Submission for Reclassification of Selected Oral Contraceptives

Executive Summary

Oral contraceptives are one of the most used, most studied, and most effective medicines in use today. Oral contraceptives provide protection against unintended pregnancy, with a side effect profile that is consistent with non-prescription availability.[1] While these medicines are prescription-only in Western countries, some pharmacist-supplies occur without a doctor's prescription in the United States (US), United Kingdom (UK) and Australia. In some US states, community pharmacists supply oral contraceptives directly to women without a doctor's prescription, either continuing the woman's current therapy or initiating therapy under collaborative practice agreements.[2] In the UK, patient group directions (PGD) are available for community pharmacists to provide oral contraceptives without a doctor's prescription.[3] Australia has a continuation supply provision.[4]

There is a growing call internationally to remove the prescription requirement to access oral contraceptives,[5-13] a requirement that has been described by an obstetrician and gynaecologist in the US as *"an out-of-date, paternalistic barrier to contraceptive use that's not evidence-based."*[14] Oral contraceptives are rarely associated with serious side effects,[13] including in New Zealand (NZ),[15] do not need a medical examination to be provided,[13] and can be safely provided with pharmacist screening.[2,16] Consumer research shows women in the US[7,17] and NZ[18] want non-prescription access to oral contraceptives.

This application requests a reclassification of selected oral contraceptives to allow supply without prescription by pharmacists who have successfully completed an approved training course, have become accredited, and are complying with approved guidelines. Pharmacist-supply provides greater accessibility and convenience to women, particularly through increased opening hours, convenient locations and having a walk-in service without appointment. Reclassification means that when a woman runs out of her tablets she can pick them up without a prescription and does not risk missing tablets. Reclassification may reduce the barriers to starting the oral contraceptive. Therefore, reclassification has the potential to reduce unintended pregnancies, providing significant public health benefit. Non-prescription availability may also reduce the misconceptions about the oral contraceptive that lead some women to use less effective means of contraception, or sometimes no contraception.[19,20] This more reasonable view of oral contraception risk by consumers should flow over into prescription use, encouraging continuing use. Reclassification would improve access to ongoing contraception in women obtaining the Emergency Contraceptive Pill (ECP) from pharmacy.

While women have been found able to self-assess their appropriateness for oral contraceptives,[21-23] we are providing the safeguard of supply by especially trained pharmacists. A comprehensive screening tool will be used, and blood pressure will be measured at each supply, with records kept. We have strict criteria for supply to identify women at very low risk of serious adverse effects with these medicines. We suggest a minimum age of 16 years and a maximum of 39 years, with referral on identification of risk

factors as per the World Health Organisation (WHO) Medical Eligibility Criteria for Contraceptive Use (4th Ed, 2009). Pharmacists currently triage consumers every day to other primary care providers and this would be no different. Pharmacists will provide advice about how to take the medicine, advice about appropriate health screening (e.g. cervical smear tests and sexually transmitted infections), and be readily available for follow-up queries. With patient consent, the pharmacist will advise the woman's general practitioner. Only selected contraceptives would be reclassified – the progestogen-only pills, levonorgestrel, norethisterone, and desogestrel, and the second-generation combined oral contraceptives (containing ethinylestradiol in combination with levonorgestrel or norethisterone). Given the higher risk of venous thrombosis, pharmacist-supply would exclude third generation contraceptives, the vaginal ring, and the ethinylestradiol-cyproterone combination.[24,25] With screening and strict criteria for pharmacist-supply, only women who are low risk – for whom the benefit clearly outweighs the risk no matter which health professional screens them – will receive pharmacist-supplied oral contraceptives.

Internationally and in NZ, pharmacists have been increasingly moving into clinical services and other areas. Their training has changed considerably in the past 50 years. Reclassification of medicines from prescription to non-prescription has been happening around the world. This movement reflects a shift from physician-centred to patient-centred care, the increasing levels of education of consumers, the role of various health professionals, and the practicalities of an ageing population and limited health resource.[26] In some countries, particularly the UK, self-management is encouraged.[27]

In line with the international movement to safely allow consumer access to medicines through non-prescription availability where appropriate, we have developed a comprehensive pharmacy process for provision of oral contraceptives. This process includes thorough screening, record-keeping, advice, availability for follow-up questions, notification to the patient's GP (with consent), and reporting of adverse events to the GP and the Centre for Adverse Reactions Monitoring (CARM). The pharmacist supply will use a private consultation area as they do currently when providing a number of other services including INR, trimethoprim and vaccinations.

Pharmacists are keen to contribute further to public health in NZ and they are being encouraged in this endeavour through the current Community Pharmacy Services Agreement. The NZ pharmacist attitude is consistent with pharmacists' increasing role in public health delivery internationally.[28]

Part A

Note: Throughout this application the terms OC refers to oral contraceptives, POP refers to progestogen-only contraceptives, and COC to combined oral contraceptives (i.e. containing an oestrogen and a progestogen).

1. **International Non-proprietary Name (or British Approved Name or US Adopted Name) of the medicine**

Combined oral contraceptives (COC)

Ethinylestradiol with norethisterone

Ethinylestradiol with levonorgestrel

Progestogen only pills (POP)

Norethisterone

Levonorgestrel

Desogestrel

2. **Proprietary name(s)**

	Funded	**Unfunded but have datasheets on Medsafe website**
Combined oral contraceptive		
Ethinylestradiol 35 µg with norethisterone 500 µg	Brevinor, Norimin	
Ethinylestradiol 35 µg with norethisterone 1 mg	Brevinor 1	
Ethinylestradiol 30 µg with levonorgestrel 150 µg	Ava 30	Levlen, Microgynon 30, Monofeme*, Roxanne 30/150*, Nordette*
Ethinylestradiol 20 µg with levonorgestrel 100 µg	Ava 20	Microgynon 20, Roxanne 20/100*, Loette*
Progestogen only pill		
Norethisterone 350 µg	Noriday	
Levonorgestrel 30 µg		Microlut
Desogestrel 75 µg		Cerazette

*Not stocked with ProPharma, probably discontinued or never marketed

3. Name of company/organisation/individual requesting reclassification

Pharmacybrands Ltd and Pharma Projects Ltd. Pharmacybrands is the parent company for Life, Unichem, Amcal, Radius and Care Chemist Pharmacies in New Zealand (NZ). In line with other reclassifications, this reclassification will allow pharmacists in NZ who meet the criteria to supply oral contraception. This includes those in Pharmacybrands stores and those in other pharmacies.

4. Dose form(s) and strength(s) for which a change is sought

Dose form: Tablets.

The strength would only be specified for ethinylestradiol as ≤35 µg because higher doses are available for contraception that we consider should only be prescribed by an authorised prescriber.

5. Pack size and other qualifications

Oral contraceptives typically come in 3 month packs. There would be no pack size qualifications. The guidelines would limit pharmacist-supply to no more than 6 months' supply. Women initiating the COC will be supplied with 3 months' supply to allow a BP check at the 3 month interval.

There are no other qualifications other than what is stated below: the need for the pharmacist to be "accredited" following training and assessment; the need for use in contraception only; and the need to supply only in accordance with the approved protocol for supply.

6. Indications for which change is sought

Oral contraception. Note, this excludes supplies in which the primary reason for supply is for non-contraceptive reasons.

7. Present classification of medicine

Levonorgestrel has the following classification:

Prescription: except when specified elsewhere in this schedule; except in medicines for use as emergency post-coital contraception when sold by nurses recognised by their professional body as having competency in the field of sexual and reproductive health

Restricted: in medicines for use as emergency post-coital contraception when in packs containing not more than 1.5 milligrams except when sold by nurses recognised by their professional body as having competency in the field of sexual and reproductive health

Ethinylestradiol, norethisterone, and desogestrel are prescription medicines

8. Classification sought

Ethinylestradiol	Restricted medicine when supplied at a strength of 35 µg or less in combination with levonorgestrel or norethisterone for oral contraception by a pharmacist accredited to supply oral contraception, in accordance with the approved protocol for supply
Levonorgestrel	Restricted medicine when supplied for oral contraception by a pharmacist accredited to supply oral contraception, in accordance with the approved protocol for supply, or in medicines for use as emergency post-coital contraception when in packs containing not more than 1.5 milligrams except when sold by nurses recognised by their professional body as having competency in the field of sexual and reproductive health
Norethisterone	Restricted medicine when supplied for oral contraception by a pharmacist accredited to supply oral contraception, in accordance with the approved protocol for supply
Desogestrel	Restricted medicine when not in combination and when supplied for oral contraception by a pharmacist accredited to supply oral contraception, in accordance with the approved protocol for supply

The Pharmacy Council Protocol for the Sale and Supply of Pharmacist Only Medicines for Chronic conditions would also apply to the pharmacist supply of oral contraceptives. This protocol includes:

- Face-to-face consultations when possible unless due to disability or geographical isolation within NZ this is impractical
- No pharmacist-supply to patients who reside outside of NZ unless a face-to-face consultation occurs
- A requirement to exercise professional judgement to prevent the supply of medicines that are unnecessary or in excess to the patient's needs
- Electronic record-keeping of the supply of the medicine as for a prescription medicine, including directions for use
- Follow-up information is collected and added to the patient's record
- Other health practitioners caring for the patient are referred to or consulted with if necessary and with the patient's permission

9. Classification status in other countries (especially Australia, UK, USA, Canada)

The oral contraceptive is a prescription medicine in Australia, the UK, USA and Canada. However, pharmacist-supply of oral contraceptives occurs in at least three of these countries as outlined below.

Over 40 US states allow collaborative practice agreements. In such agreements a pharmacist can modify or continue a medication or class of medicines according to a protocol or guideline prepared by a pharmacist or prescriber, and the state regulations.[29] In 11 states, regulations extend further to allow initiation of hormonal contraceptives through collaborative practice agreements. A study of pharmacist-supply of oral contraceptives using this technique occurred in Seattle[16] – see Part B question 10 in the application for more details. Continuation of supply may sometimes occur, e.g. with continuing depot medroxyprogesterone in pharmacies.[30]

In California, new legislation effective 1 January 2014 has expanded the role of the pharmacist widening the range of vaccinations they can give, and allowing them to supply oral contraceptives without a doctor's prescription or collaborative agreement.[31] This legislation removes the need for a collaborative agreement with a prescriber.

