



Collecting determinants and correlates of Sexual Health
to inform policies and services that
advance health and health equity for Canadians

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EXECUTIVE SUMMARY



Rationale for a national Sexual Health Survey

- WHO Global STI strategy
- UN Sustainable Development Goal Indicators
- UN Committee on the Elimination of Discrimination against Women (CEDAW)
- Current Canadian Gaps



BC Pilot Sexual Health Survey

- Feasible, 75% response rate, high quality data
- Highly representative overall and among vulnerable and rural populations

Proposal for Canadian Sexual Health Survey

- Behaviours, experiences and determinants of sexual health
- Collection of personal identifier/s will allow linkage with prior and subsequent outcomes & events in health admin data

GLOBAL HEALTH SECTOR STRATEGY ON SEXUALLY TRANSMITTED INFECTIONS 2016–2021

TOWARDS ENDING STIs

Rising rates

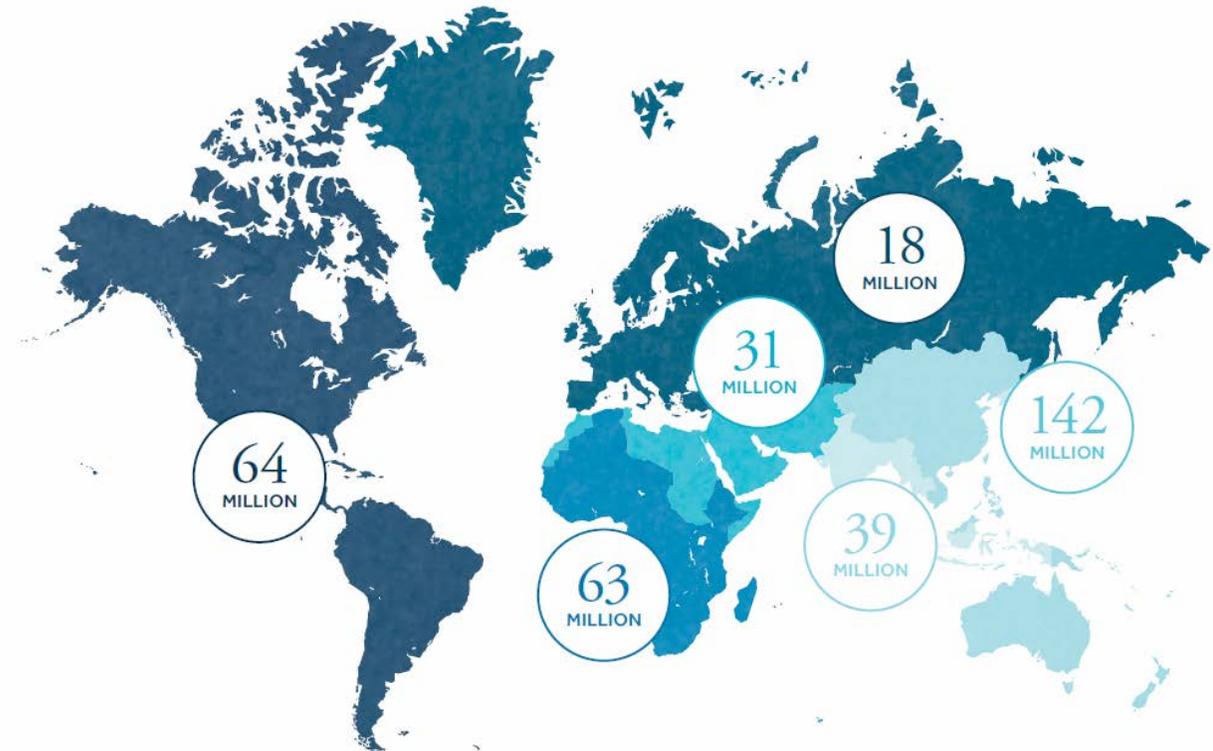
WHO Global Health Sector Strategy estimates 357 million new cases annually of four curable sexually transmitted infections among people aged 15–49 years (data from 2012) (p. 13, WHO report)

- Chlamydia trachomatis (131 million),
- Neisseria gonorrhoeae (78 million),
- syphilis (6 million),
- Trichomonas vaginalis (142 million)

The prevalence of some viral sexually transmitted infections is similarly high: 417 million new cases of herpes simplex type 2; 291 million women harbouring the human papillomavirus.

WHO region of the Americas: 64 million new cases of curable STIs in 2012

Curable STIs chlamydia, gonorrhoea, syphilis, trichomoniasis



CONSEQUENCES OF INCREASED STIs

IMPACT

on the health and lives of children, adolescents and adults worldwide:

- **Fetal and neonatal deaths** – syphilis in pregnancy leads to over 300 000 fetal and neonatal deaths each year, and places an additional 215 000 infants at increased risk of early death;
- **Cervical cancer** – the human papillomavirus infection is responsible for an estimated 530 000 cases of cervical cancer and 264 000 cervical cancer deaths each year;
- **Infertility** – sexually transmitted infections, such as gonorrhoea and chlamydia, are important causes of infertility worldwide;
- **HIV risk** – the presence of a sexually transmitted infection, such as syphilis, gonorrhoea, or herpes simplex virus infection, increases risk (~x3) for acquiring or transmitting HIV
- The **physical, psychological and social consequences** of STI severely compromise the quality of life of those infected



RESPONDING TO CANADIAN STI NEEDS



Global NEWS BC Change Location News & Radio Programs
Newscasts, Radio, and Videos
World Canada Local Politics Smart Living Money Entertainment Health Commentary Trending
HEALTH April 26, 2016 2:38 pm
Alberta sees big spike in sexually transmitted infections, blames dating apps
By Staff The Canadian Press
Facebook 3.6k Twitter LinkedIn Email Print

WATCH ABOVE: "They've been in the levels." Su-Ling rising.

NATIONAL POST
NEWS FULL COMMENT SPORTS CULTURE LIFE MORE DRIVING CLASSIFIEDS JOBS SUBSCRIBE FINANCIAL POST
Crisis over syphilis treatment as Canada running out of drug used to treat infection
With syphilis struggling to be treated, doctors are...
real tea real refreshing
Nestlé ZERO

cbcradio
TV RADIO NEWS SPORTS MUSIC LIFE ARTS CANADA 2017 LOCAL MORE
The Current
with Anna Maria Tremonti
EPISODES FEATURES ABOUT CONTACT
Thursday April 28, 2016
Rising STI rates prompt questions about sex ed for young and old
f t r s + e

WHO GLOBAL STRATEGIC APPROACH

Priority Actions for **enhancing the impact and equity of sexually transmitted infection responses** along the entire continuum,



Special attention to **reaching populations that are left behind**.

