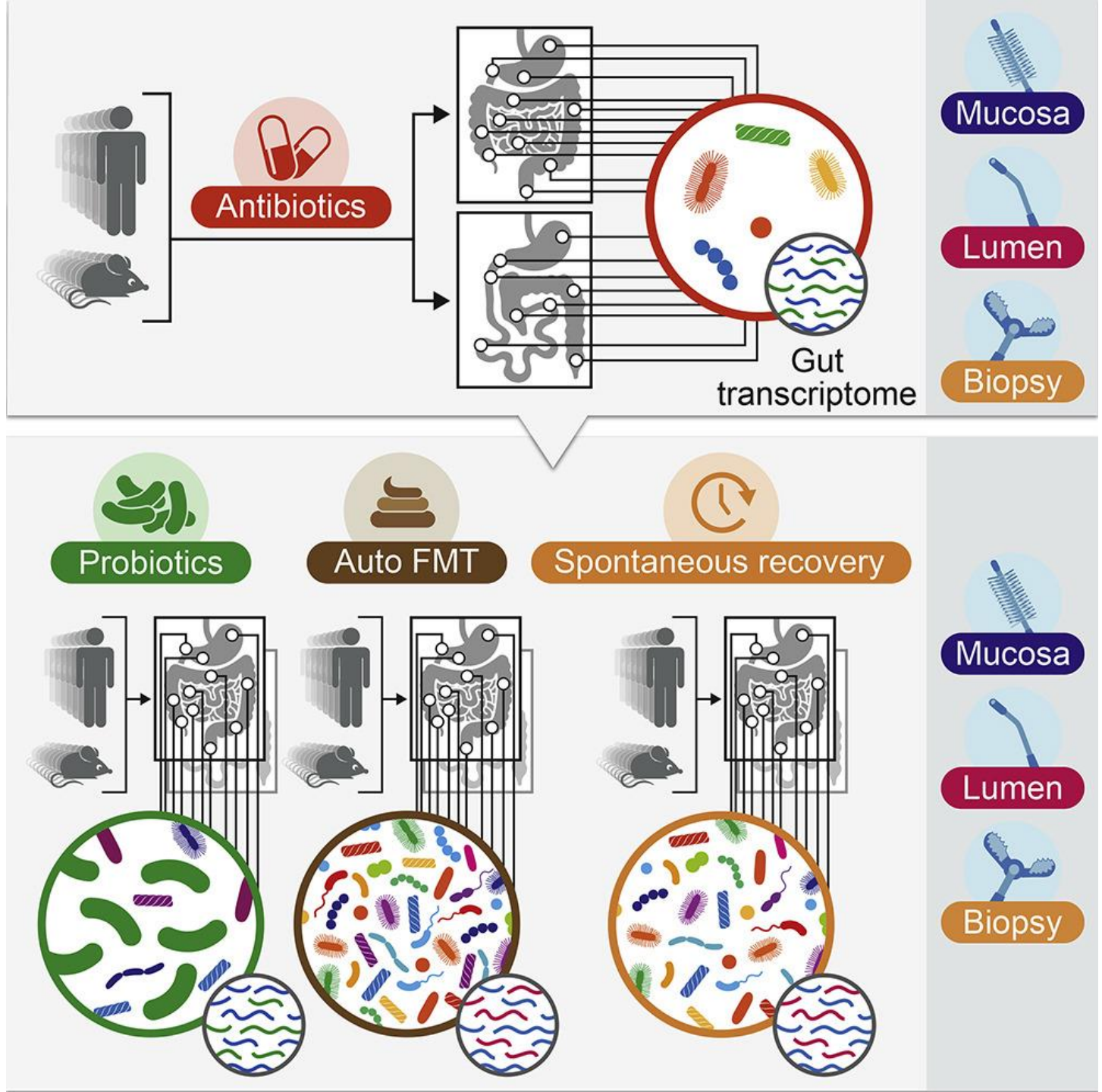
Question

A 42 year old patient with pneumonia is started on azithromycin. She asks whether she should take probiotics (lactobacillus) to help her avoid antibiotic-associated diarrhea. In response, you note that there is evidence that probiotics:

1) Alter the intestinal microbiome and hinder normal flora
2) Alter the intestinal microbiome and help normal flora
3) Alter the intestinal microbiome but do not change normal flora
4) Neither alter the intestinal microbiome nor hinder normal flora



Suez J et al. Cell. 2018.



Suez J et al. Cell. 2018.

Probiotics

- After antibiotics, they hinder reconstitution of normal flora and may delay healing.
- Fecal microbiome transplant helps reconstitution of normal flora.

Change: probiotics may not be harmless.

