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*Reproductive and Sexual health education for health professionals*

# Long Acting Reversible Contraception (LARC)

Dr Caroline Harvey

April 2019

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# Internationally and in Australia…things have changed in contraception

**LARCs should be offered as first line options for <u>all women</u>**

**Intrauterine methods not just for middle ages multiparous women**

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# What's LARC?

TIME FOR A CHANGE

## And what are the choices?

Love, life & LARCs
KNOW YOUR OPTIONS

I ♥ MY LARC
LONG-ACTING REVERSIBLE CONTRACEPTION

I ♥ MY LARC

# Long Acting Reversible Contraception:

(definition= a method administered less than once per month)

## 1st Tier ("Top Tier")

*Intrauterine Contraceptives:

Copper IUDs

Hormonal IUDs (Mirena ®)

*Contraceptive implant (Implanon NXT ®)

## 2nd Tier

*Contraceptive injection (Depot MedroxyProgesterone Acetate as Depo Provera or Depo Ralovera)

# Contraceptive efficacy: perfect & typical use rates

| method | Perfect use effectiveness % | Typical use effectiveness % |
|---|---|---|
| Contraceptive implant | > 99.9 | 99.9 |
| Hormonal IUD | 99.8 | 99.8 |
| Copper IUD | 99.4 | 99.2 |
| Depot injection | 99.8 | 94 |
| Combined pill & ring | 99.7 | 91 |
| Progestogen only pill | 99.7 | 91 |
| Diaphragm | 94 | 88 |
| Male condom | 98 | 82 |
| Withdrawal | 96 | 78 |

Adapted Trussel j. contraception 2011; 83 (5)

# Effectiveness of LARC: evidence from the St Louis CHOICE project

- Prospective observational cohort study 2007-2011
- Free contraception provided to **9,256** women aged 14 to 45
- **LARC-users – pregnancy rate 1/20 non LARC users**
- Women < 21 years using non-LARC **almost twice the risk of unintended pregnancy** as older women
- Teenage birth rates (2010 -2011) fell to 6.3 per 1000 in St Louis
  ( 34.3 per 1000 in US population )

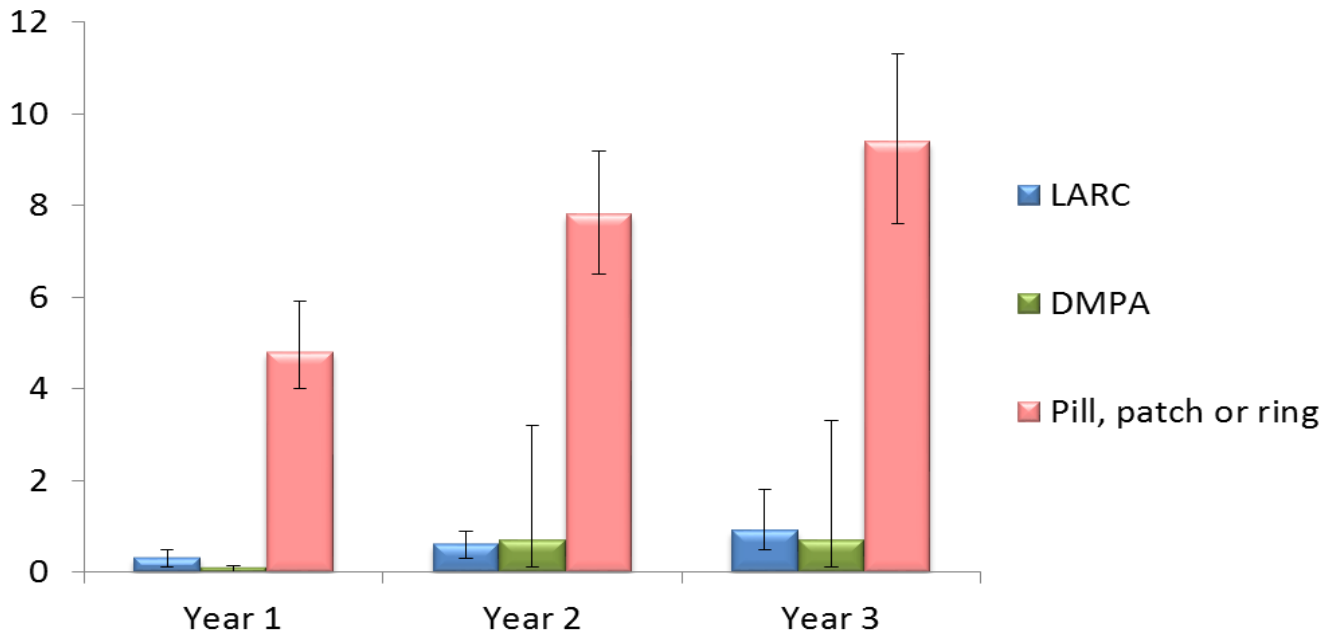
** LARC defined as implants & IUDs in this study*