- Depending on the context, those left behind may include: women, men, adolescents, men who have sex with men, sex workers, and transgender people.”

Telephone and web-based surveys are least likely to attract a representative sample among vulnerable and marginalized populations

WHO STRATEGY TO ADDRESS THE STI ISSUE

Strategic direction 1 – Information for focused action – Focuses on the need to **understand** the sexually transmitted infection epidemic and response as a basis for:

- Advocacy, political commitment, national planning
- Resource mobilization and allocation, implementation, and programme improvement.

Strategic direction 2 – Interventions for impact

Strategic direction 3 – Delivering for equity

Strategic direction 4 – Financing for sustainability

Strategic direction 5 – Innovation for acceleration

→ A National Sexual Health survey could collect the knowledge of determinants and behaviours necessary to support timely decision making and action in anticipation of, or response to, the next crisis



IN CANADA

There is currently no national sexual health survey that allows for the understanding of the determinants of STIs and BBIs at a population level and why a non negligible proportion of the population is at risk of STI



The lack of robust sexual health data is a challenge for Sti-BBI prevention and control. We are currently unable to:

- Interpret trends in diagnoses appropriately
 - e.g., due to changes in testing or sexual behaviour?
- Access population-level data on testing patterns to evaluate the impact of STBBI testing strategies
- Address gaps in knowledge related to STI which are not reportable
 - e.g., herpes, genital warts

INCLUDING MALES IS CRITICAL FOR A NATIONAL SEXUAL HEALTH SURVEY

- Canada does not have surveys that focus on sexual health across all genders and sexual orientations:
 - This is a much needed gap
 - Only feasible on a national scale due to smaller numbers at a provincial level
- There are gendered differences in attitudes to sexual health and access to sexual health services
 - e.g., men's perception that sexual/reproductive health care is a woman's responsibility
- Lack of male data is a key gap when it comes to understanding the relation between sexual behaviours and sexual networks and STI transmission
 - e.g., extent of bridging between MSM and heterosexual women
 - adoption/efficacy of different prevention strategies by men and women
- offers better comparison indicators with the high standard US and UK surveys



The Sustainable Development Goals Report

2017



United Nations



UN SUSTAINABLE DEVELOPMENT GOALS



Goal 3: Ensure healthy lives and promote well-being for all at all ages

3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

Indicator:

3.7.1 Proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods

Not Measured In Canada

UN SUSTAINABLE DEVELOPMENT GOALS



Goal 3:

Ensure healthy lives and promote well-being for all at all ages

3.8 Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and **access to safe, effective, quality and affordable essential medicines** and vaccines for all

Indicators:

3.8.1 Coverage of essential health services

defined as the average coverage of essential services based on **tracer interventions that include reproductive**, maternal, newborn and child health, infectious diseases, non-communicable diseases and **service capacity and access**, among the general and **the most disadvantaged population**

Equitable access to contraception and abortion medicines and services is not measured (? for STI-BBI) in Canada

UN SUSTAINABLE DEVELOPMENT GOALS



Goal 5:

Achieve gender equality and empower all women and girls

5.2 Eliminate all forms of violence against all women and girls in the public and private spheres including trafficking and sexual and other types of exploitation

Indicators:

5.2.1 Proportion of ever-partnered women and girls aged 15 years and older subjected to physical, sexual or psychological violence by a current or former intimate partner in the previous 12 months, by form of violence and by age

5.2.2 Proportion of women and girls aged 15 years and older subjected to sexual violence by persons other than an intimate partner in the previous 12 months, by age and place of occurrence

A National Sexual Health Survey could measure these indicators for Canada

UN SUSTAINABLE DEVELOPMENT GOALS



Goal 5:

Achieve gender equality and empower all women and girls

5.3 Eliminate all harmful practices, such as child, early and forced marriage and female genital mutilation

Indicators:

5.3.1 Proportion of women aged 20-24 years who were married or in a union before age 15 and before age 18

5.3.2 Proportion of girls and women aged 15-49 years who have undergone female genital mutilation/cutting, by age

A National Sexual Health Survey could measure these indicators for Canada

UN SUSTAINABLE DEVELOPMENT GOALS



Goal 11:

Make cities and human settlements inclusive, safe, resilient and sustainable

11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

Indicators:

11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months

A National Sexual Health Survey could contribute to measure this indicator for Canada

UN SUSTAINABLE DEVELOPMENT GOALS



Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

16.1 Significantly reduce all forms of violence and related death rates everywhere

Indicators:

16.1.3 Proportion of population **subjected to** physical, psychological or **sexual violence** in the previous 12mo

16.2.3 Proportion of young women and men aged 18-29 years who **experienced sexual violence** by age 18

16.3.1 Proportion of **victims of violence in the previous 12 months who reported** their victimization to competent authorities or other officially recognized conflict resolution mechanisms

A National Sexual Health Survey could contribute to measure these indicators for Canada

NEED FOR SEXUAL HEALTH DATA

Canada needs a national sexual health survey to collect high quality epidemiologic data, and to meet our international reporting commitments, including :

- sexual health behaviours, attitudes, experiences and outcomes
- related social determinants of health, geographic location,
- experiences of stigma, discrimination, violence, coercion
- access to services



SEXUAL HEALTH SURVEYS

GLOBAL Best Practices



National Survey of Family Growth

- Sample of 5000/yr, male & female age 15-49
- Iteratively ~10,000/sample each 3-5 years since 1973; since 2006 continuously: 2-3 years' samples combined for analysis
- In-person + confidential self-entry computer assisted interviews (CAPI + ACASI)
- 80 mins/survey, ~11 surveyor hours/survey
- Administered by U of Michigan under contract to CDC's National Centre for Health Statistics



National Survey of Sexual Attitudes and Lifestyles, NATSAL

- Sample of 15,000 male & female aged 16-74 years
- Iteratively since 1990 (currently starting 4th iteration)
- In-person + confidential self-entry computer assisted interviews (CAPI + ACASI)
- Collection of urine (STI) & saliva (testosterone+ store-future tests)
- 60 mins/survey, ~13 surveyor hours per survey
- University researchers (UCL/LSHTM) & Public Health England



Public Health
England



IMPACT

NSFG - USA

The NSFG is used:

- by scholars in the behavioral sciences (e.g., sociology, demography, and economics) to study marriage, divorce, fertility, and family life;
- by scholars in public health to study reproductive, maternal and infant health topics;
- **by agencies of the US Department of Health and Human Services, to brief senior officials and to inform program decision-making, in research programs and in health and social service programs.**
- **by state and local governments to plan health and social service programs;**
- by the press, to prepare articles on a number of topics related to health and family life.

