

A QUASI-EXPERIMENTAL STUDY OF MANDATORY CALORIE-LABELLING POLICY IN RESTAURANTS

IMPACT ON USE OF NUTRITION INFORMATION AMONG YOUTH AND YOUNG ADULTS IN CANADA.

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Disclosure Statement

- I have no affiliation (financial or otherwise) with a pharmaceutical, medical device or communications organization.

Eating Out

- Increased energy intake has been driven in part by **greater caloric intake outside the home**.^{1,2}
- In 2015, food purchased from restaurants accounted for **29% of spending** in Canada.³
- 83% of Canadian youth and young adults eat **at least one meal per week outside the home**.³

Sources:

1. French SA, Harnack L, Jeffery RW. Fast food restaurant use among women in the Pound of Prevention study: dietary, behavioral and demographic correlates. *International Journal of Obesity* 2000; 24:1353-1359.

2. World Health Organization. Obesity and overweight: Facts. Available at: <http://www.who.int/dietphysicalactivity/publications/facts/obesity/en/print.html>

3. Wiggers D, Vanderlee L, White CM, Reid JL, Minaker L, Hammond D. Food sources among youth and young adults in five major Canadian cities. In Press, Canadian Journal of Public Health.

Nutrient content is not intuitive

Big Mac



520kcal

28g total fat

10g sat fat

950mg sodium



'I'm greeking out' crispy chicken salad with Greek dressing



670kcal

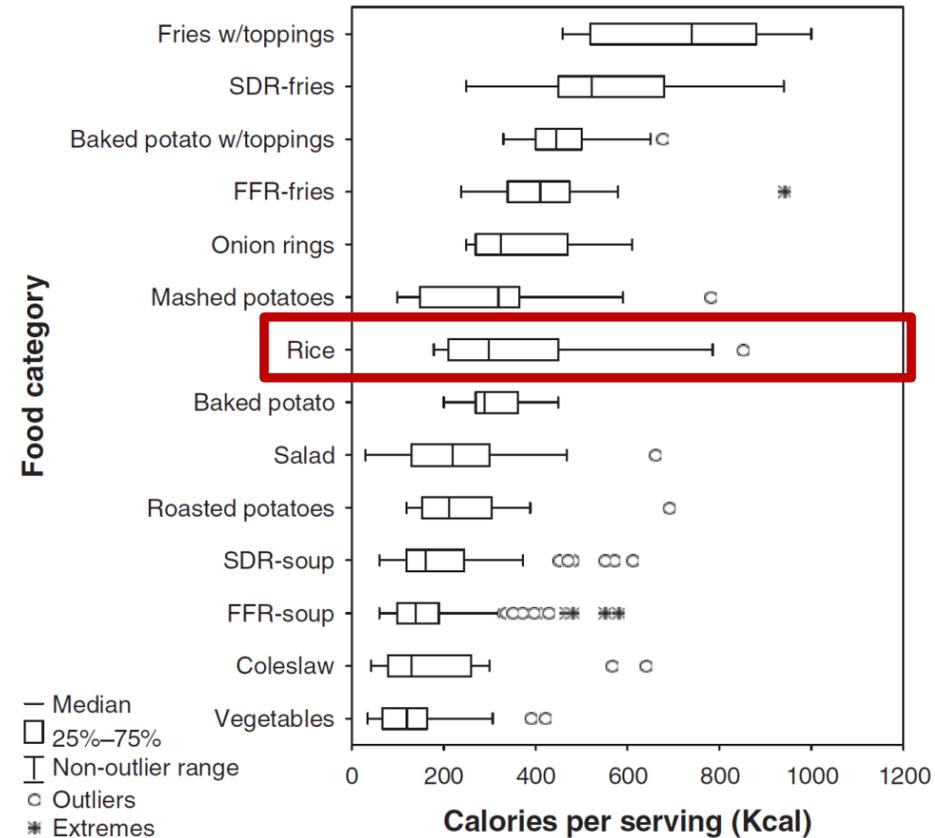
43g total fat

11g sat fat

1380mg sodium

Huge variation within food categories

(c) Side dishes



Calories in rice side dish = ~100kcal to ~800kcal

Availability of Nutrition Information Quick-service 2012

- **0%** had nutrition information on menu for **all items**
- **14%** posted calorie information for **some items**
- **53%** had nutrition information on back of **tray liner**