The FDA non-prescription drug scheduling advisory committee has not considered a reclassification of an COC or POP,[32] presumably because no company has formally applied for this. Reasons behind this may include loss of medicine reimbursement on reclassification, and concerns about backlash from the religious right.[26]

In Australia, from 1 September 2013, a Continued Dispensing initiative allows pharmacists to supply oral hormonal contraceptives when the following requirements are met:[4]

- the medicine requested is listed in the relevant legislation as eligible for supply under continued dispensing
- there is an immediate need for the medicine and the consumer can't get to a prescriber
- the medicine has been prescribed before
- the consumer's therapy is stable
- there has been prior clinical review by the prescriber that supports continuation of the medicine
- there is an ongoing need for the medicine, and
- the medicine is safe and appropriate for the consumer.

Continued Dispensing has so far rolled out in all Australian jurisdictions except Queensland and Northern Territory (personal communication, Pharmaceutical Society of Australia, 23 Jan 2014). The Pharmaceutical Society of Australia has developed guidelines which must be complied with in the supply which include:

- Continued dispensing can only be used once in a 12-month period per customer and per medicine.
- Prescribing medicine will continue to be the responsibility of the patient's doctor or alternative authorised prescriber.
- The pharmacist must tell the most recent prescriber in writing, within 24 hours, that the medicine has been supplied.
- Pharmacies must have internal policies and procedures that outline record keeping requirements for supplying medicines under this initiative.

In Canada, literature reports that the Collaborative Agreement in Hormonal Contraception (CAHC) allows especially trained nurses and pharmacists to initiate women on hormonal contraception for up to 12 months without a medical consultation.[33] To be enacted, it has to be adopted by local health organisations, who may modify the agreement. At time of submitting this application no further information was available on the pharmacist's role.

Countries in which oral contraceptives are legally available without prescription with screening required include South Africa, Vietnam, Malaysia and Jamaica.[8] Countries in which oral contraceptives are legally available without prescription and with no screening required include Greece, Kuwait, South Korea, Thailand, Egypt, Bosnia and Herzegovina, and Hong Kong. In Lebanon, Mexico, Palestine, Portugal, Indonesia, Slovenia, Macedonia, Brazil, Argentina, Morocco, Turkey, and many other countries the oral contraceptive is informally available without prescription.

In Jamaica, from 1974 to 1993 an oral contraceptive was available with cashiers and shopkeepers trained to screen women for contraindications.[34] In the late 1990s, supply became only through a pharmacist and only of approved low-dose oral contraceptives, with certain requirements of the pharmacist.

10. Extent of usage in New Zealand and elsewhere (e.g. sales volumes) and dates of original consent to distribute

See Appendix 1 for usage.

In NZ, the Dunedin Multidisciplinary Health and Development Study (a longitudinal cohort study) showed 44% of women at the age of 26 years of age were taking the hormonal contraceptive, reducing to 24% at the age of 32 years.[35]

Brevinor – ethinylestradiol with norethisterone was consented in 1976

Microgynon – ethinylestradiol with levonorgestrel was consented in 1974, with the low dose version in 1999

Noriday – norethisterone was consented in 1972

Microlut – levonorgestrel was consented in 1973

Cerazette – desogestrel was consented in 1999

11. Labelling or draft labelling for the proposed new presentation(s)

Labelling would not change for the proposed reclassification. The pharmacist would supply in current packaging with an extra information sheet about contraception.

12. Proposed warning statements if applicable

Current packaging would remain. Information sheets written for pharmacist supply will be given with all supplies. These would include contraindications and precautions for use in line with the WHO Medical Eligibility Criteria (MEC) for the COC and the POP in two separate information sheets. Draft information sheets will be supplied to the committee before the 51st meeting, after initial consumer testing.

13. Other products containing the same active ingredient(s) and which would be affected by the proposed change.

No other products are affected.

Part B

Support for reclassification of the oral contraceptive has occurred since the 1970s (see quotes below). This call has been strengthening in recent years, including through collection of evidence to help open access further.

New Zealand has the opportunity to be at the forefront of reclassification for the Western world. We have a first-world health system, pharmacists who are willing to undergo extra training to allow them to better assist their patients, and proof that NZ pharmacists take reclassifications seriously and work within the rules of supply.[36,37] Pharmacy have shown their support of reclassification with over 1500 trained for trimethoprim supply. A further example is their support of the pharmacy-based trimethoprim research. Despite occurring at the same time as a high workload from implementing the new Pharmacy Services Agreement (PSA), and being unpaid for their work in the study, 80% of randomly selected pharmacies collected data for the 2012 baseline study (unpublished data).

Quotes from proponents of reclassifying the oral contraceptive are presented below.

Dr Malcolm Potts MD famously stated:[38]

> ***"It would be a service to mankind if the pill were available in slot machines and the cigarette were placed on prescription."***

In 1973, the International Planned Parenthood Federation Medical Committee supported reclassifying oral contraceptives noting they are:[39]

> ***"…highly effective, relatively simple to use, and that the health benefits outweigh the risks in nearly all cases."***

In 1993, a Lancet editorial stated:[40]

> ***"Above all, o-t-c status would improve the image of the pill: all over the world women believe that OCs are more dangerous than they really are."***

In 1993, Grimes (an obstetrician/gynaecologist and public health physician) stated:[41]

> ***"Requiring a prescription for oral contraceptives, a measure ostensibly designed to protect women, may be counterproductive both medically and socially."***

In 1995, Potts and Denny (from the School of Public Health, University of California) stated:[1]

> ***"Making the pill an OTC item next to aspirin and antihistamines would place it where it belongs – a well tolerated, easy to use medicine, as well as one of the most necessary in the pharmacopoeia."***

In 2006, Memmel (a US obstetrician and gynaecologist) and others asked:[42]

> ***"the only truly essential elements to providing hormonal contraceptives safely are medical history and blood pressure, so is it ethical to 'hold women hostage' and essentially force them to obtain a medical office visit in order to obtain certain types of contraception?"***

In 2008, a Lancet editorial stated:[5]

> ***"We strongly endorse more widespread over-the-counter access to a preventive agent that can not only prevent cancers but also demonstrably save the lives of tens of thousands of women."***

In 2010, Dr Daniel Grossman (a US obstetrician and gynaecologist) said:[14]

> ***"The prescription requirement is an out-of-date, paternalistic barrier to contraceptive use that's not evidence-based."***

In 2012, the American College of Obstetricians and Gynecologists' Committee on Gynecologic Practice stated:[13]

> ***"Weighing the risks versus the benefits based on currently available data, OCs should be available over-the-counter."***

In 2013, Dr Malcolm Potts MD, Chair of Population and Family Planning at the University of California, Berkley's School of Public Health said:[12]

> ***"OTC distribution makes perfect sense. Family planning is a choice, not a diagnosis by a physician."***

1. A statement of the benefits to both the consumer and to the public expected from the proposed change

The primary aim of reclassification is to improve access to effective contraception, and to provide access consistent with the safety and efficacy of this medicine. Availability through especially trained and accredited pharmacists under strict criteria reduces barriers to access for women whilst maximising safety, and has the potential to reduce the risk of unwanted pregnancy. Secondary benefits are likely.

Oral contraceptives first became available in NZ in 1961, with NZ women adopting this contraceptive method faster than women elsewhere.[43] Oral contraceptives remain an important contraceptive method in NZ with estimates of 147,000[44] to 202,000[43] NZ women taking these.

The COC and POP are effective in preventing pregnancy. US data shows that the COC has a failure rate of 0.3% in the first year of use with perfect use.[45] With typical use this rate in the US rises to 9%. The POP has a similar success rate. These rates compare very favourably to 85% pregnancy in sexually active women with no contraceptive method. The condom has a 2% (perfect use) and 15% (typical use) failure rate. The long-acting depot medroxyprogesterone injection has a 0.3% (perfect use) and 3% (typical use) failure rate. Fertility awareness-based methods have a 25% typical use failure rate, and withdrawal is slightly higher at 27%.

Requiring a prescription for the oral contraceptive pills (COC and POP) in NZ provides a barrier to access that is inconsistent with the safety and efficacy of this medicine. Allowing supply through especially trained pharmacists will encourage women to access this medicine more easily, while retaining safety in usage. Currently pharmacists can only provide information and advice to women, and, particularly when supplying the ECP, this allows pharmacists to have a second tier discussion and where appropriate recommend and provide COCs.

Increased access should help:

- women who have completely run out of tablets without realising
- women who cannot easily get to their doctor when their tablets are running out
- visitors to NZ who have run out of tablets
- women who are away from home and forgot to pack their tablets
- women who have barriers to doctor access for contraception (e.g. teenagers, see below)
- women presenting for the emergency contraceptive pill, who can be offered oral contraception to start immediately
- women who are not using effective contraception currently
- de-medicalise the oral contraceptive – potentially reducing misconceptions and inappropriate fears, and therefore aiding further use or limiting discontinuations

In 1995, Potts and Denny (public health doctors) believed the confidence gained by users to be *"perhaps the most important reason for transferring oral contraceptives to OTC status,"* given the concerns women have about serious adverse effects that are out of line with the scientific evidence.[1] Discontinuation due to concerns about weight gain, infertility and other side effects women believe exist still occurs.[46-48]

Increased use from improved access and reducing fear about these medicines has the potential to help prevent unintended pregnancies (see below for negative effects of these), and reduce the termination of pregnancy rate further. It may increase realisation of other benefits of the oral contraceptive, such as reduced incidence of ovarian cancer (as outlined below).

While there are advantages for all women for whom pharmacist-supply of oral contraceptives are suitable, certain groups merit discussion. Teenage women in NZ have twice as many births as teenagers in Australia, Canada, Spain or Ireland, and over three times as many births as teenagers in Germany, Sweden or Norway.[49] Teenage pregnancy has multiple negative implications for mother and child.[50-52] Adolescents often use contraception that is accessible with minimal embarrassment.[53] They have difficulty getting time off school or work,[53] and may have difficulty gaining access,[54] which may include transport[26] or booking an appointment. They may feel *"deterred and embarrassed by the medical ritual of physical examination in a clinic."*[1] Teenagers are concerned about confidentiality[53,54] for example, someone might see them waiting at the doctor's and mention it to their parents, they may (needlessly) worry that the doctor, nurse or receptionist will tell their parents. Most pharmacies are located amongst other shops (e.g. at the Mall where teenagers often go), are typically open extended hours including weekends, and have no appointment necessary, so should be more accessible to teenagers than a medical practice. Teenagers visit pharmacies for a variety of reasons, so being seen in a pharmacy may be less of an issue than being seen waiting at the doctor's surgery. A decision to start using contraception may be able to be acted on immediately with pharmacy availability.

In the US, no contraception was used by 7% of sexually active women 15-44 years old not wanting to become pregnant.[55] The corresponding proportion in NZ is not readily available.