The impact of the NSFG goes well beyond the more than 600 journal articles, NCHS reports, and book chapters shown in our [publication list](#) and [bibliography](#). The NSFG's impact includes **[behind-the-scenes policy discussions, briefings, and program planning at the federal, state, and local levels](#)**. The survey results are also used by people providing health and social services, through government agencies and in private groups.

https://www.cdc.gov/nchs/nsfg/about_nsfg.htm

NATSAL - UK

The first two NATSAL surveys provided major sources of data informing sexual and reproductive health policy in Britain.

They have contributed to:

- the **National Sexual Health & HIV Strategy in England**; the Scottish Sexual Health Strategy (2005-) and the Welsh Sexual Health Strategy
- the **Teenage Pregnancy Strategy** (2000-2010)
- the **National Chlamydia Screening Programme** (NCSP)
- the **National Human Papillomavirus (HPV) Immunisation programme** in 2008/9
- the statutory provision of Personal, Social, Health & Economic (PHSE) education in schools in 2009
- **Sexual health campaigns**, such as "[Sex: worth talking about](#)" in 2010
- National Institute for Health and Clinical Excellence (**NICE**) **guidelines** on, for example, long acting contraception (2006)

The third survey covers an extended age range (up to 74 compared to 59 and 44 in previous surveys) allowing exploration of the interplay between aging and sexual behaviour. Through combining data from all three surveys it will be possible to conduct both period and cohort analyses, as the surveys include people born in the 1930s-1990s. A period spanning much of the last century.

<http://www.natsal.ac.uk/about.aspx>



CANADIAN SEXUAL HEALTH SURVEY

Proposal

- Sample of 15,000 (females and males)
- CAPI including ACASI
- Set up 2018, fielding 2019-21
- Collecting identifiers to link to health administrative data for system costs and outcomes
- Potential to collect biologicals





BC PILOT

- Feasible, yielding High quality representative data
- 75% response rate
- Conducted in English, Mandarin, Cantonese and Punjabi
- CIHR funded:
 - **“Would contraception subsidy lower costs and improve outcomes”**
- First ever representative indicators for a Canadian province
 - for pregnancy intention, contraception prevalence
- Data in use by BC Government to inform policy decisions toward improved health and health equity

HIGHLY FEASIBLE TO SCALE UP
TO A NATIONAL SURVEY





Question Sources

Canadian Community Health Survey - Annual Component	Canadian Age: SXB 15-24
National Survey of Family Growth (NSFG)	United States Age: 15-44
National Health and Nutrition Examination Survey (NHANES)	United States Age: 14-59 and 14-69
National Survey of Sexual Attitudes and Lifestyle (NATSAL-3)	Great Britain Age: 16-74
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London Measure of Unplanned Pregnancy	UK

- **Question development 2011-2012**
 - Questions from validated national and international surveys
- **Pilot testing 2012-2014**
 - Expert review, focus groups
 - Snowball and convenience samples, 2 iterations
 - >500 male and female, including 50 test-retest pairs
- **BC-wide feasibility pilot 2015**
 - 1676 females aged 14-49 years with 45 test-retest pairs
 - Internal and external validity, reliability, representative sample



Face to face personal interview household survey

- **CAPI** (Computer Assisted Personal Interview) *and*
- **ACASI** (Audio-Computer Assisted Self Interview)



11 Categories CAPI

Consent
Date of birth
Sex, Gender, and Orientation
Sexual Behaviour
Sexual History
Sterilization and Fecundity
Pregnancy History and Outcomes
Contraception History
Partners
Access and Information
Demographics



5 Categories ACASI

Sex, Gender, and Orientation
Pregnancy History and Outcomes
Sexual Behaviour
Sexually Transmitted Infection
Pregnancy Intention