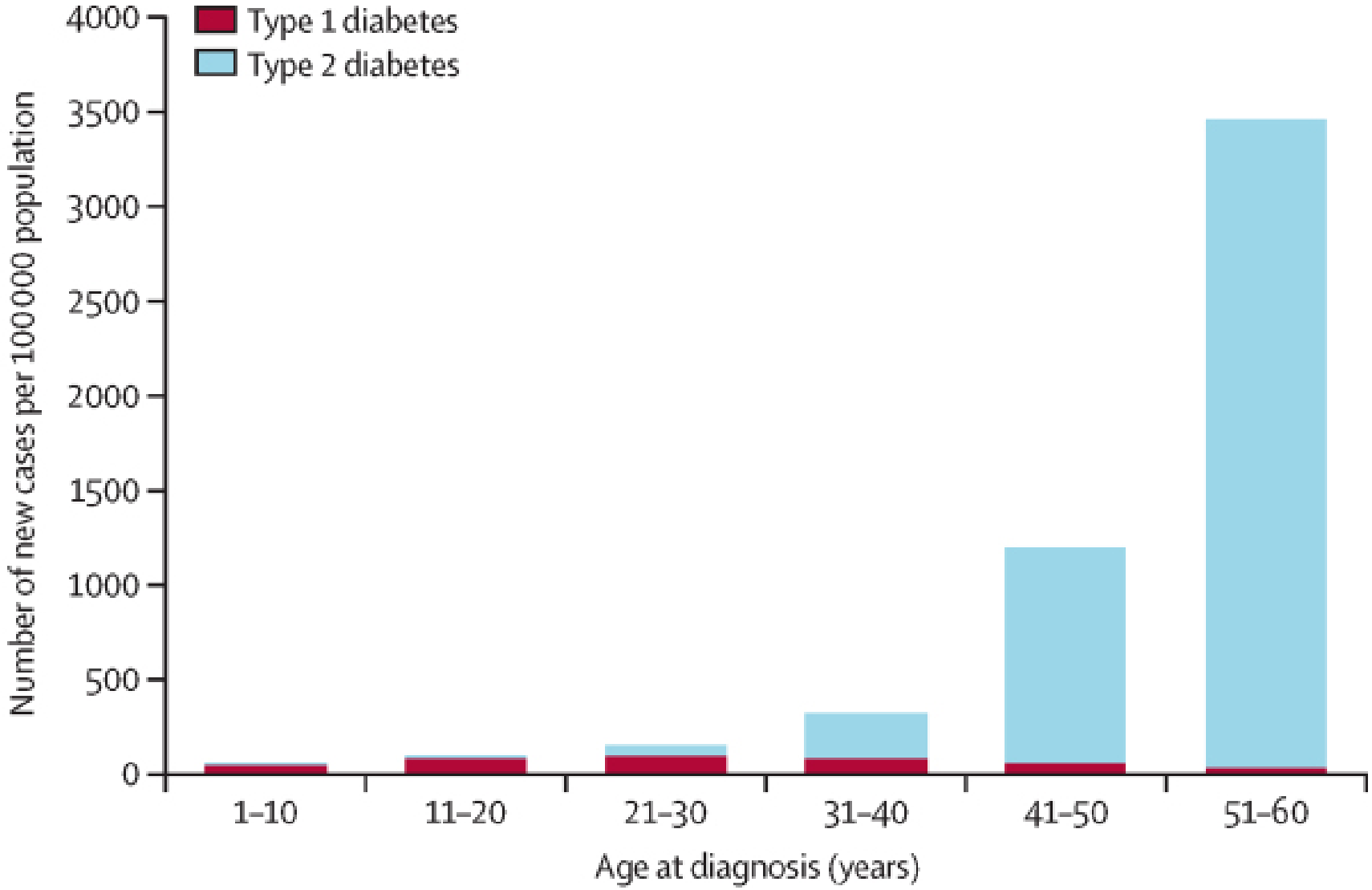
Future directions:

- Individualized probiotics
- More accessible FMT

Question

A 42 year old man presents on insulin after admission for new onset diabetes. He asks whether he will have to be on insulin for the rest of his life. You consider the possibility of Type 1 diabetes. Which of the following statement is true:

1) Type 1 diabetes never presents after age 30
2) Less than 2% of type 1 diabetes cases are diagnosed after age 30
3) About 10% of type 1 diabetes cases are diagnosed after age 30
4) About 40% of type 1 diabetes cases are diagnosed after age 30



Type 1 diabetes cases (n per 100 000 population)	35	73	89	73	55	28

Thomas NJ et al. Lancet Diab Endoc. 2018.

	Type 1 diabetes (n=537)	Type 2 diabetes (n=11 696)	p value
Age at study entry (years)	56 (55–57)	59 (59–59)	<0·0001
Age at diagnosis (years)	42 (41–43)	52 (52–52)	<0·0001
Male	335 (62%, 58–66)	7684 (66%, 64–67)	0·84
BMI (kg/m^2)	27·4 (26·7–28·0)	32·4 (32·2–32·5)	<0·0001
Insulin at 1 year after diagnosis	476 (89%, 86–91)	648 (6%, 5–6)	<0·0001
Diabetic ketoacidosis as discharge diagnosis	61 (11%, 9–14)	30 (0·3%, 0·1–0·4)	<0·0001

Thomas NJ et al. Lancet Diab Endoc. 2018.

