A media analysis of *"Run. Jump. Play. Every Day."*

Measuring potential exposure to the Healthy Kids Community Challenge

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Introduction

> **At the request of the Ministry of Health and Long-Term Care (MOHLTC), Public Health Ontario (PHO) is undertaking a provincial evaluation of the Healthy Kids Community Challenge (HKCC). This report presents the results from a media analysis protocol designed to measure potential exposure to the HKCC campaign and its first theme, "*Run. Jump. Play. Every Day.*"**

In response to the high prevalence of childhood overweight and obesity in Canada (27.0%[1]), the Ministry of Health and Long Term Care (MOHLTC) developed the Healthy Kids Community Challenge (HKCC). The HKCC is a provincial initiative that promotes healthy behaviours among children aged 0-12 years, with a focus on improving physical activity and healthy eating and reducing screen time. The HKCC seeks to engage partners and organizations from diverse disciplines to implement local activities in 45 communities across Ontario. Approximately every nine months, the HKCC launches a new social marketing theme related to an important health behaviour to guide community efforts. Theme 1 of the HKCC, "*Run. Jump. Play. Every Day.*" focuses on increasing physical activity through a combination of active play, sport and transportation.[2]

The HKCC is based on the methodology of Ensemble Prévenons l'Obésité Des Enfants' (EPODE) *Together Let's Prevent Childhood Obesity*, a community-based capacity-building strategy to reduce the prevalence of childhood obesity.[3] One of four pillars of the EPODE methodology, *Support Services*, stresses the importance of social marketing for positive behavioural change.[3] Social marketing techniques like delivery of themed messages and tailored environmental stimuli (e.g., seasonal activities), can be adopted by HKCC organizers, and adapted to their local contexts. Beyond program structuring and development of themes, the MOHLTC also participates in social marketing of the campaign. For example, between February and March 2016, the MOHLTC implemented a combination of digital advertising (e.g., search engines, display/mobile) in HKCC communities. In addition, communities may develop specific media marketing strategies, such as hashtags or catch phrases (e.g., Super Kids Chatham-Kent).

EPODE's strategic positioning of social marketing highlights the influence media can have on increasing awareness and understanding of public health messages.[4,5] Research from the VERB[TM] campaign suggested an increase in national (U.S.) advertising was associated with an increase in awareness and engagement in physical activity.[4] Additionally, ParticipACTION is a long-standing Canadian campaign promoting physical activity and active living through the use of an integrated mass media approach. ParticipACTION's goal to increase awareness of the benefits of active living is conducted through creative marketing techniques, partnerships and community mobilization.[6] Similarly the HKCC social marketing themes like "*Run. Jump. Play. Every Day.*" provide an organizational framework to guide partnerships, community events and media messaging.

McGuire's Hierarchy-of-Effects (HOE) model, commonly used to evaluate the effects of marketing campaigns, has been used to assess public health campaign awareness and resulting changes in physical activity.[10] The VERB ™ campaign, launched in 2002 by the Centers for Disease Control and Prevention (CDC), utilized a similar approach in structuring a physical activity intervention for youth aged 9-13 years in the United States.[4] Conclusions from the VERB ™ campaign suggested increased awareness of the intervention were proximal effects associated with behaviour change.[4] Application of the HOE model to the HKCC is appropriate, as it can provide context to the direct or indirect pathway from awareness, to intermediate mediators (e.g., attitudes, beliefs), to engagement in physical activity.[10] Preceding campaign awareness, McGuire's Information Processing Model identifies exposure as the precursor to attention, comprehension and retention.[11] Within the evaluation of the VERB ™ campaign, for example, findings supported the use of the pathway from exposure, to changes in attitudes, to behaviour modifications.[10] It follows that measurement and description of exposure is an important step towards understanding the impact of the HKCC in Ontario.

To date, HKCC evaluation activities have defined exposure to the HKCC based solely on whether or not individuals resided within the boundaries of an HKCC community. Though spatially-defined exposure has been utilized in previous evaluation studies,[5,7] a more refined understanding of exposure would be useful for PHO's evaluation. Adopting Slater's[8] definition, *potential exposure* is defined as "the extent to which audience members have potentially encountered specific messages or classes of messages/media content." The use of potential exposure is necessary as there are currently no indicators of the extent to which individuals have encountered or accessed messages related to the HKCC. Indicators such as *advertising volume*, which do not require measuring the associated response, have been used in previous public health evaluations to assess potential exposure to campaigns and marketing strategies.[9]

Objectives

While previous research has focused on media-specific public health interventions,[10,12] fewer studies have conducted media analyses that assessed messaging for community-based interventions. The purpose of this media analysis is to gain an indication of potential exposure to the HKCC campaign and Theme 1, and to assess variation in messaging over time and between HKCC communities. Ultimately, this work will contribute to a growing area of research that uses media analyses to understand public health interventions.

Specifically, the objectives of this analysis are:

1. To create a media analysis protocol (e.g., identify sources; construct a search strategy; develop inclusion/exclusion criteria) to measure potential exposure to the HKCC campaign and Theme 1; and,
2. To pilot the media analysis protocol using retrospective data related to the HKCC and Theme 1 beginning December 9, 2015.

Methods

Media analyses, commonly categorized as a subset of content analyses, are established methodologies designed with the purpose of drawing conclusions through the systematic categorization of text.[13] The breadth of media analyses (e.g., qualitative versus quantitative approaches) provide the opportunity to draw from a rich and diverse pool of research to develop a tailored, rigorous methodology for evaluating public health interventions with social media components. One previous study, for example, analyzed newspaper articles and Twitter to understand the impact of a new transportation infrastructure on travel behaviour, physical activity, and health in Cambridge, UK.[5]

As outlined by Macnamara's overview of media content analyses, a quantitative approach reflects an appropriate methodology for evaluating potential exposure to the HKCC and Theme 1.[13] Indicators of exposure such as volume of messages, content and form of media in particular, are identified as important components to document. Though such an approach aligns with the objective of identifying an indication of *potential exposure*, it is critical to note that these quantitative measures do not equate to impact on awareness or more distal outcomes (e.g., behaviour change).[13] The remainder of this section describes the methods and protocol used to conduct a media analysis of the HKCC and Theme 1.

Overview

An online media search was conducted for content related to the Healthy Kids Community Challenge beginning December 9, 2015, a date corresponding with the submission of communities' Theme-Based Action Plans for Theme 1 to the MOHLTC. The required Theme-Based Action Plans outlined the projected programs, policies and support systems each community would implement for Theme 1 of the HKCC, "*Run. Jump. Play. Every Day.*" Theme-Based Action Plans also included strategies and delegation of media promotion for Theme 1.

The search included seven electronic search platforms for online media messages: Google, Ontario Public Health unit's custom Google search engine, LexisNexis, HKCC municipality webpages, HKCC community newspapers, the HKCC Source media page, and Twitter (separate search strategy). The full grey literature search strategies were developed in consultation with Public Health Ontario's Library Services, and are available in Appendix A. Online media content was retrieved, reviewed, and assessed for inclusion by a single reviewer using the inclusion and exclusion criteria.

Inclusion criteria

Online media content

- Result is publicly viewable (e.g., Does not require subscription or membership)
- English or French media post
- Published on or after December 9, 2015
- Related to or mentioning the Healthy Kids Community Challenge or Theme 1

Twitter

- English or French language Tweet
- Published on or after December 9, 2015
- Related to or mentioning the Healthy Kids Community Challenge or Theme 1

Exclusion criteria

Online media content

- Media posts which are not publicly viewable or require a subscription fee
- Media post in languages other than English or French
- Media post published before December 9, 2015
- Media post which only provides link(s) to an external website, providing no information on the page itself
- HKCC-specific webpages (e.g., http://www.healthykidslg.ca/)
- Duplicate media post found through two or more search engines or search terms
- Duplicate media message found in two languages
- Link to HKCC planning documents, municipality documents, meeting minutes, job opportunities, registration pages (e.g., Eventbrite meetings), advertisements posters (e.g., PDF poster)
- Link to Twitter, Instagram, Facebook, or YouTube posts / pages
- Media posts which include search terms but are not related to the HKCC or Theme 1 (e.g., Hong Kong Community Challenge)

Twitter

- Tweet in languages other than English or French
- Tweet published before December 9, 2015
- Duplicate Tweet, found through two or more search terms, or posted on the same day
- Job advertisements
- Tweets which include search terms but are not related to the HKCC or Theme 1

Coding methodology

Online media content

Each item that met all inclusion criteria was inputted into an Excel database, and coded according to content of the post including:

- **Date of Message**
- **HKCC Community**
- **Source Type**
- **Media Content**, and
- **Presence of Theme 1 or Active Play** .

Within the **Source Type** variable, items were categorized as a *Newspaper*, *Government/Public Health Unit/Municipality*, or *Other*. *Other* items included posts by external organizations, schools, churches, or radio websites. Within the **News Content** variable, items were categorized as *Event Advertising*, *Event Coverage*, *Awareness of Healthy Eating*, *Awareness of Physical Activity*, *Overall Campaign Awareness*, or *Active Feedback/Survey/Meeting*. *Awareness of Healthy Eating* were posts pertaining to nutrition or healthy eating, or referencing the HKCC as a new initiative with a goal of improving eating behaviours of children. *Awareness of Physical Activity* were posts pertaining to physical activity, exercise, active play or sport, or referencing the HKCC as a new initiative seeking to improve physical activity amongst children. *Active Feedback/Survey/Meeting* were posts regarding community meetings or surveys requesting feedback about the local HKCC program, for example. See Table 1 for examples of how messages were coded for content.

Twitter messages were categorized by:
- **Date**
- **HKCC community**
- **Source type**
- **Followers**
- **Tweet content**
- **Presence of Theme 1 or Active lay**
- **Number of Re-Tweets**
- **Number of Favourites**

Within the **Source Type** variable, items were categorized as a *HKCC Community*, *Ministry*, *Municipality*, *Public Health/Health Unit*, *Individual*, *News Source*, *Political Figure*, *Community Centre*, *Community Health Clinic/Aboriginal Health Access Centres*, *External Organization*, *School/University* or *Other*. *HKCC Community* included Twitter accounts associated directly with named HKCC communities (Appendix A). *External Organizations* included HKCC partnerships or community groups working in collaboration with HKCC communities to facilitate events or provide resources, for example. *Other* included churches, radio stations, libraries, or businesses. Due to the breadth of HKCC and Theme 1 Tweets, coding for the **Source Type** was expanded to accurately reflect the various authors.