3 Categories CAPI & ACASI

Sex, Gender, and Orientation
Pregnancy History and Outcomes
Sexual Behaviour

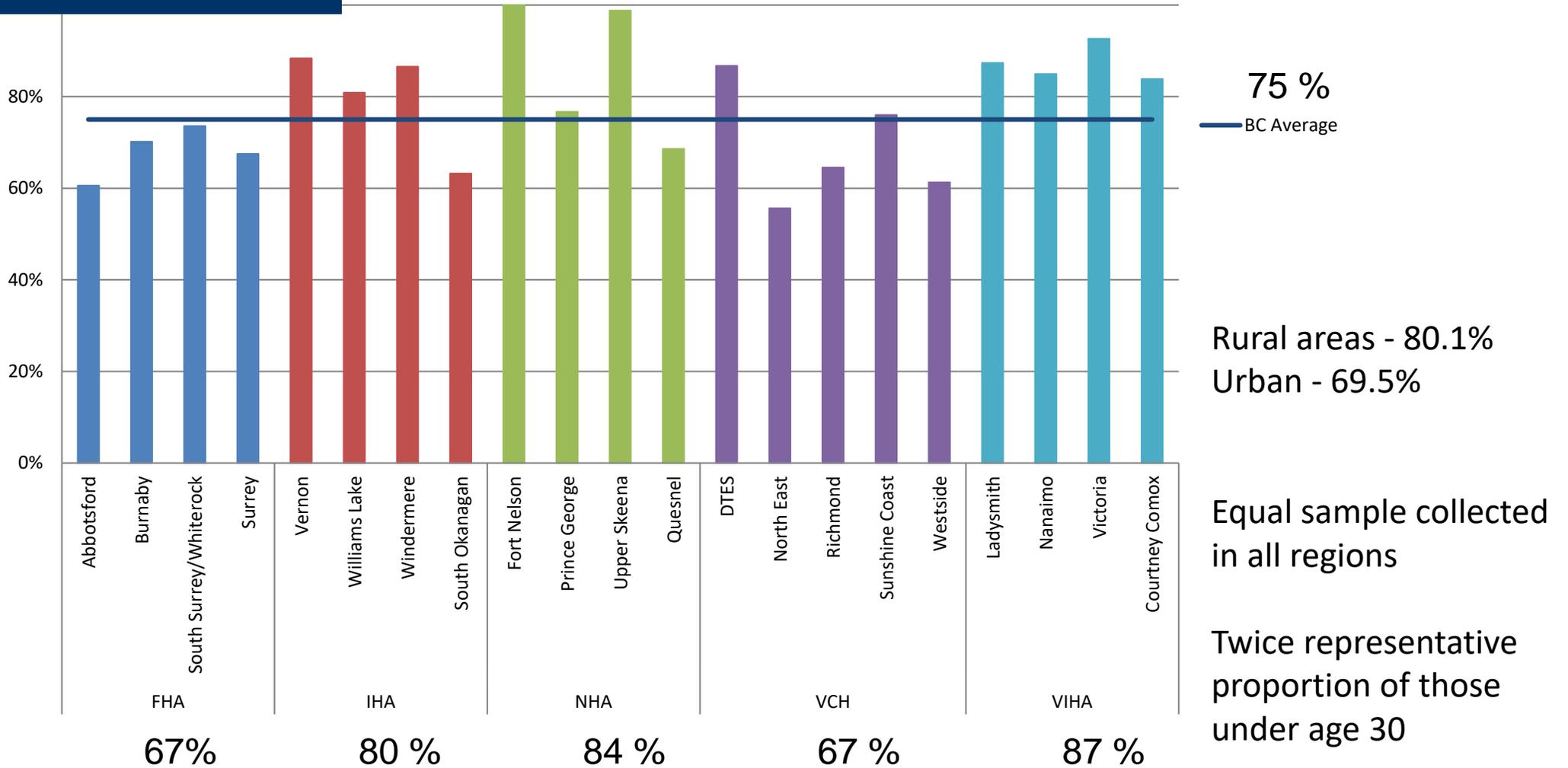




Response Rate by BC Health Region

8 surveyor hours per survey (incl training & travel)

vs 11 hours in US or 13 hours in UK





Results representative for BC population



- Females Age 14-49 years
- All regions represented
- Offered in English, Punjabi, Mandarin, Cantonese
- Excellent participation among vulnerable and low income groups
- Demographic determinants representative for known indicators (Stats Canada/ BC Stats/McCreary):
 - Education
 - Income
 - Sexual orientation
 - Relationship status
 - First nations and aboriginal heritage

WE ARE AN INTEGRATED, EXPERIENCED TEAM

CART-GRAC: The Core Team



CSHS

Canadian Sexual Health Survey

CIHR-PHAC CHAIR



CART-GRAC

Contraception and Abortion Research Team



Groupe de recherche sur l'avortement et la contraception



Public Health Agency of Canada

Agence de la santé publique du Canada

Institut national de santé publique Québec



BC Women's Hospital+ Health Centre



BC Centre for Disease Control

CIHR IRSC Canadian Institutes of Health Research

An agency of the Provincial Health Services Authority



WOMEN'S COLLEGE HOSPITAL Health care for women | REVOLUTIONIZED

British Columbia Centre of Excellence for Women's Health



UNIVERSITY OF TORONTO



Manitoba

CART-GRAC

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CIHR-PHAC CHAIR



Family Planning Public Health Research

Yukon

Health and Social Services

WOMEN'S HEALTH RESEARCH INSTITUTE AT BC WOMEN'S



THE COLLEGE OF FAMILY PHYSICIANS OF CANADA

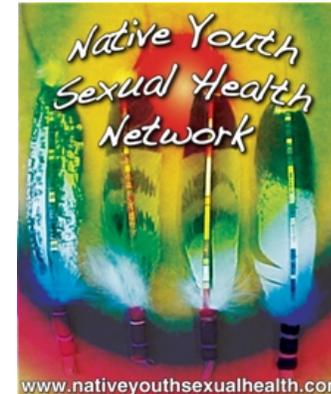


LE COLLÈGE DES MÉDECINS DE FAMILLE DU CANADA



MICHAEL SMITH FOUNDATION FOR HEALTH RESEARCH

Discover. Connect. Engage.



THE SOCIETY OF OBSTETRICIANS AND GYNAECOLOGISTS OF CANADA



CANADIAN PHARMACISTS ASSOCIATION

ASSOCIATION DES PHARMACIENS DU CANADA



Action Canada for Sexual Health & Rights

Opt Options for Sexual Health

SFP SOCIETY OF FAMILY PLANNING research, education, and leadership



Northwest Territories Health and Social Services

DALHOUSIE UNIVERSITY

AIM AND FIRST RESULTS FROM BC PILOT

Fielded 2015

PARTNERSHIPS FOR HEALTH SYSTEMS IMPROVEMENT GRANT
CIHR, MSFHR, BC MINISTRY OF HEALTH, BC WOMEN'S HOSPITAL, UBC



Why invest in reproductive health?

LONG-TERM BENEFITS

Women who are able to plan their births...



are better able to complete their education



participate more fully in the labor force



have increased productivity and earnings



enjoy higher household savings and assets

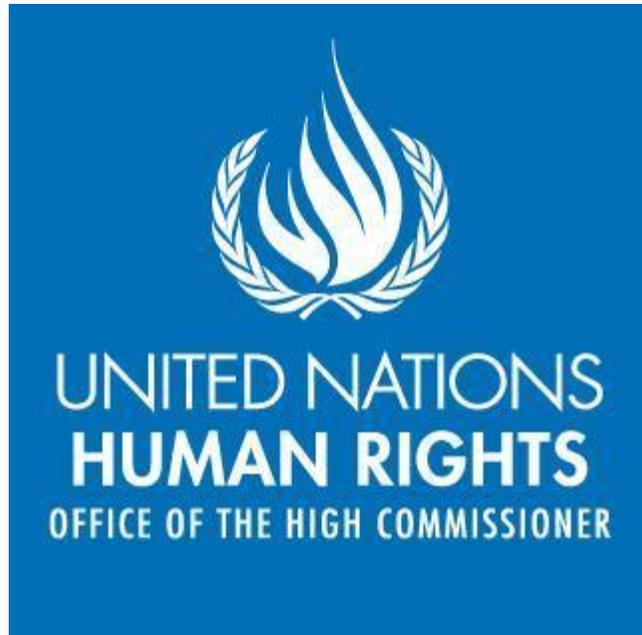








COMMITTEE ON THE ELIMINATION OF DISCRIMINATION AGAINST WOMEN (CEDAW)



Report on Canada, 2016 Nov

Health

40. The Committee notes the measures taken to facilitate access to legal abortion services. It remains **concerned at disparities in access ... to affordable contraceptives.**



41. In line with its general recommendation No. 24 (1999) on women and health, **the Committee recommends that the State party:**

(c) Make affordable contraceptives accessible and available to all women and girls, in particular those living in poverty and/or in remote areas.

