

Contraception in Canada

INTRODUCTION

Contraception is important in the lives of women, their male partners, and society as a whole.¹ We live in an era of changing preferences for fertility control, family size, timing of establishing a family, and choice of occupation. Canadians and their health care providers are thus involved in fertility-related decisions that will fundamentally influence individual lives and society as a whole well into the future. Family planning decisions affect and are influenced by emotional health, sexual attitudes and behaviours, gender equity, the quality of relationships, and respect between men and women. Family planning choices made today will affect not only the structure of the future population, but also the health, family size, responsibilities, social opportunities, and ultimately the quality of life of Canadians. The ability of all women in society to plan and space their pregnancies provides a wide range of health, education, workplace, and economic benefits at the individual, community, and society levels.²⁻⁷ Indeed, WHO recognizes reproductive and sexual health care as a fundamental human right.⁸

TRENDS IN REPRODUCTIVE HEALTH AND CONTRACEPTIVE USE IN CANADA

Canadian women will typically spend 3 years or fewer pregnant, attempting to conceive, or immediately postpartum.⁹ The national overall average maternal age at first birth is currently over 30 years.¹⁰ The trend of later age at the birth of a first child means that Canadians are spending at least half of their reproductive lives at risk for unintended pregnancy¹⁰; nearly a third of Canadian women have at least one induced abortion over their reproductive lifespan.¹¹ Unintended pregnancies represent a significant cost, both directly and indirectly,¹² thus health care providers and policy makers must provide patient care and support policies that help to reduce this cost at the individual and the societal level.

Trends in Births and Induced Abortions in Canada

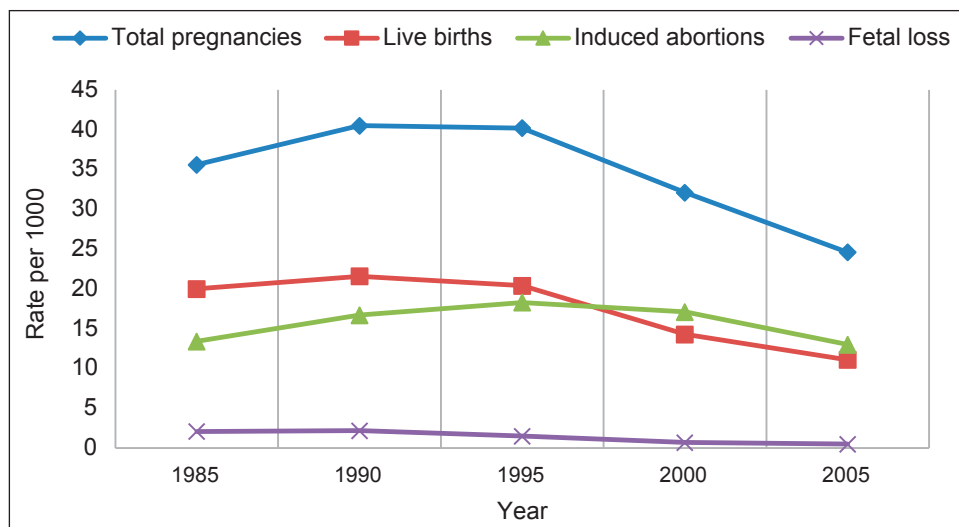
Although there have been fluctuations in birth trends over the past century, there has been a significant overall decrease in pregnancy and birth rates among Canadian women.

Between 1996 and 2005, there were 9.3% fewer pregnancies; this decline was mostly concentrated in women under 30 years of age.¹⁰ Between 2005 and 2011, the birth rate increased slightly again from 10.6 to 11.0/1000 population.¹³ In 2005, births accounted for 77% of pregnancy outcomes, induced abortions for 21%, and fetal loss for 2%.¹⁴ In Canada, national adolescent pregnancy rates have decreased (Figure 1); in 2010, the adolescent fertility rate (number of pregnancies per 1000 women aged 15 to 19 years) was 28.2 compared with 35.4 in 2001.¹⁵ In 2012, over 80 000 induced abortions were performed in Canada with the highest number being reported in the 20- to 24-year old age group (over 21 000).¹⁶ The persistent need for abortion services indicates that we are not meeting the contraceptive needs of Canadian women. Different approaches to the provision of contraception are necessary to meet these needs (Figure 1).

Contraceptive Use

The 2006 Canadian Contraception Survey found that among sexually active women aged 15–49 who were not attempting to conceive, 14.9% were using no contraception while 20% were using contraception inconsistently.¹⁷ This is consistent with a series of earlier studies.¹⁸⁻²⁰ In the latest data from the CCHS involving a representative sample of Canadians aged 15 to 24,²¹ 15.5% of sexually active youth wishing to avoid pregnancy reported using no contraceptive method at last intercourse, with significant regional variation from 28% in the territories, 20% in British Columbia and Ontario, 13% to 17% in Atlantic and Prairie provinces and Alberta, and 7% in Quebec.²² Only 4.6% reported use of a LARC (e.g. intrauterine contraceptives and implants). The Canadian Contraception Survey found that the most commonly used methods of contraception in Canada were oral contraceptives (44%) and condoms (54%) while the third most commonly used method of contraception was withdrawal (12%).¹⁷ Contraceptive use is affected by a number of variables. The CCHS found that contraceptive use at last intercourse varied by income quintile²³; females in the lowest income quintile were twice as likely to report no contraceptive use compared to those in the highest quintile (20.5% vs. 10.0%). Lower education level has been correlated with poorer contraceptive adherence in women seeking abortion services.²⁴ Population-based studies have also shown