1. Winner B. *N Engl J Med* 2012: 366: 1998-2007



2. Slide Acknowledgement: Dr Deborah Bateson FPNSW

# Cumulative percentage of contraceptive failure at 1, 2, or 3 years by contraceptive method[1]




- Participants using pill, patch or ring had significantly more unintended pregnancies than those using LARC (P<0.001) or DMPA (P<0.001)

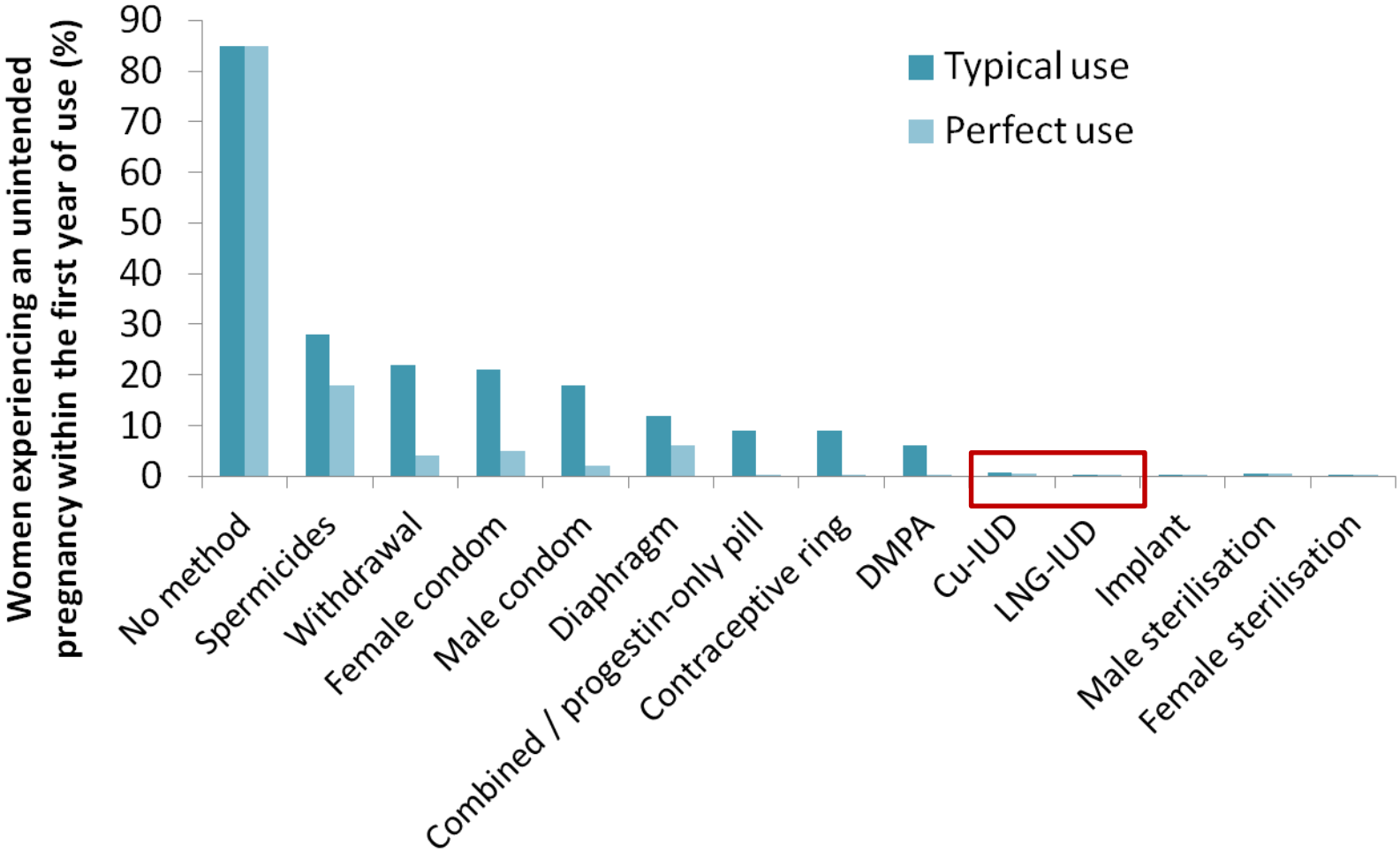
1. Winner B. *N Engl J Med* 2012: 366: 1998-2007.