Access to Contraception:

“Would contraception subsidy lower costs and improve outcomes ?”

Indicators required to support family planning policy decisions:

Current intention to become pregnant

Intention of current/recent pregnancy

Pregnancy outcomes related to intention

Contraception method prevalence

Indicators not collected in Canada



a place of mind

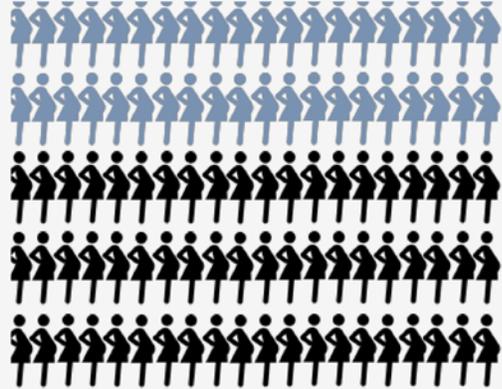
THE UNIVERSITY OF BRITISH COLUMBIA



CSHS

Canadian Sexual Health Survey

40%
of pregnancies are
unintended

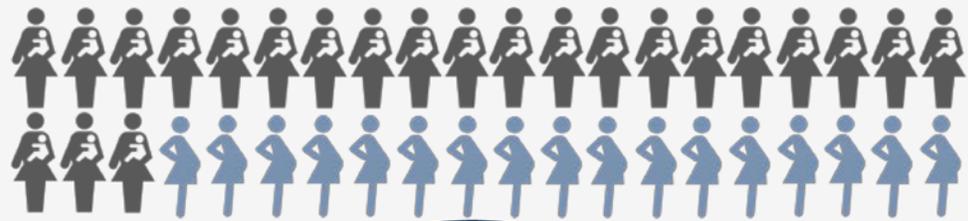


In BC, this means
24,000 women, or
over 160,000 women across Canada,
every year have an
unintended pregnancy

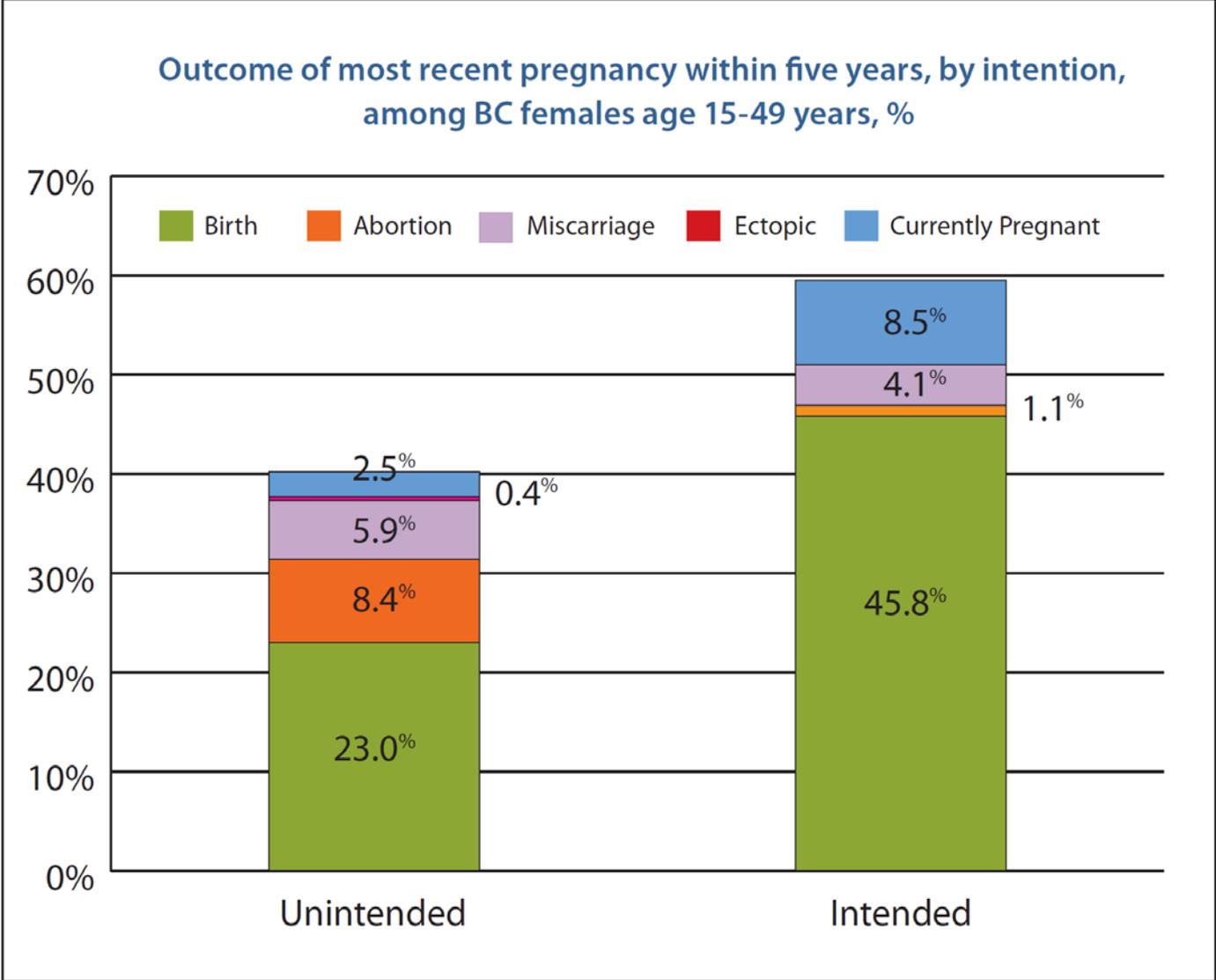
Among
unintended
pregnancies
57%
result in a **birth**