Figure 1. Pregnancy rates and outcomes in Canadian females under age 20.
Rate per 1000 Canadian women under age 20 (CANSIM table 106-9002).*



*Abortion rates in Canada during the past 10 years are not calculated because of incomplete data.¹⁶

a significant correlation between lower income and higher rates of abortion.²⁵ Recently arrived immigrant women are less likely than Canadian-born women to be using more effective methods of contraception at the time of conceiving an unintended, unwanted pregnancy, and more likely to have experienced barriers to accessing contraceptive methods.^{26,27} Among Nova Scotia youth, mental health issues, particularly depression, were associated with lack of contraceptive use.²⁸

Thus, there are significant variations in use of effective contraception in Canada, with low rates of use (“high unmet need”) among vulnerable populations such as youth, those living in rural and remote territories, recent immigrants, and those of lower socio-economic status.

Contraceptive Efficacy Versus Contraceptive Effectiveness

Contraceptive “efficacy” refers to how many pregnancies are prevented during correct and consistent use of a method (“perfect use”). Contraceptive “effectiveness” refers to the number of pregnancies that are prevented during typical use of the method. Hence, effectiveness relies on both the inherent efficacy of the contraceptive method as well as how consistently and correctly it is used (adherence). The difference between typical use failure rates and perfect use failure rates tends to increase as the method becomes more dependent on user adherence, with methods that are less dependent on user adherence having typical use failure rates closer to perfect use failure rates.²⁹

Contraceptive methods may be arranged into 3 tiers based on typical use effectiveness (Table 2).³⁰ Although the use of top tier methods is advised for achieving the highest

effective contraception, the choice of contraceptive must be made in collaboration with each individual woman taking into account safety, effectiveness, accessibility, affordability, and acceptability. This discussion must respect her personal beliefs, culture, preferences, and ability to be adherent.^{31,32} Women should be informed about the range and effectiveness of contraceptive options for which they are medically suitable so that they can identify the best “user-method fit” for them.^{33,34} Additional discussion regarding the prevention of STIs and the use of condoms (dual protection) should take place in the context of contraception counselling.

The Role of Adherence

Adherence refers both to continuation rates and to correct and consistent use of a contraceptive method. Correct and consistent use of a contraceptive method may require an individual to perform a complicated series of intrapersonal and interpersonal acts (e.g., anticipating sexual contact in advance, publicly acquiring a method, discussing contraception with a partner or health care provider, using the method correctly in the context of every sexual interaction, addressing STI risk) that are rarely directly taught or discussed and the complexity of contraceptive behaviour may negatively affect adherence. LARC methods offer the highest effectiveness and highest continuation rates at one year, since they are effective independent of any action by users on a daily, monthly, or coitally-dependent basis (Table 2). Unfortunately, the only LARC methods available in Canada are intrauterine contraceptive devices; contraceptive implants are not available to women in Canada.³⁵

Table 2. Percentage of women experiencing unintended pregnancy within the first year of perfect and typical use, percentage of women continuing use at the end of the first year, and percentage of sexually active Canadian women using contraceptives

Tier of effectiveness	Contraceptive method	% of women experiencing a pregnancy within the first year of perfect use	% of women experiencing a pregnancy within the first year of typical use	% of women still using the method at the end of one year	% of sexually active Canadian women who are not trying to conceive using each method ¹⁷
I	IUC progesterone-releasing (IUS)	0.2	0.2	80	2
I	IUC copper-releasing (IUD)	0.6	0.8	78	2.3
I	Implant (Implanon)	0.05	0.05	84	0.1
I	Vasectomy	0.5	0.5	100	7.4
I	Tubal ligation	0.1	0.15	100	6.0
II	Progesterone injection (Depo-Provera)	0.2	6	56	2.4
II	Combined hormonal contraceptive (pill, patch or ring)	0.3	9	67	45.5
III	Diaphragm	6	12	57	0.2
III	Male condom	2	18	43	54.3
III	Female condom	5	21	41	0.3
III	Sponge, spermicide	9–20	12–28	36–42	0.8
III	Coitus interruptus (“withdrawal”)	4	22	46	11.6
III	Natural family planning	0.4–5	24	47	2.5
	No method	85	85		14.9*

Adapted from Table 3-2 in *Contraceptive Technology 2011*, 20th edition,³¹ with data from Black et al.¹⁷

Figures add to more than 100% because some women used more than one method.

*Different denominator from other figures in this column.

IUC: intrauterine contraceptive

FAMILY PLANNING IS MORE THAN CONTRACEPTION: FOSTERING A REPRODUCTIVE LIFE PLAN

Very frequently, health care providers approach contraceptive practice with a focus only on preventing pregnancy rather than on family planning in the broader context of a woman’s life. Assisting women to explore their plans for childbearing is an important part of family planning and contraceptive care. Women may be unaware, as they delay their first pregnancy, of the natural decline in fertility with advancing maternal age and the potential difficulties to achieve a planned pregnancy at an advanced age (Table 3)^{36–39} When providing contraception counselling, it is critical to determine plans for future pregnancies and to proactively counsel women about the significant decrease in fertility that occurs by the late 30s.^{39, 40} Family planning providers should address concerns about potential contraceptive effects on fertility and counsel on optimal reversible methods (including barrier contraception, as part of a “dual method” approach) that allow women to delay childbearing if that is what is desired.