Source: Hobin E, Lebenbaum M, Rosella L, Hammond D. Availability, location, and format of nutrition information in fast-food chain restaurants in Ontario, Canada. *Can J Diet Pract Res.* 2015;76: 44-48. doi: 10.3148/cjdpr-2014-026.





'I was shocked': Why health advocates want calorie counts on your menu and in your face

Ontario chain restaurants must post calorie counts on menus by 2017



[Sophia Harris](#) · CBC News · Posted: Apr 15, 2016 5:00 AM ET | Last Updated: April 15, 2016

PRIME RIB HASH



Price...\$16.50 | Calories.....1990

METHODS

Study Objectives

- To examine consumer **noticing and use** of nutrition information in restaurants among **youth & young adults** in Canada
- To compare the effect of **voluntary and mandatory policies**
- To examine **individual differences** (e.g., sex, age, socio-demographics) in outcomes

METHODS

Canada Food Study

- Online survey
- Baseline (fall 2016) & Follow-up (fall 2017)
- Sample:
 - 16 to 30 years old
 - 5 cities: Vancouver, Edmonton, Toronto, Montreal, Halifax
 - Intercept method recruitment with email follow-up to complete survey
- Content:
 - Demographics, food behaviours, dietary recalls

METHODS

Study 'Conditions'

- 1) Mandatory menu labelling policy**
Ontario
- 2) Voluntary policy**
British Columbia
- 3) No policy**
Alberta, Quebec, Nova Scotia

ONTARIO

Condition 1: Mandatory Policy

- Calorie amounts on menus/menu boards at food establishments with ≥ 20 sites



1 Beef Angus Burger

4.25	450 Cal.
6.99 meal	600 Cal.



2 Cheeseburger

4.75	450 Cal.
7.50 meal	600 Cal.



3 Bacon Cheeseburger

5.25	450 Cal.
8.25 meal	600 Cal.

BRITISH COLUMBIA

Condition 2: Voluntary Policy

Informed Dining

- Logo on menu
- Calorie and sodium information on request



ALBERTA, QUEBEC, NOVA SCOTIA

Condition 3: No Policy

- Some nutrition information on request
- Variable access to nutrition information
- Naturalistic 'control' group

Sample

- **Analytic sample:** n = 3,897
 - Baseline (2016): n = 2,929
 - Follow-up (2017): n = 968
- **Demographics (weighted):**
 - Mean age: 23 years
 - 49% female
 - 45% white
 - 60% students
- **GEE models to test for differences over time**
 - Age, sex, race, BMI, survey mode (smartphone vs. other device)
 - Income adequacy, household food security status, past-year weight loss attempt, health literacy, student status, maternal education, perceived diet quality