Every year **almost 14,000** BC women
have an **unintended pregnancy**
result in **birth**
which is equivalent to more than
90,000 women across Canada
each year



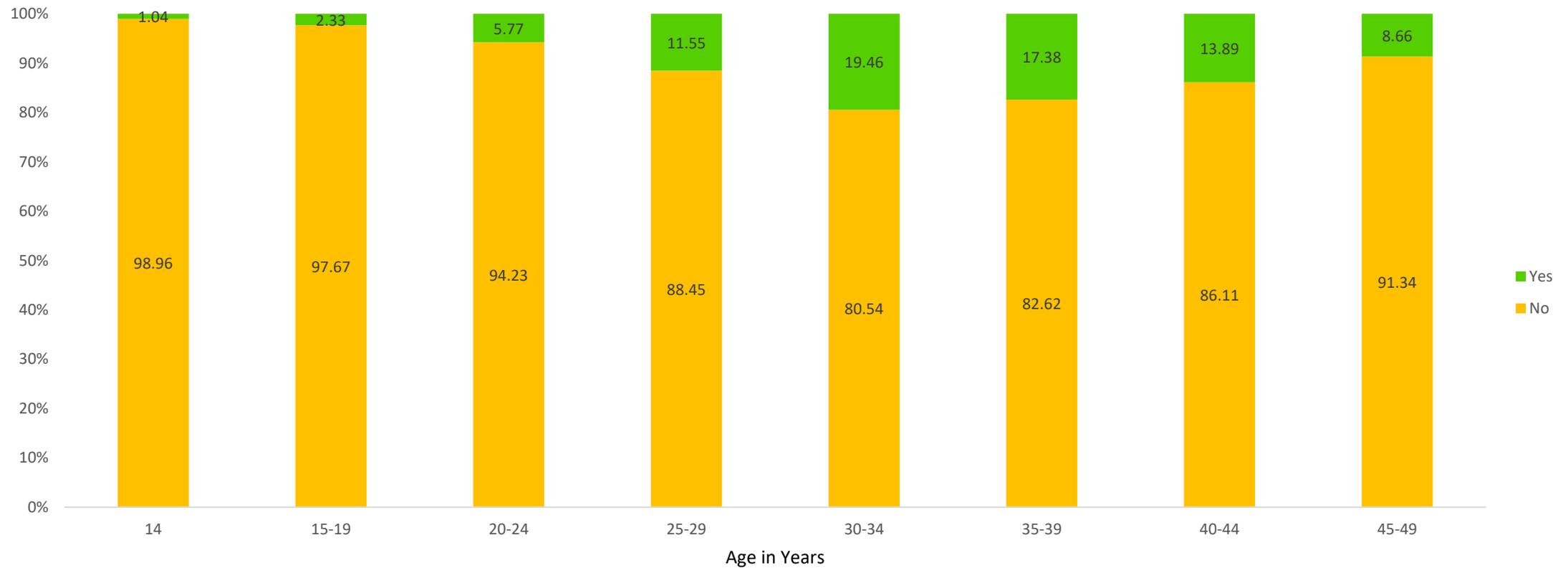
Pregnancy outcome by pregnancy intention



Current pregnancy intention

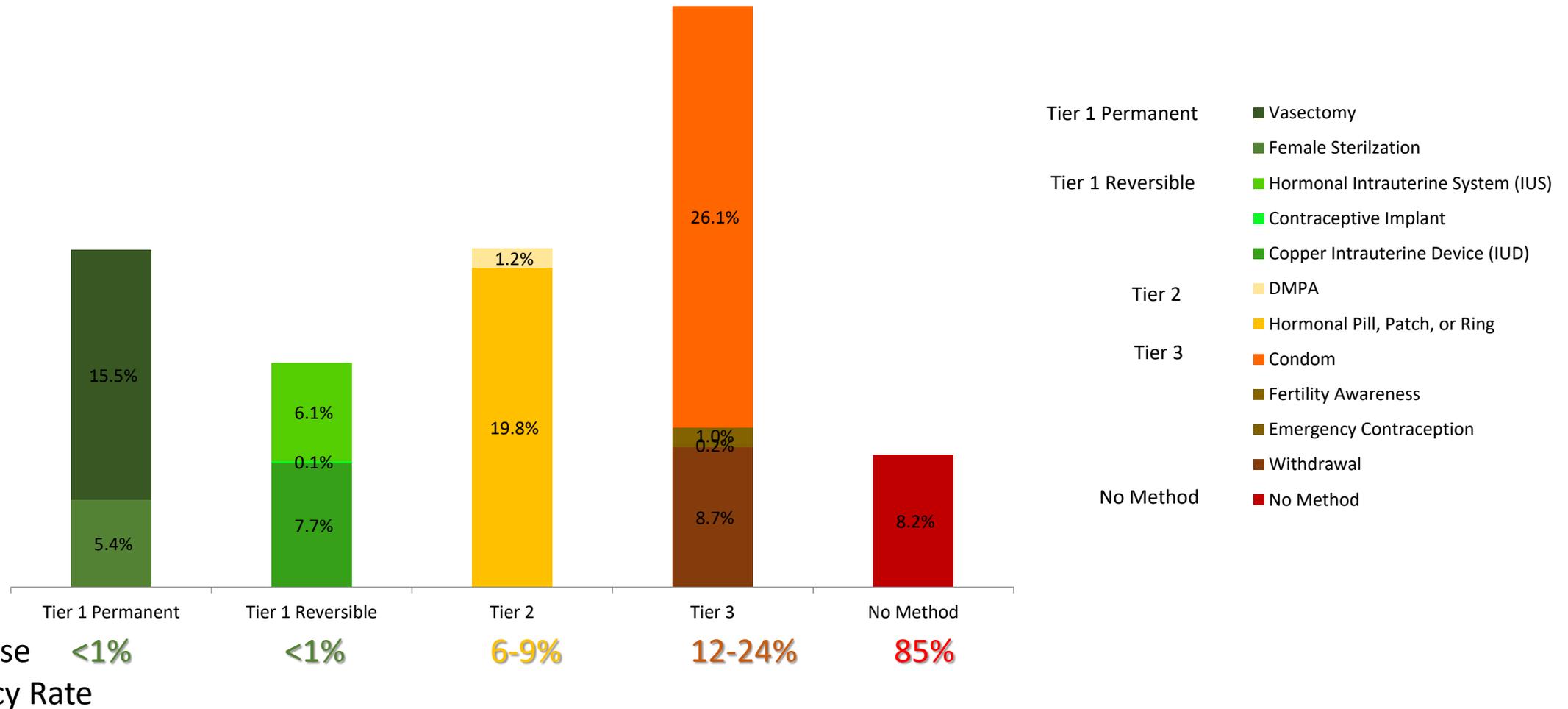
88.9 % of BC females age 14-49 years in 2015 currently did not intend to become pregnant