Within the **Tweet Content** variable, items were categorized as *Event/Contest Advertising*, *Event/Contest Coverage*, *Awareness or Suggestions for Healthy Eating/Nutrition/Water*, *Awareness or Suggestions for Physical Activity*, *Awareness of Sleep*, *Campaign Awareness*, *Active Feedback/Survey/Meeting*, or *Appreciation*. Analogous to expanding the items within the **Source Type** variable, additional **Tweet Content** items were added to accurately categorize the Twitter messages. *Awareness/Suggestions for Healthy Eating* were Tweets pertaining to nutrition, healthy eating, or consumption of water in substitute of sugary beverages. Tweets categorized under *Appreciation* included gratitude and recognition of participants, champions and/or volunteers in HKCC events or contests. See Table 1 for examples of how Tweets were coded for content.

Analysis

Data were inputted into a database and coded within Microsoft Excel 2010, and subsequently analyzed with SAS Version 9.3. Basic descriptive statistics were calculated for online media and Twitter (e.g., mean, median, min., max., standard deviation). Cross-tabulations were used to visualize trends over time (week and month), and between HKCC communities.

Table 1. Media messaging content examples

Media messaging content examples		
Coding item	**Online media content**	**Twitter**
Event Advertising	*The Kapuskasing Times* - "Healthy Kids has busy February planned"	@HealthyKidsCOR – "Want to get outside and #getmoving? Check out this FREE Nordic walking program! #HealthyKidsON"
Event Coverage	*Ottawa Community News* – "Queen Mary kids put on their walking shoes"	@activeOshawa – "What a great dance recital @BGClubDurham What a great way to stay active! #HealthyKidsOSH #HealthyKidsON"
Awareness/Suggestions for Healthy Eating	*The Sarnia Journal* – "Post-Game 'Treats' Not Helping Kids"	@HKCCPtbo – "Two easy" flavoured water recipes! What do you like to add to your water to make it tastier? #PTBO #healthykidson"
Awareness/Suggestions for Physical Activity	*The Intelligencer* – "Physical Inactivity Plagues Children"	@HealthyKidsHPE – "Try turning TIC TAC TOE into an active game your kids will love! #physicalactivity #HealthyKidsON"
Awareness/Suggestions for Healthy Sleep	N/A	@kiducateproject – "One way for your kids to have a better sleep is to cut #screentime to 2 hours a day #HealthyKidsON"
Campaign Awareness	Town of Ajax – "Town Challenging 2,016 Families to Take Part in Healthy Kids Ajax Pledge"	@NorthWestLHIN – "Learn about the Healthy Kids Community Challenge! Part of Ontario's Healthy Kids Strategy"
Active Feedback/Survey/Meeting	*Goderich Free Press* – "Healthy Kids Asks County Parents to Take the Call"	@healthykidsSud – "We need your help! Please fill out this 5 minute survey for the Healthy Kids Community Challenge."
Appreciation	N/A	@HKCCLambton – "Way to go Lambton! Thank you to everyone who took the pledge yesterday to get kids out and active! #HealthyKidsON"

Results

Overview

Between May 26, 2016 and June 15, 2016, online media messages were collected and coded following the inclusion and exclusion criteria outlined in the search strategies. Between June 15, 2016 and July 4, 2016, Twitter messages were collected and coded following the inclusion and exclusion criteria. A total of 314 online media messages and 1,684 Tweets were collected and analyzed.

The results presented in this report focus primarily on differences in online media content and Twitter messages over time (December 2015 to June 2016) and between HKCC communities. In addition to analyses of the number of messages, variables such as the source, content of message, and inclusion of Theme 1 within the message, were considered. Messages at the provincial-level ('Ontario' posts; e.g., from MOHLTC regarding the program), and those that could not be associated with a particular HKCC community were removed from these analyses. Community names have been removed from all analyses in this report.

Number of messages

Over the data collection period, the mean number of online media messages across 45 communities was approximately 7.0 (Table 2; Figure 1). However, a standard deviation of 6.7 indicates large variation in messaging across HKCC communities (Minimum: 0, Maximum: 28) (Table 2). The mean number of Tweets across 45 communities was 35.7, with a standard deviation of 43.4 (Minimum: 0, Maximum: 175), demonstrating a similar pattern of variation among HKCC communities (Table 2; Figure 2).

Variation in the number of online media messages and Twitter messages was also demonstrated over time (weekly, monthly). Online media messages (Figure 3) and Tweets (Figure 4) were published more frequently in the month of February (29.3 per cent and 20.8 per cent, respectively), reflecting an increase in the number of HKCC events and activities during Family Day weekend (February 15, 2016). This pattern is further illustrated in the number of messages between weeks 10 - 13 (Figure 5 and Figure 6). It should also be noted that many communities officially launched their programs in February, 2016.

Table 2. Descriptive Statistics: Media Messages across 45 HKCC Communities

Media Messaging Statistics		
Media Platform	**Online Media Content**	**Twitter**
Mean	6.9	35.7
Median	5	17
Standard Deviation	6.7	43.4
Minimum	0	0
Maximum	28	175

Figure 1. Number of Online Media Messages by HKCC Community
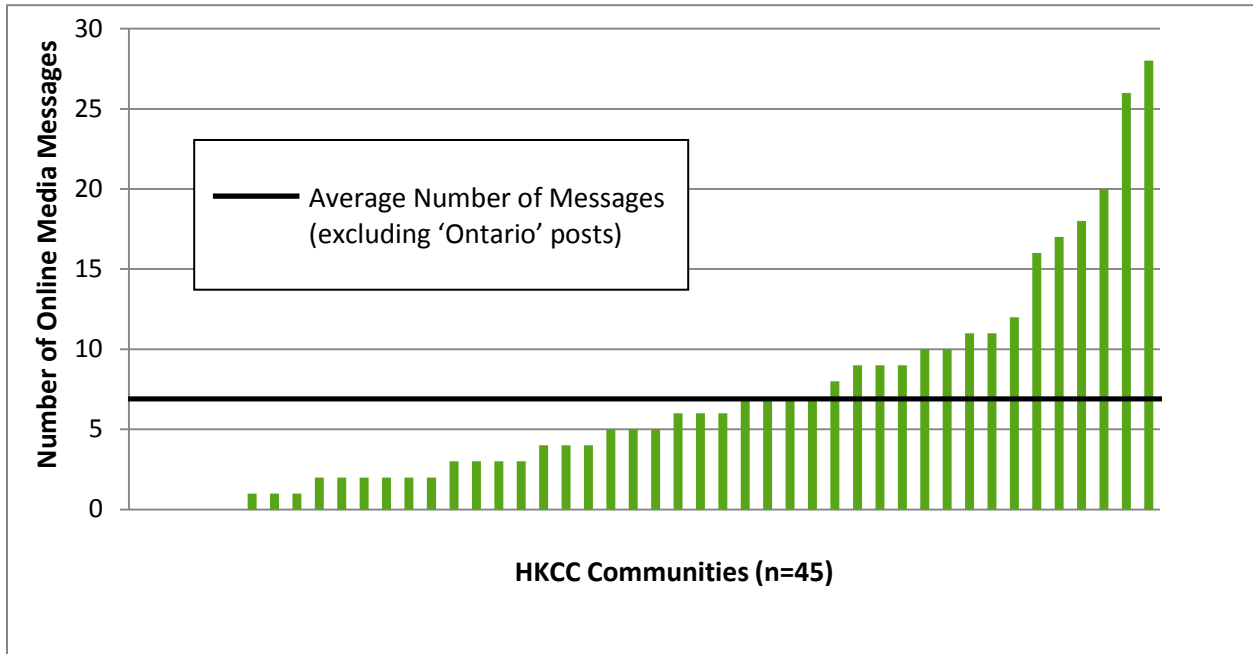
'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community

Figure 2. Number of Tweets by HKCC Community

'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community

'None' posts included: Tweets related to the HKCC or Theme 1 that could not be associated with a specific HKCC community

Figure 3. Number of Online Media Messages by Month

'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community

Figure 4. Number of Tweets by Month

'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community
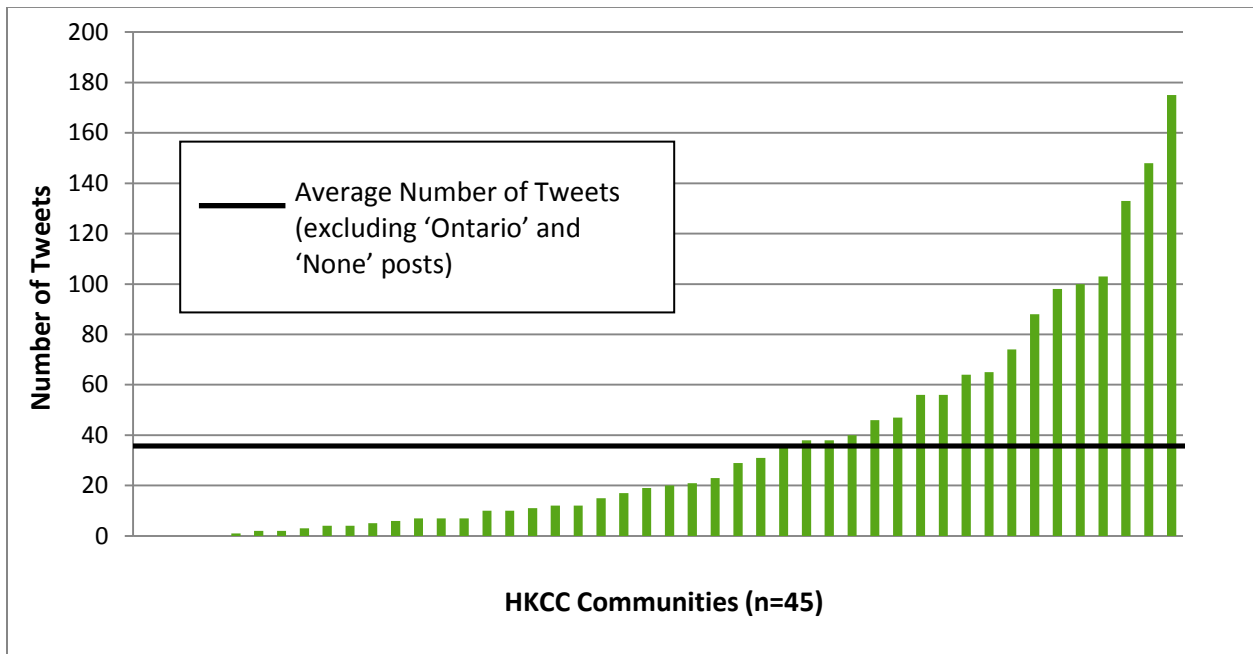'None' posts included: Tweets related to the HKCC or Theme 1 that could not be associated with a specific HKCC community