Type 1 Diabetes

- Fairly steady incidence through first six decades of life
  - >40% diagnosed after age 30
- But, the incidence of Type 2 diabetes increases much more with age
  - Type 1 diabetes ~ 4% of all diabetes cases
- Predictors of Type 1 diabetes:
  - Non-obese (BMI < 30)
  - Insulin use within 1 year
  - DKA on initial presentation

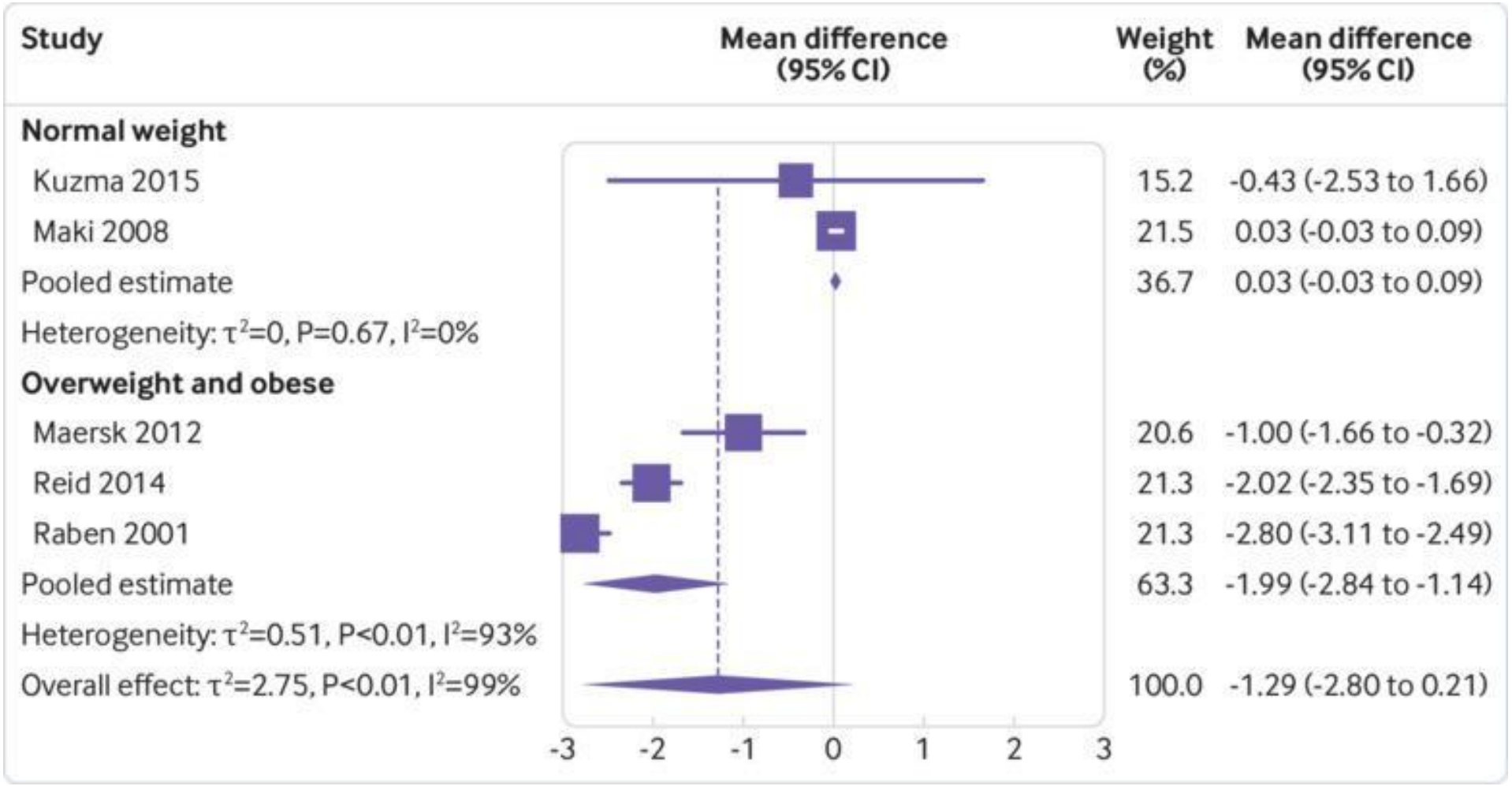
Change: consider Type 1 diabetes regardless of age at presentation.

Question

A 42 year old patient presents concerned about the use of non-sugar sweeteners. You counsel him that, compared to sugar, non-sugar sweeteners:

1) Increase the incidence of diabetes
2) Increase the risk of bladder cancer
3) Slightly decrease weight
4) Slightly increase blood pressure