Current intention to become pregnant among BC females age 14-49 years, 2015, Percent



Contraceptive method prevalence

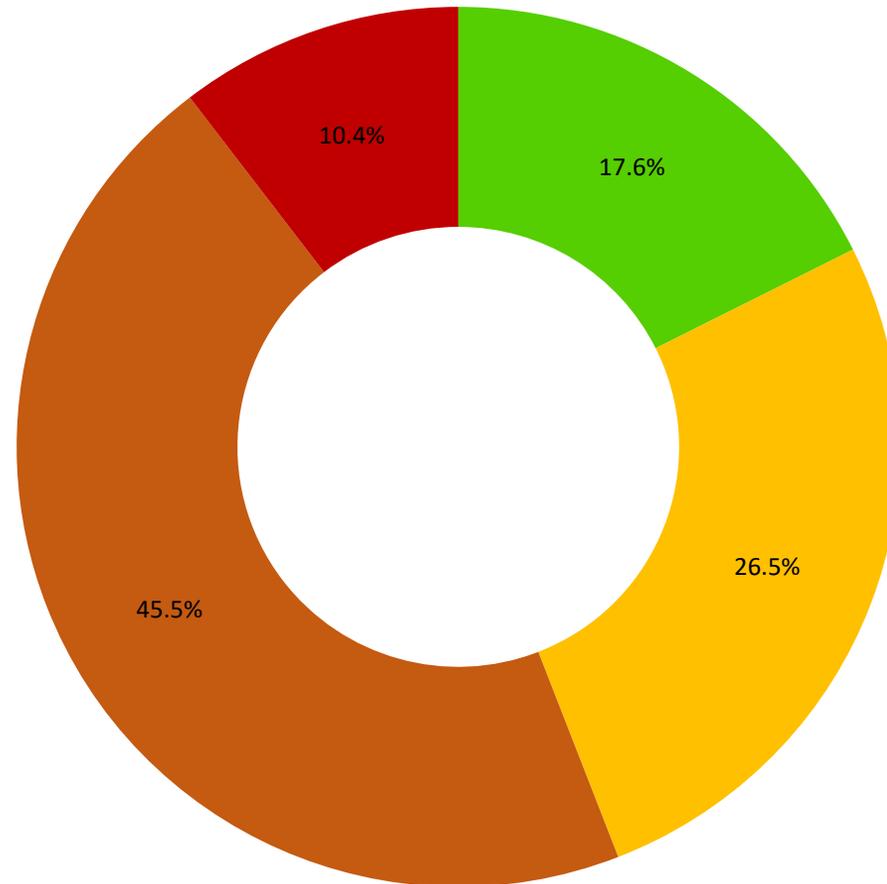
Most effective method used at last vaginal intercourse among BC females age 15-49 years, fertile, sexually active and not intending to become pregnant



Contraceptive method prevalence

Most effective method used at last vaginal intercourse among BC females age 15-49 years, fertile, sexually active *not intending to become pregnant* by tier of effectiveness- **excluding those using permanent methods**