Figure 5. Number of Online Media Messages by Week

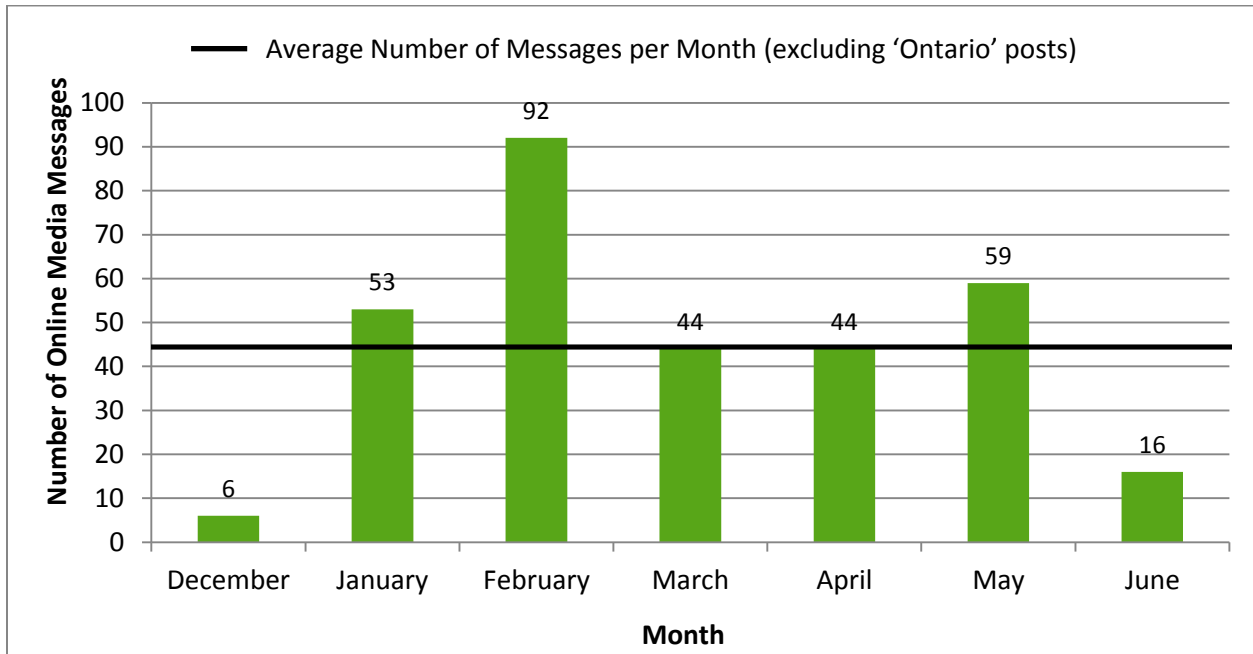'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community

Figure 6. Number of Tweets by Week

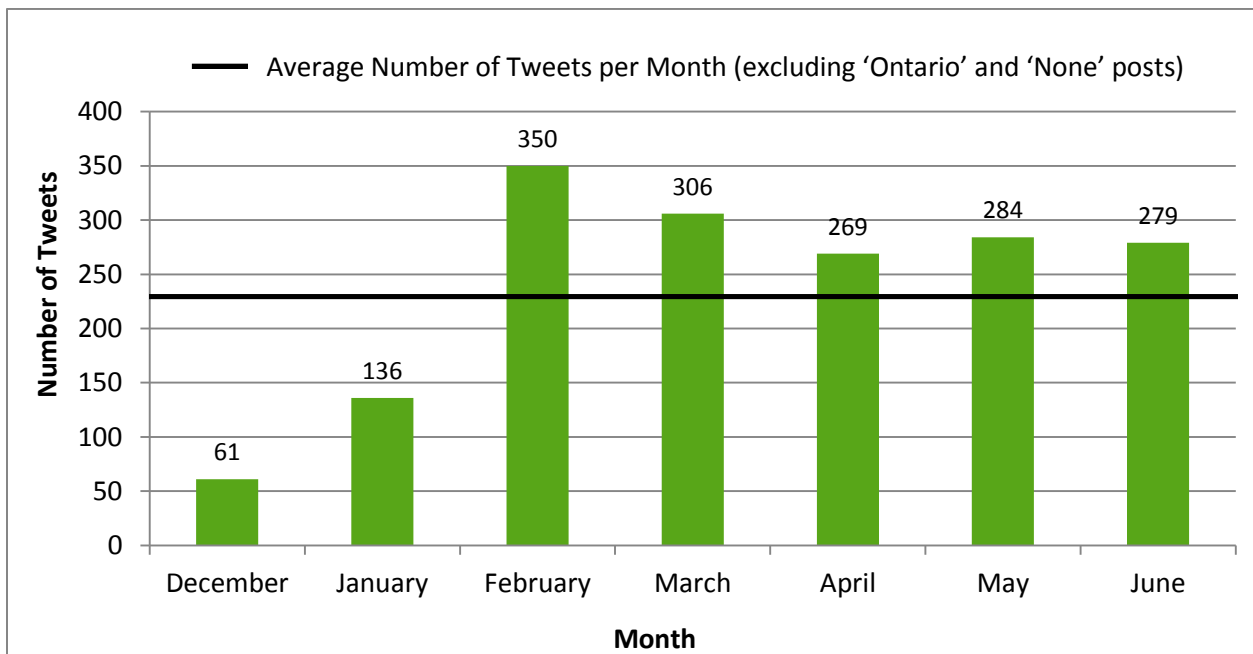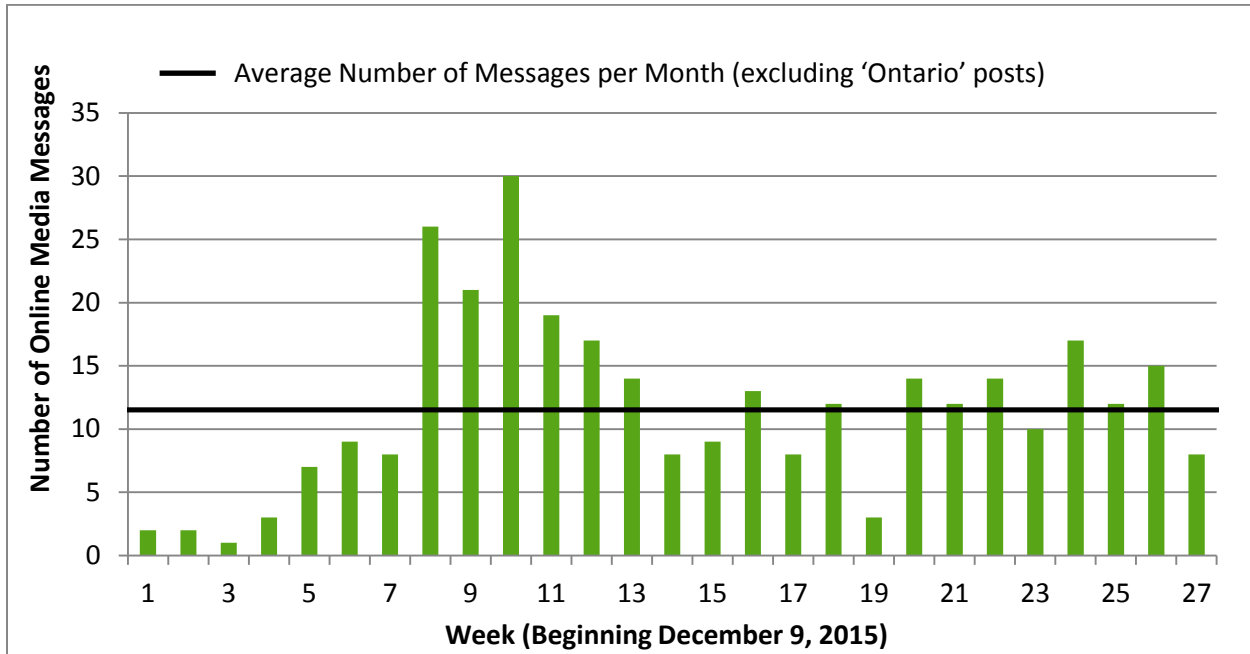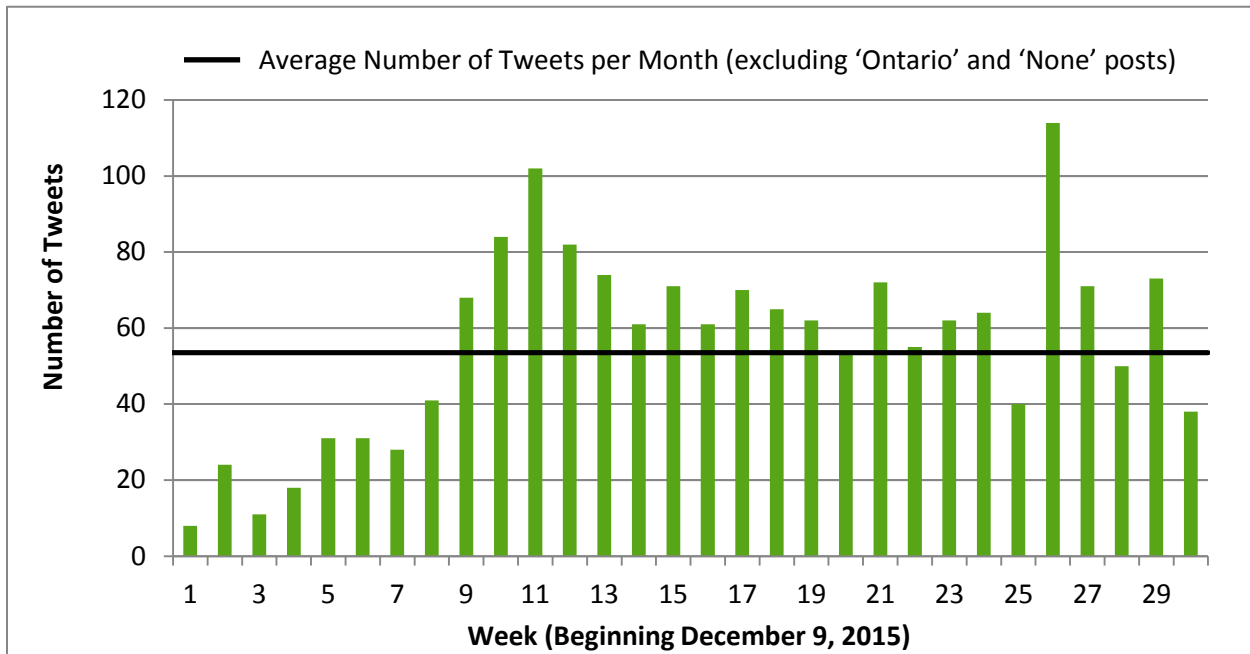'Ontario' posts included: Provincial level messages that could not be associated with a specific HKCC community
'None' posts included: Tweets related to the HKCC or Theme 1 that could not be associated with a specific HKCC community

Source of messages

For online media content (Figure 7), 162 online newspaper articles (51.6 per cent) were identified, constituting more than half of the online media sources. Reflecting the patterns in online media content identified above, the month of February included the most number of messages among all source categories (Figure 8). As mentioned previously, source categories were subsequently added to accurately encompass the diversity of Twitter sources (Figure 9). HKCC Community Twitter accounts represented the most frequent source of Twitter messages (57.0 per cent). Other frequent sources of Tweets were external organizations and individuals in the community (14.8 per cent and 9.7 per cent, respectively).

