



Availability of calorie information on online food delivery service platforms among major chain restaurants in Canadian provinces with different calorie labelling policies

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Received: 7 October 2022 / Accepted: 19 May 2023 / Published online: 29 June 2023
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Abstract

Objective This study aimed to characterize the availability of calorie labelling on major online food delivery (OFD) platforms for the largest restaurant brands in Canada to examine differences in provinces with and those without mandatory calorie labelling regulations.

Methods Data were collected for the 13 largest restaurant brands with locations in Ontario (with mandatory menu labelling) and Alberta and Quebec (with no mandatory menu labelling) from the web applications of the three largest OFD platforms in Canada. Data were sampled from three selected restaurant locations within each province ($n = 117$ locations across all provinces) on each platform. Univariate logistic regression models were used to test differences in the presence and amount of calorie labelling and other nutritional information across provinces and platforms.

Results The analytical sample included 48,857 food and beverage items ($n = 16,011$ in Alberta, $n = 16,683$ in Ontario, and $n = 16,163$ in Quebec). Items were more likely to have menu labelling in Ontario (68.7%) than in Alberta (44.4%, OR = 2.75, 95% CI 2.63–2.88) or Quebec (39.1%, OR = 3.42, 95% CI 3.27–3.58). In Ontario, 53.8% of restaurant brands had calorie labelling for > 90% of items, compared to 23.0% in Quebec and 15.4% in Alberta. The presence of calorie labelling also differed across platforms.

Conclusion Nutrition information from OFD services differed across provinces with and those without mandatory calorie labelling. Chain restaurants on OFD service platforms were more likely to provide calorie information in Ontario, where calorie labelling is mandatory, compared to elsewhere where no such policy exists. In all provinces, calorie labelling was inconsistently implemented across OFD service platforms.

Résumé

Objectif Cette étude vise à caractériser la disponibilité de l'affichage des calories sur les principales plateformes de service de livraison de repas en ligne (SLRL) pour les plus grandes chaînes de restaurants au Canada pour évaluer les différences entre les provinces dotées d'une réglementation sur l'étiquetage obligatoire des calories et celles où une telle politique est inexistante.

Méthodologie Les données ont été recueillies pour les 13 plus grandes chaînes de restaurants ayant des établissements en Ontario (avec étiquetage des menus obligatoire) et en Alberta et au Québec (étiquetage des menus non obligatoire) sur les applications web des trois principales plateformes de SLRL au Canada. Les données ont été échantillonnées à partir de trois succursales pour chaque chaîne de restaurants dans chacune des provinces ($n = 117$ restaurants dans toutes les provinces) sur chaque plateforme. Des modèles de régression logistique univariés ont été utilisés pour tester les différences dans la présence et la prévalence de l'affichage des calories et d'autres informations nutritionnelles entre les provinces et les plateformes.

Résultats L'échantillon analysé comprenait 48 857 produits alimentaires et boissons ($n = 16 011$ en Alberta, $n = 16 683$ en Ontario et $n = 16 163$ au Québec). Les calories étaient plus susceptibles d'être affichées sur les produits en Ontario (68,7 %) comparativement à l'Alberta (44,4 %, RC = 2,75, IC 95% 2,63–2,88) ou au Québec (39,1 %, RC = 3,42, IC 95% 3,27–3,58). En Ontario, 53,8 % des restaurants affichaient les calories pour > 90 % des produits, contre 23,0 % au Québec et 15,4 % en Alberta. La présence de l'affichage des calories différait également d'une plateforme à l'autre.

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Conclusion L'information nutritionnelle sur les plateformes de SLRL différait entre les provinces disposant d'une réglementation sur l'affichage des calories et celles sans une telle réglementation. Les chaînes de restaurants sur les plateformes de SLRL avaient davantage tendance à afficher les calories en Ontario, où ce type d'affichage est obligatoire, qu'ailleurs, où une telle politique est inexistante. D'une province à l'autre, l'affichage des calories n'a pas été mis en œuvre de manière uniforme sur les différentes plateformes de SLRL.