Timeline

Calorie labelling in Ontario

January 2017

Baseline Fall 2016

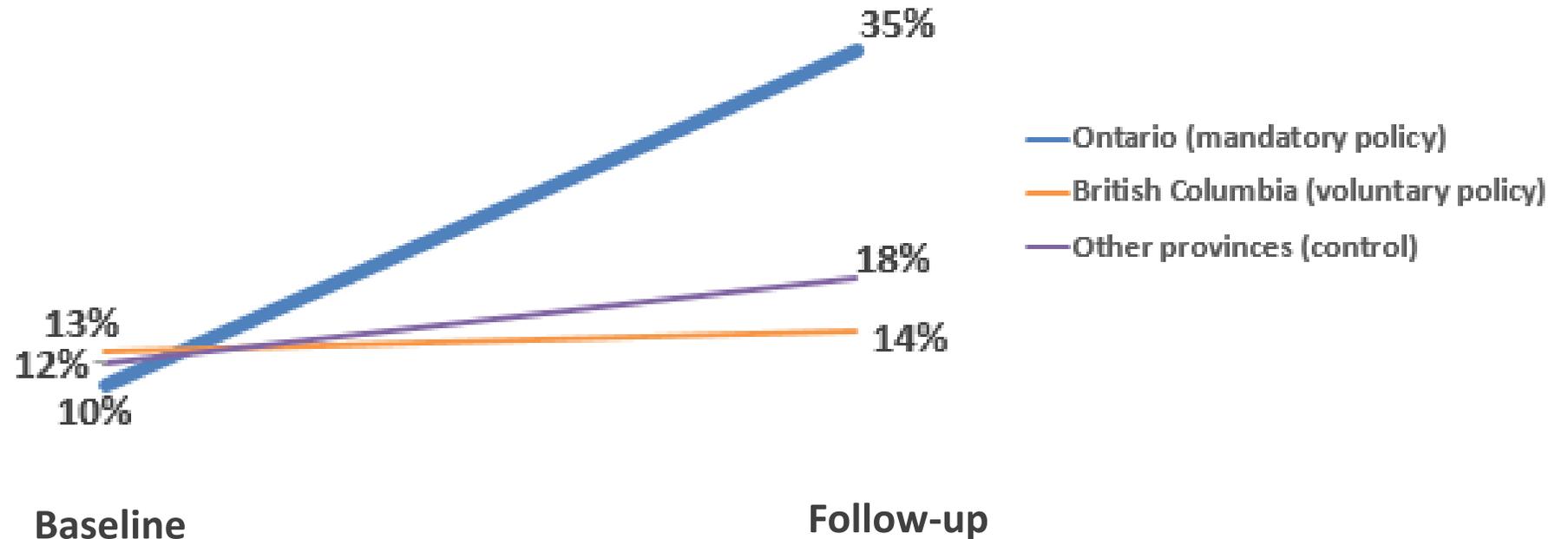
- Ontario: no policy
- BC: voluntary policy
- Control: no policy

Follow-up Fall 2017

- Ontario: **mandatory policy**
- BC: voluntary policy
- Control: no policy

The last time you visited a restaurant, did you notice any nutrition information?