## Choice Project: Continuation rates at 12 and 24 months

| | 12 months | 24 months |
|---|---|---|
| Overall | 78.7 | 67 |
| LNG IUD | 88.1 | 78.9 |
| Cu IUD | 85.1 | 77.3 |
| Implant | 83.4 | 68.5 |
| DMPA | 57.5 | 38 |
| Combined pill | 59.0 | 43.1 |
| Ring | 56.0 | 41.1 |
| LARC | 86.7 | 76.6 |
| non-LARC | 57.1 | 40.9 |
| Aged 14-19 years | | |
| LARC | 81.8 | 66.5 |
| non-LARC | 48.8 | 36.6 |
| Aged 20-45 years | | |
| LARC | 87.4 | 78.2 |
| non-LARC | 58.8 | 41.8 |

O'Neil-Callahan, M., et al. (2013). *Obstet Gynecol* **122**(5): 1083-91.

# Pregnancy rates with LARCs are low




Adapted from Trussell J. *Contraception* 2011;83:397–404.

# Why the push for LARCs?

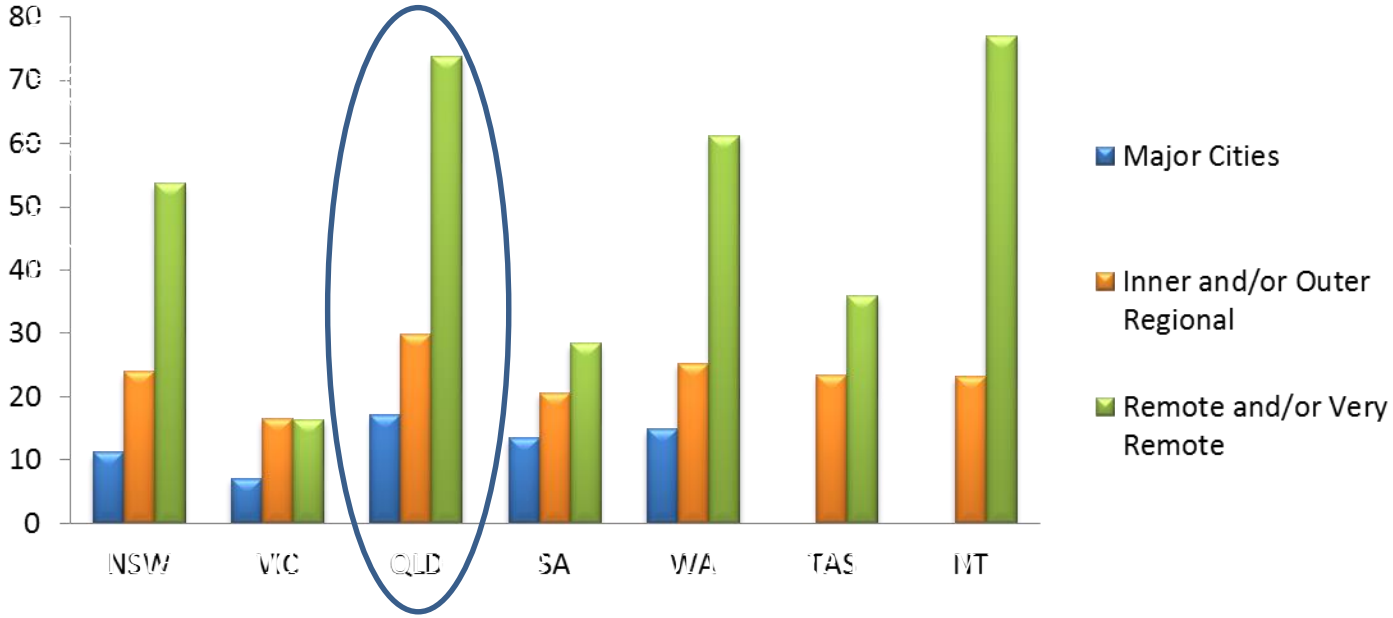
- “Unmet” contraceptive needs ?
- Access to effective contraception is a public health issue
- System and training issues