Keywords Food labelling · Restaurants · Nutrition policy · Canada · Fast foods

Mots-clés Étiquetage des aliments · restaurants · politique en matière de nutrition · Canada · restauration rapide

Introduction

Food consumed that is prepared away from home (food away from home, FAFH) from restaurants and other foodservice outlets represents approximately 30% of the Canadian food budget, and consumption has continually increased over the last 10 years (Statistics Canada, 2021a). On average, data suggest that 54% of Canadians consume FAFH at least once a week (Polsky & Garriguet, 2021). Consumption of FAFH is of considerable public health concern, as increased consumption has been associated with a number of negative health outcomes, including poorer diet quality and increased risk of overweight and obesity (Auchincloss et al., 2014; Gesteiro et al., 2022; Lachat et al., 2012; Nago et al., 2014; Todd et al., 2010; Wellard-Cole et al., 2021). This association may be due to the caloric density of these foods, or their excessive levels of nutrients of public health concern, such as salt, sugar, and saturated fat (Murphy et al., 2020).

There is currently a proliferation of online food delivery (OFD) services that deliver prepared foods from restaurants to Canadians through online and smartphone applications. In particular, OFD services (otherwise known as OFD “aggregators”) that provide a medium to order and, in some cases, deliver restaurant foods from a variety of different restaurant brands are increasingly popular. Spending on OFD apps has almost quadrupled from 2016, and represented 12.4% of all consumer food service in Canada in 2022 (Euromonitor International, 2022). Canadian research has suggested that OFD services increase geographic access to food prepared away from home, which typically do not meet healthy eating recommendations (Brar & Minaker, 2021). Research from Australia suggests that the most popular food outlets on OFD platforms are unhealthy, and popular menu items tend to be discretionary foods (Partridge et al., 2020). A study from 2017 found that 15% of adults across Canada, Australia, Mexico, the United Kingdom, and the United States had purchased a meal via an OFD platform in the last 7 days (Keeble et al., 2020). By facilitating rapid and greater access to fast foods, OFD services contribute to an important change in the current food environment.

Since first being implemented in New York City in 2008, menu labelling policies have been introduced at the national, state, and city levels to support informed consumer choices when eating FAFH (Rincón-Gallardo et al., 2020). The application of menu labelling regulations to online third-party food delivery systems is not universal. For example, in the USA, third-party OFD service platforms are excluded from menu labelling regulations, while these platforms are explicitly included in recent regulations in England (Center for Science in the Public Interest, 2021; UK Government, 2021). In Canada, only one province (Ontario) has introduced mandatory menu labelling as part of the Healthy Menu Choices Act implemented in January 2017 (Government of Ontario, 2016a, 2016b). This policy requires all companies with 20 or more outlets province-wide to show calories for menu items on paper and electronic menus, menu boards, drive-through menus, menu applications, and advertisement or promotional flyers (Government of Ontario, 2023). The regulations state “*Calories only need to be displayed on online menus, applications, advertisements and promotional flyers if the prices for standard food items are displayed and a method to place an order for delivery or take away ordering is provided.*” (Government of Ontario, 2016a). Calorie information must be posted in at least the same size, font, format, and prominence as the name/price of the item, and the information must be adjacent to the name or price of the food item in an unobstructed and readily legible manner (Government of Ontario, 2016a, 2016b). The Ontario regulations also require a contextual statement that reads “Adults and youth (ages 13 and older) need an average of 2000 cal a day, and children (ages 4 to 12) need an average of 1500 cal a day. However, individual needs vary” on the menu or near the items with labelling. Overall, how calorie information is provided by OFD services is not well described in the peer-reviewed literature. No published literature has examined the extent to which chain restaurants in Ontario or elsewhere in Canada provide nutrition information on OFD aggregators.