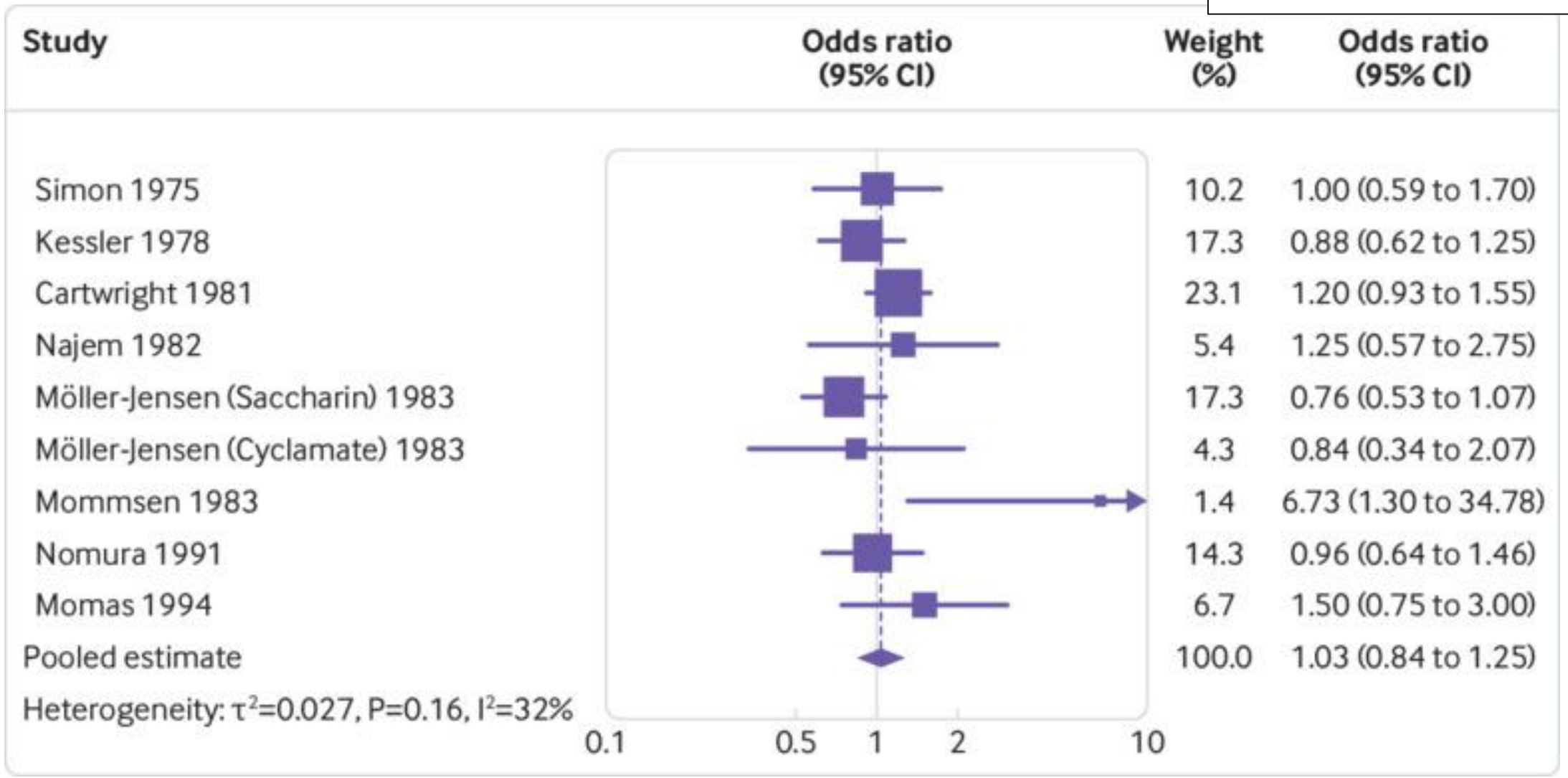
Weight effect (in kg)



Toews I et al. BMJ. 2019.

Bladder cancer risk

Data for other cancers inconclusive.



Toews I et al. BMJ. 2019.

Other findings

Diabetes:

- Lower fasting blood sugar
- Similar insulin levels, insulin resistance. No impact on DM incidence.

No clear association with hypertension, mood disorders

Change: non-sugar sweeteners have no proven link to disease in humans.