Table 3. Effect of age on fertility³⁹

Age when beginning attempts to conceive, years	% of women remaining childless
20–24	6
25–29	9
30–34	15
35–39	30
40–44	64

Access to Contraception

There are a number of barriers that can prevent women from obtaining, initiating, and continuing their contraceptive method of choice.⁴¹ These include issues related to the individual user as well as wider system-related medical, financial, and regulatory barriers. Medical barriers include lack of appropriate counselling, delaying initiation of contraception for menses or unnecessary investigations, applying inappropriate contraindications, and lack of trained health care providers. System and structural barriers to equitable contraceptive access may

Table 4. Contraceptive methods covered under the NIHB Program

Method	Name
Male condoms	[Various]
Cu-IUD (Limited use: 1 device per 12 months)	Flexi-T IUD Liberte UT 380 short Liberte 380 standard Nova-T IUD Mona Lisa N Mona Lisa 5 Mona Lisa 10
Levonorgestrel IUS (Limited use: 1 unit every 2 years)	Mirena 52 mg insert Jaydess 13.5 mg unit
Depo-medroxyprogesterone acetate	
Combined hormonal contraceptive pills	
Progestin-only pill	Micronor
Vaginal contraceptive ring	Nuvaring
Transdermal contraceptive patch	Evra
Progestin-only EC	Plan B Norlevo Next Choice Option 2

involve health policies that do not include contraception subsidies, inefficient approval processes for new contraceptives, and limited scopes of practice of allied health professionals who, with adequate training, could help to provide contraceptive care.⁴¹ Canadian family planning health policies and services that support equitable contraception access equal to that of other nations are pending.⁴²⁻⁵³

Task-Sharing and Contraceptive Provision

There is significant potential to widely increase access to prescription contraceptives in a cost-efficient manner by expanding the scope of practice among a range of allied health professionals. Nurse practitioners and midwives currently prescribe contraception in many provinces in Canada. In some Canadian jurisdictions, nurse practitioner scope of practice includes IUD insertion. Although international evidence shows that IUD insertion may be appropriate within the scope of midwifery,⁵⁴⁻⁵⁷ for any health care professional such a practice requires enough training and maintenance of skill to ensure safety.⁵⁸ Both Quebec and British Columbia have instituted protocol-based contraception management by registered nurses allowing them to provide contraception⁵⁹⁻⁶³ and have been exploring potential for independent prescription by pharmacists or nurses.^{59,64,65} Depending on the community, pharmacists, nurse practitioners, nurses, and midwives may often be more accessible than physicians, particularly in rural and remote communities, and may offer

longer or more convenient patient contact hours. Such provincial initiatives should influence other Canadian health jurisdictions to consider expanded scope of practice and task-sharing in family planning.

Health Policy and Contraception Subsidy

Cost of contraception is an important barrier to equitably meeting women's contraceptive needs.⁶⁶⁻⁶⁸ In Canada, with only a few exceptions, the cost of the method is almost exclusively borne by the user or their private insurer, rather than by the health system. This is in contrast to health policies in the United Kingdom, United States, Australia, New Zealand and more than 11 European Union countries that provide universal subsidy for contraception and contraception services.⁴⁵⁻⁵⁰ There is increasing evidence that a universal contraception subsidy in developed nations is cost-effective for the health system due to savings incurred through avoidance of costs related to the management of unintended pregnancy.⁶⁸⁻⁷¹ A United States study indicated a health system savings of over \$7 for every dollar invested in contraception and contraception counselling.⁷² A 2014 analysis⁷³ of the effect of the LARC promotion efforts in the United Kingdom have estimated a first 5 years cost-savings to the health system in excess of predicted, in addition to baseline saving due to pre-existing contraception subsidy. A comparable study done in Canada showed that if 10% of oral contraceptive users switched to IUDs and used them for a minimum of 12 months, as much as \$12 million in health system costs could be saved annually.¹²

One challenge faced by Canadian health system decision makers in evaluating strategies such as a universal subsidy for contraception is the lack of a national indicator collection. The CCHS has historically collected intention for pregnancy and contraception data among 15- to 24-year olds and does not provide options on contraception questions regarding several modern methods. To effectively implement strategies that reduce the rate of unintended pregnancies and the need for abortion, regular data collection on pregnancy intention and the use/adherence of modern contraceptive methods among people throughout the reproductive age range is required.²¹ Collection of these indicators is part of the WHO's Millennium Development Goal 5.⁷⁴ Such data are currently collected in the United States,⁷⁵ Australia,⁷⁶ France,⁷⁷ and the United Kingdom.⁷⁸⁻⁸⁰

Some Canadians may qualify for financial assistance that provides coverage for various contraceptive methods. For example, the NIHB Program is a national program that provides coverage to registered First Nations and recognized Inuit for a limited range of medically necessary items and services that are not covered by other plans and programs. Most contraceptive options are covered under this program (Table 4).^{81,82}