The objective of this study was to explore the availability of calorie labelling on major OFD platforms for the largest restaurant brands in Canada. More specifically, the study aims were to (1) characterize the overall prevalence of companies providing calorie information on OFD platforms;

(2) examine the differences between calorie labelling in three provinces in Canada with different regulatory environments; and (3) investigate the type and placement of nutrition information on online menus of OFD platforms.

Methods

The study examined the presentation of online menu labelling for food and beverage items available for purchase on the most popular OFD aggregators on the Google Play Store and on the Apple Store Online in Canada (Uber Eats, DoorDash and SkiptheDishes) (Similarweb, 2021), consistent with previous research examining OFD services in Canada (Brar & Minaker, 2021). Information provided on the OFD platforms was examined for restaurants in three Canadian provinces with different policy environments (Alberta, Ontario, and Quebec). Ontario was chosen as it is the only Canadian province to have implemented mandatory menu labelling (Government of Ontario, 2015), and Alberta and Quebec were chosen as comparators with no mandatory menu labelling regulations. Alberta represents a primarily English-speaking province, while Quebec represents a largely French-speaking population. All three provinces have a relatively similar ratio of restaurants per capita (QC: 0.00165, AB: 0.00175, and ON: 0.00179 as of June 2020) (Statistics Canada, 2020, 2021b).

Brand and restaurant selection

Euromonitor Passport 2020 brand market share data for consumer food services were used to select companies with the most outlets in Canada (Euromonitor International, 2021). Of the 30 largest restaurant companies/brands (hereafter referred to as restaurant brands) listed in the reports, $n=5$ convenience stores were excluded as they were presented separately from “traditional” restaurants on OFD platforms and existing calorie labelling regulations in Ontario were not applied similarly to pre-packaged products for sale. Of the 30 largest brands, all brands that had outlets in Alberta, Quebec, or Ontario and had a restaurant on at least one of the three OFD web applications were considered, for an overall sample of 25 of the largest restaurant brands in Canada, representing approximately 62% of the brand market share. To verify whether the Ontario menu labelling regulations would apply to these chain restaurants, an online search indicated that all brands had at least 20 outlets in Ontario, and thus would be required to display calorie labelling as per the *Healthy Menu Choices Act* (Government of Ontario, 2020). The current analyses examine 13 restaurant brands that were available in all three provinces and on all three platforms: Tim Hortons, Subway, McDonald’s, A&W, Dairy Queen, KFC, Pizza

Hut, Boston Pizza, Thai Express, Burger King, Harvey’s, Second Cup, and Sushi Shop, to facilitate comparisons across platforms and provinces.

Typically, OFD aggregators offer products from a variety of restaurant brands. Consumers are provided with a selection of brands (restaurants) that are available in their area for delivery or pickup, and they must select an individual restaurant location (often referred to as a franchisee) from which they order their items. Each location or outlet for a restaurant brand is typically independently owned and operated, and is generally responsible for deciding to partner with an OFD service and providing information on the products available, specials, and prices for their individual restaurant; as such, these elements may vary between each individual locations. In the current study, $n=3$ locations were sampled for each restaurant brand in each city to capture multiple locations that may vary in provision of menu labelling.

Google Maps was used to identify areas with a large concentration of the applicable restaurants within the largest major city/cities in each province (Calgary/Edmonton, Toronto, and Montreal, respectively). Within these concentrated areas, postal codes were identified for which delivery was possible for the various platforms. Postal codes that had the largest concentration of applicable restaurants were prioritized. When available, data were collected for the first three restaurant locations for each brand that appeared on each platform for a given postal code. When three unique locations were not available for a given postal code, additional postal codes were identified using Google Maps in the same city (and in the case of Alberta, in a nearby major city) for which delivery was possible from an alternative location.