The oral contraceptive is the leading method of contraception in the US in women under 30 years old.[56] In NZ, the Dunedin Multidisciplinary Health and Development Study (a longitudinal cohort study) showed 44% of women at the age of 26 years of age were taking the hormonal contraceptive, reducing to 24% at the age of 32 years.[35]

Reduced risk of unprotected intercourse

Unintended pregnancies are common. In the US around half of all pregnancies are unintended.[57] The UK is similar.[58] Unintended pregnancy is associated with concerns such as lower uptake of prenatal care, and increased risk of low birth weight babies.[29]

A study at six US abortion clinics found 40% of women cited the difficulties of procuring contraception as a factor in their pregnancy.[59] Many women (42%) also lacked awareness of

the risk of conception from unprotected intercourse. Pharmacist provision of oral contraception would help address both issues, with education of women seeking contraceptive advice helping the low awareness of risk of pregnancy. Another US study found 13% of women who missed pills did so because they were away from home, and 11% because they had no new pack.[60] Both situations commonly occurred in the weekend, and the authors considered that over-the-counter access or access through the pharmacist could help. Landau and colleagues in the US estimated that half a million fewer unintended pregnancies would occur each year if contraceptive pills, patch and ring were available through pharmacies.[61]

Statistics New Zealand reported 14,745 abortions in NZ in 2012.[62] The number of abortions has been declining since its peak in 2003. However, women aged 20-24 years and 15-19 years still had a 3% rate of abortion, and 1.6% rate of abortion, respectively, and there is potential to reduce further, given countries such as the Netherlands and Finland have much lower rates.

Non-contraceptive benefits of oral contraceptive

While reclassification would only be for contraceptive purposes, oral contraceptives have other benefits. A particularly important one for the COC is ovarian cancer, a deadly cancer that is often diagnosed late. A collaborative reanalysis of 45 epidemiological studies of ovarian cancer published in 2008 found that ever users of oral contraceptives had a relative risk of 0.73 (95% CI 0.70-0.76) for ovarian cancer compared with never users.[63] Longer use was associated with declining risk (20% for every 5 years of use). The benefit attenuates over time after discontinuing the oral contraceptive, but a significant reduction remains 30 years later. The authors considered that around 200,000 cases and 100,000 deaths from ovarian cancer had already been prevented worldwide. The ageing of past users of oral contraceptives and increasing users could see potentially greater benefits ahead, potentially preventing 30,000 cases of ovarian cancer per year. It is unsurprising that an accompanying Lancet editorial therefore recommended widening access to the oral contraceptive.[5]

The COC reduces the risk of developing or dying from endometrial cancer.[64] Oral contraceptives typically reduce blood loss compared with normal menstrual periods, reducing discomfort and inconvenience for many women, and providing protection against iron deficiency anaemia.[65] COCs may also help protect against pelvic inflammatory disease, benign breast disease, colorectal cancer[64] and reduce acne in some sufferers. However, please note that the anti-androgenic cyproterone-ethinylestradiol combination is not included in this application. The Royal College of General Practitioners' cohort study of oral contraceptives which included more than a million woman years of observation found all causes of death and cancer as a cause of death were significantly lower in women who had ever used the oral contraceptive than women who had never used it.[66] A limitation was the relatively high dose of estrogen commonly used (50 µg or more).

Acceptability of non-prescription availability

In a survey of women supplied oral contraceptives in London through pharmacist-supply, 11% stated they would not have accessed contraception elsewhere.[58]

In the US, surveyed women aged 18-44 years were very supportive of pharmacy availability of oral contraception, the contraceptive ring or the contraceptive patch, citing convenient hours (85%), convenient locations (84%) and time (82%) and cost savings (76%).[61] Forty-one per cent of women who were not using any contraception said they would begin using a hormonal contraceptive if accessible from the pharmacy. Three-quarters of the women said pharmacists should provide advice on these medicines, and many considered pharmacist screening should occur – this is particularly notable given the US consumer culture to buy medicines from drugstores without advice.[26] In a smaller survey, 37% of women in a US university reported they were likely to acquire non-prescription oral contraceptives if available.[67] In a Texan study, many women using no contraception or contraception with lower effectiveness than the oral contraceptive said they would be likely to use oral contraceptives if they were available without a prescription.[20]

Many women in El Paso, a Texan city near the Mexican border, obtain their oral contraceptives from Mexico without a prescription – largely for reasons of convenience and cost.[68] In Nigeria, young people prefer to use pharmacies for contraceptive supplies, with the researchers noting that students do not want to disclose their interest in sexual intercourse to family-planning clinics, and are concerned about judgemental attitudes of service providers.[69]

In Finland, 41% of oral contraceptive users surveyed agreed that the oral contraceptive prescription should be renewed without visiting the doctor's reception.[48] Had these women's fears about oral contraceptives, including future infertility, long-term safety and cancer, been addressed, their support of resupply without medical input may have been higher. Their information sources were commonly doctors, friends and relatives and media.

A survey undertaken with 1567 female consumers in December 2012 on the NZ Girl site, asked what medicines they would like to see available through their pharmacist.[18] Forty per cent volunteered, unprompted, that they wanted the oral contraceptive available in that way.

There has been an increasing movement in the US to support reclassifying oral contraceptives.[6,9,10,70-73] Many of the above quotes supporting a reclassification are from the US. In 2011, the Women's Health Practice and Research Network of the American College of Clinical Pharmacy supported reclassifying the oral contraceptive.[74] This group noted that the oral contraceptives meet safety criteria for OTC products, literature demonstrates women can self-screen for contraindications, and experience with OTC emergency contraception suggests that OTC oral contraceptives would not increase sexual risk-taking behaviour. In December 2012, the American College of Obstetrics and Gynecology released a Committee opinion supporting this (see below for further details).[13]

Increased options for women of different ethnicities

In NZ, Asian women are less likely to consult the doctor for contraception than other ethnicities are. One 2002 study found 80% of Asian women presenting to an Auckland clinic for abortion had not used any contraception pre-conception.[75] The Asian women were commonly non-residents (e.g. students) or had recently immigrated to NZ, and the authors noted the need for sexual health education in these groups. Women in China and Hong Kong can access the oral contraceptive without prescription, and so absence of such availability in NZ may affect continuing usage. A later NZ study found that fewer Asian women used the oral contraceptive before having an abortion than other ethnicities, but following the abortion, oral contraceptive use increases to a similar rate to other ethnicities,[76] perhaps suggesting a role of education and access for this population.

See also item 4 below for Māori and Pacific youth.

NZ government strategy

Non-prescription supply of the COC and POP by approved pharmacists is clearly in line with the government strategy of better, sooner, more convenient healthcare, providing a more accessible option.

Population growth, an ageing population and developments in health are increasing demand for health services in a constrained fiscal environment. These require better use of the existing health workforce, including extending existing roles.[77] Having oral contraceptives available through especially trained pharmacists without prescription will help meet this need. Furthermore, increasing knowledge amongst pharmacists about oral contraceptives aids their role with the prescription supply of these medicines.

Internet access

Oral contraceptives, Intra Uterine Devices (IUDs) and contraceptive implants have been found available online, with IUDs having "how to" videos on Youtube to aid insertion,[78] and with supply of oral contraceptives to women stating serious risk factors in the on-line screening.[42] While we do not know how many women from NZ are accessing such medicines, it is likely that some will be accessing oral contraceptives, which may be counterfeit and would be unlikely to have appropriate screening. Non-prescription supply is convenient and immediate, so may reduce interest in on-line procurement.

Pharmacy availability

Access to the COC and POP would improve because pharmacies are conveniently accessible, with no appointment usually necessary, extended hours, and over 950 pharmacies throughout New Zealand. Women often need to contact their health care provider after supply, e.g. about side effects.[79] Belfield considered health professionals providing contraceptive services needed to be accessible through telephone or web support for further information.[80] Women would have easy access to the pharmacist by telephone or visit after

initial supply, without a need for an appointment, and often 7 days a week. If more women contacted their health provider when concerns arose, it is possible that this could help continuation of therapy.

Pharmacy supply is the most common supply route for the oral contraceptive in Jamaica,[34] and is common in Kuwait, despite high subsidies on both doctor visits and medication prescribed by doctors.[46] This suggests that convenience of access is important for many women.

Prescription counselling

Finnish women using hormonal contraception considered doctors, friends and family and media ahead of pharmacists as important information sources.[48] However, over half of participants agreed that pharmacists should offer counselling on hormonal contraception even if advice was not requested.

Reclassification would result in pharmacists receiving specialised training including understanding misconceptions and patient needs. A greater role with hormonal contraception is likely to increase knowledge and confidence in advising on hormonal contraceptives pursuant to a prescription. This may help address the misconceptions and disproportionate fears about contraceptives often held by women.[19]

Improving contraception among emergency contraceptive pill users

Currently women receiving the ECP in pharmacy cannot be offered contraception on the spot apart from condoms, which do not suit everybody, and may be the reason for the presentation (condom failure). Advice to see a doctor for other contraception may not be followed up immediately, potentially delaying start on effective contraception. In a large family planning clinic in Edinburgh, Scotland, 23% of women not using the oral contraceptive before using the ECP were started on hormonal contraceptives, typically that day.[81] Immediate start of oral contraceptives improves uptake compared with delaying until next menses,[38] suggesting that seizing the moment of interest in contraception is helpful.

Cameron and colleagues noted that the increasing shift in supply patterns to pharmacy for the ECP loses the opportunity to start women on effective ongoing contraception, suspecting that fewer women will commence effective contraception after pharmacy provision of the ECP than from general practice or a specialist contraceptive setting.[81] Others have expressed similar concerns.[82] Consumers recalled a discussion about ongoing contraception during supply of the ECP in 28% of pharmacies in one UK study (from an interview 4 months later)[83] and 43% of pharmacies in a second UK study.[84] When pharmacists have comprehensive training about ongoing contraception, and can supply the oral contraceptive, they will be better positioned to mention it every time they supply the ECP. They will also have an information sheet about contraception to give to women getting the ECP, a new initiative.

Community pharmacies are easily accessible and used by most of the population. Availability of oral contraceptives through trained pharmacists provides improved access to

these medicines for suitable women. This reclassification initiative fits well with both sexual and urinary health products that are already available through pharmacists. Pharmacists triage patients every day to general practice and family planning.