Figure 7. Number of Online Media Messages by Source Type
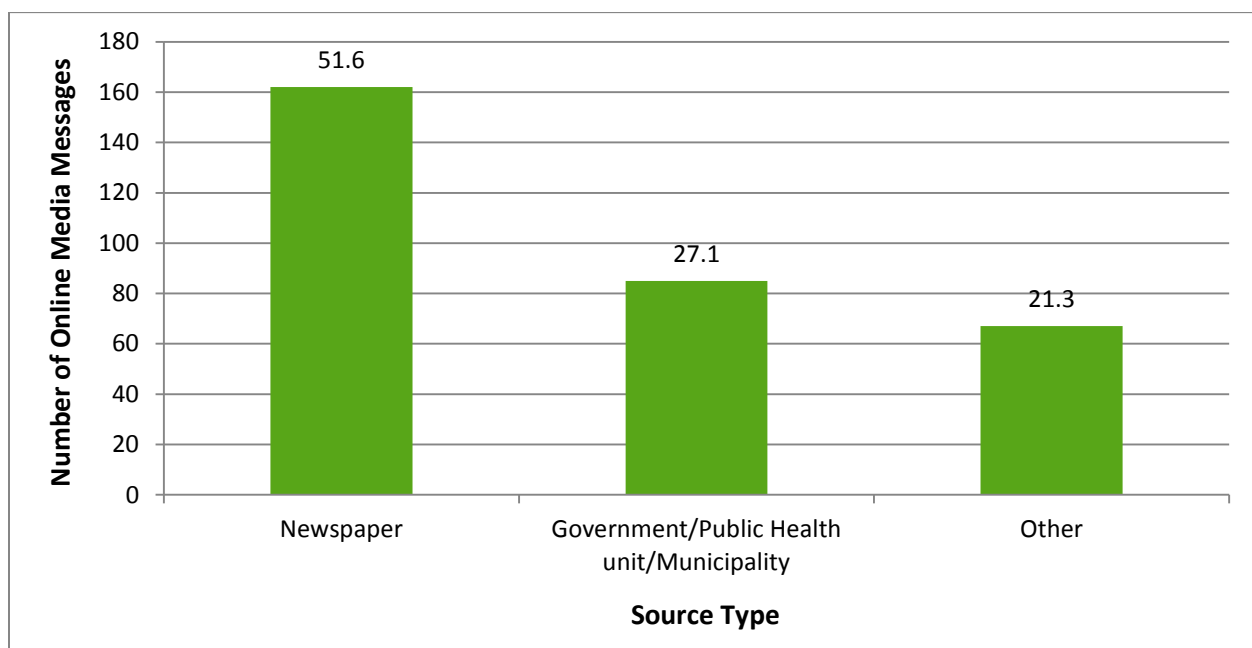
Data labels represent percentage of each Source Type

Figure 8. Number of Online Media Messages by Source Type by Month
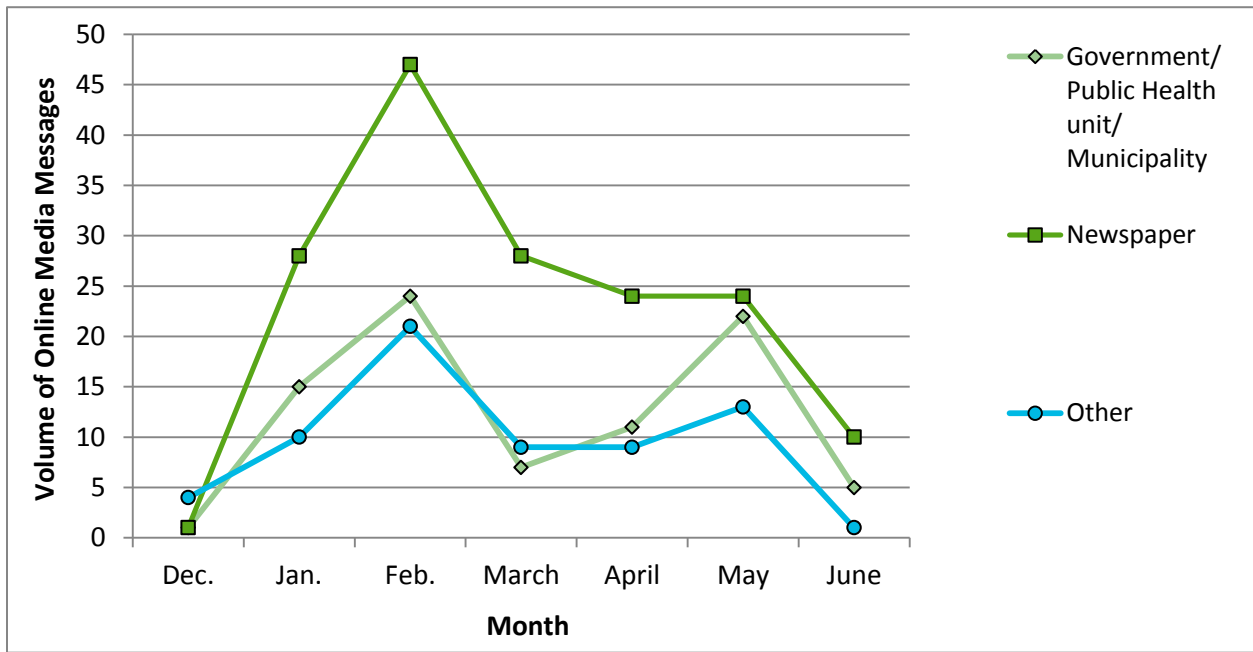
Figure 9. Number of Tweets by Source Type

The two bar charts show the Number of Tweets (y-axis, 0 to 1200) by Source Type (x-axis).

Top chart data labels:
- HKCC Community: 57.0
- External Organization: 14.8
- Individual: 9.7
- Municipality: 5.0
- News Source: 2.9
- Political Figure: 2.4
- School/University: 2.4
- Public Health/Health Unit: 1.1
- Community Centre: 0.7
- CHC/AHAC: 0.4
- Ministry: 0.1
- Other: 3.4

Bottom chart data labels:
- HKCC Community: 57.0
- External Organization: 14.8
- Individual: 9.7
- Municipality: 5.0
- News Source: 2.9
- Political Figure: 2.4
- School/University: 2.4
- Public Health/Health Unit: 1.1
- Community Centre: 0.7
- CHC/AHAC: 0.4
- Ministry: 0.1
- Other: 3.4

Data labels represent percentage of each Source Type

Content of message

The content of the message was another variable with demonstrated variability. Within the online media content, event advertising constituted 158 (50.3 per cent) of the 314 total messages recorded (Figure 10). Other frequent content types within the online media content were campaign awareness and event coverage (26.4 per cent and 15.6 per cent, respectively). Event advertising constituted 579 (34.4 per cent) of the 1,684 total Tweets recorded, while other frequent content types included event coverage and awareness or suggestions for physical activity (28.6 per cent and 13.5 per cent, respectively) (Figure 11). As with patterns of online media content, the number of messages within the event advertising, campaign awareness and event coverage variables increased in the month of February (Figure 12). As well, the number of Tweets within the event advertising and event coverage variables were highest in the month of February (Figure 13). The similar pattern of event advertising and event coverage across both media platforms may allude to higher potential exposure prior and subsequent to HKCC events.