Data collection

Data extraction from OFD websites was conducted by two research assistants using a standardized data extraction tool (Microsoft Excel spreadsheet). Periodic spot checks were conducted by both research assistants to ensure consistency. All unique food and beverage items displayed on the main page of a restaurant menu on the OFD platform were taken into account. Each item size was accounted for during the data collection as a unique item line. All soft drink, juice, and bakery product options were included, whether these were listed on the main menu page or only after a click. Add-ons, garnishes, sauces (e.g., sauces provided with chicken nuggets), and flavour options for food/meal items were not collected, with the exception of clearly distinct menu items being listed after a click (e.g., “Wrap” on main page; and “Chipotle chicken wrap”, “Ranch bacon chicken wrap” labelled after a click). Meals and combinations were considered as one menu item, despite there being multiple items to select after a click. Alcoholic beverages were excluded.

Data were collected on whether calories were listed for each item advertised on the platform. If calories were present, the number of calories for each item/size and the general location of the calorie information (i.e., in the item title, next to or above the price, in the item description [i.e., not always visible on the first page of the menu], or next to the flavour/size after a click) were recorded. Menu items were classified as being ready-to-eat food or beverage items, or retail items (e.g., bottles of sauce, coffee beans, tea bags, travel mugs). Data on other nutritional information available, such as logos or contextual statements, were also recorded. Data were collected from May to October 2021. When data collection was conducted during a time period outside of restaurant operating hours, a time when the restaurant would be open was entered as the “delivery time” to facilitate access to the menu.

A separate online search was conducted to examine the Canadian websites for all 25 companies to identify whether or not nutritional information was available on websites.

Analysis

Analyses among companies with locations in all three provinces and platforms ($n = 13$) were prioritized to facilitate similar comparisons across jurisdictions. Descriptive statistics (percentages and means) were used to describe the analytic sample of restaurants, the percentage of items that had calorie labelling, the percentage of companies that provided calorie information in any format for each province and platform, and the location of calorie information.

In the analytic sample of restaurant brands, the percentage of items with calorie labelling within each individual restaurant location was calculated. The average percentage of items with calorie labelling across all locations for each brand in each province was used to provide a brand-level estimate of the proportion of items with calorie labelling on OFD platforms for each province ($n = 9$ for each brand, 3 locations per OFD platform). This average percentage of items with calorie information on the menus was categorized as full labelling (minimum of 90% items with calorie information available), most (minimum of 76% items), partial (between 5% and 75% of items), or none (less than 5% of items). A cut-off of 90% was used to indicate “full menu labelling” to consider seasonal items which are not required to have menu labelling on restaurant menus according to Ontario’s policy (Government of Ontario, 2016b).

Chi-squared tests were used to estimate the differences in the proportions of items with various amounts of calorie labelling (full, most, partial, or none). Univariate logistic regression models were used to estimate differences in the likelihood of full calorie labelling and the likelihood of

having a contextual statement, including variables of province and platform among the analytic sample. A p -value of 0.05 was considered statistically significant.

Results

Restaurant sample

The current analyses examine data from 13 restaurant brands that were available in all three provinces and on all three platforms: Tim Hortons, Subway, McDonald’s, A&W, Dairy Queen, KFC, Pizza Hut, Boston Pizza, Thai Express, Burger King, Harvey’s, Second Cup, and Sushi Shop. All reported analyses represent data from the 13 companies for 3 specific locations (franchisees) in each province, on each of the 3 platforms.

Overall, data were collected for 49,292 individual food and beverage items from the 13 prioritized companies (which represented $n = 39$ individual restaurants per province). Of this sample, 435 were identified as pre-packaged retail, gift, or non-food items and were excluded, for a total analytic sample size of 48,857 items ($n = 16,011$ in Alberta, $n = 16,683$ in Ontario, and $n = 16,163$ in Quebec).

Prevalence of companies providing calorie labelling across provinces

The percentage of items that had calorie labelling in each province is shown in Fig. 1. In a univariate logistic regression model, items on restaurant delivery platforms in Ontario were more likely to provide calorie information than those in Alberta (OR = 2.75, 95% CI 2.63–2.88) or Quebec (OR = 3.42, 95% CI 3.27–3.58). Items were also more likely to have labelling in Alberta as compared with Quebec (OR = 1.24, 95% CI 1.19–1.30).

