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Redesign of the Canadian Community Health Survey- Annual Component

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Canadian Community Health Survey Program



- Started with Health Information Roadmap -1999
- Indicator framework
 - Health behaviours
 - Health surveillance
 - Access to health care system
- Governing committee – Canadian Population Health Survey Program
 - Health Canada, Public Health Agency of Canada
- Expert groups

CCHS Objectives



- Health **surveillance** at the national, provincial and sub-provincial levels
- **Analysis** on small populations and rare characteristics
- **Readily available data** to a diversified user community in a timely fashion
- **Flexible** survey instrument

CCHS Redesign Objectives



- Five objectives based on critical review of CCHS
 - Study feasibility of adding children less than 12
 - Review content and create long term plan for 2015-2022
 - Transition to household survey frame
 - Revisit sample allocation strategy
 - Add internet collection option – next redesign in 2021

Objective: Add Children Less than 12

- Feasibility study completed summer 2013
 - Separate survey integrated into CCHS-Annual team
 - Canadian Health Survey on Children and Youth (CHSCY)
 - Canadian Child Tax Benefit (CCTB) as a frame
 - 96%+ coverage in provinces for children 1-17
 - 94%+ coverage in territories for children 1-17
 - Internet data collection, follow-up by telephone
 - Stratified simple random sample design (i.e. no clusters)
 - Pilot test in Oct 2016, production TBD pending funding

Objective: Review Content / New Long-term Plan



- 54 of 98 CCHS modules modified – all variable names new
 - Most changes minor, some are new / significantly modified
 - Physical activity / Sedentary activity
 - Fruit and vegetable consumption
 - Patient experiences
- Territories have 2 year themes only
 - Annual total is provinces only
- Final content plan October 2014 - handouts available
- Rapid Response option available to meet further needs

Objective: Household Survey Frame



- CCHS was using a dual frame design
 - Area frame produced by LFS (40% of sample)
 - Telephone frame (60% of sample)
 - Cell only households not included, quality is decaying
 - Cell only households ~50% in large urban areas
- Household survey frame is a major improvement
 - Continuously updated with various admin data

CCHS Cases 12-17



- Rarity of 12-17 caused heavy selection bias
 - Increased design effects
- CCHS now uses CCTB to sample 12-17
 - Age groups are now: 12-17, 18-34, 35-54, 55-64, 65+
- Similar adjustments to area frame
 - Non-response, out of scope etc.
- Household weights not created for 12-17 cases

Objective: Revisit Sample Allocation



- Original CCHS sample allocation had 141 HR's
 - 500 units per HR
 - Provinces have reduced number of HR's to 110
 - Odd distributions of sample in some HR's
- Redesigned CCHS sample allocation:
 - Responds to HR boundary changes by provinces
 - Provide similar quality estimates for all province HR's
 - Improve design efficiency to reduce the design effect

Sample Allocation Strategy for 2015+



- Step 1: Power allocation proportional to province size
 - Ensure minimum prevalence of 2% in provinces (3% in PEI)
- Step 2: Power allocation proportional to HR size
 - Ensure minimum prevalence of 10% in HR's
 - 15% in smallest HR's
- Step 3: Apply maximum sampling fraction of 1 in 20
 - Minimum prevalence increases to 25% in 4 HR's

Objective: Internet Collection



- Internet data collection delayed to 2021
- Exact collection strategy has not been decided
 - Testing ongoing to determine best method to roster a household and randomly select a respondent
- Significant content revisions required to meet standards of Electronic Questionnaires
- Mode effect study is planned

New Collection Strategy Too



- All households with telephone number => CATI
- Households without telephone number => CAPI
 - Out of service / bad address link => Transfer to CAPI
 - Response rate below 55% after 8 weeks => Transfer to CAPI
- All CCTB cases are CATI only
- CATI-CAPI ratio is different for different reasons
- Territories only representative over 2 years

Using Redesigned CCHS Data



- First release of redesigned CCHS data: March 22nd 2017
 - 2016 and 2015/16 files expected to be released in June 2017
- Comparisons not recommended with 2001-2014
- 2015+ CCHS uses:
 - New frame, sample allocation, weighting and estimation strategy
 - Revised content and new collection strategy
- With so many changes can you compare with confidence?
- Documentation will be available

Available Documentation



- Overview of changes during redesign
- Revised user guide
- Usual CCHS release materials
 - Data dictionary, DV guide, layout, questionnaire etc.
- New CANSIM tables, fact sheets
- Variable concordance table will not be provided

Fact Sheets



- Diabetes
 - BMI (adult & youth)
 - Physical activity (adult & youth)
 - Primary care provider
 - Chronic conditions
 - Smoking
 - Drinking
 - Fruits and vegetables
 - Life satisfaction
 - NEW: Health Summary Score
- Discontinued
 - Exposure to second-hand smoke
 - Self-perceived health
 - Perceived life stress

Health Summary Score



- Sum of six indicators:
 - BMI status
 - Smoking
 - Fruit and vegetable consumption
 - Heavy drinking
 - Perceived life stress
 - Physical activity

- Analysis by: age, sex, income, education, province

Data Tables (CANSIM / CODR)



1. Health characteristics, by age and sex, 10 provinces. (26 indicators)
2. Health characteristics, by sex, 10 provinces, age standardized to 2011 population. (22 indicators)
3. Health characteristics, by household income quintiles and educational attainment, 10 provinces. (26 indicators*)

Indicators on CANSIM/CODR



- Consultation with HC and PHAC led to the choice of 26 core content indicators
- Most are the same as previous years

New:

- Access to a primary health care provider
- Physically active, 18 and older (based on CPAG)*
- Physically active, 12 to 17 (based on CPAG)*

Modified:

- BMI youth, now WHO standard

Dropped from table, still available on file (except RAC):

- Pain/discomfort (2), participation/activity limitation, exposure to SHS (4), BMI combined, Flu shot, bike helmet, functional health, Injuries (2)

CCHS-Annual Contacts



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Canadian Health Survey on Children and Youth (CHSCY)

Background



- Feasibility Study focused on two options for obtaining children's health information:
 - Adding a children's component to the CCHS annual survey
 - Cover respondents between the ages of ages 0 to 11
 - Conducting a separate survey on children's health
 - Coverage would depend on frame and content needs
- Recommendations from the feasibility study:
 - Most efficient approach is dedicated children's survey
 - Availability of a much more efficient frame
 - Integrate within CCHS team to leverage existing infrastructure

Main Objectives of Pilot



1. Evaluate the performance of the content in a bi-modal survey featuring internet and telephone collection methods
 - Evaluate new and modified content as many health measures for children developed for direct measurement/assessment.
 - Preliminary evaluation of collection mode effects on the data between self administered internet questionnaire and interviewer administered telephone interview.
2. Evaluate effectiveness of the internet to collect health information from youth as young as 12
 - Will internet option assist in getting responses from a traditionally difficult age group (12-17) in the CCHS?

Main Objectives of Pilot (Continued)

3. Operational Tests:

- CHSCY pilot study is a strong candidate to be the first social survey to pilot the new Integrated Collection and Operation System (ICOS) at Statistics Canada
- Test various respondent relation materials including introductory letters in order to maximise EQ take up rates

4. To produce and release a preliminary set of nationally representative estimates

- Produce estimates on various characteristics with prevalence rates of 6% or higher for children between the ages of 1-17
- Produce estimates on various characteristics with prevalence rates of 13% or higher for three age groups (1-5, 6-11, 12-17)

Survey Design



- Targeted respondent will be a child or youth between the ages of 1-17
 - Considering 3 age groups 1-4, 5-11 and 12-17
 - Will not include children less than 1 year of age
- Potential for two selected respondents
 - For selected respondents between the ages of 1-11 years of age, the person most knowledgeable (PMK) will provide all the information
 - For selected respondents aged 12 to 17, the PMK will answer half the survey, and the selected youth will answer the other half

Survey Design (Continued)



- Use Canadian Child Tax Benefit (CCTB) file as a sample frame
 - 96%+ coverage in provinces for children 1-17
 - 94%+ coverage in territories for children 1-17
 - Very good contact information
- Collection will use a sequential bi-modal approach
 - Initial collection wave will be to invite all respondents to participate online via a mailed letter with a link to electronic questionnaire and a secure access code
 - In second wave, respondents who don't respond online within a required period will be switched to telephone interviews

Content – All PMK's



- Socio-demographic information
- Family history
- General health
- Perceptions of height and weight
- Injury
- Allergies
- Long-term conditions
- Flu vaccine
- Dental visits
- Eye exams
- Accessing health care
- Child functioning and disability (2+)
- Food security
- Neighbourhood environment
- Family activity time

Content – PMK's 1 - 4



- Prenatal and postnatal health
- Smoking while pregnant
- Drinking while pregnant
- School, school attachment and travel to school
- Child care
- Breakfast, lunch and dinner
- Food behaviours
- Reading
- Electronic devices
- Organized sports and clubs
- Other physical activity
- Sleep
- Exposure to second-hand smoke
- Parent-child interaction

Content – PMK's 5 - 11



- School, school attachment and travel to school
- Child care
- Breakfast, lunch and dinner
- Food behaviours
- Reading
- Electronic devices
- Helping others
- Organized sports and clubs
- Other physical activity
- Physical activity intensity
- Friends
- Sleep
- Aches and sleeping difficulties
- Exposure to second-hand smoke
- Parent-child interaction

Content - Youth



- General health/happiness
- Perceptions of height and weight
- School, school attachment and homework, travel to school
- Breakfast, lunch and dinner
- Food behaviours
- Eating behaviours
- Reading
- Use of electronic devices
- Work
- Volunteering
- Helping others
- Physical education classes
- Organized sports and clubs
- Other physical activity
- Physical activity intensity
- Physical activity enjoyment

Content – Youth (Continued)



- Friends
- Sleep
- Aches and sleeping difficulties
- Children's Intrinsic Needs
- Bullying
- Alcohol, smoking, marijuana and tobacco alternatives
- Exposure to second-hand smoke
- Use of crisis line
- Concussions
- Children's rights
- Youth behaviour
- Communication with parents
- Suicide (15 - 17)
- Sexual development (15 – 17)
- Sexual attraction (15 - 17)

CHSCY-Pilot Dissemination Plan



- National indicators where quality allows
- Microdata files
 - Master and share files
 - No Public Use Microdata File (PUMF)
 - Production cycles only
- Daily article
- CANSIM Tables
- Fact sheets
- Possibly analytical articles:
 - Health at a Glance and/or Health Reports

Moving Forward



- Pilot study
 - EQ collection: October 17th – November 13th
 - Telephone follow-up: November 17th – December 11th
 - Pilot data available by fall 2017
- Production cycles of CHSCY:
 - Three year intervals
 - First cycle: October 2018 – May 2019
 - Could be ready to launch by late 2017
 - If funding available
 - No major problems / changes after pilot
 - Minimal time for analysis of pilot results

CHSCY Contacts



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QUESTIONS?