Government- and Industry-Related Issues

Canadian women deserve access to all safe and effective contraceptive choices. Nevertheless, women in Canada have limited contraceptive choices compared to women in other developed countries. In 2004, Canadian women had access to only 35% of all contraceptive products available worldwide and to 37% of all hormonal contraceptives available worldwide, compared with 58% and 59%, respectively, in the United States; 52% and 54%, respectively, in the United Kingdom; 44% and 54%, respectively, in France; and 44% and 50%, respectively, in Sweden.⁸³ For example, the single rod contraceptive implant, a safe, effective, and cost-effective LARC method, is approved in over 85 countries but did not receive Health Canada approval. Although health policy and decision makers in many countries, including the United Kingdom, United States, Australia, and New Zealand, have encouraged both health professionals and the public to increase uptake of LARC methods due to their superior effectiveness and higher adherence rates, Canadian women still do not have access to contraceptive implants, one of the most effective LARC methods.^{47,49,83–87}

There are several possible reasons for the narrower range of contraceptive options in Canada. It may be due to a lack of drug applications by manufacturers, to non-conformity of applications related to Health Canada's extensive requirements, or to processes within Health Canada that delay approval of contraceptives. Approval for contraceptives in Canada takes more than 2 years longer than approvals for new agents in other drug classes.⁸³ In this environment, sponsors may not submit applications for new hormonal contraception when there appears to be a significant delay or low chance of successful approval, particularly if Canada is perceived to be a small market. Canadian health policy makers should consider a proactive process whereby an application for important products regarding reproductive health could be invited from prospective manufacturer applicants as happened in France in 1988 when the French government declared mifepristone to be "the moral property of women".⁸⁸

SUMMARY

Effective contraception is underutilized in Canada, particularly among vulnerable populations, and Canadians' choice of contraceptive methods is narrow. Health care providers can guide women to understand the best evidence on the range of contraception methods available and the effectiveness of each method in typical use. Women require access to a wide range of contraception choices, as the method selected must be acceptable in the context of their

priorities, values, culture, and relationships. Clinicians can assist women to choose, and use, appropriate methods to meet their individual and family reproductive goals within the context of their lives.

Both health professionals and health policy makers can contribute to improving access to high quality knowledge, services, and the full range of contraceptive methods to ensure that all Canadians are equally able to plan and space their pregnancies and to achieve their reproductive goals. Health policy makers can address equitable access to contraception through: subsidies for contraceptive methods; a review of Health Canada processes and policies to ensure a wide range of modern contraceptive methods are available to Canadian women; and task-shifting that increases the scope of practice of various health care professionals thereby allowing women to access prescription contraceptive methods from a range of health professionals (e.g., nurses, nurse practitioners, and pharmacists). Health professionals should provide proactive, evidence-based, accurate information and avoid creating medical barriers to contraceptive access.

Summary Statements

1. Canadian women spend a significant portion of their lives at risk of an unintended pregnancy. (II-2)
2. Effective contraceptive methods are underutilized in Canada, particularly among vulnerable populations. (II-2)
3. Long-acting reversible contraceptive methods, including contraceptive implants and intrauterine contraception (copper-releasing and levonorgestrel-releasing devices/systems), are the most effective reversible contraceptive methods and have the highest continuation rates. (II-1)
4. Canada currently does not collect reliable data to determine the use of contraceptive methods, abortion rates, and the prevalence of unintended pregnancy among reproductive-age women. (II-2)
5. A universal subsidy for contraceptive methods as provided by many of Canada's peer nations and a few Canadian provinces may produce health system cost-savings. (II-2)
6. Health Canada approval processes for contraceptives have been less efficient than those of other drug approval agencies and Health Canada processes for other classes of pharmaceuticals. (II-2)
7. It is feasible and safe for contraceptives and family planning services to be provided by appropriately trained allied health professionals such as midwives, registered nurses, nurse practitioners, and pharmacists. (II-2)

Recommendations

1. Contraceptive counselling should include a discussion of typical use failure rates and the importance of using the contraceptive method consistently and correctly in order to avoid pregnancy. (II-2A)
2. Women seeking contraception should be counselled on the wide range of effective methods of contraception available, including long-acting reversible contraceptive methods (LARCs). LARCs are the most effective methods of reversible contraception, have high continuation rates, and should be considered when presenting contraceptive options to any woman of reproductive age. (II-2A)
3. Family planning counselling should include counselling on the decline of fertility associated with increasing female age. (III-A)
4. Health policy supporting a universal contraception subsidy and strategies to promote the uptake of highly effective methods as cost-saving measures that improve health and health equity should be considered by Canadian health decision makers. (III-B)
5. Canadian health jurisdictions should consider expanding the scope of practice of other trained professionals such as nurses, nurse practitioners, midwives, and pharmacists and promoting task-sharing in family planning. (II-2B)
6. The Canadian Community Health Survey should include adequate reproductive health indicators in order for health care providers and policy makers to make appropriate decisions regarding reproductive health policies and services in Canada. (III-B)
7. Health Canada processes and policies should be reviewed to ensure a wide range of modern contraceptive methods are available to Canadian women. (III-B)