Figure 2 demonstrates the average frequency of amounts of calorie labelling (none, partial, most, or all)

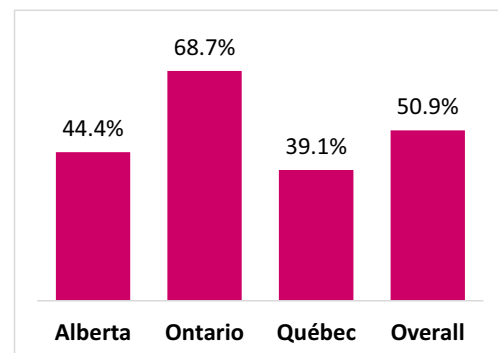


Fig. 1 Percentage of items across all three online delivery platforms that provided calorie information in each province and overall ($n = 48,857$ food and beverage items)

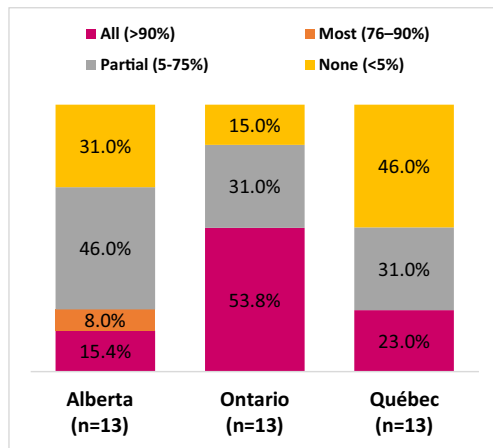


Fig. 2 The percentage of restaurant brands that had, on average, no (<5% of items), some (5–75%), most (76–90%), and full (>90% of items) calorie labelling in Alberta, Ontario, and Quebec across three online delivery platforms ($n = 13$ in each province)

available in the 13 restaurant brands on all the online delivery platforms for each province. The percentage of brands with full (>90%) calorie labelling was highest in Ontario, followed by Quebec. Quebec had the most companies with no calorie labelling (<5%) across all platforms, followed by Alberta.

Of the analytical sample, 2 brands had <5% of items with calorie labelling across all restaurants and all platforms, and 2 had >90% of items with calorie labelling across all restaurants and all platforms. Within companies, the categorization of the number of items that had calorie information varied between the individual restaurant locations that were sampled for 7 of 13 companies (data not shown).

Presence of calorie labelling across different online platforms

There was a slightly larger proportion of items from SkiptheDishes (35.6%) compared to DoorDash (33.1%) and Uber Eats (31.3%). As shown in Fig. 3, there were differences in the proportion of items with calorie labelling by platform. Items on Uber Eats were much more likely to provide calorie information than items on SkiptheDishes (OR = 2.26, 95% CI 2.16–2.36) and somewhat more likely to have calorie information than DoorDash (OR = 1.14, 95% CI 1.09–1.19), and items on SkiptheDishes were also much more likely to have labelling than DoorDash (OR = 1.99, 95% CI 1.90–2.07). This pattern of differences was consistent across all provinces except in Ontario, where there was no difference between Uber Eats and DoorDash (data not shown).