# Global abortion rates: 2000 - 2003[1]

| COUNTRY | Rate per 1,000 women aged 15-44 years |
|---|---|
| USA | 21.3 |
| New Zealand | 21.0 |
| Australia | 19.7 |
| Sweden | 19.6 |
| England/Wales | 16.1 |
| Canada | 15.4 |
| Norway | 14.8 |
| Finland | 10.9 |
| The Netherlands | 8.7 |
| Germany | 7.7 |

**1.** Chan A, Sage LC. *MJA*, 2005; 182(9): 447-452

# Australian adolescent **(15-19 years)** fertility rates by State and Territory: 2012





1.Lewis LN *et al. Med J Aust* 2009.18(190):537-41.

2. van der Klis KA *et al. Aust N Z J Public Health* 2002; 26: 125–31.

# Estimates of contraceptive use in Australia

| Method | 2001[1] | 2014[2] |
|---|---|---|
| Oral contraceptives | 36 | 33 |
| Condoms | 28 | 30 |
| vasectomy | 19 | 13.7 |
| Tubal ligation | 11 | 5.7 |
| Implant | 1 | 4.9 |
| IUDs | 1.3 | 6.1 |
| withdrawal | 1.8 | 1.3 |
| DMPA | 1.7 | 1.5 |
| FABMs | 2.9 | 1.4 |

1.Richters et al (2003)Contraceptive practices among women. Contraception: 94: 27
2.Richters et al (2016)Contraceptive practices among a representative sample of women.Aust NZ J Public Health

# LARCS in Australia

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- "Time For a Change": Increasing the use of LARCs in Australia- SHFPA 2013
- 15 Recommendations

- Health system
- Research
- Health Providers
- Health Service Providers
- Community and professional education

TIME FOR A CHANGE

FAMILY PLANNING ALLIANCE AUSTRALIA

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# LONG ACTING REVERSIBLE CONTRACEPTION (LARC)

## POSITION STATEMENT

### BACKGROUND

A Long Action Reversible Contraception (LARC) method is one that requires administration less than once per month. LARC includes hormonal or copper-bearing intrauterine devices (IUDs), the hormonal contraceptive implant and the hormonal contraceptive injection Depot Medroxyprogesterone Acetate (DMPA). Due to its high discontinuation rate[1] and frequent administration schedule DMPA is not included within the scope of this statement.

LARC is more effective in preventing unintended pregnancy and has higher continuation rates than shorter acting methods including the contraceptive pill.[2]

Uptake of LARC in Australia is low in comparison to other developed countries.[3] Whilst there is no routine national data collection on contraception usage, recent survey data suggests that implant, injectable and intrauterine device (IUD) methods combined are used by fewer than 10% of Australian women.[4]

There is no conclusive evidence that identifies reasons why LARC uptake is low in Australia.

Abortion rates are a proxy measure of the prevalence of unintended pregnancy. There is no national data collection on the incidence of induced abortion in Australia. However, in 2004 the number was estimated to be 83,000 which equates to one abortion for every four known pregnancies.[5]

Unintended pregnancy among Australian women is considered to be a significant public health issue.[6]

Multiple factors influence a woman's decision to use LARC including access, lack of awareness and information as well as misconceptions about their safety and side-effects.[7]

### FAMILY PLANNING ALLIANCE AUSTRALIA POSITION

All women seeking contraception must be given accurate evidence-based information on the safety, efficacy, advantages and disadvantages of all contraceptive options.

All women seeking contraception must be assisted to make a choice based on their personal needs, preferences and medical suitability.

LARC methods are highly effective, reversible forms of contraception.

Improving access to LARC is an effective strategy in preventing unintended pregnancy.

LARC is highly effective and safe for women across the reproductive life course, including younger women and those who have not had children.

### FAMILY PLANNING ALLIANCE AUSTRALIA WILL ADVOCATE FOR INCREASED USAGE OF LARC THROUGH:

- Building the contemporary Australian evidence base to determine rates of unintended pregnancy, abortion and contraceptive use as well barriers to LARC usage to inform the development of strategies to increase uptake.
- Awareness, information and education campaigns aimed at women and healthcare providers to accurately inform the community about suitability.
- Ensuring that accurate information about LARC is included in training courses for healthcare providers, including GPs and practice nurses.
- Increasing the capacity of nurses in the provision of LARC to increase access.
- Identifying incentives to increase LARC usage and bring about change.
- Promoting the development of nationally consistent data collections relevant to contraception and unintended pregnancy.