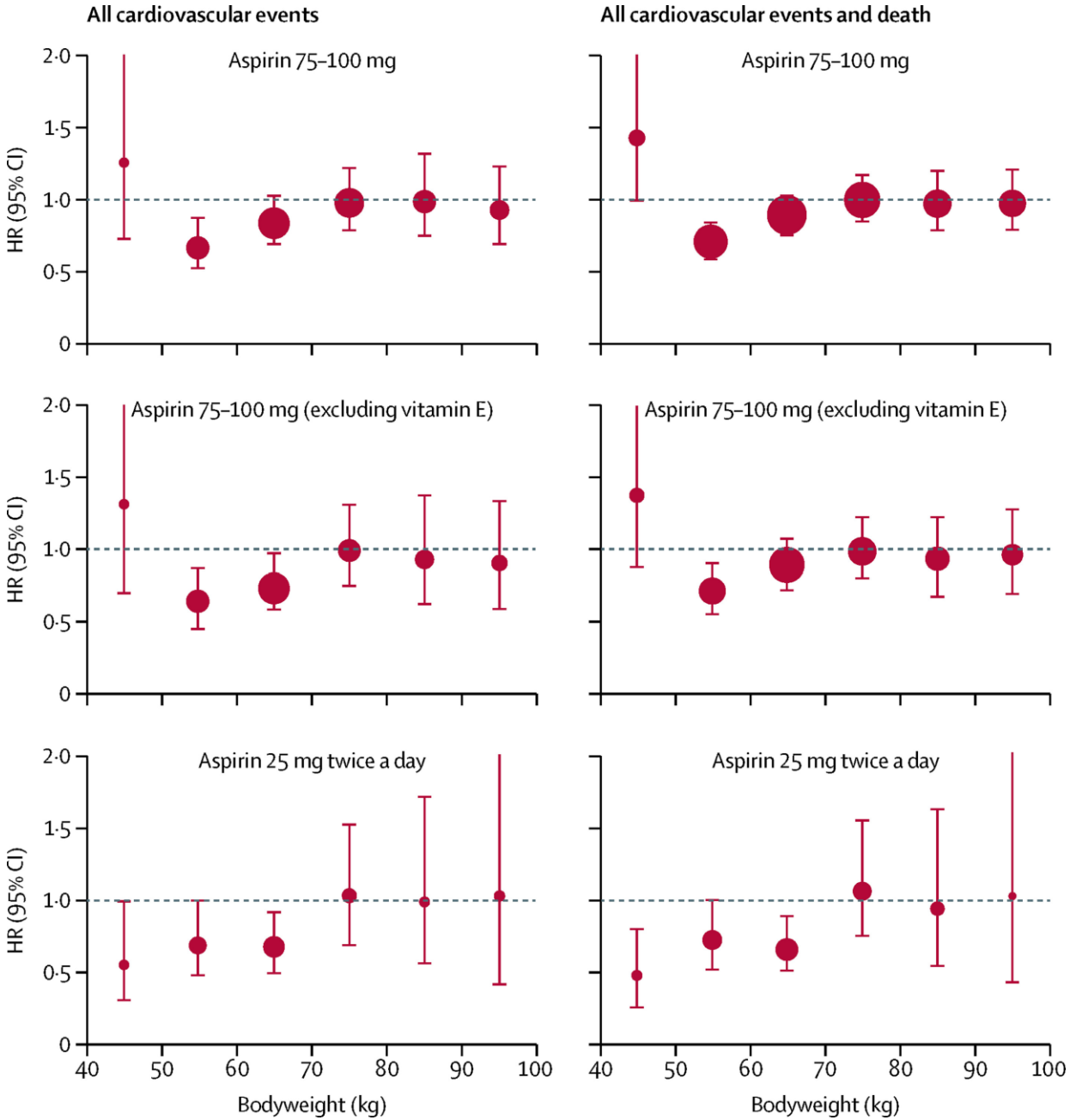
Question

A 74 year old patient asks you about taking aspirin for primary prevention of cardiovascular disease. In addition to 10-year cardiovascular risk, which of the following factors is most important to consider when making an aspirin recommendation to a patient?

1) Patient weight
2) Patient gender
3) Use of concomitant ACE inhibitor
4) Hepatitis C status