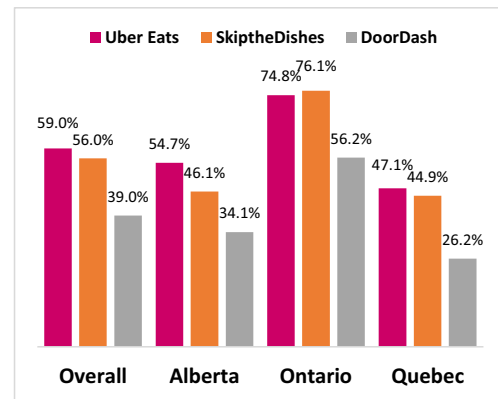


Fig. 3 Proportion of menu items with calorie labelling by delivery service platform, overall and by province

Location and format of calorie information

Various formats were identified for providing calorie information. Calorie information was most commonly provided in the title of the item (35.9%), in the textual item description (35.0%), followed by the size of the item (18.2%), and next to the price (15.9%). When the information was available in the description, the information was sometimes placed at the beginning of the item description or sometimes at the end, and therefore was variably visible from the main screen, but always visible after one “click”.

Presence of a contextual statement on the online menus

The presence of a contextual statement containing a recommendation regarding the number of calories that should be consumed each day by an average adult or child (required in the Ontario Healthy Menu Choices Act) varied between platforms. Of the 13 brands, 5 had a contextual statement in at least one restaurant, and only 1 brand had consistent contextual statements across all platforms and all restaurants. Contextual statements varied with respect to location; some restaurants included a contextual statement in the description of each menu item, some had one statement for each menu section, and others included a single statement for the entire menu (e.g., at the bottom of the main page).

Restaurants on Uber Eats were more likely to provide a contextual statement than those on DoorDash (1.33, 95% CI 1.26–1.40) and SkiptheDishes (1.29, 95% CI 1.23–1.37). There was little difference in the likelihood of the presence of a contextual statement in Alberta as compared with Ontario (OR = 1.05, 95% CI 1.00–1.10), and there was some evidence that restaurants in Quebec were slightly less likely to have a contextual statement than restaurants in Ontario (OR = 0.88, 95% CI 0.84–0.93).

Additional nutritional information identified on online delivery applications

Other types of nutrition information were available for some items, including symbols for vegetarian, vegan, or gluten-free items. No information was identified for sodium, sugar, saturated fat, or other nutrients of public health concern (data not shown).

Nutritional information on companies' website

In an online search of restaurant brand websites, all of the 13 companies provided calorie information in the menu on their personal website in some format.

Discussion

This study assessed the availability of calorie information on OFD platforms for products sold by the largest chain restaurants in Canada. Results showed that calorie labelling and nutritional information was presented inconsistently across restaurants, provinces, and OFD platforms. Overall, there was a greater proportion of restaurants in Ontario providing calorie labelling for more menu items; however, calorie labelling was not provided for all restaurants or all food and beverage items sold by those restaurants in Ontario, as required by the Ontario regulations. Within Ontario, the required contextual statement regarding the number of calories recommended for adults and children per day was only present for a small subset of restaurants. Only one brand had full calorie labelling (minimum of 90% of items) and contextual statements on all three platforms (data not shown). While data were not explicitly collected regarding whether the calorie information format would have met the legislated requirements in Ontario for font size, colour, format, and location for each item, instances where the calorie information was presented in the title would typically meet the requirements for size, colour, and place (35.9%), whereas other locations were typically smaller in size and font (in the textual item description, with the size or next to the price) or not next to the item name or price and thus not meeting requirements.

Some major chains are voluntarily providing calorie information on OFD platforms across all provinces, but this appears to be the exception and not the rule, even if calorie information is readily available on their individual brand websites. The extent to which mandatory calorie labelling in Ontario has resulted in a policy “spillover effect” to brick-and-mortar restaurants in other provinces has not been documented in the literature; however, these results suggest that the spillover of mandatory calorie labelling to online space in other provinces is somewhat limited. Voluntary actions by the food industry have been identified by the World Health

Organization and others as integral to addressing issues of unhealthy dietary patterns at a population level (World Health Organization, 2013), and menu labelling has been identified by experts as one action the restaurant industry can take to support such efforts (Sacks et al., 2019). In the absence of regulatory action in other jurisdictions, greater restaurant company efforts to provide calorie information to all consumers are an example of how such companies could contribute to improving food environments.