2. Ease of self-diagnosis or diagnosis by a pharmacist for the condition indicated

A doctor's diagnosis is not required to decide if contraception is needed. As Dr Malcolm Potts MD, Chair of Population and Family Planning at the University of California, Berkley's School of Public Health said in 2013: *"Family planning is a choice, not a diagnosis by a physician."*[12]

3. Relevant comparative data for like compounds

The emergency contraceptive pill or ECP, containing levonorgestrel, has been available in NZ since the early 2000s. Unlike most other countries, NZ has mandatory training for pharmacists who become accredited to supply the ECP. Most NZ community pharmacists are accredited to supply the ECP. There is no mandate for updates at certain intervals with the ECP, although the College of Pharmacists has offered an update for pharmacists. Consultation forms have been available since the reclassification, and are often used as an aide memoire as well as a record of the consultation. There is no requirement to advise the woman's doctor of the supply.

Some other contraceptive measures do not require a prescription. Condoms are available with no health professional involvement and no screening, and have a higher failure rate than the oral contraceptive – 2% in the first year with perfect use, and 15% in the first year with typical use.[85] The failure rate is highest with persons under 25 years. The diaphragm is not restrained to prescription-only use, yet has a higher failure rate than the oral contraceptive,[85] requires expert fitting, increases risk of urinary tract infections, and would provide lower protection against STIs than the condom.[86] Spermicides have been available without a prescription in NZ, but in recent years these have disappeared from the market, probably because of low usage, but possibly also because of risks of nonoxynol 9 with vaginal erosions and HIV transmission. Other means have been used to prevent pregnancy, such as withdrawal, and the rhythm method (or natural family planning). These both have higher risk of pregnancy than oral contraceptives, and provide no protection against STIs.

4. Local data or special considerations relating to New Zealand

As recently highlighted by the Minister of Health, the Right Honourable Tony Ryall, NZ has an ageing population and increasing pressure on health resources.[87] Workforce NZ has suggested the health workforce needs to work at the top of their scopes of practice,[77] and supply of oral contraception by pharmacists who have undergone additional training fits this desire. In 2012, the Minister of Health, the Right Honourable Tony Ryall, encouraged innovative reclassifications, putting the patient at the centre of the model of healthcare delivery.[88] In line with the Minister's desire for integrated health, pharmacists will send documentation to the doctor where the patient consents to this, and will refer women to the doctor where they are at higher risk of side effects with the COC or the POP, or where any particular health issues become apparent (e.g. elevated BP).

NZ has a high rate of teenage pregnancy for a developed country, second only to the US, higher than Australia, and considerably higher than European countries.[49] While the abortion rate has dropped in recent years, 14,745 abortions were performed in the 2012 year, with the highest rate of 29 abortions per 1,000 women in those aged 20-24 years.

Research on consultations and prescriptions in 13-19 year olds from general practice in NZ using 2000 data shows 89% of the hormonal contraceptives used in this age group were used in the 16-19 year age group, with very low use of these or other contraceptives in 13 and 14 year olds.[89] Products for the respiratory system and infections were more commonly supplied to this age group than genito-urinary system products.

Pacific youth 13-17 years access primary health care less often than NZ Europeans in the same age group, despite the desire to reduce health inequalities through improving Pacific people's access to primary health services.[90] A quarter of Pacific youth participants reported not being able to access healthcare when needed, including contraception or sexual health needs. Most common reasons for difficult access include: didn't want to make a fuss; couldn't be bothered; too scared; worried it wouldn't be kept private; no transport to get there; didn't know how; and couldn't get an appointment. Each of these factors were cited by 27-51% of Pacific participants who could not access healthcare when needed. Availability of oral contraceptives in a pharmacy is likely to be considerably more accessible to this population if available at low cost.

Of Māori youth who are sexually active, 29% do not consistently use contraception.[91] Pharmacies with no appointment necessary, extended hours and the ability to go to any convenient pharmacy should address some of their barriers to contraception.

NZ women post-partum also cite barriers to accessing contraception, resulting in terminations of pregnancy. These barriers included transport and living in a rural area, being time-poor or having childcare issues, waiting lists at healthcare facilities, and midwives waiting to be asked before offering contraception. Some women appeared to have insufficient knowledge about need for contraception when breast-feeding, and contraceptive options.

The NZ population is becoming increasingly diverse in ethnicities and languages. Pharmacies often have staff who speak languages that are common in their community, such as Vietnamese, Cantonese, Samoan and Gujarati. Pharmacists are expected to be culturally aware and courses are offered on this. Needs of different cultures with respect to conversations about contraception will be included in the training. Funding will be sought to translate our information sheets into common non-English languages.

5. Interactions with other medicines

Interactions with other medicines are within the typical range for non-prescription medicines, and supply by a doctor is unlikely to provide any more protection than the proposed pharmacist-supply. Pharmacists are well aware of important interactions with the oral contraceptive pill. These interactions include enzyme inducers, such as many anticonvulsants and rifampicin, and will be screened for, with referral for contraceptive advice. When

considering other medication, they will also be thinking about implications other than interactions, e.g. antihypertensives signal a contraindication, hypoglycaemics signal diabetes and therefore a doctor referral, and HIV medication signals issues around potentially transmitting the virus (as well as interactions). This is common sense to pharmacists who use this in other non-prescription supplies. However, it will be covered in training.

Antibacterials that are not enzyme-inducing are now considered not to interact with oral contraceptives unless they cause vomiting and/or diarrhoea which may reduce the absorption of oral contraceptives. An early theory for COC failure with antibacterials was that gut bacteria are suppressed by the antibacterial, reducing hydrolysis of steroid conjugates and reduced enterohepatic recirculation of ethinylestradiol.[92] However Stockleys Drug Interactions notes that enterohepatic recirculation of ethinylestradiol has been considered clinically unimportant supported by several facts. Women with an ileostomy have been reported to have normal serum contraceptive steroid levels with the COC, and fluoroquinolones are very active against intestinal flora but do not affect ethinylestradiol and have not been mentioned in published cases of contraceptive failure.

Stockley's Drug Interactions reports the following enzyme inducers increase the metabolism of COCs and reduce their suppression of ovulation:

- Rifampicin
- Rifabutin
- Phenytoin
- Oxcarbazepine
- Carbamazepine
- Phenobarbital and primidone
- Rufinamide
- Topiramate
- Perampanel
- Nelfinavir
- Ritonavir
- Efavirenz
- Nevirapine
- Aprepitant
- Bosentan
- Modafinil
- St John's Wort

Stockley's reports that "St John's wort may slightly reduce the levels of desogestrel, ethinylestradiol, and norethisterone…" Both breakthrough bleeding and, rarely, contraceptive failure have been reported in women also taking St John's wort. Stockley's advises that women taking oral hormonal contraceptives should generally avoid St John's wort.

6. Contraindications and precautions

For most healthy women of reproductive age, the benefits of oral contraceptives will outweigh the risks. Grimes, *et al.* noted the exception of women older than 35 years who smoke.[93] A prospective cohort study in the UK following 46,000 women for up to 39 years found a lower death rate in oral contraceptives users than non-users (relative risk 0.88 95% CI 0.82-0.93).[66]

The COC has few absolute contraindications.[94] However, we will be taking a cautious approach and referring women to their GP or the Family Planning Clinic where a contraindication is apparent or possible. We have used the WHO Medical Eligibility Criteria for contraceptive use (4th Edition 2009) as a basis for our screening tool. Different conditions are given four categories as follows in Table 1. Category 1 covers conditions for which there is no restriction for that contraceptive method. Category 2 covers conditions where the advantages of using the method generally outweigh the theoretical or proven risks. See Appendix 2 for the WHO document.

Table 1 WHO categories for contraceptive use in different circumstances

Category	With clinical judgement	With limited clinical judgement
1	Use method in any circumstances	**Yes** **(use the method)**
2	Generally use the method	
3	Use of method not usually recommended unless other more appropriate methods are not available or not acceptable	**No** **(Do not use the method)**
4	Method not to be used	

The draft screening tool allows use in all situations considered to be category 1 and some category 2 situations. In all category 3 and 4 and some category 2 situations patients are referred to the doctor. Provision through pharmacists in the US are in category 1 and 2 situations.

The COC should not be used in lactation, because the quality and quantity of breast milk could be affected, although no high quality evidence confirms this[38] and lower quality evidence is conflicting.[72] However, pharmacist training will include avoidance of the COC in lactation less than six months post-partum. The COC can be used at least six months post partum, in lactation in line with UK MEC.[95]

Although the COC can be used in diabetic women younger than 35 years without end-organ damage,[38] pharmacy will not typically be in a position to know if end-organ damage has occurred. Thus, diabetic patients will be referred to the doctor and none will be supplied through pharmacist-supply. No check is recommended in medical practice for blood glucose before supplying contraceptives, and nor will it be in pharmacy.

WHO considers menarche to <40 years is category 1 supply for the COC. Women 40 years or over are category 2. We will therefore allow pharmacy supply up and including the age of 39 years, noting that there are instances in which supply may be inappropriate from age 35 years that we will be screening for – see Appendix 2.

Smokers who take the COC have a higher risk of CV events than non-smokers who take the COC, but excess mortality is only obvious from the age of 35 years.[95] Women who are heavier smokers (>15 cigarettes per day) have higher risk and will be referred to the doctor regardless of age. Women who are current smokers or recent smokers (within the last year) and 35 years or older will not be supplied the COC without a prescription. Multiple risk factors increase the risk of cardiovascular disease, as recognised in our screening tool. Two or more risk factors will mean pharmacist-supply is not possible.

Women with systolic BP ≥140 mmHg or diastolic ≥90 mmHg or taking antihypertensives will be referred to their doctor if requesting the COC (category 3). For the POP, women with systolic ≥160 mmHg or diastolic ≥100 mmHg, or on BP medicines with apparent poor control, will be referred to the doctor.

Migraines require special attention. Migraine with aura sufferers have higher risk of stroke than those without aura.[85] Therefore, migraine with aura is a contraindication to the COC. Migraines without aura in women 35 years and over is a category 3, and will not be treated in the pharmacy. Women who have migraines or headaches start or worsen when on the COC or POP will be referred for further evaluation, in line with the WHO MEC. Migraine without aura in a woman under 35 years will not prevent pharmacist-supply of the COC or POP, unless other risk factors also occur, e.g. smoking. A US study found migraine headache without aura and age 35 years or over or migraine headache with aura in 8% of COC users.[96] Another US study (based in Texas) found suspected migraine with aura in 14% of COC users.[20] Therefore, questioning about migraine headache will occur for repeat supplies and initial supplies, with referral back to the doctor as outlined above.