REFERENCES

1. Canadian Public Health Association. 12 great achievements in public health: family planning. Ottawa (ON): CPHA; 2015. Available at: <http://www.cpha.ca/en/programs/history/achievements.aspx>. Accessed on May 19, 2014.
2. Sonfield A, Hasstedt K, Kavanaugh ML, Anderson R. The social and economic benefits of women's ability to determine whether and when to have children. New York (NY): Guttmacher Institute; 2013. Available at: <http://www.guttmacher.org/pubs/social-economic-benefits.pdf>. Accessed on June 25, 2015.
3. Singh S, Darroch JE, Ashford LS, Vlassoff M; UN Population Fund. Adding it up: the costs and benefits of investing in family planning and maternal and newborn health. New York (NY): Guttmacher Institute and United Nations Population Fund; 2009.
4. Carr B, Gates MF, Mitchell A, Shah R. Giving women the power to plan their families. *Lancet* 2012;380(9837):80–2.
5. Ananat EO, Hungerman DM. The power of the pill for the next generation: oral contraception's effects on fertility, abortion, and maternal and child characteristics. *Rev Econ Stat* 2012;94:37–51.
6. Fletcher JM, Wolfe BL. Education and labor market consequences of teenage childbearing. *J Hum Resour* 2009;44:303–25.
7. Loughran DS, Zissimopoulos JM. Why wait? The effect of marriage and childbearing on the wages of men and women. *J Hum Resour* 2009;44:326–49.
8. World Health Organization. Unmet need for family planning. Sexual and reproductive health. Geneva (CH): WHO; 2013. Available at: http://www.who.int/reproductivehealth/topics/family_planning/unmet_need_fp/en. Accessed on June 25, 2015.
9. Statistics Canada. Total fertility rate, by province and territory 2007–2011. CANSIM, table 102-4505. Ottawa (ON): Statistics Canada; 2013. Available at: <http://www.statcan.gc.ca/tables-tableaux/sum-som/101/cst01/hlth85b-eng.htm>. Accessed on June 25, 2015.
10. Statistics Canada. Fertility: overview 2009 to 2011. Component of Statistics Canada Catalogue no. 91-209-X. Report on the demographic situation in Canada. Ottawa (ON): Statistics Canada; 2013. Available at: <http://www.statcan.gc.ca/pub/91-209-x/2013001/article/11784-eng.pdf>. Accessed on June 25, 2015.
11. Norman WV. Induced abortion in Canada 1974–2005: trends over the first generation with legal access. *Contraception* 2012;85:185–91.
12. Black A, Guilbert E, Hassan F, Chatzitheoflou I, Lowin J, Jeddi M, et al. Cost of unintended pregnancies and the impact of increased use of long-acting reversible contraceptives in Canada: estimating direct cost, role of imperfect adherence, and the potential impact of increased use of long-acting reversible contraceptives. *J Obstet Gynaecol Can* 2015 (in press).
13. Statistics Canada. Crude birth rate, age-specific and total fertility rates (live births), Canada, provinces and territories annual (rate) Table 102-4505. Ottawa (ON): Statistics Canada; 2013. Available at: <http://www5.statcan.gc.ca/cansim/a29?lang=eng&groupid=101&p2=17#n102>. Accessed on June 25, 2015.
14. Statistics Canada. Selected pregnancy outcomes statistics, by age group and place of residence for females, Canada, 1996–2005. Ottawa (ON): Statistics Canada; 2005. Available at: <http://www.statcan.gc.ca/pub/82-224-x/2005000/5802971-eng.pdf>. Accessed on June 25, 2015.
15. McKay A, Barrett M. Trends in teen pregnancy rates from 1996–2006: a comparison of Canada, Sweden, U.S.A., and England/Wales. *Can J Hum Sex* 2010;19:43–52.
16. Canadian Institute for Health Information. Number of abortions reported in 2012, by province/territory of hospital or clinic. Ottawa (ON): CIHI; [date unknown]. Available at: http://www.cihi.ca/cihi-ext-portal/pdf/internet/ta_11_alldatatables20140221_en. Accessed on June 25, 2015.
17. Black A, Wang Q, Wen SW, Lalonde A, Guilbert E, Fisher W. Contraceptive use among Canadian women of reproductive age: results of a national survey. *J Obstet Gynaecol Can* 2009;31:627–40.
18. Fisher W, Boroditsky R, Morris B. The 2002 Canadian Contraception Study: part 1. *J Obstet Gynaecol Can* 2004;26:580–90.
19. Fisher W, Boroditsky R, Morris B. The 2002 Canadian Contraception Study: part 2. *J Obstet Gynaecol Can* 2004;26:646–56.
20. Boroditsky R, Fisher W, Sand M. The Canadian Contraception Study. *J Obstet Gynaecol* 1995:1–28.
21. Statistics Canada. Canadian Community Health Survey (CCHS) – annual component. Ottawa (ON): Statistics Canada; 2011. Available at: http://www23.statcan.gc.ca/imdb-bmdi/document/3226_D7_T9_V8-eng.htm. Accessed on June 25, 2015.