Even when calorie labelling was provided by restaurants, it was not consistently provided for all items. This is similar to the extant literature examining the availability of nutrition information for online food retailers in Canada and the USA, which suggests that nutrition information required in conventional settings (such as Nutrition Facts Panels, ingredients lists, and allergy information) is not uniformly available in online settings (Lee et al., 2021; Olzenak et al., 2020; Pomeranz et al., 2022). While some degree of variation in availability of calorie information would be expected, such as with seasonal items and “specials” that may vary by region, the pattern for restaurant locations providing calorie information is unclear. The current analysis did not examine whether or not the items that had calorie labelling were “healthier” items, and whether calorie information was being used as a form of marketing for these products. Overall, the voluntary provision of calorie information on OFD service platforms deserves further study.

Restaurants may be less likely to provide calorie information on OFD platforms for all or some of their product portfolio because of the technical complexity of providing information for items that can be personalized (such as pizzas or sandwiches with optional toppings) or combination meals with different options which result in large ranges of calorie counts. Previous research suggests that calorie ranges on menus may decrease consumer understanding of the calorie amounts in restaurant items (Liu et al., 2015). Functions to estimate calorie amounts for items after personalization, such as online nutrition calculators that currently exist on some restaurant brand websites, would provide more accurate calorie counts for these complex items. Experimental research has suggested that using “real time” calculation of nutritional information for complex items may be more likely to support healthier consumer decision-making than static calorie or nutrition information (VanEpps et al., 2021). To the authors' knowledge, this type of “real time” estimation is not available on the current major OFD service platforms.

The location of calorie information provided for items differed across restaurants and delivery platforms. Some formats, such as providing calorie information at the end of an item's textual description, requires users to “click” to see that information, presenting additional barriers to seeing and using that information. Furthermore, few of the formats provided meet regulatory requirements in Ontario.

Strengths and limitations

This study examined a sample of the largest chain restaurants in Canada across multiple OFD platforms and used multiple locations within each restaurant brand to represent unique outlets. To our knowledge, it is the first study to examine the provision of calorie information on OFD platforms. The study has several limitations related to sampling. The sampling strategy was used to increase feasibility and may not be representative of all restaurants on the platform within each city, which reduces the generalizability of the results. In addition, in some instances, the same restaurant may have been sampled across all three platforms (if a location subscribed to all three aggregators), while in others, different locations were sampled across platforms. Furthermore, this study represents a cross-sectional snapshot of calorie information provided on restaurants over the 6-month window; however, the proportion of items labelled and calorie labelling practices likely fluctuate over time. The current analysis may include an assortment of breakfast, lunch, and dinner menus. The data collection also did not collect information for all add-ons or topping options for all menu items. Alcohol was excluded from the current analysis, as the restaurant chains considered do not typically serve alcohol and regulations for labelling of alcohol differ from those for non-alcoholic beverages. Future research may also consider alcohol labelling on OFD platforms. Finally, the location of the calorie information was identified globally for each restaurant branch, but small numbers of items within a branch may have had calorie information displayed at different locations, which was not captured in our analysis.

Policy implications

Overall, the results underscore the impact of a mandatory calorie labelling policy: Alberta and Quebec had significantly less nutritional information available to consumers on OFD platforms than Ontario where its provision is mandatory. This suggests that implementing mandatory calorie labelling regulations is more likely to ensure that calorie information is available to consumers in online settings. However, the results also suggest that Ontario's current regulations and enforcement strategies are not effectively providing calorie information to those ordering food from the major chain restaurants using OFD platforms.