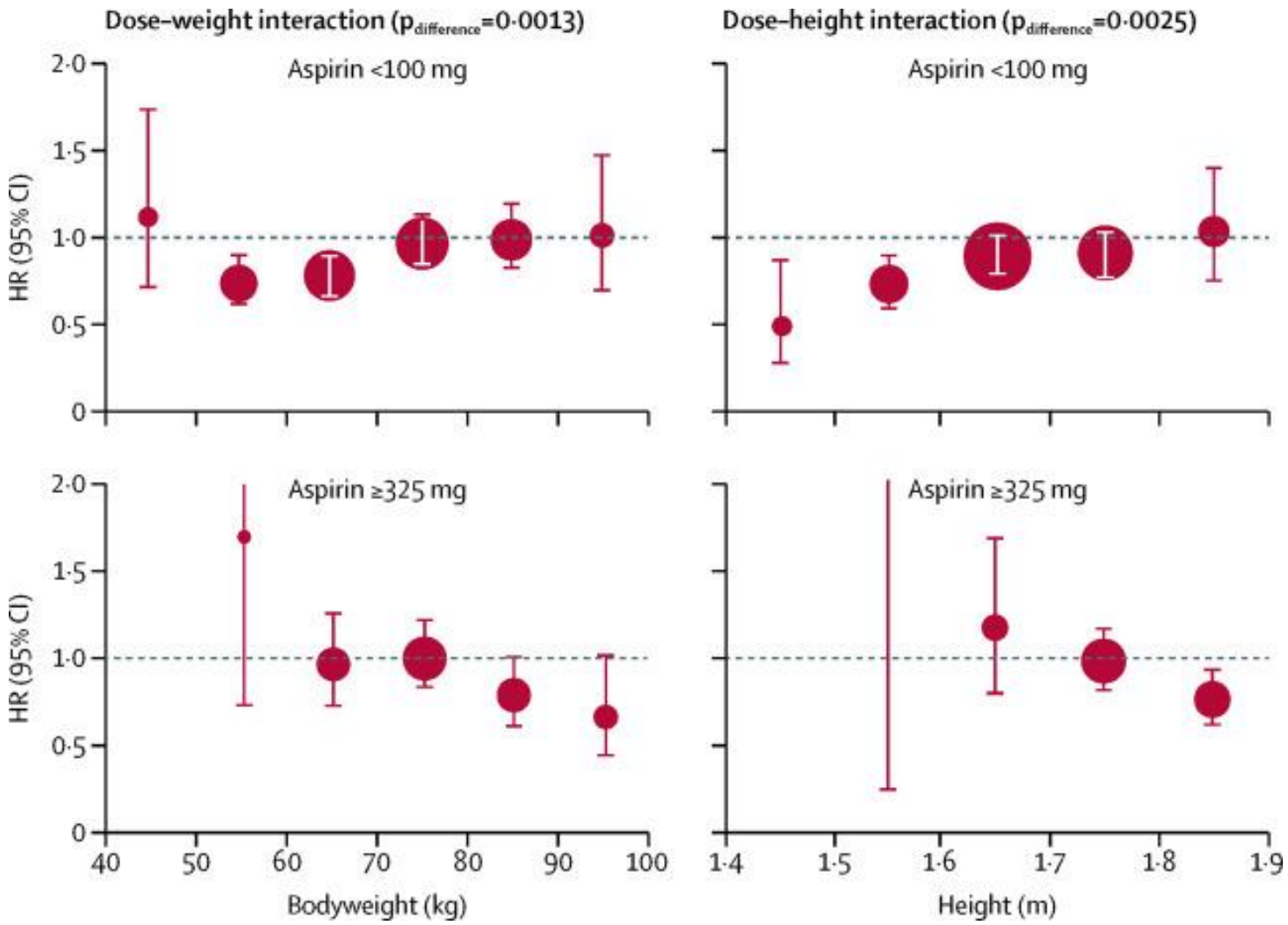
CV events +/- death vs wt and dose

Both primary and secondary prevention



Rothwell PM et al. Lancet. 2018.

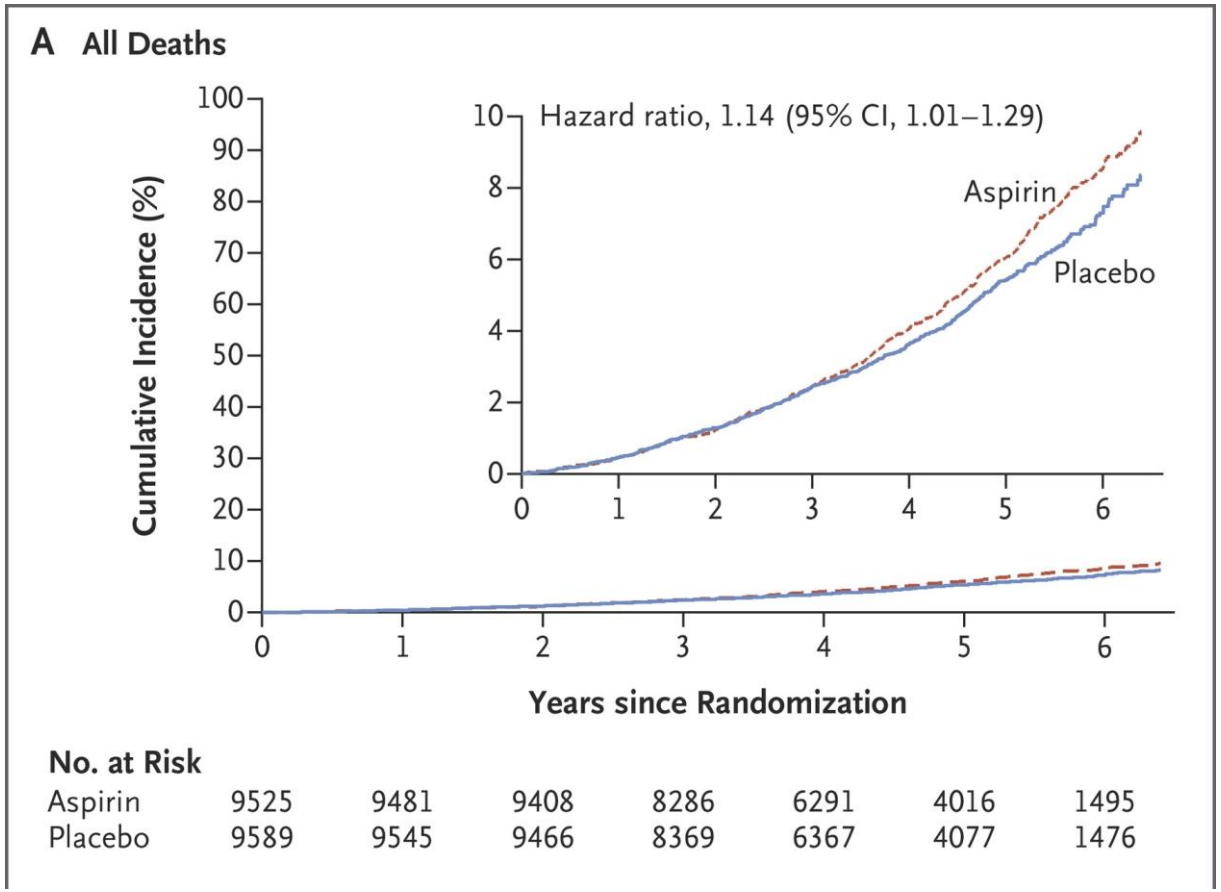
CV events, primary prevention vs wt and ht