22. Norman WV, Leung VWY, Nuernberger K, Dunn S, Soon J. Sexually active youth in Canada: regional variations in pregnancy risk, from the 2009-2010 Canadian Community Health Survey. *Contraception* 2013;88:44.
23. Norman WV, Leung VWY, Soon JA, Nuernberger K, Dunn S. Contraception use in Canada: relationship between socio-economic factors and method use in the 2009-2010 Canadian Community Health Survey. Presentation at the North American Primary Care Research Group Annual Meeting, Ottawa Nov 2013. Available at: <http://www.napcrg.org/Conferences/AnnualMeeting/MeetingAbstracts/2013AnnualMeeting?SID=7322>. Accessed on June 25, 2015.
24. Norman WV, Brooks M, Brant R, Soon JA, Majdzadeh A, Kaczorowski J. What proportion of Canadian women will accept an intrauterine contraceptive at the time of second trimester abortion? Baseline data from a randomized controlled trial. *J Obstet Gynaecol Can* 2014;36:51-9.
25. Dunn S, Wise MR, Johnson LM, Anderson G, Ferris LE, Yeritsyan N, et al. Reproductive and gynaecological health. In: Bierman AS, ed. Project for an Ontario women's health evidence-based report, vol 2. Toronto (ON): Li Ka Shing Knowledge Institute; 2011. Available at: <http://powerstudy.ca/power-report/volume2/reproductive-gynaecological-health>. Accessed on Feb 8, 2014.
26. Aptekman M, Rashid M, Wright V, Dunn S. Unmet contraceptive needs among refugees. *Can Fam Physician* 2014;60:e613-9.
27. Wiebe E. Contraceptive practices and attitudes among immigrant and nonimmigrant women in Canada. *Can Fam Physician* 2013;59:e451-5.
28. Wilson K, Asbridge M, Kisely S, Langille D. Associations of risk of depression with sexual risk taking among adolescents in Nova Scotia high schools. *Can J Psychiatry* 2010;55:577-85.
29. Trussell J. Contraceptive failure in the United States. *Contraception* 2011;83:397-404.
30. Hatcher RA, Trussell J, Nelson AL, Cates W, Kowal D, Policar MS, et al. Contraceptive technology. 20th ed. Chart: comparing effectiveness of contraceptive methods. San Francisco (CA): Ardent Press; 2013. Available at: <http://www.contraceptivetechnology.com/table.html>. Accessed on June 25, 2015.
31. Pariani S, Heer DM, Van Arsdol MD. Does choice make a difference to contraceptive use? Evidence from East Java. *Stud Fam Plann* 1991;22:384-90.
32. Coleman C, Kurtz-Rossi S, McKinney J, Pleasant A, Rootman I, Shohet L. The Calgary Charter on Health Literacy: rationale and core principles for the development of health literacy curricula. Montreal (QC): The Centre for Literacy; 2011. Available at: http://www.centreforliteracy.qc.ca/sites/default/files/CFL_Calgary_Charter_2011.pdf. Accessed on June 25, 2015.
33. Centers for Disease Control and Prevention. U.S. medical eligibility criteria for contraceptive use, 2010. *MMWR* 2010;59(RR-4):1-86.
34. Centers for Disease Control and Prevention. U.S. Selected practice recommendations for contraceptive use, 2013. *MMWR* 2013;62(RR-05):1-60.
35. Health Canada. Drug product database. Ottawa (ON): Health Canada; 2013. Available at: <http://www.hc-sc.gc.ca/dhp-mps/prodpharma/databasdon/index-eng.php>. Accessed on June 25, 2015.
36. Lundsberg LS, Pal L, Garipey AM, Xu X, Chu MC, Illuzzi JL. Knowledge, attitudes, and practices regarding conception and fertility: a population-based survey among reproductive-age United States women. *Fertil Steril* 2014;101:767-74.
37. Eijkemans MJ, van Poppel F, Habbema DF, Smith KR, Leridon H, Te Velde ER. Too old to have children? Lessons from natural fertility populations. *Hum Reprod* 2014;29:1304-12.
38. Menken J, Trussell J, Larsen U. Age and infertility. *Science* 1986;233:1389-94.
39. Eisenberg E. Time is of essence: personalized prediction of reproductive time span to optimize life goals. *Menopause* 2013;21:100-2.