Unexplained vaginal bleeding is a category 2 but will be referred by the pharmacist. For the COC, gall bladder disease is category 2-3 so pharmacists will refer anyone with gall bladder disease. Liver disease varies in the categories according to the condition. As a conservative measure, anyone with liver disease will be referred to their doctor.

VTE risk increases in women with a BMI over 30 and even further as the BMI increases over 35. [25,95] The COC increases this risk of VTE further. At a BMI of 30-34.9 benefits generally outweigh the risks (category 2), while over a BMI of 35 the risks may outweigh the benefits. Taking a conservative approach, pharmacists will refer women with a BMI of 30 or greater, or consider other contraceptive choices for women initiating therapy. Women with history of VTE have increased risk of VTE on a COC and this is contraindicated, but a POP is safe.[25] A known thrombogenic mutation increases risk of VTE with the COC so would result in referral. Other VTE risk factors that would preclude pharmacist-supply are:[25,85]

- History of VTE in a first-degree relative
- Post-partum use up to day 42

- Smokers, particularly those who are heavy (≥15 cigarettes per day), or 35 years or older or have other risk factors for VTE or myocardial infarction
- Women who are immobilised
- Sickle cell disease
- Systemic lupus erythematosus

For the COC, further WHO MEC criteria rating category 3 or 4 are as follows:[85]

- Post-partum <21 days in women who are not breast-feeding
- Post-partum 21-42 days with other risk factors for VTE
- Multiple risk factors for arterial cardiovascular disease (e.g. family history, smoking and known hyperlipidaemia)
- Ischaemic heart disease
- Stroke history
- Breast cancer – current or history

The POP has fewer contraindications. The age the POP is suitable for is from menarche upwards.[85]

Other POP contraindications are as follows:[85]

- Breastfeeding woman <6 weeks post-partum
- Acute deep venous thrombosis or pulmonary embolism
- History or current breast cancer
- Ischaemic heart disease or stroke
- Liver disease (i.e. severe cirrhosis)
- Lupus
- Liver tumours, severe cirrhosis
- Interacting medicines – phenytoin, carbamazepine, barbiturates, primidone, topiramate, rifampicin, ritonavir

The effectiveness of oral contraception may be reduced in Crohn's disease if there is small bowel disease and malabsorption; it should not be reduced in large bowel disease.[97]

7. Possible resistance

Not applicable.

8. Adverse events - nature, frequency etc.

The first oral contraceptives contained considerably more estrogen than the recently available products. The early dose of 100-150 µg of ethinylestradiol, was reduced many years ago to 20-35 µg, a dose that continues today.[24] This dose change has reduced side effects including the risk of venous thromboembolism (VTE).[98]

The progestogens have also changed. Second-generation COCs contained levonorgestrel and norethisterone and the third generation gestodene and desogestrel.[25] Drospirenone was introduced more recently, and has been called fourth generation. The third generation progestogens were intended to be less androgenic.[98]

VTE is a rare but important adverse effect of the COC, but apparently not of the POP.[25] It is highest in the first year of COC use.[99] VTE usually involves a blood clot in the deep veins of the legs or pelvis. If the clot breaks free it can cause a pulmonary embolism (PE), so patients should be warned about symptoms of DVT and PE and advised to see a doctor promptly. See Appendix 3 for 2010 guidelines from the UK about venous thromboembolism.

The background risk for VTE in women of reproductive age has been quoted at 5 per 100,000 women-years, but this has recently been found more likely to be 50-100 per 100,000 woman-years,[25] probably because there is a high rate of VTE in young patients that is misdiagnosed.[100] The VTE risk is considerably higher in pregnancy and post-partum.[19] Most papers look at relative risk of VTE with different contraceptives and do not translate this into fatalities. In 2002, Drife suggested that the chance of dying of a COC-induced thromboembolism is about 2 in a million.[19] Given the risk of VTE in pregnancy and particularly the post-partum period is higher, it is useful to look at maternity fatalities from VTE. In NZ, in the six year period from 2006-2011, 3 maternal deaths (occurring during pregnancy or within 42 days after pregnancy) were reported to occur from venous thromboembolism from about 375,000 maternities.[101]

VTE risk increases with higher doses of ethinylestradiol and appears to be higher with cyproterone-containing formulations,[25] with third generation progestogens,[24] and perhaps with drospirenone.[99] In 1999, the Committee on Safety of Medicine reported that second generation pills (levonorgestrel or norethisterone COCs) had about a three-fold risk of VTE and third-generation COCs – containing gestodene or desogestrel – have about five times the risk of no COC users for VTE.[25] A later European study in 58,000 women did not find this difference in risk.[102]

A network meta-analysis[1] published in 2013 by Stegeman and colleagues found that, compared with non-use, second generation COCs had a relative risk of 2.8 (95% CI 2.0-4.1) and third generation COCs had a relative risk of 3.8 (CI 2.7-5.4).[24] Third generation COCs have a relative risk of 1.3 (95% CI 1.0-1.8) risk compared with second generation COCs. The authors noted their results were in line with two other meta-analyses which found a relative risk for third generation COCs versus second generation COCs of 1.5 (95% CI 1.2-1.8) and 1.57 (95% CI 1.25-1.98). Stegeman and colleagues concluded that *"the combined oral contraceptive with the lowest possible dose of ethinylestradiol and good compliance should be prescribed – that is, 30 µg ethinylestradiol with levonorgestrel."*

[1] A network meta-analysis allows indirect evidence to be used in a meta-analysis rather than a simple pair-wise comparison, allowing estimates of relative efficacy or relative safety between all interventions even when they might not have been compared directly

NZ data from Suspected Medicine Adverse Reaction Search (SMARS)

The SMARS database from 1 January 2000 until late 2013 for ethinylestradiol lists 54 reports of pulmonary embolism, and 67 reports of vascular adverse events, including 54 reports of deep vein thrombosis. The summary report for this medicine notes 278 reports in total including 2 deaths. Many of these reports were in combination with cyproterone (which is not being considered for reclassification).

For levonorgestrel, there are 349 reports, no deaths, and 30 reports of vascular adverse events, including 15 reports of deep vein thrombosis. Norethisterone had 34 reports, no deaths, 10 reports of DVTs and 4 of pulmonary embolisms. Desogestrel includes 25 reports in total and 1 death. There were 8 pulmonary embolism and 10 deep vein thrombosis reports.

In comparison, for cyproterone (which is not being considered for reclassification), there were 116 reports, 23 pulmonary embolisms, 24 vascular disorders, and 3 deaths. Most reports were for the cyproterone-ethinylestradiol combination.

Further information is available from http://www.medsafe.govt.nz/Projects/B1/ADRSearch.asp.

Cardiovascular disease and stroke risk

Atherosclerosis does not increase with oral contraceptive use. The risk of myocardial infarction (MI) instead arises from thrombosis, and was seen particularly in older users of higher dose estrogen-containing COCs in whom other risk factors cause arterial narrowing, e.g. smoking.[86] Use of COCs – either current or previous use – does not appear to increase the risk of an MI in nonsmokers. COC users who smoke, particularly 15 or more cigarettes per day have increased risk of an MI compared with non-smokers who use COCs. Non-smokers without hypertension or diabetes have no increased risk of an MI with COC use, irrespective of their age. Stroke risk is not increased by COC use in non-smoking women who have no risk factors for CV disease. Risk factors, including migraine, are discussed above.

Breast cancer risk

Evidence around breast cancer is conflicting.[86] A large meta-analysis from 1996 found an increased risk (relative risk 1.24) which declined over time after discontinuing the oral contraceptive. Other large studies (e.g. Marchbanks, et al. and Milne, et al.) found no increased risk. The risk of death from breast cancer was lower in women who had ever used the oral contraceptive than never users (but this was not significant) in the large UK Royal College of General Practitioners' cohort study.[66] If there is any additional risk, it is small, disappears over time,[86] and the UK College of General Practitioners' cohort study suggests it is outweighed by the reductions in other cancers. [66]

Other effects

Weight gain is often thought to be a problem of the oral contraceptive, but well-designed cohort and randomised studies do not support this idea.[86]

Oral contraceptives do not cause permanent infertility, but delay in conception after discontinuing the oral contraceptive is common. [86]

Changing in bleeding patterns, including breakthrough bleeding and amenorrhoea can occur with the POP, although neither are an important health concern.[86] Time to settle, increasing the estrogen dose (e.g. from 20 µg to 30 µg) or change in progestogen can help.

The main side effects of the POP are on changes to bleeding patterns – breakthrough bleeding, short cycles, and amenorrhoea.[103]

9. Potential for abuse or misuse.

The oral contraceptive is not addictive and would not be abused.

As for potential supply through a doctor, a woman could lie about her medical history or age in order to gain supply. Information would be provided within the consultation and in a written leaflet to also highlight when not to use the medicine.

10. Further information

International experience with non-prescription supplies of oral contraceptives

1. United States – Washington state

In the State of Washington, an estimated 4 million supplies of prescription medicines, including hormonal contraceptives, have been supplied by pharmacists under collaborative practice agreements, and there has not been a single legal case taken against a pharmacist or doctor from such supply.[2] Collaborative agreements with medical providers allow pharmacists to initiate and maintain therapy with any drug that is specified in the agreement. In Washington, such agreements have been happening since 1979.[104] Insurance companies usually pay for the medicines thus supplied.[2] Under such agreements pharmacists supplied the ECP before it was reclassified, and since the 1980s have provided Depo Provera injections following doctor initiation of treatment. There are one or two pharmacists with a collaborative agreement allowing initiation of treatment. Collaborative agreements can allow supply to patients who do not attend the doctor who has signed the agreement.

2. United States – California

In California, legislation was passed in 2013 to allow pharmacists to supply hormonal contraceptives[31] without a doctor's prescription or a collaborative agreement. This supply will be under a protocol approved by the Board of Pharmacy and Board of Medicine for the state. It is expected that additional training will be required for pharmacists currently practising.