Figure 10. Number of Online Media Messages by Content Type

Data labels represent percentage of each Content Type

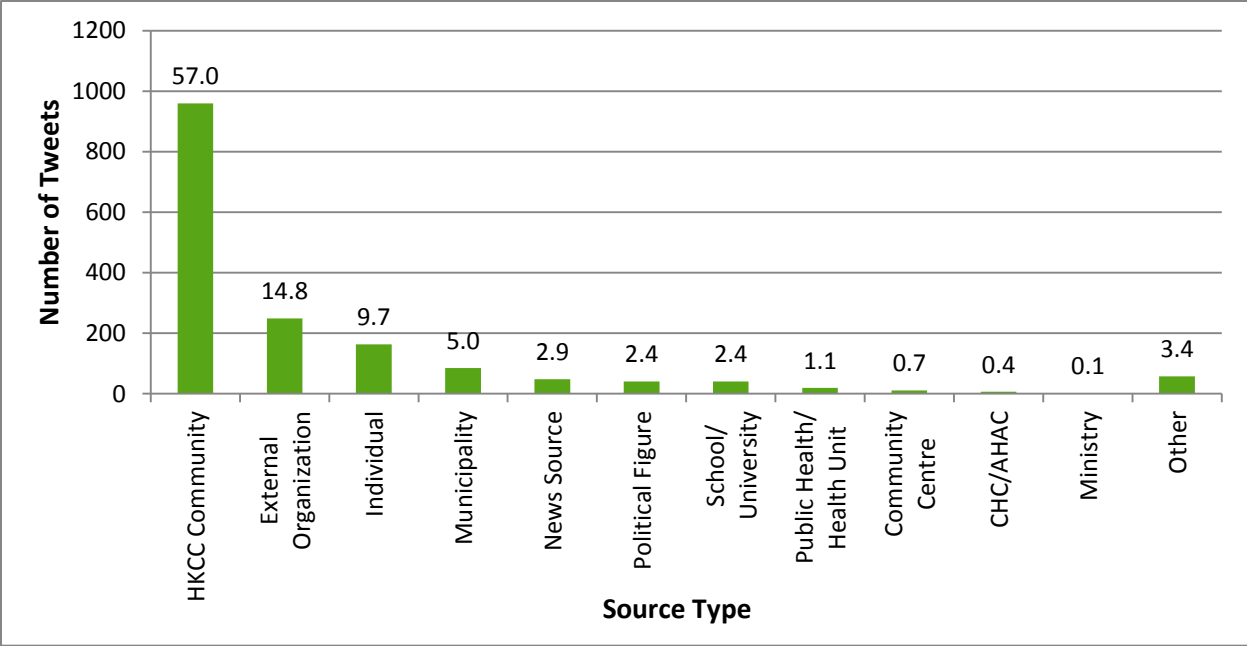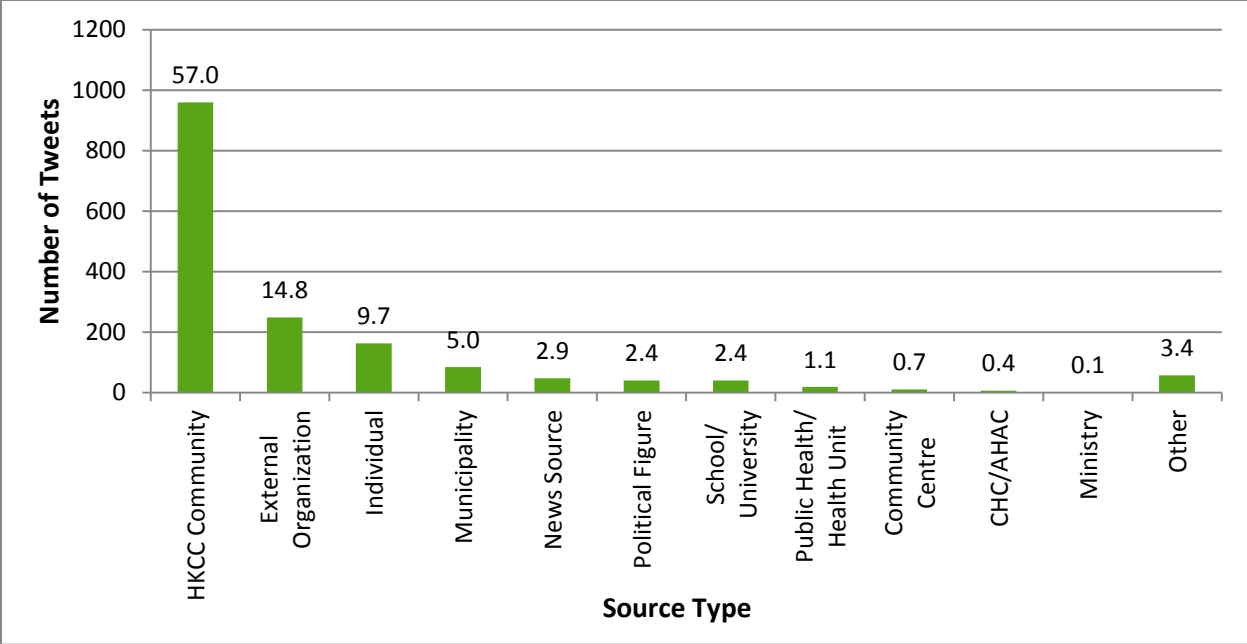**Figure 11.** Number of Tweets by Content Type
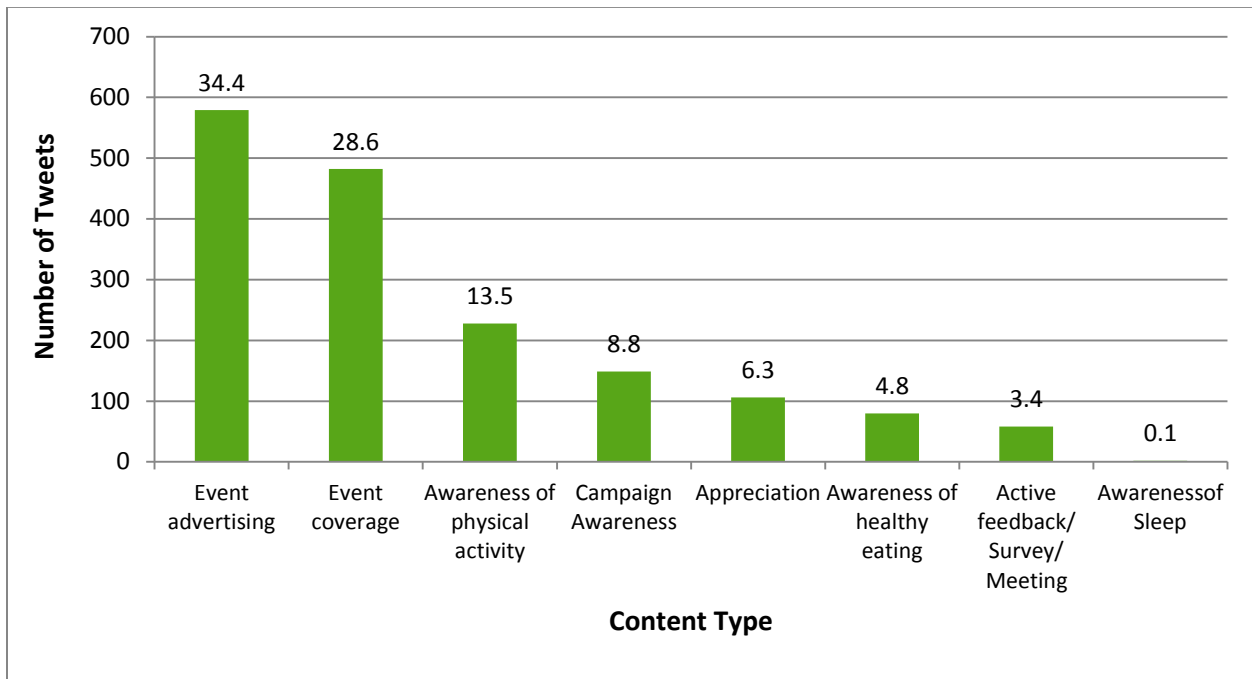
Data labels represent percentage of each Content Type

Figure 12. Number of Online Media Messages by Content Type by Month
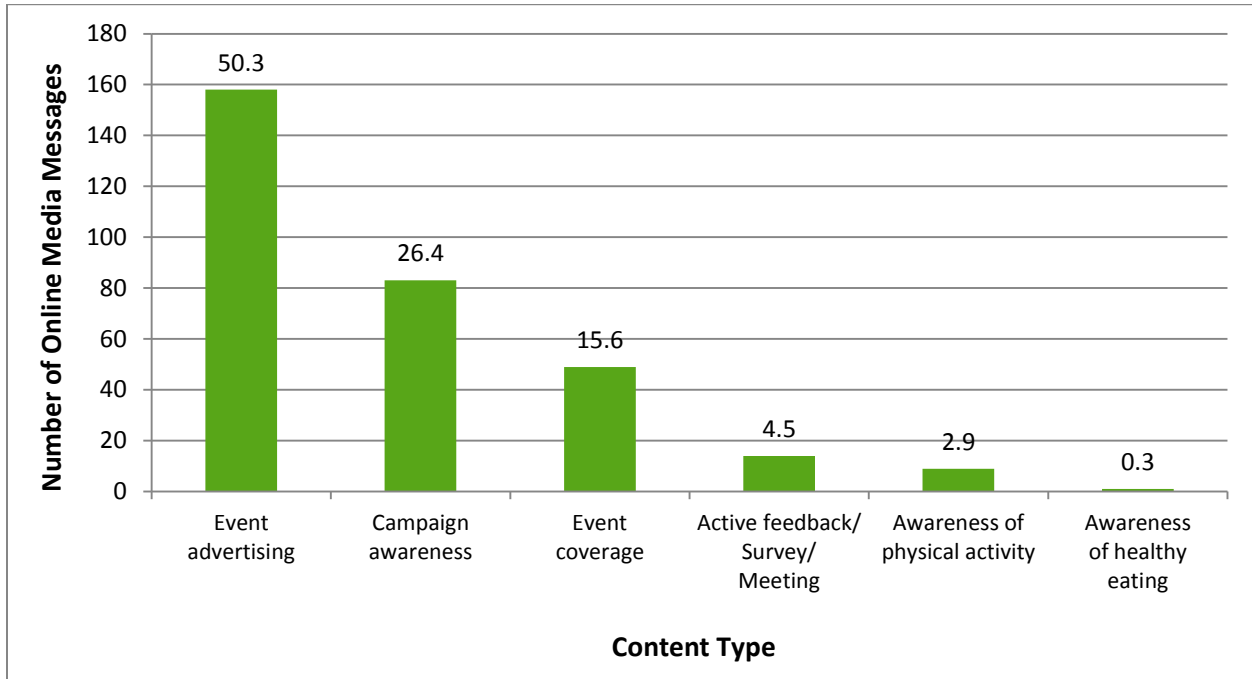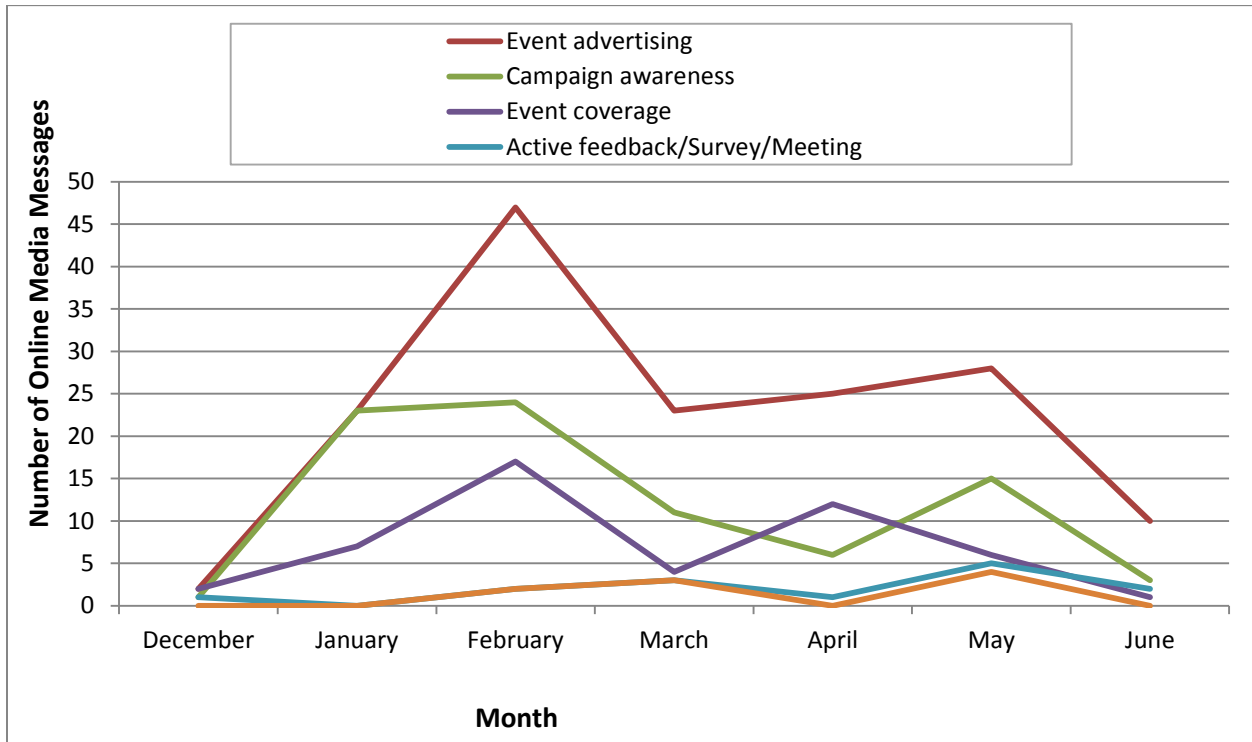