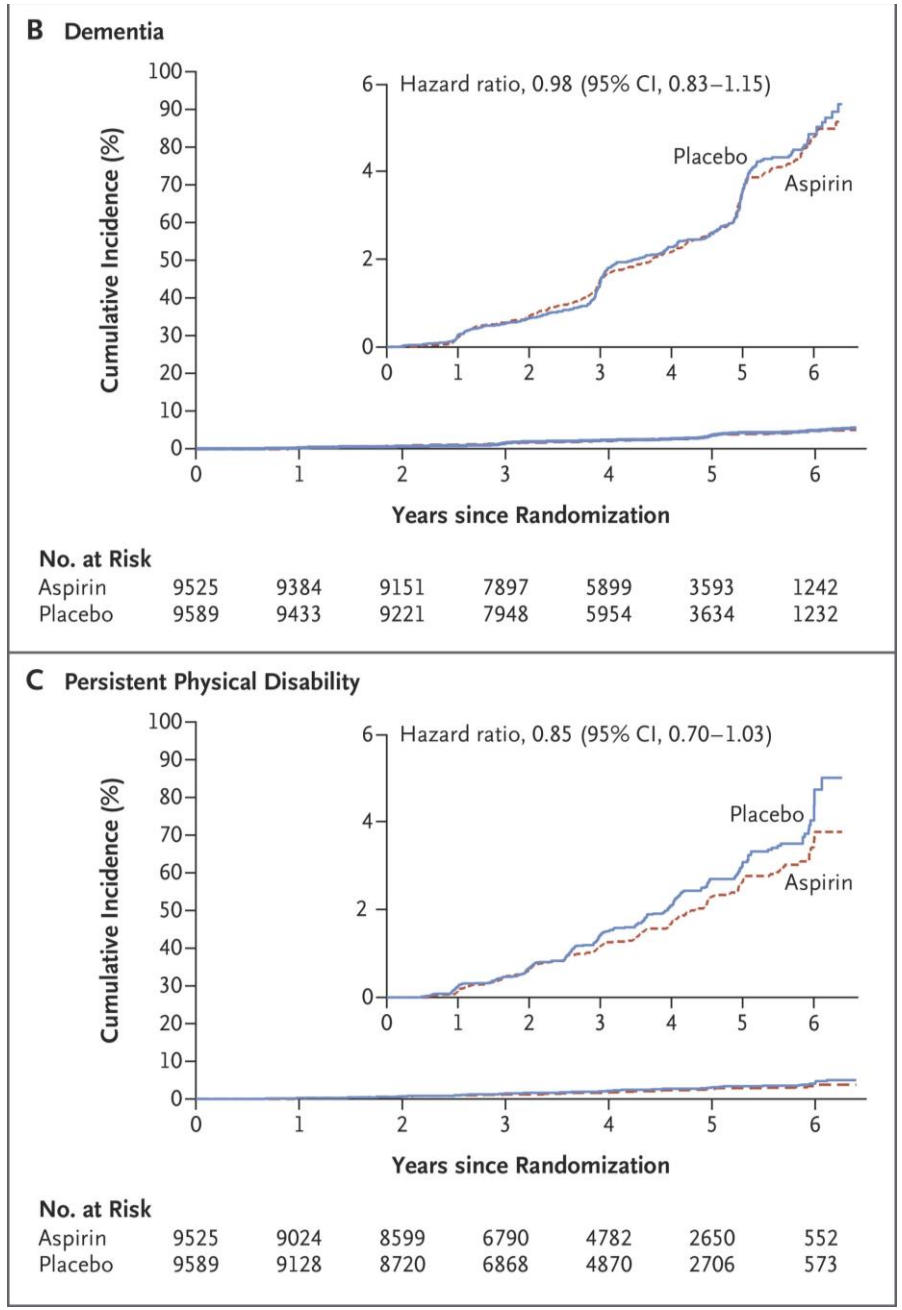


- Similar findings for cancer
- Higher dose had less benefit and more risk in people < 70 kg

Rothwell PM et al. Lancet. 2018.