3. United States - Direct Access Study

In 2003-2005, 26 pharmacists in eight pharmacies with high emergency contraception use in the wider Seattle area in the US were recruited into the Direct Access study.[16] Pharmacists underwent 12 hours of training and supplied oral contraception in a collaborative care model, according to WHO level 1 criteria for patient safety (see Appendix 2 for this criteria). Blood pressure was taken by these pharmacists or especially trained pharmacy technicians. Women aged 18-44 years in need of contraception were eligible. Women filled out a self-screening form of 20 yes/no questions, presented this to the pharmacy and went through measurement of weight and blood pressure and completed a birth control history form. If there was any doubt about pregnancy, the woman bought and used a urine pregnancy test. Women were allowed to receive up to 12 months of hormonal contraceptives. Over the period of the study 195 women were supplied hormonal contraceptives by a pharmacist without a prescription – mostly oral contraceptives, but also the contraceptive patch and vaginal ring. Data for some ineligible women indicated blood pressure above the threshold, and excessive body weight were reasons for non-supply. Most eligible women had had hormonal contraception previously, but just over half of participants had a regular doctor. Sixty per cent of women cited convenience as their primary motivator for pharmacy supply. The continuation rate of hormonal contraceptives at 12 months was 70% of those responding to the 12 month interview (but only 65% of women starting the study responded to this interview). Almost all respondents at the one month interview were satisfied or very satisfied with the pharmacist-supply (98%), felt they could ask the pharmacist any questions (97%), would recommend the pharmacist to a friend (97%) and found it very convenient or convenient to get their supply from the pharmacist (98%). During the one year study, nearly 40% contacted another health care provider.

Pharmacists were confident and comfortable with this role with contraception. They found the protocol and data collection materials easy to follow. Pharmacists wanted a lower age limit (16 years), and to use BMI rather than measured weight. Pharmacists were motivated to participate by wanting to provide a needed service and helping women have easier access to contraception, and wanted to be able to continue to supply contraception after the study.

An early learning curve was described. In seven cases (3.5%) hormonal contraceptives were supplied outside of the protocol – elevated blood pressure at the initial or 3-month visit (n=5) and contraindicated concomitant medicines (n=2). Most were recent or current users of hormonal contraceptives at time of initiation. These were caught at the doctor check on the forms. The study authors recommended that such a check be used, particularly at initiation of the service.

A validation substudy in the Direct Access study compared a consumer self-reported questionnaire and medical evaluation questionnaire completed by each participant's health care provider.[16] Both questionnaires were completed on the same day. Agreement between

these questionnaires occurred in 392 of 399 comparisons. Where disagreements occurred, women were more likely to identify contraindications than their providers.

4. United States - Californian continuation of depot medroxyprogesterone

In a California study from 2003-2005, 27 pharmacists in community pharmacies partnered with 19 clinics to allow established users of depot medroxyprogesterone acetate to get reinjection from their regular clinic or a participating pharmacy.[30] It seems that this occurred on a collaborative supply arrangement by protocol. Pharmacists who were trained in injection technique underwent training in contraceptive management. Sixty nine women received 143 injections in the demonstration project. Uptake varied considerably between pharmacies, partly thought to depend on the support of the clinic in the project. One pharmacist with a strong relationship with a clinic administered 48% of injections. Another pharmacist involved in this project also administered around 400 depot medroxyprogesterone injections over a four year period outside of this demonstration project.

5. United Kingdom - Southwark and Lambeth study

A pilot study was conducted in 5 pharmacies in London to widen access to contraception in response to needs expressed by ECP service users.[47] Pharmacists (two per pharmacy) were trained through an MSc module at King's College London in Oral Hormonal Contraceptive Services. COCs and POPs were provided using a patient group direction (PGD). Evaluation of 21 months of contraceptive consultations was reported with key findings:

- 741 contraceptive consultations
- Consultation numbers varied considerably between pharmacies from 1 per month to 31 per month
- 512 consultations provided an initial supply of oral contraception, 46% of which were to women who had not previously used the oral contraceptive
- 181 consultations were for subsequent supplies – the main reason given for this being lower than the initial supply is because the client has returned to using ECP or condoms, largely because they do not have a regular partner, had moved from the area, or thought they had side effects from the pill
- Most supplies were for the COC (724 packs), typically Microgynon 30
- 196 packs of POP, typically Cerazette
- 36 consultations resulted in a general referral
- 3 consultations resulted in a referral for a person under 16 years
- 66% were with women under 25 years
- 45% of consultations occurred with ECP supply, 40% of consultations occurred after client request, 12.5% arose from referral from general practice, other pharmacies and sexual health clinics, and 2% arose from a conversation with the pharmacist (not ECP related)

- Pharmacists adhered to the PGD, made appropriate referrals, and provided a *"high quality contraceptive service"*.
- 97% satisfaction with the service from service users who valued the service highly, particularly the convenience, anonymity, drop-in system, long opening hours and lack of waiting time.
- Mystery shoppers were overall satisfied
- The pharmacy with the most contraception consultations had a significant drop in provision of ECP in the year after the oral contraception was introduced
- Local GP practices and sexual and reproductive health services have referred clients to the service
- Staff changes provided difficulty including stopping services at some pharmacies
- Supplies took on average 20-21 minutes for the initial supply (first-time or established user), 17 minutes for a subsequent supply, and 11-15 minutes for the various referrals
- In a three month period in 2011 9 pharmacies referred 29 EC users into LARC services, although none had attended for LARC by a month after the three month period ended. The report noted: "this result suggests the importance of maximising on any opportunity to provide service users with contraception 'on the spot'".
- A sub-study evaluating why 269 ECP service users did not want a contraceptive consultation found the top reasons were because the client: was already using oral contraception; was still considering oral contraception or LARC; was concerned about weight gain, fertility or other side effects; preferred condoms; has appointment elsewhere for oral contraception or LARC.

Recommendations from the pilot included:

- Consider expanding the service
- Reconsider the training
- Consider providing the service to women under 16 years where appropriate
- Further work to improve patient pathways, signposting and referrals between all contraceptive services
- Develop training at a national level in enhanced contraceptive counselling skills for all pharmacists to maximise opportunities to talk to young women about their contraceptive needs

The report outlined future possible models, and suggested considering expansion to 13-15 years old also.

6. Kuwait

In Kuwait, oral contraceptives are sold without prescription in pharmacies.[46] A national survey of households of Kuwaiti nationals from 1999 found that 81% of currently married women had ever used oral contraceptives, three-quarters of whom consulted the doctor prior to first

use, and about half bought it from the pharmacy (thus, some who bought it from the pharmacy consulted the physician first). Most women bought ongoing supplies from the pharmacy. The respondent herself only bought the oral contraceptive herself in 39% of cases. For these women, only 13% were told about side effects (no comparison was provided for doctor initiation). Women who consulted the physician prior to first use were largely similar to women who did not, but urban women were significantly less likely to consult a physician. First time oral contraceptive users who stopped using the oral contraceptive typically did so to get pregnant (78%). Approximately 15% of respondents discontinued because of health concerns or side effects. Discontinuation rates and failure rates were similar whether a doctor was consulted prior to first use or not. There was no comparison of contraindications to use in both groups, nor any further information about which oral contraceptive was used – COC or POP. Kuwaiti nationals get free healthcare and medication through government health facilities, which provide around 90% of healthcare. Doctor access should be good with 523 people per doctor. There are also private hospitals and doctors noted to be affordable to most Kuwaitis. The authors of the paper noted that "a Kuwaiti woman has ample opportunity for consulting a physician for any reason, including contraceptive needs". The fact that many women chose to pay for the oral contraceptive through the pharmacy, rather than obtaining it for free from the doctor was not investigated, but could suggest that convenience of supply was important.

7. Jamaica

In Jamaica most women get their oral contraceptives directly from the pharmacy.[34] Jamaican research which included mystery shopping and interviews showed some excellent behaviour and some substandard behaviour in pharmacist provision of oral contraceptives, including inadequate advice.[34] Ninety-four per cent of women purchasing the oral contraceptive from the pharmacist had had it before, and knowledge was found to be reasonable in more than 80% of new and continuing users, so pharmacists may perceive underlying knowledge to be sufficient, and that questions will be asked if unsure. Historically oral contraceptives were more openly available in Jamaica (not just from pharmacies until the late 1990s) so there was a precedent for low or no counselling. In mystery shopping, pharmacists took a cautious approach with a teenager starting contraception, typically referring this mystery shopper to the doctor. Interviews with 524 pharmacy customers and 78 pharmacists found both groups were knowledgeable about most aspects of oral contraceptive use. However, users did not know what to do about missed pills, and written information with the oral contraceptives was not easy to understand.

The NZ situation is different to that in Jamaica. NZ pharmacists would receive special training, and have to pass a test before they can supply these medicines. They will have consultation tools and take blood pressure at each visit. Consumer-friendly written information would be provided to women. Pharmacists would risk losing their accreditation if they allow sale by a

non-pharmacist or supplied it inappropriately. Furthermore, there is no historical precedent in NZ of sale through non-pharmacists, and pharmacy organisations and the training will clearly outline requirements for supply. NZ research indicated that pharmacists took their role seriously with oseltamivir in terms of screening and rejecting inappropriate supplies.[36,37] With accreditation, we expect pharmacists to take their role with the oral contraceptive at least as seriously as with oseltamivir.

From the above examples of pharmacist-supply of oral contraceptives, the message for this reclassification application is to ensure only trained pharmacists undertake these supplies, to include counselling in the training, to provide good clear guidance to pharmacists, and written information to the patient, and to audit consultation forms for each pharmacist within a short time of the consultation when they start to provide the service. We suggest that pharmacists have each of their first 20 consultations audited within five days of providing oral contraception, as part of their training process. Prompt feedback would be provided should a deviation occur.

We will be clear about the expectation that consultations will be around 20 minutes long, and require a private consultation room, so that pharmacists will decide whether or not that will be workable in their practice before committing to training.

Other self-screening/pharmacy screening

A Mexican study in the 1980s found similar health profiles between women screened for pill use, women examined for pill use by doctors, and women receiving oral contraceptives with no medical supervision.[105] The authors noted that the women in the study, despite having generally low education, were well informed about their own health status.

A study in El Paso found that women could ascertain contraindications to the POP similarly well to nurse practitioners when women self-screened and a nurse practitioner screened on the same day.[106] Only 0.4% of women did not identify a contraindication which the nurse did. A further 0.6% of women considered they had a contraindication when it was not in fact a contraindication.

Differences between the POP and the COC

Although the POP (also known as the 'mini-pill') has been regarded historically as less effective than the COC, they may in fact be similar.[107] The biggest difficulty with the POP is the need to take the tablet within a three hour window to be effective, but the desogestrel POP has a greater window. If the tablet is taken more than 36 hours after the previous dose (a 12 hour window), other contraceptive precautions need to be taken.[108] The POP has fewer contraindications and precautions than the COC, but presumably also has fewer of the secondary benefits, e.g. on ovarian cancer.