56% using
Barrier or **NO method**
as their most effective
contraception



- Tier 1 Reversible
- Tier 2
- Tier 3
- No Method

2015 CSHS found COST is the most important barrier to contraception access

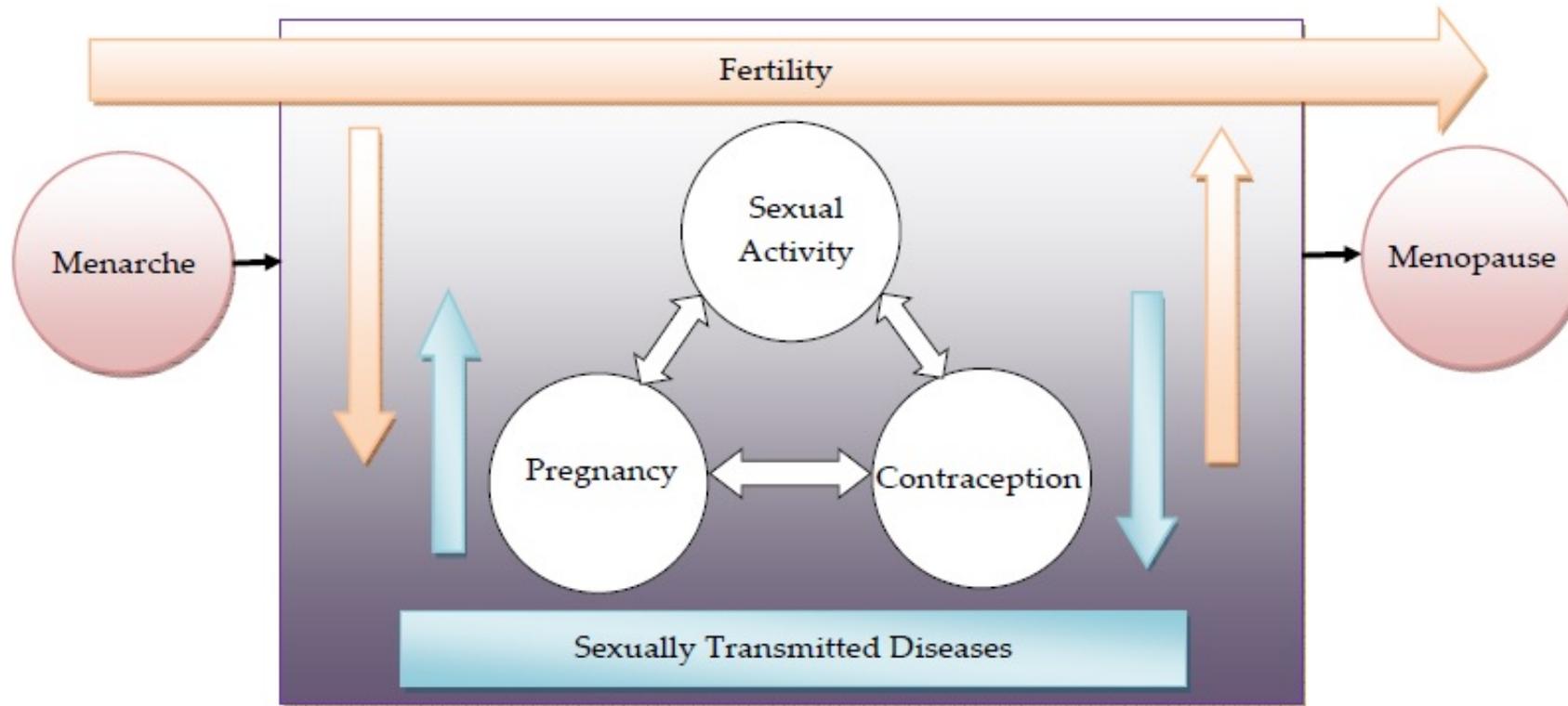


IMPACT

Innovative Model for Policies to Access Contraception

Modelling survey and literature derived determinants, behaviours and pregnancy events for each female, each month using Discrete Event Simulation iterated to represent an entire population over a year. Allows input of potential policies, with nimble, age-specific estimation of population outcomes and by-cost-sector costs.

BC model accurately predicts annual pregnancies within 2%

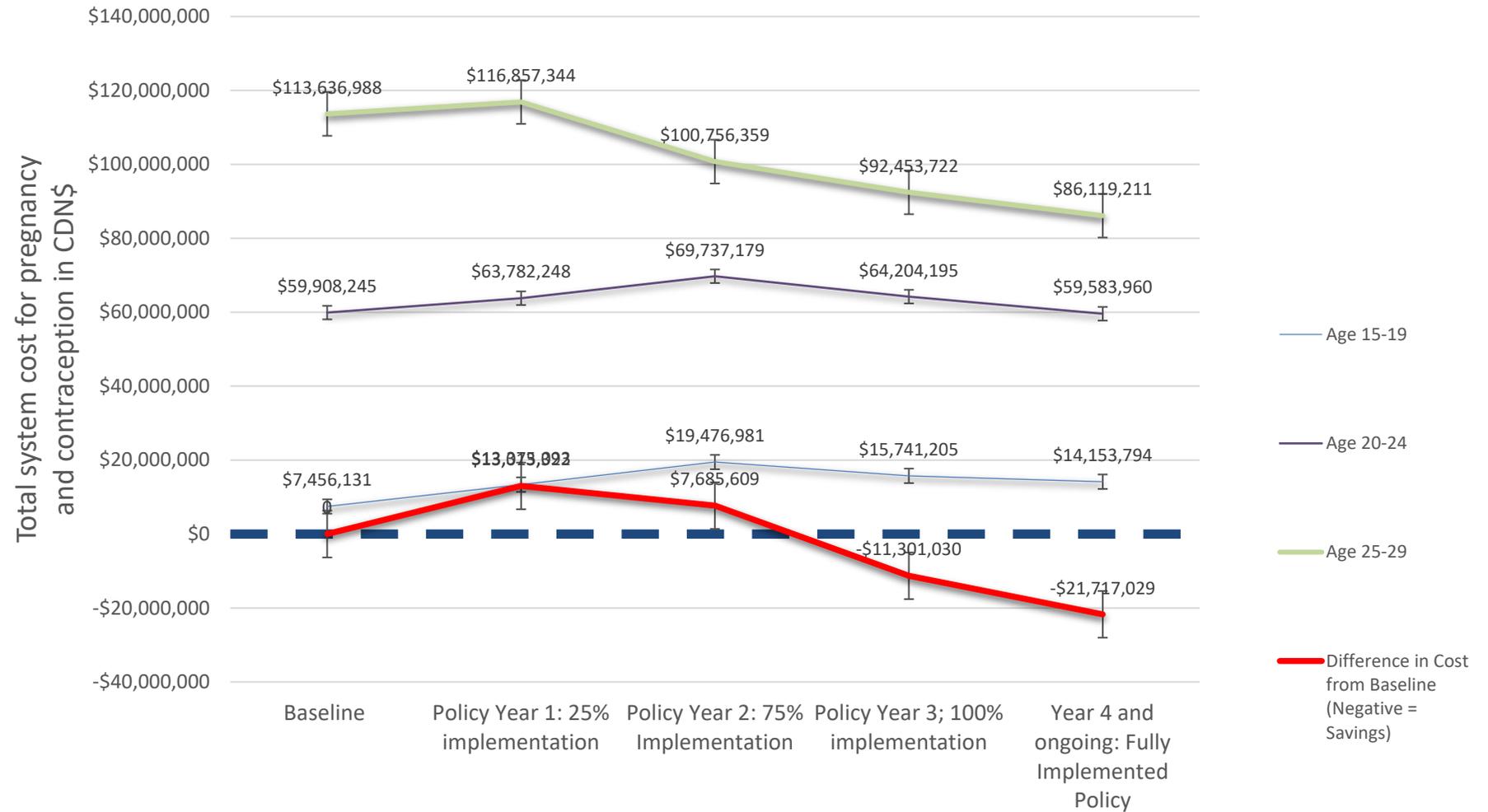




IMPACT tool sample result

Specifics of outcomes and costs also available by health system sector (e.g., hospital, Pharmacare, practitioner)

Cost to manage pregnancy outcomes and provide subsidy for intrauterine or hormonal contraception for females under 30, by age and by difference overall from baseline





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Australian Study of Health and Relationships (ASHR)	Australia Age: 15-69
London Measure of Unplanned Pregnancy	UK
National Intimate Partner and Sexual Violence Survey (NISVS)	United States Ages: 18+
National Crime Victimization Survey (NCVS)	United States Ages:12+
Behavioural Risk Factor Surveillance System	United States Ages:18+
Reproductive Coercion Scale	United States



CANADIAN SEXUAL HEALTH SURVEY

Proposal

- Sample of 15,000 (females and males)
- CAPI including ACASI
- Set up 2018, fielding 2019-21
- Features building on BC Pilot:
 - Conduct as SURVEILLANCE (not research): collect personal identifiers for data linkage
 - Include male questions
 - Expanded question set:
 - increase questions for STI-BBI determinants
 - scales for sexual violence, reproductive coercion +/- FGM
 - New language versions (French)
 - Potential to collect biologicals



DISCUSSION





THE UNIVERSITY OF BRITISH COLUMBIA