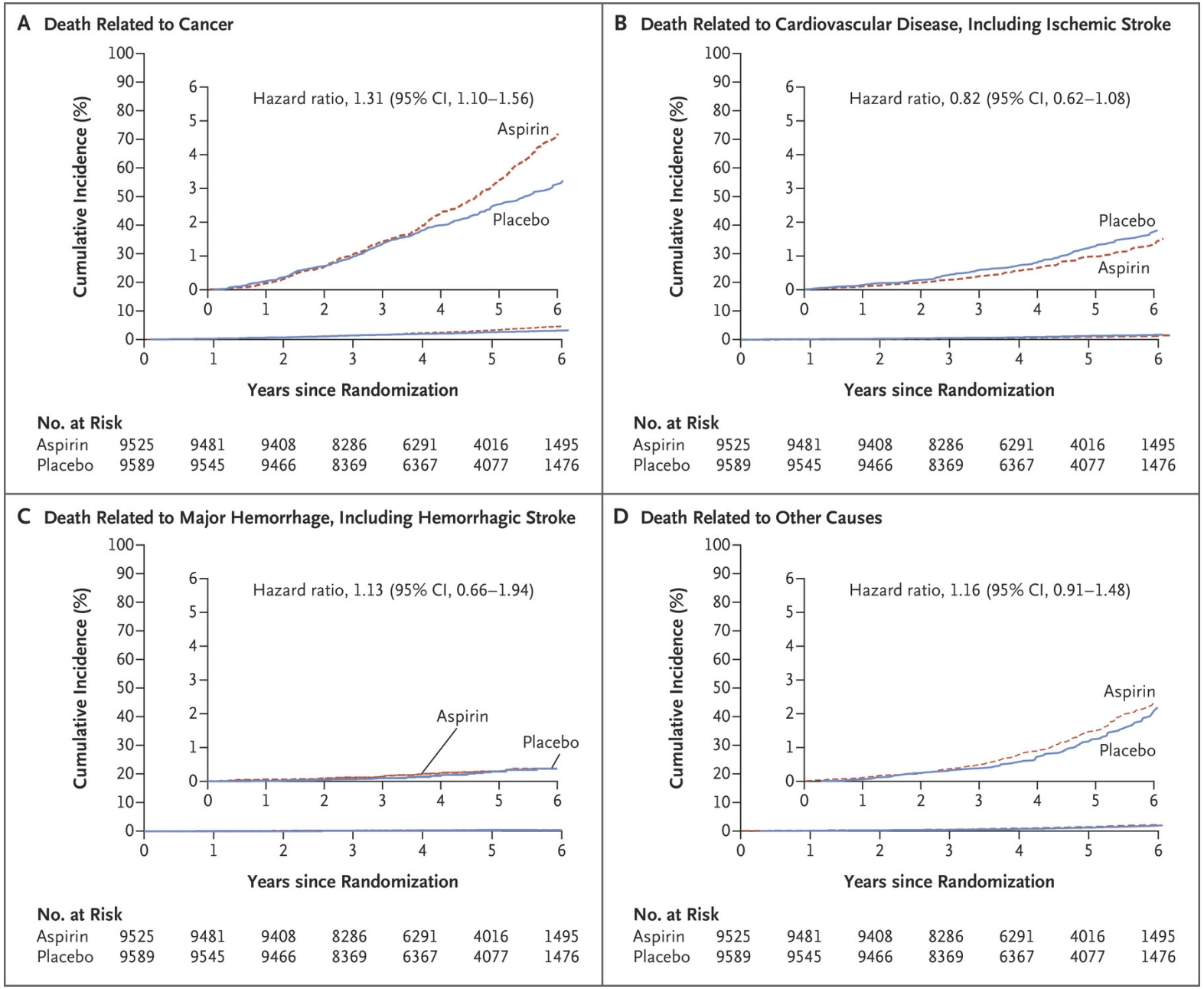
Aspirin for primary prevention





McNeill JJ et al. NEJM. 2018.

Aspirin for primary prevention



McNeill JJ et al. NEJM. 2018.

Aspirin and prevention

- CV benefit appeared offset by increased cancer risk (!) in this study
- Aspirin dosing should be weight-based
  - 81 mg for ≤70 kg
  - 325 mg for >70 kg

Change: Aspirin probably should not be used for primary prevention and, if used, should be weight-based.

Question

A 58 year old man with chronic back pain presents for follow-up. He asks about using cannabidiol for his back pain. You reply that:

1. CBD seems effective for more than 50% of people who take it for non-cancer pain and fewer than 5% stop taking it because of side effects.
2. CBD seems effective for more than 50% of people who take it for non-cancer pain and about 15% of stop taking it because of side effects.
3. CBD seems effective for about 30% of people who take it and about 15% of stop taking it because of side effects.
4. CBD seems effective for about 30% of people who take it and fewer than 5% stop taking it because of side effects.

Systematic review of CBD of non-cancer pain

Outcome	Pooled odds ratio (95% CI)	Pooled event rate (%), cannabinoid vs placebo	Number needed to treat to benefit (NNTB) (95% CI)
Pain outcomes			
30% reduction in pain	**1.46 (1.16-1.84)**	**29.0% vs 25.9%**	**24 (15-61)**
50% reduction in pain	1.43 (0.97-2.11)	18.2% vs 14.4%	*
Patient global impression of change			
Perceived "much" to "very much" improved	**1.62 (1.34-1.96)**	**18.9% vs 11.8%**	**38 (27-62)**
	Pooled odds ratio (95% CI)	**Pooled event rate (%), cannabinoid vs placebo**	**Number needed to treat to harm (NNTH) (95% CI)**
Adverse events			
All-cause adverse events	**2.33 (1.88-2.89)**	**81.2% vs 66.2%**	**6 (5-8)**
Study withdrawals—adverse events	**3.47 (2.64-4.56)**	**15.8% vs 4.6%**	**40 (35-49)**

Bold font indicates a statistically significant result. Only categorical outcomes with a moderate or higher GRADE rating are reported here.
* Number needed to treat to benefit unable to be calculated as the pooled odds ratio crossed the line of no effect.
CI, confidence interval.

Stockings E et al. Pain. 2018

Some context

Number needed to benefit:

- Cannabinoids = 24
- Opioids = 4.3
- Pregabalin = 7.7
- TCAs = 3.6

Limitations

- Limited size of studies
- Short-term follow-up
- Inconsistency
- Heterogeneity of products

Bottom Line: CBD for non-cancer pain

- Most people don’t benefit
- Small risk of harm

Questions and Discussion

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