40. Stern J, Larsson M, Kristiansson P, Tydén T. Introducing reproductive life plan-based information in contraceptive counselling: an RCT. *Hum Reprod* 2013;28:2450-61.
41. Leeman L. Medical barriers to effective contraception. *Obstet Gynecol Clin North Am* 2007;34:19-29.
42. Kendall P. The health and well-being of women in British Columbia. Provincial Health Officer's Annual Report 2008. Victoria (BC): Ministry of Health; 2011. Available at: <http://www.health.gov.bc.ca/pho/pdf/phoannual2008.pdf>. Accessed on June 25, 2015.
43. Public Health Agency of Canada. Chapter 3: risky sexual behaviours. In: The Chief Public Health Officer's Report on the State of Public Health in Canada, 2011. Ottawa (ON): PHAC; 2014. Available at: <http://www.phac-aspc.gc.ca/cphosphpc-respacsp/2011/index-eng.php>. Accessed on June 25, 2015.
44. Norman WV, Dunn S, Guilbert E, Soon J, Hutchinson P. Developing a National Family Planning Health Services Research Program: opportunities and priorities identified through stakeholder and expert consultations. Vancouver (BC): Women's Health Research Institute; 2012. Available at: http://www.whri.org/our-research/documents/CART-GRAC_v4-2012-03-08.pdf. Accessed on June 25, 2015.
45. Government of the United States, Assistant Secretary for Planning and Evaluation. ASPE issue brief: the cost of covering contraceptives through health insurance. Washington (DC): Department of Health & Human Services; 2012. Available at: <http://aspe.hhs.gov/health/reports/2012/contraceptives/ib.shtml>. Accessed on June 25, 2015.
46. Government of Australia. Schedule of pharmaceutical benefits. Pharmaceutical benefits scheme (PBS). Canberra (AU): Government of Australia; 2013. Available at: <http://www.pbs.gov.au/browse/publications>. Accessed on June 25, 2015.
47. Government of New Zealand. Ministry of Social Development. Financial support for access to contraception. Wellington (NZ): Government of New Zealand; 2012. Available at: <http://www.msd.govt.nz/about-msd-and-our-work/newsroom/factsheets/budget/2012/contraception.html>. Accessed on June 25, 2015.
48. Government of New Zealand. Work and income factsheet for New Zealand. Wellington (NZ): Government of New Zealand; 2012. Special needs grant. Long-acting reversible contraception. Available at: <http://www.workandincome.govt.nz/documents/sng-contraception-oct-factsheet.pdf>. Accessed on June 25, 2015.
49. National Collaborating Centre for Women's and Children's Health. Long-acting reversible contraception: the effective and appropriate use of long-acting reversible contraception. Commissioned by the National Institute for Health and Care Excellence. London (GB): Press; 2005. Available at: <http://www.nice.org.uk/CG30>. Accessed on June 25, 2015.
50. Center for Reproductive Rights. Fact sheet—European standards on subsidizing contraception. Center for Reproductive Rights. New York (NY): Center for Reproductive Rights; 2009. Available at: http://reproductiverights.org/sites/cr.civicactions.net/files/documents/pub_fac_slovak_european%20standards_9%2008_WEB.pdf. Accessed on June 25, 2015.
51. Buhling KJ, Zite NB, Lotke P, Black K; for the INTRA Writing Group. Worldwide use of intrauterine contraception: a review. *Contraception* 2014;89:162-73.
52. Alkema L, Kantorova V, Menozzi C, Biddlecom A. National, regional, and global rates and trends in contraceptive prevalence and unmet need for family planning between 1990 and 2015: a systematic and comprehensive analysis. *Lancet* 2013;381:1642-52.
53. Sedgh G, Singh S, Shah IH, Ahman E, Henshaw SK, Bahkole A. Induced abortion: incidence and trends worldwide from 1995 to 2008. *Lancet* 2012;379:625-32.
54. Farr G, Rivera R, Amatyra R. Non-physician insertion of IUDs: clinical outcomes among TCu380A insertions in three developing-country clinics. *Adv Contracept* 1998;14:45-57.