Addressing misconceptions

Many women have fears about oral contraceptives out of proportion to the risks of these medicines, or that are complete misconceptions.[20,53,80,94,109] In a US study, most of the women who said the COC was medically unsafe for them or were unsure about the safety of it for them did not actually have contraindications to use.[20] Grossman and colleagues stated that "fear of side effects, fostered by alarmist labelling, is a leading reason that women do not use contraceptives".[72] A Finnish study found a quarter of oral contraceptive users were worried about adverse effects on future fertility.[109] Media tends to report 'scare' stories and not benefits about the oral contraceptive, such stories in 1995 about the COC and DVTs was followed by an increase in abortions in the UK of 16%.[19] Therefore, care needs to be taken to ensure balanced communications with women about oral contraceptives, to ensure that risks are not perceived by women to be greater than they are. The information sheets have been written to highlight safety and benefits and attempt to provide a balanced approach to contraindications and side effects. The training will also encourage pharmacists to speak of the safety and, while checking contraindications, will try to provide appropriate perspective around these. As is recommended for all health professionals when providing contraceptives,[80] the guidelines will require that written information be provided at every occasion.

As noted above, the reclassification of oral contraceptives may reduce some of the misconceptions. Being a prescription medicine may make these medicines seem more dangerous than they actually are.

BP monitoring

There is a need to identify hypertension before any supplies and at follow-up visits.[72] BP measurement will be required for all supplies, whether repeat or initial, and women initiating will be advised to have another BP reading in 3 months. We have included blood pressure checks and clearly stated referral to the doctor is necessary for the COC with a BP at or above a systolic of 140 mmHg or diastolic of 90 mmHg. Two US studies suggest that up to 6-7% of women obtaining the COC on prescription have hypertension (based on readings on a single occasion).[96,110] A Spanish study found 10% of women with doctor-diagnosed hypertension were taking the oral contraceptive.[111]

Many community pharmacies in NZ already offer BP checks. The Pharmaceutical Society states that "pharmacists undertake blood pressure measurements and other monitoring functions…".[112] The Auckland School of Pharmacy provides comprehensive training on BP measurement including using a variety of blood pressure meters from digital to a manual aneroid sphygmomanometer. This training started at least 6 years ago. The Otago School of Pharmacy does not provide such comprehensive training at this stage. We are working with

pharmacy organisations to clarify BP monitoring to ensure accuracy of measurement where it is used for decisions of whether or not to provide medication.

In the US, community pharmacists have been collaborating with doctors to monitor hypertensive patients to improve compliance and BP control, and some screen BP in both people on antihypertensives, and those who are not. [113] In 1993, Trussell noted that many US pharmacies offered BP testing.[114] In 2013, the American Heart Association, the American College of Cardiology and the Center of Disease Control in the US highlighted an opportunity for an increased role of the pharmacist in hypertension treatment and control.[115] In some cases, doctors refer patients to the community pharmacy to measure BP, modify regimens, and adjust doses according to agreed protocols. Research has shown that especially trained pharmacists, often in community pharmacy, have improved patient's BP control through education, monitoring, modifying doses or medicines and checking compliance.[116-118]

In Australia, the Stroke Foundation and Pharmacy Guild of Australia have combined to get community pharmacies to provide a "Know your numbers" health check station. These pharmacies have used Omron monitors (typically the Ultra Premium model) and the resource kit and manual to run the health check stations and provide referral letters for the person to talk to their doctor. Pharmacies have the BP monitors checked for accuracy every two years.

In the UK, pharmacies have a Standard Operating Procedure (SOP) for BP testing. This requires specific training for BP monitoring. In one pharmacy group spoken to, the training is carried out in-house, with records of the training kept. The UK General Pharmaceutical Council inspection unit oversees pharmacy equipment.

Continuation of supply where contraindications are present

Women who have contraindications to either the COC or POP who have been prescribed the medicine and seek continued supply from pharmacy will need appropriate management. A large US study (1999-2001) found contraindications to the COC present in 6% of oral contraceptive users – but it excluded information on thrombotic conditions and migraine with aura,[119] so likely underestimated prevalence. Other US studies have found a higher percentage of women using oral contraceptives have at least 1 high-risk condition.[20,96] One of these studies in El Paso, Texas, found potential contraindications were no lower in those getting it prescribed by a US doctor than in those going across the border to get the medicine from Mexican pharmacies.[20] Fewer women will have contraindications to the POP. A study screening 1271 women in El Paso, Texas, found 1.6% had a contraindication to the POP.[16] Mystery shopping of doctors is rare, but such a study in Mexico found only 47% of (mostly gynaecologist) doctors measured blood pressure during an appointment initiating oral contraceptive therapy.[120] While smoking history was asked by 84% of doctors, 38% did not ask about clotting problems, 51% did not ask about history of breast cancer, and 36% did not ask about migraines.

While little NZ evidence exists, research examining VTE cases from 1996-2002 found 9.3% of women who experienced a VTE were on second or third-generation oral contraceptives despite a past history of VTE.[121] Thus, it is likely that some current users of the medicine presenting in pharmacy may appear to have contraindications to use. Hence, we are screening continuation supplies and initiation for contraindications. Should the woman appear to have a contraindication, the pharmacist would attempt to contact the prescriber, and if this is not possible, would refer the woman back to her doctor, noting that she is outside the pharmacist-supply criteria. Should the woman have run out of the medicine and her doctor not be accessible, Pharmacy Defence Advice is that the pharmacist would be expected to recommend condom use or abstinence. The training will include this scenario, and written guidance will be provided for pharmacists in their kit of information.

Earlier sexual activity or promiscuity

It is not believed that easier access to the oral contraceptive will encourage earlier sexual activity or promiscuity. Condoms are already available, as is (the rather less desirable) unprotected sex. This concern was raised with the emergency contraceptive, with studies refuting such fears.[122]

Failure and compliance

Although in theory pregnancy should only occur in 0.3% of women taking oral contraceptives, in real-life pregnancy occurs more often.[123] Compliance with the oral contraceptive (and some other contraceptives) is often suboptimal.[124] Inconsistent use of the oral contraceptive nearly trebles the risk of unintended pregnancy.[125] Reasons behind non-compliance include lack of established routine, not reading or understanding the pack insert, inadequate healthcare professional advice, and side effects. Better quality of care when starting on contraception encourages higher continuation.[145] Therefore, pharmacists will get training including information about advice to give and addressing fears the woman might have about the contraceptive. Additionally, pharmacists will have a consultation form to prompt on advice to give, to ensure all aspects are covered.

Therefore, pharmacists' training will include the prevalence of and reasons behind non-compliance, and advice to give. This should provide additional benefit when counselling women receiving prescription oral contraceptives. Additionally, we have written material that must be provided with supply. Studies have shown that simple educational material can improve women's knowledge of contraception.[126-128] Grimes reported *"…little evidence exists that busy office-based physicians currently spend much time counselling…"*.[129]

Cervical cancer smear tests

The World Health Organisation states that screening for cervical cancer and STIs *"…should not be seen as prerequisites for the acceptance and use of family planning methods when they are*

not necessary to establish eligibility for the use or continuation of a particular method."[85] The American College of Obstetricians and Gynecologists Committee on Gynecologic Practice supported the reclassification of oral contraceptives, noting that *"cervical cancer screening or sexually transmitted infection (STI) screening is not required for initiating OC use, and should not be used as barriers to access."*[13] It also noted the research by Hopkins, et al. (2012) that showed high rates of smear tests in women using non-prescription oral contraceptives. This research study using US women in the Border Contraceptive Access Study found non-prescription users of the oral contraceptive often reported having had a Pap smear (97% ever had, 91% had in last 3 years).[130] Leeman in 2007 also noted that restricting contraceptive use only to those who have a pelvic examination and screening *"needlessly decreases[s] contraceptive access."*[38] The UK Selected Practice Recommendations for Contraceptive Use considers blood pressure as the only test required before starting oral contraceptives.[131] Other tests (e.g. breast examination, cervical cancer screening, STI tests and pelvic/genital examination are considered to *"not contribute substantially to safe and effective use of the contraceptive method"*. Women who are not currently taking the oral contraceptive will often still be at risk of cervical cancer, so strategies other than getting a smear when a woman gets her contraceptive are already needed.

Cervical cancer takes on average 10-20 years to develop, and smear tests work well in preventing this condition.[132] The incidence of cervical cancer in NZ is 6 per 100,000, and declining. About 50 women per year die of this condition[133] – most of whom have never been screened, or have been screened irregularly and infrequently.[132]

The 2008 NZ policy for screening is three-yearly cervical smears from 20-69 years old, with the first smear or any after a 5 year gap followed by another smear one year later.[132] This policy paper notes the contrast with WHO recommendations and that in other countries. The UK starts at 25 years; and, as per WHO recommendations, the Netherlands and Finland at 30 years. The minimum age recommended in NZ is expected to increase, particularly given the HPV vaccination programme. Therefore, for women who are under 20 years old (or possibly even under 25 or 30 years old if you consider the UK and WHO recommendation) and getting oral contraception from the pharmacy, smear tests are not required. For women 20 years and over, the pharmacist will remind them to get their smear test. US information is promising. Few women in El Paso, Texas, chose pharmacy supply of the oral contraceptive over clinic supply because of not needing a pelvic examination.[68] In a US survey, 88% of women not using contraception still reported having a smear test.[61] In NZ, 70-75% of eligible women are on the Cervical Smear Programme.[132] Women over 20 years will be getting the message at their pharmacy, will get reminders if they are on the Cervical Smear Programme, and should get the message when they visit a GP – women who should be having smears will need to visit their GP for various reasons other than contraception. In current prescribing in NZ, the oral contraceptive is not with-held on the basis of no smears being done. The American College of Obstetricians and Gynecologists stated in 2012 that *"screening for cervical cancer or sexually*

transmissed infections is not medically required to provide hormonal contraception."[13] The need to do smear testing is not a valid reason for not reclassifying the oral contraceptive pill.

Finally, David Grimes, a US doctor Board-certified in both obstetrics and gynecology, and in preventive medicine, stated in 1995:[129]

"…preventive health services are important in their own right and should not be an appendage of contraception. Stated alternatively, women should not have contraception held hostage because of unrelated screening tests, especially when the results will not influence the decision about oral contraception. As one observer wryly noted, should a man's purchase of condoms from a pharmacy be contingent upon a digital rectal examination for prostate cancer?"

NZ research showed a school-based health service did not appear to reduce the number of students seeing their GP in the last 12 months.[134] Teenagers and adults already see their doctor for non-contraceptive consultations, and thus opportunistic screening can still occur.