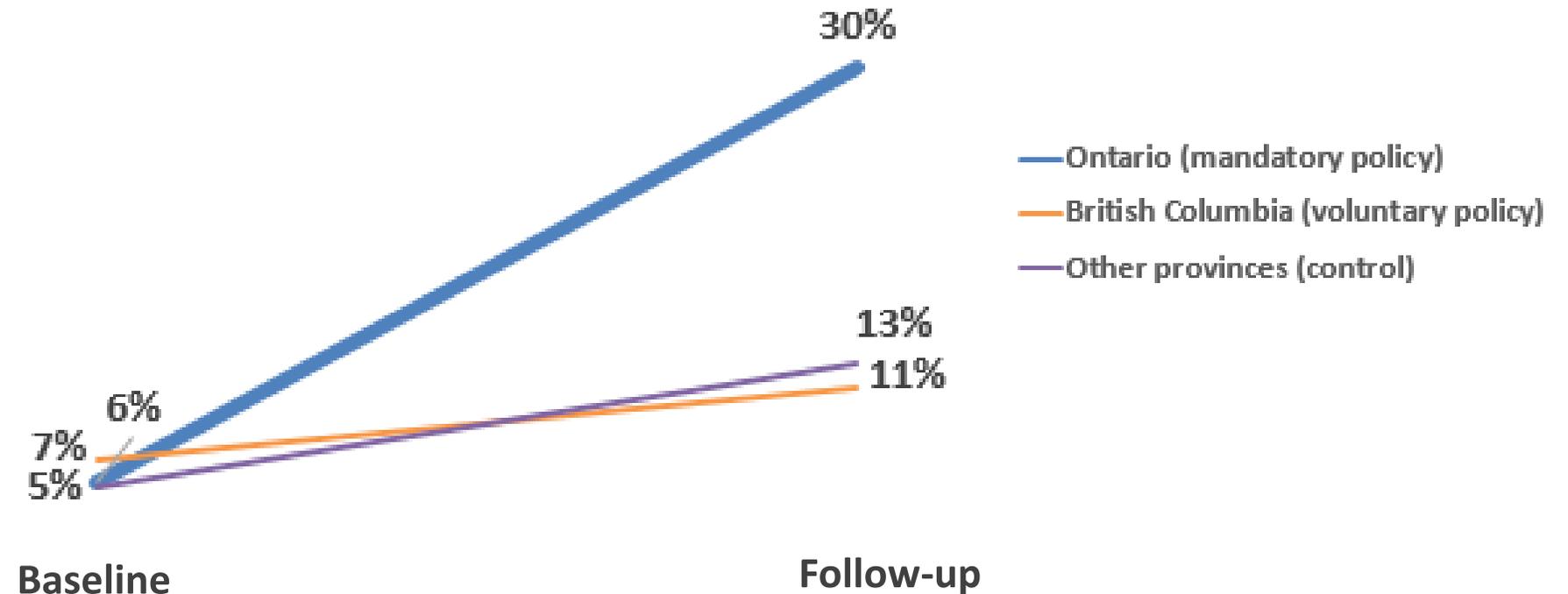
% Yes n = 3,836



p<0.001 compared to BC and control

Where was this nutrition information located?

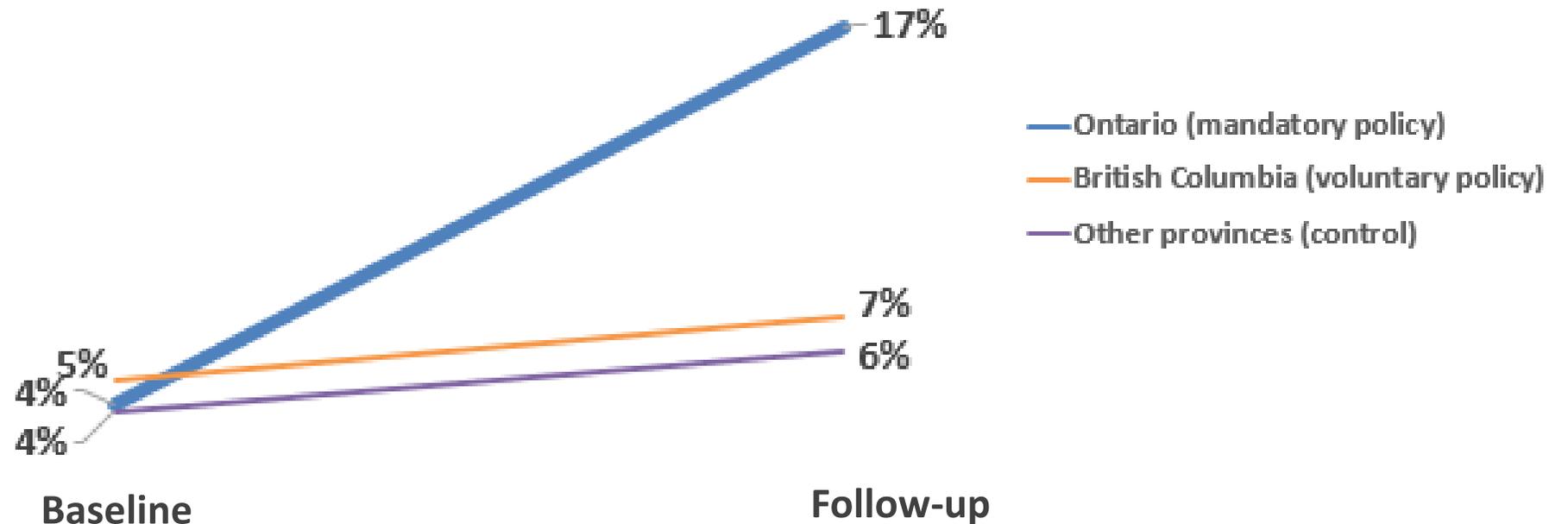
% menu / menu board n = 3,833



p<0.001 compared to BC and control

Did the nutrition information influence what you ordered?