55. Aziz FA, Osman AA. Safety of intrauterine device insertion by trained nurse-midwives in the Sudan. *Adv Contracept* 1999;15:9–14.
56. Lassner KJ, Chen CHC, Kropsch LAJ, Oberle MW, Lopes IMN, Morris L. Comparative study of safety and efficacy of IUD insertions by physicians and nursing personnel in Brazil. *Bull Pan Am Health Organ* 1995;29:206–15.
57. Eren N, Ramos R, Gray RH. Physicians vs. auxiliary nurse-midwives as providers of IUD services: a study in Turkey and the Philippines. *Stud Fam Plann* 1983;14:43–7.
58. Harrison-Woolrych M, Ashton J, Coulter D. Uterine perforation on intrauterine insertion: is the incidence higher than previously reported? *Contraception* 2003;16:53–6.
59. Guilbert ER, Robitaille J, Guilbert AC, Morin D, the Group of Experts in Family Planning of the National Institute of Public Health of Quebec. Challenges of implementing task-shifting in contraceptive care—an experience in Quebec, Canada. *Contraception* 2013;88:587–90.
60. College of Registered Nurses of British Columbia. Introduction to contraceptive management certified practice. Vancouver (BC): CRNBC; 2013. Available at: <https://www.crnbc.ca/Standards/CertifiedPractice/ContraceptiveMgmt/Pages/Default.aspx#overview>. Accessed on June 25, 2015.
61. College of Registered Nurses of British Columbia. Decision support tools for contraceptive management. Vancouver (BC): CRNBC. 2012. Document 691: Contraceptive management: assessment. Available at: <https://www.crnbc.ca/Standards/CertifiedPractice/Documents/ReproductiveHealth/691ContraceptiveMgtAssessmentDST.pdf>. Accessed on June 25, 2015.
62. College of Registered Nurses of BC. Decision support tools for contraceptive management. CRNBC. 2012. Document 717: Combined hormonal contraceptives (CHCs). Available at: <https://www.crnbc.ca/Standards/CertifiedPractice/Documents/ReproductiveHealth/717CombinedHormonalContraceptiveDST.pdf>. Accessed on June 25, 2015.
63. College of Registered Nurses of BC. Decision support tools for contraceptive management. CRNBC. 2012. Document 718: Progestin-only hormonal contraceptives (POHCs). Available at: <https://www.crnbc.ca/Standards/CertifiedPractice/Documents/ReproductiveHealth/718ProgestinonlyHormonalContraceptiveDST.pdf>. Accessed on June 25, 2015.
64. Norman WV, Wong M, Soon JA, Zed PJ. Do rural pharmacists in British Columbia find independent prescribing of hormonal contraceptive feasible and acceptable? The “ACT-Pharm” Study. *Contraception* 2013;88:46.
65. Wong M, Soon JA, Zed PJ, Norman WV. Development of a survey to assess the acceptability of an innovative contraception practice among rural pharmacists. *Pharmacy*. 2014; 2:124–36.
66. Cleland K, Peipert JF, Westhoff C, Spear S, Trussell J. Family planning as a cost-saving preventive health service. *N Engl J Med* 2011;364:e37.
67. Peipert JF, Madden T, Allsworth JE, Secura GM. Preventing unintended pregnancies by providing no-cost contraception. *Obstet Gynecol* 2012;120:1291–7.
68. Trussell J, Lalla AM, Doan QV, Reyes E, Pinto L, Gricar J. Cost effectiveness of contraceptives in the United States. *Contraception* 2009;79:5–14.
69. Mavranezouli I; LARC Guideline Development Group. The cost-effectiveness of long-acting reversible contraceptive methods in the UK: analysis based on a decision-analytic model developed for a National Institute for Health and Clinical Excellence (NICE) clinical practice guideline. *Hum Reprod* 2008;23:1338–45.
70. Foster DG, Biggs MA, Malvin J, Bradsberry M, Darney P, Brindis CD. Cost-savings from the provision of specific contraceptive methods in 2009. *Womens Health Issues*. 2013;23:e265–71.
71. Burlone S, Edelman AB, Caughey AB, Trussell J, Dantas S, Rodriguez MI. Extending contraceptive coverage under the Affordable Care Act saves public funds. *Contraception* 2013;87:143–8.
72. Frost JJ, Sonfield A, Zolna MR, Finer LB. Return on investment: a fuller assessment of the US publicly funded family planning program. *Milbank Q* 2014;92:696–749.
73. Cook L, Fleming C. What is the actual cost of providing the intrauterine system for contraception in a UK community sexual and reproductive health setting? *J Fam Plann Reprod Health Care* 2014;40:46–53.
74. World Health Organization. Universal access to reproductive health: accelerated actions to enhance progress on Millennium Development Goal 5 through advancing Target 5B. Geneva (CH): WHO; 2011. WHO publication reference number: WHO/RHR/HRP/11.02 Available at: http://whqlibdoc.who.int/hq/2011/WHO_RHR_HRP_11.02_eng.pdf?ua=1. Accessed on June 25, 2015.
75. Centers for Disease Control and Prevention. National survey of family growth. Atlanta (GA): CDC; 2015. Available at: <http://www.cdc.gov/nchs/nsfg.htm>. Accessed on June 25, 2015.
76. Smith A, Richters J, Rissel C, de Visser R, Simpson J, Grulich A, et al. Australian Study of Health and Relationships. Sydney (AU): UNSW Australia; 2013. Available at: <http://www.ashr.edu.au>. Accessed on June 25, 2015.
77. L'Institut national d'études démographiques. FECOND “Fecondité-Contraception-Dysfonctions sexuelles”. Paris (FR): INED; 2015. Available at: http://www.ined.fr/fr/recherches_cours/projets_recherche/projets_phares/bdd/projet/P1419. Accessed on June 25, 2015.
78. University College London. The National Survey of Sexual Attitudes and Lifestyles. London (GB): NATSAL; 2015. Available at: <http://www.natsal.ac.uk>. Accessed on June 25, 2015.
79. Wellings K, Jones KG, Mercer CH, Tanton C, Clifton S, Datta J, et al. The prevalence of unplanned pregnancy and associated factors in Britain: findings from the third National Survey of Sexual Attitudes and Lifestyles (Natsal-3). *Lancet* 2013;382:1807–16.
80. Siva N. Studying sexual health in the UK. *Lancet* 2013;382:1770–2.
81. First Nations and Inuit Health Branch. Non-insured health benefits. Drug benefit list 2014. Ottawa (ON): Health Canada; 2014. Available at: http://www.hc-sc.gc.ca/fniah-spnia/alt_formats/pdf/nihb-ssna/provide-fournir/pharma-prod/med-list/list_drug_med_2014-eng.pdf. Accessed on June 25, 2015.
82. First Nations and Inuit Health Branch. Update to the drug benefit list, spring 2015. Ottawa (ON): Health Canada; 2015. Available at: http://www.hc-sc.gc.ca/fniah-spnia/pubs/nihb-ssna/_drug-med/2015-spring-printemps/index-eng.php. Accessed on June 25, 2015.
83. Azzarello D, Collins J. Canadian access to hormonal contraceptive drug choices. *J Obstet Gynaecol Can* 2004;26:489–500.
84. Trussell J, Henry N, Hassan F, Prezioso A, Law A, Filonenko A. Burden of unintended pregnancy in the United States: potential savings with increased use of long-acting reversible contraception. *Contraception* 2013;87:154–61.
85. Mazza D, Harrison C, Taft A, Brijnath B, Britt H, Hobbs M, et al. Current contraceptive management in Australian general practice: an analysis of BEACH data. *Med J Aust*; 2012;197(2):110–4.
86. Sexual Health & Family Planning Association. Statement on LARCs. Oct 2013. Available at: <http://www.fpq.com.au/pdf/LARCstatementSHFPFINAL.pdf>. Accessed on June 25, 2015.
87. Winner B, Peipert JF, Zhao Q, Buckel C, Madden T, Allsworth JE, et al. Effectiveness of long-acting reversible contraception. *N Engl J Med* 2012;366:1998–2007.
88. Pollitt K. The moral property of women. *The Nation*. July 10, 2000. Available at: <http://www.thenation.com/article/moral-property-women>. Accessed on June 25, 2015.