Figure 13. Number of Tweets by Content Type by Month
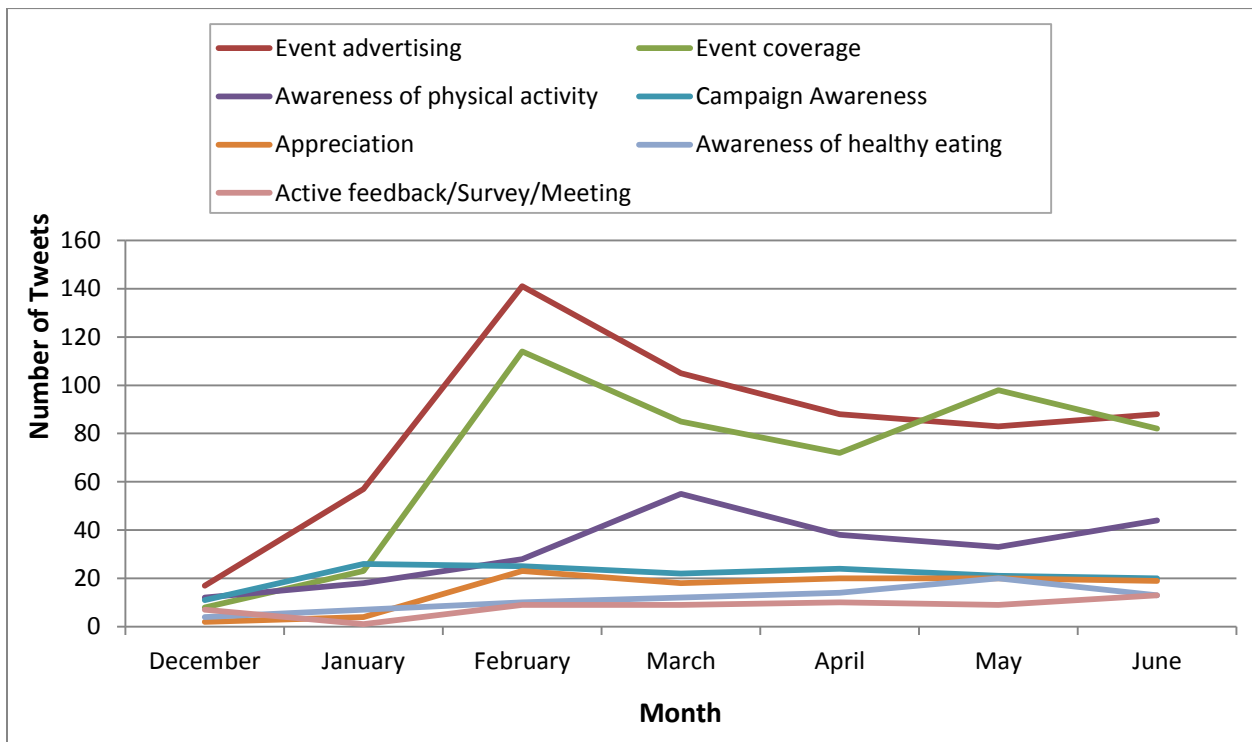
Mention of Theme 1 and active play

Within the content of the message, mention of Theme 1 or active play was more frequent, proportionally, within online media messages compared to Twitter. Within online media messages, mention of Theme 1/active play was most frequent in January and June (49.1 per cent and 43.8 per cent, respectively) (Figure 14). Within Twitter messages, mention of Theme 1/active play was most frequent in December and March (14.8 per cent and 14.1 per cent, respectively) (Figure 15). The pattern in the presence of Theme 1 or active play in the media message differentiated between online media content and Twitter messages. Theme 1 or active play was present more frequently, in each of the months, in online media messages compared to Twitter messages.

Figure 14. Per Cent of Online Media Messages Mentioning Theme 1/Active Play by Month

Figure 15. Per Cent of Tweets Mentioning Theme 1/Active Play by Month

Discussion

Developing a search strategy ([Appendix A](#)) was a necessary step to guide the data collection and coding process. The benefit of developing a search strategy for online media content and Twitter is the ability to adapt each for future HKCC themes or other public health campaigns. For example, tailoring the search strategy to include major search terms may reduce redundant results and expedite the search process.

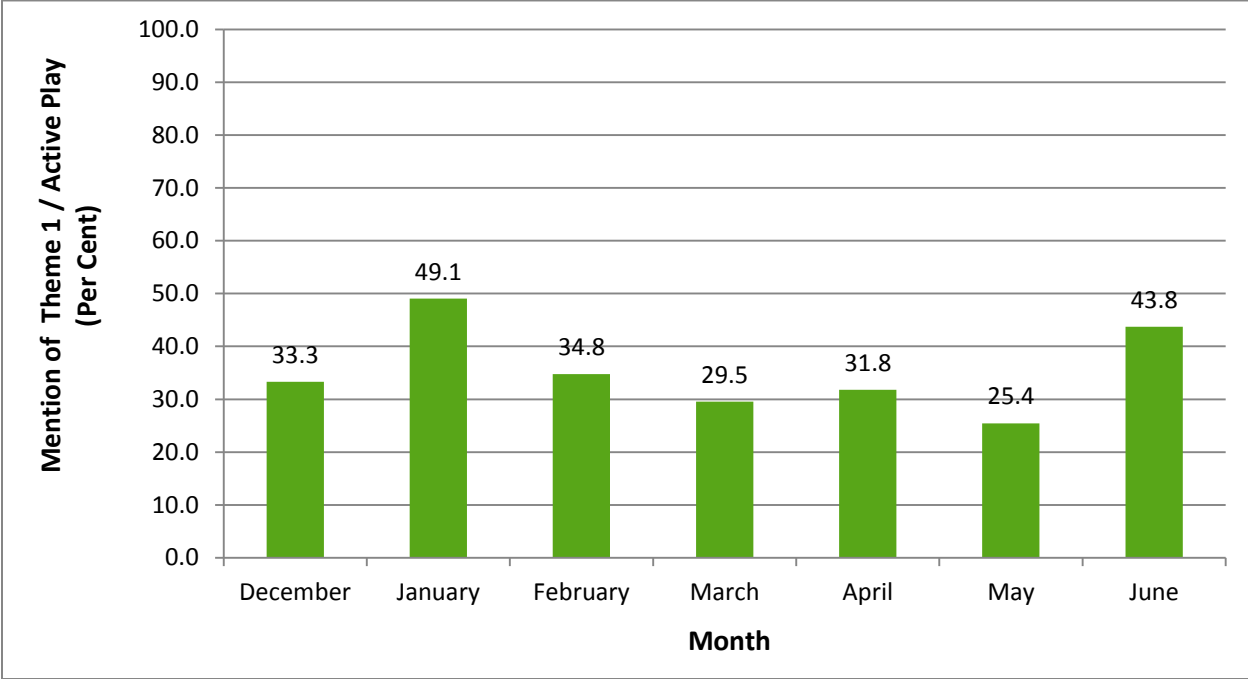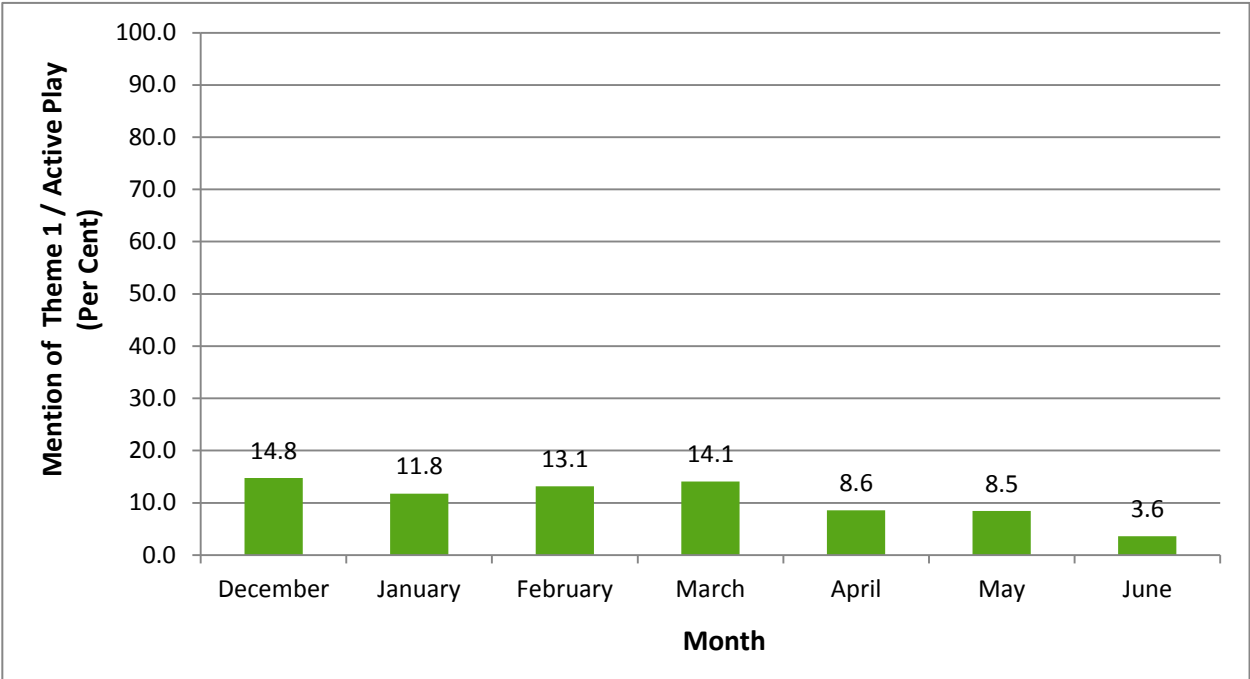In addition to the search strategy, a coding scheme was developed to categorize messages related to the HKCC and Theme 1. Over the data collection period, the coding scheme expanded to encompass a greater number of sources and content categories. As mentioned, the coding scheme is another component which may be adapted to relate more specifically to future HKCC themes.