At present, enforcement for Ontario's menu labelling policy in online spaces is unclear, and there is no public documentation of monitoring of the policy. Regarding enforcement of the *Healthy Menu Choices Act*, Public Health Inspectors are designated to enforce requirements during their inspections (Government of Ontario, 2023); however, responsibility for oversight of calorie labelling on online platforms is not clearly outlined in the publicly available documents. Clearly

defining by whom and how enforcement of online environments is conducted may help support effective implementation, and additional resources may be required. There may be opportunities for government-led training and supports for restaurant companies to ensure that they are able to provide nutritional information on OFD platforms as required by regulations. This research suggests that restaurant companies may be able to play a role in supporting the provision of consistent information on OFD platforms. The wide variety in calorie labelling practices on OFD platforms observed in this study suggests that these practices are, for the most part, determined by the individual franchisees and not at a company or brand level. Having consistent company-level policies for calorie labelling on OFD platforms would ensure that all consumers are receiving consistent information across all platforms, regardless of their place of residence. The current study did find one company for whom calorie information and associated contextual statements were consistently provided, demonstrating that this type of best practice is indeed possible.

Finally, OFD platforms can also likely help support consistent calorie labelling on their menu applications. Foremost, ensuring there is a standardized way for that information to appear for menu items that meets existing jurisdictional regulations would enable consumers to consistently know where to look if they are seeking nutrition information. Second, providing user-friendly ways for individual franchisees or companies to input this information into their systems may increase availability. The functions of the OFD service platforms' backend environments (which franchisees use to input their product information) differ, with some offering easy-to-find options for providing nutrition information while others require restaurants to elect how and where to provide this information, which may be increasing inconsistency (Doordash, 2021; Skip for Restaurants, n.d.; Uber Eats, n.d.). Simple solutions for providing supplementary nutritional information such as Nutrition Facts tables and ingredients lists, which are mandatory for packaged food, may also increase the number of restaurants making this information available to consumers.

Conclusion

People in Canada currently do not receive consistent calorie information on online food delivery platforms. These results suggest that the mandatory calorie labelling regulation in Ontario has resulted in greater provision of calorie information on OFD platforms; however, many restaurants are not meeting regulatory requirements for calorie labelling in Ontario. The largest chain restaurants in Canada have nutrition information for items readily and publicly available that could be provided to consumers at all points of purchase to support healthier food selection. Individual restaurants,

restaurant companies and OFD companies all have a role to play to support clear communication of nutritional information on OFD applications. Providing clear and consistent nutritional information on OFD service is likely to increase in importance as these services continue to proliferate and food ordered online represents a greater proportion of diets.

Contributions to knowledge

What does this study add to existing knowledge?

- Customers using online food delivery services in Canada are not receiving consistent nutrition information when they are ordering food from OFD service platforms, which represents a growing proportion of food consumed outside the home.
- Large chain restaurants in Ontario, where calorie labelling in chain restaurants is mandatory, were more likely to provide calorie information on OFD service platforms; however, many restaurants are still not providing calorie information as required by regulations for consumers to support informed food choices.

What are the key implications for public health interventions, practice, or policy?

- Mandatory menu labelling regulations have the potential to create more supportive nutrition information environments in digital settings.
- Additional policies and resources may be required to monitor and enforce menu labelling policies in OFD settings.
- OFD companies have a role to play to support the provision of nutrition information within their online applications.

Author contributions LV: conceptualization, methodology, formal analysis, supervision, writing — original draft. AGH: methodology, data collection, writing — original draft. ML: conceptualization, methodology, data collection, writing — original draft. CV: methodology, writing — review and editing. All authors have read and approved the final manuscript.

Funding This project was supported in full by the Centre Nutrition, santé et société (NUTRISS) at Université Laval. NUTRISS is supported by the Fonds de recherche du Québec—Santé (FRQS). AGH is a student funded by a Canada Graduate Scholarship – Master’s award provided by the Canadian Institutes of Health Research, as well as a Master’s Training Award for Applicants with a Professional Degree from the FRQS (#312301). LV is a FRQS Junior 1 scholar.

Availability of data and materials Datasets analyzed in this study are available upon request to the authors.

Code availability Not applicable.

Declarations

Ethics approval Not applicable.

Consent to participate Not applicable.

Consent for publication Not applicable.

Conflict of interest The authors declare no competing interests.

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