Injectable medroxyprogesterone

Injectable medroxyprogesterone has not been highlighted for reclassification in this application. We believe pharmacists will be capable of supplying and administering this injection (with training on the IM injection if not already vaccinating) and screening for contraindications and precautions. Given the previous dose time may be unknown, and possible bone density effects (albeit that bone density improves at cessation),[38,53] we have not included this medicine in our reclassification application. However, we recognise that compliance is variable with tablets, and having a long-acting option readily available may suit some women better. Furthermore, WHO guidelines recommend that benefits of this medicine outweigh any potential risks.[53]

Sexually Transmitted Infections (STIs)

In 2011, chlamydia was the most commonly reported STI in NZ with an estimated rate of 0.8%.[135] Seventy per cent of cases occur in people under 25 years old. Laboratory surveillance data suggests rates of chlamydia were stable between 2006 and 2011. It is asymptomatic in 50% of men and 70% of women.[136] The NZ Sexual Health Service (NZSHS) Guidelines recommend testing people who are sexually active under 25 years, or if they have had more than 2 partners in the last year, have had an STI in the last year, or had a sexual partner with an STI. Gonorrhoea and syphilis are considerably less common, and declining. For the consideration of the oral contraceptive reclassification, there is a precedent in the reclassification of the ECP in NZ and most developed countries. Pharmacists will receive training on STIs in their training and be given the NZSHS Guidelines for their folder of information. Screening and advice (verbal and written) with provision of the COC and POP will include STI risk factors and referral if necessary. Even without the certainty of supply through especially trained pharmacists, the American Committee on Obstetrics and Gynecology considered reclassification appropriate noting that STI screening *"is not required for initiating*

OC use and should not be used as [a barrier] to access."[13] In the US Border Contraceptive Access Study, women obtaining non-prescription oral contraceptives from Mexico reported high levels of having been screened for STIs. It was not as high as the clinic users in the study (72% versus 87%, respectively), but in our model proposed we note especially trained pharmacists will provide verbal and written information regarding STIs, with a prompt on the consultation sheet.

Long-acting Reversible Contraception

Long-acting reversible contraception methods (LARC) are an important option in contraception as they have a lower failure rate than the pill and the condom.[85] However, they appear to be less accepted to the patient given usage data in NZ (Appendix 1) and the US. The pill remains the most used contraceptive measure in the US, used by 17% of women aged 15-44 years.[55] In 2006-2008, only 3% of US women aged 15-44 years were using intrauterine devices, 2% were using depot medroxyprogesterone and fewer than 1% were using the implant.[55] In NZ, accurate LARC figures are not readily available, although it is acknowledged to be low. Qualitative research in NZ suggests multiple reasons behind this, including lack of knowledge of LARC methods and cost.[137] LARC options may provide less flexibility for starting a family, should circumstances change (e.g. relationship break-up and contraception is unnecessary), or should side effects occur. Some may need the patient to return to the clinic or go elsewhere for administration. One study found that teenagers who decided to use Depo-Provera but could not receive it at that appointment took on average 104 days to get the appointment to have the injection, with 7% becoming pregnant in the interim.[138]

Lack of knowledge by patient and doctor also provide a barrier to obtaining LARC.[139] Pharmacists will be educated about reliability and safety of these methods so they can help promote them to women, discuss them with women, and refer the woman to a provider as necessary. LARC will be covered in written hand-outs. Women may then know to initiate conversations about LARC with their doctor.

In the Southwark and Lambeth project of pharmacist-supply of contraception in London (see further detail below), despite pharmacists discussing LARC and referring for LARC, LARC had low uptake,[47] suggesting women were not interested or had barriers to access other than lack of awareness. The American College of Obstetricians and Gynecologists stated that *"…efforts to improve use of long-acting methods of contraception should not preclude efforts to increase access to other methods."*[13]

Medical views

Internationally, there has been considerable support from doctors to reclassify oral contraceptives, as evidenced by the quotes provided earlier. The American College of Obstetrics and Gynecology (ACOG) has recommended reclassification of the oral

contraceptive.[13] The Committee on Gynecologic Practice, of the ACOG, published a 5 page Committee Opinion in December 2012, stating that *"weighing the risks versus the benefits based on currently available data, OCs should be available over-the-counter".* See Appendix 4 for this document which provides a comprehensive consideration of reclassification.

US obstetrician and gynaecology or family practice resident physicians were surveyed by researchers from the Department of Obstetrics and Gynecology from the University of Missouri.[73] Seventy-one per cent of respondents disagreed with reclassification of the COC, primarily citing safety reasons. Half of the respondents were negative about the POP reclassifying, again, usually citing safety reasons. The authors found this puzzling given the safety of the POP, and suggested that the participants may have been against women making contraceptive decisions without the physician, or that these doctors had received insufficient education about the safety of the POP. Alternatively, a low response rate may reflect participation by those feeling strongly about the concept. Had the survey presented a scenario including pharmacist-screening, it may have changed the findings. It has long been noted that doctors may lose important income from prescribing oral contraceptives.[41] This is irrelevant for a reclassification application, but potentially could result in concern from medical organisations. However, when the bill came up in California in 2013 to expand pharmacist's scopes to allow supply of oral contraceptives, and of vaccinations without need for a collaborative agreement, the California Medical Association took no position on the measure.[140] Possibly supply by pharmacists under collaborative agreements, the ECP experience, and/or three years of nurse supplies of oral contraceptives through clinics[2] had provided confidence to the doctors in the state. When a minor ailments scheme started in Scotland, the move in patients from doctor to pharmacy for minor conditions did not reduce the overall workload of doctors, but freed up time for other patients' needs.[141]

A recent qualitative study found most Californian doctors and advanced practice clinicians interviewed considered the prescription-only access to hormonal contraception was too restrictive.[142] Nearly two thirds of the 20 participants preferred a pharmacy access model, OTC or behind the counter supply of contraception.

Confidentiality

Confidentiality is important. Pharmacists will only be able to provide oral contraception in pharmacies with a private consultation room. Pharmacy assistants will receive information about the new service from the pharmacist they work with, from articles in Pharmacy Today and from Pharmacybrands and the Pharmacy Guild of New Zealand. This information will cover what is available, how it is available, and highlight confidentiality and sensitivity in in referring requests for contraception to the pharmacist.

[2] In California, legislation was passed three years ago allowing nurses in clinics to supply oral contraceptives (Personal communication, K Besinque, 30 Jan 2014)

Availability for queries

Being available for queries after supply is important. When pharmacist-supply of oral contraceptive occurs, we will recommend that pharmacists encourage the woman to ask if any questions, and phone, email or drop in with any questions they might have, providing a card with the pharmacy opening hours, phone number and email contact. The information sheet will also include a website address with information on pharmacist supply, FAQs, links to other reliable information sites on contraception, such as Family Planning, and advice to see their doctor or a family planning doctor for other forms of contraception.

Young people

Young people particularly need sensitivity and assurance of confidentiality in dealing with them with contraception. A mystery shopping study in the UK found difficulties occurred for young people seeking services around contraception at reception of sexual health services, although the clinicians were rated highly.[143] For example, mystery shoppers were told they were too young to use the service, that the service was not available, and that they would have to wait two weeks for the service. While many pharmacists already provide the ECP to young people, part of the training will particularly focus on their needs and how to make them comfortable, including discussion of confidentiality, and ensuring pharmacy staff are trained in how to handle sensitive queries from young people. We will be encouraging people to ask to speak to the pharmacist, rather than necessarily asking for a contraceptive. This will help reduce embarrassment and maintain privacy. Young people are at higher risk of STIs, and this will be covered in the training for pharmacists, as well as in the advice part of the consultation sheet.

The proposed minimum age for supply is 16 years, because other issues may arise for a younger population, for example sexual intercourse at a particularly young age may have coercion involved, the body is less mature, and 16 is the legal age for consent to sexual activity. Some could argue that a 15 year old who requests oral contraception might be better served by supplying it in pharmacy than denying it (should the rest of the criteria be met). However, condoms could be offered should an under 16 year old request the POP or COC, and she would be referred to the doctor for ongoing contraception. Guidelines will include that pharmacists offering this service provide a list of local clinics addresses and telephone numbers, including the Family Planning Clinic, if applicable, to facilitate a young person getting further assistance. It is not expected that ID would be requested showing the age unless a pharmacist particularly suspected a girl was lying about being 16 years old. We are open to committee views on the minimum age for supply.

Inadvertent use in pregnancy

Women may be pregnant without realising it when getting pharmacist supplies. This could also happen with supplies from prescribers. The UKMEC reports: *"there is no known harm to the woman, the course of her pregnancy, or the fetus if accidentally used during pregnancy."*[95] Additionally, for initiating therapy, pharmacists will have US guidelines (2013) state that a woman is unlikely to be pregnant if she has no symptoms or signs of pregnancy and any one of the following apply:[45]

- Is ≤ 7 days after the start of normal menses
- Has not had sexual intercourse since the start of the last normal menses
- Has been using a reliable method of contraception correctly
- Is ≤ 7 days after an abortion or miscarriage
- Is ≤ 4 weeks post-partum
- Is fully or nearly fully breastfeeding, amenorrhoeic and < 6 months post-partum

Dose

Standard dose (30-35 µg ethinylestradiol) pills have better cycle control and pregnancy is less likely with imperfect use than low dose pills,[144] and therefore this will be first option in initiation of the COC. However, low estrogen formulations reduce estrogen-related side effects of bloating and breast tenderness.[98]

Summary

Oral contraceptives have a similar safety profile to other medicines that are available without prescription. They have clear risk factors that women have been able to self-screen for. Using pharmacist-supply will ensure that only women who have a low risk on comprehensive screening can obtain oral contraceptives without prescription. These low-risk women would be considered eligible for oral contraception by any other health provider. Pharmacist provision of oral contraceptives under collaborative agreements has occurred in parts of the US. These supplies are not limited to the doctor's patients, and include initiation as well as continuation. Research suggests high levels of pharmacist compliance with the protocol.[16]

While the COC has an increased risk of VTE, we are taking a very conservative approach in screening women for risk factors and having a low threshold for referral. Furthermore, in the long-term positive effects include a strong and well-established protective effect on ovarian cancer.

Risks of missing smear tests and STI testing have been managed by appropriate training of the pharmacist and including this in verbal and written advice to patients. Medical opinion in the literature strongly supports unbundling this from oral contraceptive supplies.

Risks of poor adherence and LARC options have been addressed through comprehensive training of the pharmacist, as well as verbal and written advice for the patient. Pharmacists already have high awareness of compliance issues. Understanding just how prevalent compliance issues are with oral

contraception will help pharmacists address this with patients both in pharmacist-supply and prescription supplies.