Both online media messages and Tweets displayed variation over time, and between HKCC communities. The results illustrate peak months of higher media messaging, and that some communities used the platform more often than others.

This media analysis of the HKCC provided an indication of how different communication channels (i.e., media platforms) can be analyzed to formulate a greater understanding of potential exposure to the program and Theme 1.[13] As Macnamara[13] suggests, an *a priori* design provides the foundation of media analysis. Strengths of this media analysis stem from a comprehensive search strategy and data analysis plan informed by existing theoretical frameworks and previous studies. The search strategy and coding guideline (e.g., inclusion / exclusion criteria) made prior to data collection limited subjectivity and inaccuracies in coding.[13]

Beyond potential exposure (e.g., number of media messages), the breadth of media data collected provided the opportunity to assess variation in messages related to Theme 1, and yield other useful information. *Event advertising* was the predominate Content Type, demonstrating that HKCC communities are primarily using media strategies to increase awareness about events and activities, rather than promote messages about physical activity, or active play. The relatively low presence of Theme 1 or active play in online media messages (including Twitter) may be an indicator of low uptake of online media strategies to deliver theme-based messages targeting behaviour change. In this way, the contribution of online media messages to exposure to the first social marketing theme may be insufficient (on its own) for eliciting progression from awareness to knowledge, attitudes and behaviours related to active play and physical activity. Opportunities may exist to optimize the contribution of online media campaigns to exposure to theme-based messages at the local level. However, media messaging represents just one component of potential exposure mechanisms to individuals residing in HKCC communities. For example, schools, hockey arenas, signs, TV and radio ads represent alternative exposure mechanisms. Therefore, further indicators of awareness and intermediate mediators are required to draw conclusions about community members' progression through the Hierarchy-of-Effects model.

Limitations and future directions

The number of available media platforms, search terms and messages imposed some restrictions on the scope of data collection. The search strategy was developed and modified to account for some time constraints, and certain search terms and hashtags were removed as necessary. For example, the overarching social media hashtag for the HKCC, "#HealthyKidsON," was included in the search strategy; however, individualized hashtags for certain communities, such as "#SuperKidsCK," were not. As a result, the media analysis data represents a proportion, albeit a large proportion, of the total online media messages related to the HKCC or Theme 1. Depending on the scope of future media analyses, adjustments to the search strategy could be made to encompass a greater number of search terms and/or hashtags.

Intercoder reliability requires two or more coders to maximize reliability and limit subjectivity biases.[13] Though a search strategy facilitated the data collection and coding, only one coder conducted this portion of the media analysis. Future studies should consider using two or more coders. Further, discussion and deliberation of a rigorous methodology and coding guideline is an investment which can reduce redundancies and inefficiencies in data collection. Macnamara suggests piloting a sub-sample of media data by two or more coders can improve reliability and inclusion of necessary coding variables and items.[13] In the event two coders are not available for the entire data collection process, a sub-sample pilot (of two or more coders) may serve as a more practical alternative to reduce subjectivity biases.

The goal of the media analysis was to approach an understanding of potential exposure to the program and Theme 1. In the absence of community-based data collection however, it is unclear whether messages are subsequently received or accessed by community members (exposure). For example, Bauman's evaluation on awareness of the VERB™ campaign included community-based interviews to identify prompted or unprompted recall of the campaign.[10] Despite this limitation, the media analyses based on the protocol described here has the potential to be linked in the future with other evaluation components (e.g., HKCC Parent Computer Assisted Phone Interviews (HKCC Parent CATI) to potentially explain variation in awareness of the HKCC program.

Conclusion

This study provides a greater understanding of potential exposure to the campaign and Theme 1. The media analysis protocol demonstrated its usefulness for gathering a large sample of messages related to the campaign and Theme 1. Moving forward, this protocol could be adapted and applied to future HKCC social marketing themes to continue to assess potential exposure and draw comparisons to the results within this analysis. The results presented in this report demonstrated substantial variation in use of media among HKCC communities, and throughout the duration of Theme 1. Further, the range of messages identified in this media analysis reflects the relevance of online and social media to community-based public health campaigns. As the HKCC continues to unfold, this report and subsequent media analyses may be of use for explaining and interpreting variation in other outcomes (e.g., awareness, behaviour) between HKCC communities.

Appendix A

Online media content search strategy

Purpose

To collect and analyze online media related to the Healthy Kids Community Challenge and Theme 1 (i.e. active play, "Run. Jump. Play. Every Day."), in order to gain an understanding of potential exposure and spatial variation throughout the 45 communities.

Databases & search engines

1. Google (http://www.google.ca)
2. Ontario Public Health Units Custom Search Engine
   (http://www.ophla.ca/customsearch.htm#gsc.tab=0)
3. HKCC Community Webpages
4. LexisNexis (http://www.lexisnexis.com.libaccess.lib.mcmaster.ca/hottopics/lnacademic/)
5. Individual HKCC community newspapers
6. HKCC Source (http://hkccsource.ning.com/media-coverage)

Search process

Google

- Set Google's custom date range to begin December 9, 2015.
- Execute the following search queries and review the first 100 results of each query.
- Record results in Excel spreadsheet.
   1. "Healthy Kids Community Challenge"
   2. HKCC OR "Healthy Kids Community Challenge" AND Ajax
   3. HKCC OR "Healthy Kids Community Challenge" AND Aurora
   4. HKCC OR "Healthy Kids Community Challenge" AND Brantford
   5. HKCC OR "Healthy Kids Community Challenge" AND Burlington
   6. HKCC OR "Healthy Kids Community Challenge" AND Alfred-Plantagenet
   7. HKCC OR "Healthy Kids Community Challenge" AND Chatham-Kent
   8. HKCC OR "Healthy Kids Community Challenge" AND Collingwood
   9. HKCC OR "Healthy Kids Community Challenge" AND Georgina
   10. HKCC OR "Healthy Kids Community Challenge" AND Grey-Highlands
   11. HKCC OR "Healthy Kids Community Challenge" AND Guelph
   12. HKCC OR "Healthy Kids Community Challenge" AND Hamilton
   13. HKCC OR "Healthy Kids Community Challenge" AND Hastings
   14. HKCC OR "Healthy Kids Community Challenge" AND Huron
   15. HKCC OR "Healthy Kids Community Challenge" AND Kapuskasing
   16. HKCC OR "Healthy Kids Community Challenge" AND Kenora

17. HKCC OR "Healthy Kids Community Challenge" AND Kingston
18. HKCC OR "Healthy Kids Community Challenge" AND Lambton-Shores
19. HKCC OR "Healthy Kids Community Challenge" AND Leeds-Grenville
20. HKCC OR "Healthy Kids Community Challenge" AND London
21. HKCC OR "Healthy Kids Community Challenge" AND Marathon
22. HKCC OR "Healthy Kids Community Challenge" AND Middlesex
23. HKCC OR "Healthy Kids Community Challenge" AND Niagara
24. HKCC OR "Healthy Kids Community Challenge" AND Oshawa
25. HKCC OR "Healthy Kids Community Challenge" AND Ottawa
26. HKCC OR "Healthy Kids Community Challenge" AND Peterborough
27. HKCC OR "Healthy Kids Community Challenge" AND Renfrew
28. HKCC OR "Healthy Kids Community Challenge" AND Sault Ste Marie
29. HKCC OR "Healthy Kids Community Challenge" AND St Thomas
30. HKCC OR "Healthy Kids Community Challenge" AND Sudbury
31. HKCC OR "Healthy Kids Community Challenge" AND Temiskaming-Shores
32. HKCC OR "Healthy Kids Community Challenge" AND Thessalon
33. HKCC OR "Healthy Kids Community Challenge" AND Thunder-Bay
34. HKCC OR "Healthy Kids Community Challenge" AND Timmins
35. HKCC OR "Healthy Kids Community Challenge" AND Uxbridge
36. HKCC OR "Healthy Kids Community Challenge" AND Waterloo
37. HKCC OR "Healthy Kids Community Challenge" AND Windsor
38. HKCC OR "Healthy Kids Community Challenge" AND Scarborough
39. HKCC OR "Healthy Kids Community Challenge" AND Rexdale
40. HKCC OR "Healthy Kids Community Challenge" AND Danforth
41. HKCC OR "Healthy Kids Community Challenge" AND East York
42. HKCC OR "Healthy Kids Community Challenge" AND Humber
43. HKCC OR "Healthy Kids Community Challenge" AND Downsview
44. HKCC OR "Healthy Kids Community Challenge" AND Toronto
45. HKCC OR "Healthy Kids Community Challenge" AND Centre-de-Santé-Communautaire
46. HKCC OR "Healthy Kids Community Challenge" AND CHIGAMIK
47. HKCC OR "Healthy Kids Community Challenge" AND De-Dwa-Da-Dehs-Nye
48. HKCC OR "Healthy Kids Community Challenge" AND Manitoulin-Island
49. HKCC OR "Healthy Kids Community Challenge" AND Misiway-Milopemahtesewin
50. HKCC OR "Healthy Kids Community Challenge" AND Misiway
51. HKCC OR "Healthy Kids Community Challenge" AND Shkagamik-Kwe
52. HKCC OR "Healthy Kids Community Challenge" AND Wabano
53. HKCC OR "Healthy Kids Community Challenge" AND "Run. Jump. Play. Everyday!"
54. HKCC OR "Healthy Kids Community Challenge" AND Run Jump Play Everyday
55. "Run. Jump. Play. Everyday!"
56. Healthy Kids Ontario
57. "Enfants en Santé"
58. "Action Communautaire Enfants en Santé"

59. "Courir Sauter Jouer Tous les jours"

Ontario Public Health Units custom search engine
- Execute the following search queries and review the first 10 pages of each query.
- Record results in "HKCC Media Data Input "Document".
  1. HKCC OR "Healthy Kids Community Challenge"
  2. "Run. Jump. Play. Everyday!"