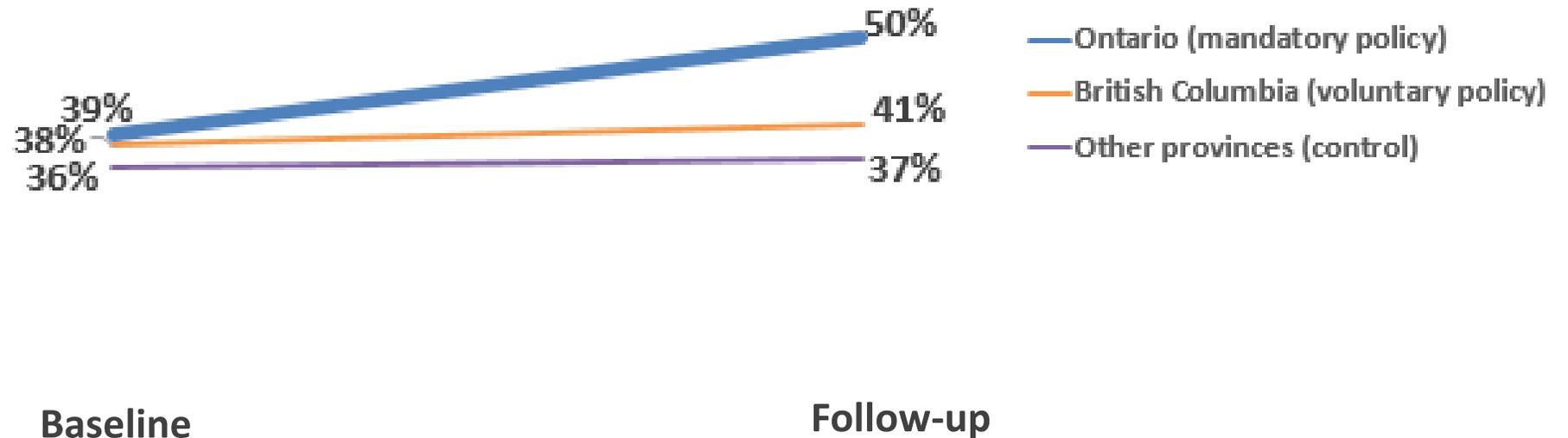
% Yes n = 3,836



p < 0.01 compared to BC
p < 0.001 compared to control

In the past 6 months, have you done any of the following because of nutrition information in restaurants?