HKCC municipality webpages
- Execute the following search queries in each HKCC municipality web page (or media release page, newsroom) and review first 100 results of each query.
- Record results in "HKCC Media Data Input "Document".
  1. Healthy Kids Community Challenge
  2. Run Jump Play Everyday

LexisNexis
- Set LexisNexis's custom date range to begin January 1, 2016.
- Execute the following search queries and review all the results of each query.
- Record results in "HKCC Media Data Input "Document".
  1. "Healthy Kids Community Challenge"
  2. "Run Jump Play Everyday"

Individual community newspapers
- Execute the following search queries in each of the individual community newspapers (available online) and review the first 100 results of each query.
- Record results in "HKCC Media Data Input "Document".
  1. "Healthy Kids Community Challenge" (for English newspapers) OR "Enfants en santé" (for French newspapers)
  2. "Run Jump Play Everyday" (for English newspapers) OR "Courir Sauter Jouer Tous les Jours (for French newspapers)

HKCC Source
- Review media posts uploaded on the HKCC Source "Media Coverage" section.
- Record results in "HKCC Media Data Input "Document".

HKCC community municipality webpages

1. Alfred-Plantagenet & Bourget
2. Town of Ajax
3. The Town of Aurora
4. Brantford-Brant
5. City of Burlington

6. Municipality of Chatham-Kent
7. Town of Collingwood
8. Town of Georgina
9. Municipality of Grey Highlands
10. City of Guelph
11. City of Hamilton
12. Hastings and Prince Edward
13. The County of Huron
14. Town of Kapuskasing
15. City of Kenora
16. Kingston, Frontenac, Lennox & Addington
17. Lambton Shores, Township of St. Claire, Township of Warwick, City of Sarnia
18. United Counties of Leeds & Grenville
19. City of London
20. Town of Marathon
21. County of Middlesex
22. Regional Municipality of Niagara
23. City of Oshawa
24. City of Ottawa
25. City of Peterborough
26. County of Renfrew
27. City of Sault Ste. Marie
28. St. Thomas - Elgin
29. City of Greater Sudbury
30. City of Temiskaming Shores
31. Town of Thessalon / North Channel
32. City of Thunder Bay
33. City of Timmins
34. City of Toronto - Danforth-East York, Humber-Downsview, Rexdale, Scarborough
35. Township of Uxbridge
36. Regional Municipality of Waterloo
37. Windsor - Essex
38. Centre de santé communautaire CHIGAMIK Community Health Centre
39. De dwa da dehs nye>s Aboriginal Health Centre
40. Manitoulin Island
41. Misiway-Milopemahtesewin
42. Shkagamik-Kwe Health Centre
43. Wabano Centre for Aboriginal Health

HKCC individual community online newspapers

* : Requires Subscription Fee

1. <u>Ajax Pickering News Advertiser (Ajax)</u>
2. <u>Newmarket / Aurora Era Banner (Aurora)</u>
3. <u>The Auroran (Aurora)</u>
4. <u>Brant News (Brantford, De dwa da dehs nye Aboriginal Health Centre)</u>
5. <u>Burlington Post (Burlington)</u>
6. Hamilton / Burlington L'information (Burlington)
7. <u>Le Carillon (Canton d'Alfred et Plantagenet)</u>
8. Le Regional (Canton d'Alfred et Plantagenet)
9. <u>Le Vision (Canton d'Alfred et Plantagenet)</u>
10. <u>Tribune Express (Canton d'Alfred et Plantagenet)</u>
11. <u>Chatham Voice (Chatham-Kent)</u>
12. <u>Chatham This Week (Chatham-Kent)</u>
13. <u>Midland Penetanguishene Mirror (Midland)</u>
14. <u>Le Gourt De Vivre (Midland)</u>
15. <u>Collingwood Connection (Collingwood)</u>
16. <u>Collingwood Enterprise Bulletin (Collingwood)</u>
17. <u>Georgina Advocate (Georgina)</u>
18. <u>Grey Bruce This Week (Grey Highlands)</u>
19. Dundalk Herald (Grey Highlands)
20. Flesherton Advance (Grey Highlands)
21. <u>Guelph Tribune (Guelph)</u>
22. <u>Hamilton Mountain News (Hamilton)</u>
23. <u>Quinte West News (County of Hastings)</u>
24. <u>Belleville News (County of Hastings)</u> (OR http://www.intelligencer.ca/news/local)
25. <u>Goderich Signal Star (County of Huron)</u>
26. <u>Kapuskasing Weekender (Kapuskasing)</u>
27. <u>Kenora Daily Miner & News (Kenora)</u>
28. <u>Kingston Heritage (Kingston)</u>
29. <u>Frontenac News (Kingston)</u>
30. <u>Napanee Guide (Kingston)</u>
31. <u>Kingston This Week (Kingston)</u>
32. <u>Sarnia Lambton This Week (Lambton Shores)</u>
33. Prescott Journal (United Counties of Leeds & Grenville)
34. <u>Westport Review Mirror (United Counties of Leeds & Grenville)</u>
35. <u>London Community News (London)</u>
36. <u>Londoner (London)</u>
37. London L'Observateur (London)
38. <u>Manitoulin Expositor (Manitoulin Island)</u>

39. Manitoulin West Recorder (Manitoulin Island)
40. Marathon Mercury (Marathon)
41. Thunder Bay Source (Thunder Bay)
42. Middlesex Banner (Middlesex)
43. Gazette Transcript & Free Press (Middlesex)
44. Strathoy Age Dispatch (Middlesex)
45. Dorchester Signpost (Middlesex)
46. Timmins Times (Timmins)
47. Le Voyageur (Timmins)
48. Niagara This Week (Niagara)
49. Le Regional (Niagara)
50. Oshawa Express (Oshawa)
51. Oshawa / Whitby This Week (Oshawa) (OR http://www.durhamregion.com/oshawa-on/)
52. Le Courier d'Oshawa (Oshawa)
53. Ottawa South News (Ottawa)
54. Ottawa West News (Ottawa)
55. Ottawa East News (Ottawa)
56. Ottawa Embassy (Ottawa)
57. Ottawa Hill Times (Ottawa)
58. Orleans Star (Ottawa)
59. Peterborough This Week (Peterborough)
60. Peterborough Examiner (Peterborough)
61. Renfrew Mercury (Renfrew)
62. Eganville Leader (Renfrew)
63. Sault Ste Marie Star (Sault Ste Marie)
64. St Thomas Elgin News (St Thomas)
65. Aylmer Express (St Thomas)
66. West Elgin Chronicle (St Thomas)
67. Sudbury Northern Life (Greater Sudbury)
68. New Liskeard Temiskaming Speaker (Temiskaming Shores)*
69. Elliot Lake Standard (Town of Thessalon)
70. Thunder Bay Chronicle Journal (Thunder Bay)
71. East Yorker (Toronto – Danforth East York)
72. East York Mirror (Toronto – Danforth East York)
73. L'Express de Toronto (Toronto – Danforth East York)
74. Le Metropolitain (Toronto – Danforth East York)
75. North York Mirror (Toronto – Humber – Downsview)
76. Etobicoke Guardian (Toronto - Rexdale)
77. Scarborough Mirror (Toronto – Scarborough)
78. Waterloo Chronicle (Waterloo)
79. Kitchener Waterloo Region Record (Waterloo)
80. Windsor Star (Windsor)

81. Amherstburg River Town Times (Windsor)
82. Essex Free Press (Windsor)
83. Kingsville Reporter (Windsor)
84. Grand Bend Lakeshore Advance (Windsor)
85. Belle River Lakeshore News (Windsor)
86. Lasalle Post (Windsor)
87. Lemington Southpoint Sun (Windsor)
88. Techumseh Shoreline Week (Windsor)
89. Le Rempart (Windsor)

Twitter search strategy

Purpose

To collect and analyze online media related to the Healthy Kids Community Challenge and Theme 1 (i.e., active play, "Run. Jump. Play. Every Day."), in order to gain an understanding of potential exposure and spatial variation throughout the 45 communities.

Databases & search engines

1. Twitter Advanced Search Engine

Search process

Advanced search: "All of these words"

- Set Twitter's custom date range to begin December 9, 2015.
- Set Twitter's "Written in" dropbox to English.
- Execute the following search queries and review all results of each query.
    1. Healthy Kids Community Challenge
    2. Run Jump Play Everyday
    3. Enfants En Santé

Advanced search: "These Hashtags"

- Set Twitter's custom date range to begin December 9, 2015.
- Set Twitter's "Written in" dropbox to English.
- Execute the following search queries and review all results of each query.
- Record results in "HKCC Twitter Data Input" document.
    1. #HKCC
    2. #HealthyKidsON
    3. #EnfantsEnSanté

HKCC community Twitter handles

1. Ajax   @townofajax
2. Aurora   @FitKidsAurora
3. Brantford   @CityofBrantford
4. De Dwa De Dehs Nye   @_DAHC_ , @HealthyKids DAHC
5. Burlington   @healthykidsburl
6. Canton D'Alfred Et Plantagenet
7. Chatham-Kent   @superkidsck
8. Collingwood   @CollingwoodHKCC
9. Danforth-East York
10. Georgina   @georginatown

11. Grey Highlands   @HealthyKidsSEG
12. Guelph
13. Hamilton   @cityofhamilton
14. Hastings   @HealthyKidsHPE
15. Humber-Downsview   @YAAACE_si
16. Huron
17. Kapuskasing
18. Kenora
19. Kingston   @cityofkingston, @KFLAHealthyKids
20. Lambton Shores   @HKCCLambton
21. Leeds & Grenville   @healthykidslg
22. London   @inmotion4life
23. Manitoulin Island   @HKCCmanitoulin
24. Marathon
25. Middlesex   @MiddlesexHKCC
26. Midland
27. Chigamik   @HKCCNorthSimcoe
28. Timmins-Misiway   @HKCCTimmins
29. Niagara   @NiagaraKids
30. Oshawa   @oshawacity @activeoshawa
31. Ottawa   @ottawahealth, @OttSchoolBus
32. Peterborough   @HKCCPtbo
33. Renfrew County   @HealthyKidsCOR
34. Rexdale
35. Sault Ste Marie
36. Scarborough
37. St. Thomas   @ElginHealth
38. Sudbury   @healthykidsSud
39. Shkagamik-Kwe
40. Temiskaming Shores   @HealthyKidsTem
41. Thessalon
42. Thunderbay   @healthykidstbay
43. Uxbridge
44. Waterloo
45. Windsor

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