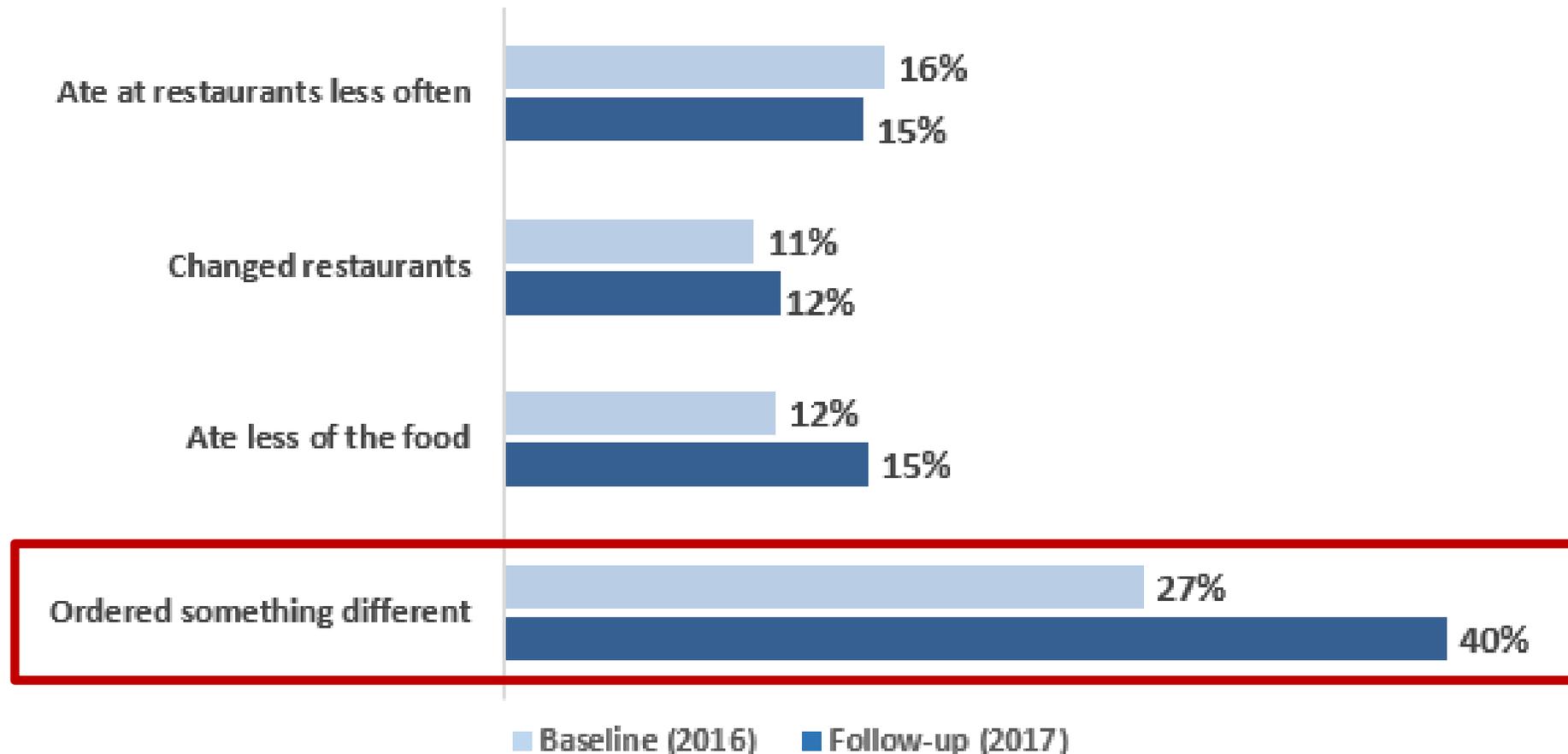
% Yes n = 3,836



p=0.001 compared to control

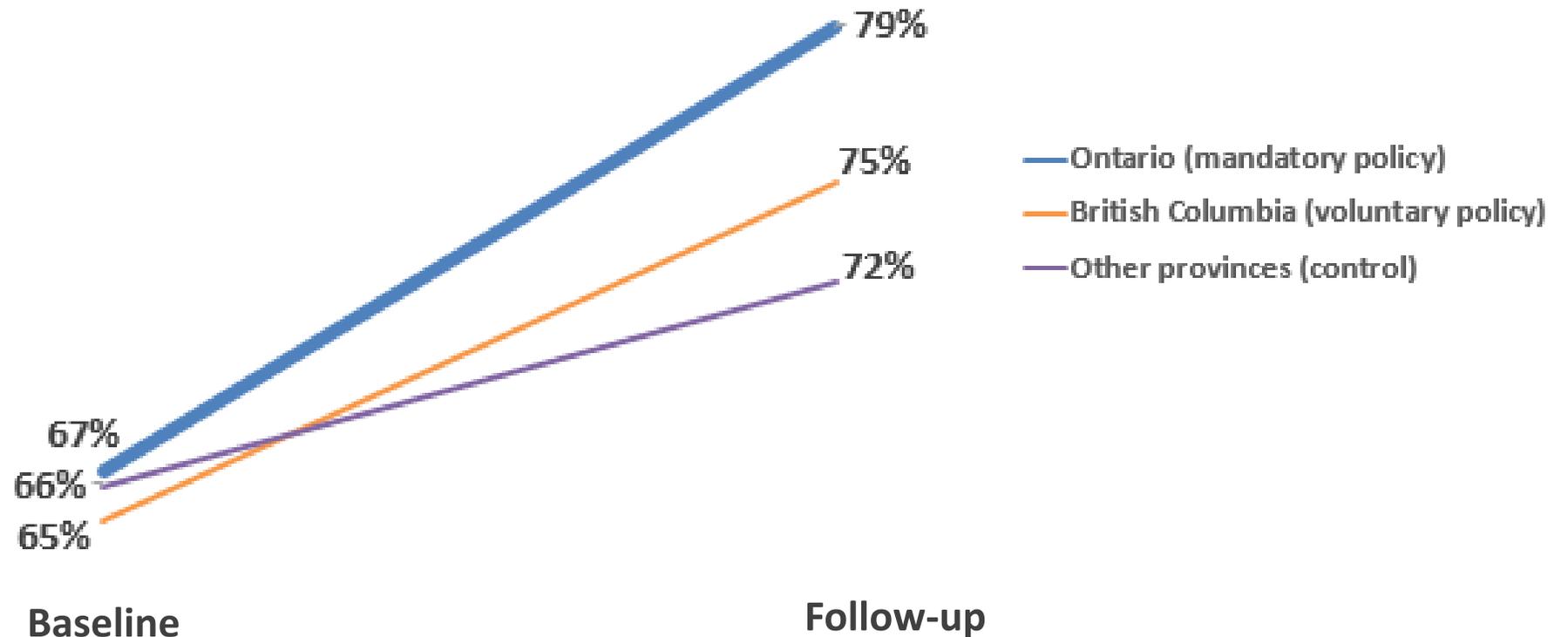
In the past 6 months, have you done any of the following because of nutrition information in restaurants?

(% Ontario respondents) n = 3,836



Would you support or oppose a government policy that would require calorie amounts on menus of chain restaurants?

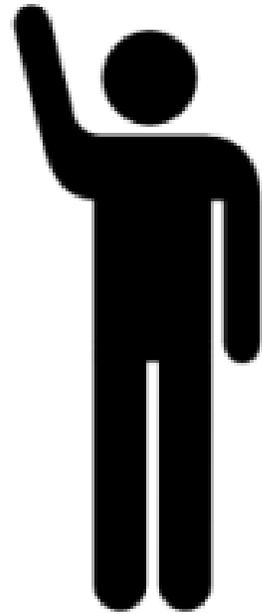
% Support



p=0.03 compared to control

Support for menu labelling

...in Ontario, at follow-up (2017)



79%

Support



15%

Neutral



4%

Unstated



2%

Opposed

RESULTS

Individual Differences

- Females - more likely to **notice** and report **influence**
- Higher BMI - more likely to **notice** nutrition information on menu
- Attempted weight loss, healthier diet - more likely to report **influence and impact**
- Food insecurity - more likely to report **impact**
- Health literacy - **no difference** in influence or impact

Conclusions

- Consistent **positive impact** of mandatory calorie labelling on noticing, use and influence/impact of nutrition information
- **No apparent effect** of voluntary program
- Menu labelling subject to **few socioeconomic disparities**

Limitations

- Non-probability sample
- Some exposure to Informed Dining Program outside B.C.
- Self-report, not objective behaviour



Questions?

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