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# CONSENSUS STATEMENT

REDUCING UNINTENDED PREGNANCY FOR AUSTRALIAN WOMEN THROUGH INCREASED ACCESS TO LONG-ACTING REVERSIBLE CONTRACEPTIVE METHODS JULY 2017

**GOAL:**
**TO REDUCE UNINTENDED PREGNANCY FOR AUSTRALIAN WOMEN THROUGH INCREASED ACCESS TO LONG-ACTING REVERSIBLE CONTRACEPTIVE (LARC*) METHODS.**

*For the purpose of this work, reference to LARC methods specifically means the progestogen only implant and hormonal and copper intrauterine devices (IUDs), and not progestogen depot injections.

## ENDORSEMENTS

This Consensus Statement has been endorsed by:

- acm Midwives
- acnp australian college of nurse practitioners
- ahha the voice of public healthcare
- Australian Research Centre in Sex, Health & Society
- CAIRNS DOCTORS
- Capital Health Network ACT's primary health network
- CHILDREN BY CHOICE ASSOCIATION INCORPORATED
- Health Consumers Council
- family planning nsw
- Family Planning Welfare Association of NT inc.
- Family Planning Tasmania
- family planning victoria
- MARIE STOPES AUSTRALIA
- phn NORTH WESTERN MELBOURNE
- Public Health Association AUSTRALIA
- The Royal Australian and New Zealand College of Obstetricians and Gynaecologists
- SHINE SA
- true
- Women's Community Health Network WA

FOCUS

# LARCs as first-line contraception: What can general practitioners advise young women?

**Meredith Temple-Smith,** Lena Sanci

**The Royal Australian and New Zealand College of Obstetricians and Gynaecologists**

*Excellence in Women's Health*

# Long acting reversible contraception

This statement has been developed and reviewed by the Women's Health Committee and approved by the RANZCOG Board and Council.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

**Disclaimer** This information is intended to provide

Objectives: To provide advice on long acting reversible contraception.

Options: For the purposes of this statement Long acting reversible contraception (LARC) includes the contraceptive implants, intrauterine contraception including the copper containing devices and the levonorgestrel intrauterine system.

Outcomes: Information about effective, reversible non user dependent contraception.

Target audience: All health practitioners providing gynaecological care and contraceptive advice and device insertion and removal to women.

traceptives (LARCs) is
successful in decreasing
ially in very young women.
ke rates of LARC.

latest information on
on in young women.

to Australia's prevailing
d practitioner and patient
ary of LARC, which have
are widely recommended
Health Organization (WHO)
women as they are safe,
n should be offered the
rmed decision for their

In seeking contraception, young women are typically demonstrating their intention not to become pregnant. However, as high rates of unintended pregnancy, terminations and use of the 'morning after pill' attest, many young women either use unreliable methods of contraception or are unreliable in their use of contraception.[1] Contraception should be easy, safe, reversible, reliable and have minimal side effects. This is especially important for those who are in the early stages of their sex lives, when fecundity and risk of sexually transmissible infections (STIs) are high, and immaturity combined with opportunity can compromise the best of intentions.

Long-acting reversible contraceptives (LARCs) are defined as any contraceptive that requires administration less than once per cycle (ie per month).[2] This includes copper and progestogen-only intrauterine devices (IUDs), and progestogen subdermal implants and injections. However, subdermal implants and IUDs, which have a life of at least three years, have superior efficacy over injections, which require administration every three months. Implants and IUDs are highly cost-effective when compared with other contraceptive methods.

By reducing heavy menstrual bleeding and menstrual pain, LARCs can also provide benefits beyond contraception.[3] What LARCs have in common is their efficacy; LARC methods are statistically less likely to result in an unintended pregnancy than vasectomy or tubal ligation.[4] One study estimated that if only 5% of British women of reproductive age who are typical users of oral contraceptives used a LARC instead, the decrease in contraception failure would result in 7500 fewer unplanned pregnancies annually.[5] Only IUDs and implants will be considered further in this paper.

Globally, it is recognised that adolescents are at high risk of unintended pregnancy, and that increased access to LARC methods would be of benefit in addressing this.[7,8]



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ahha

justhealth consultants

Australian Healthcare and Hospitals Association

# A health system that supports contraceptive choice

14 May 2016

# LARC uptake in Australia: still too low?

- 14 000 GP consultations: of the 6% for contraception, 69% were for oral contraception; 9% injections; 5% implants; 2% IUDs[1]
- IUC widely used method worldwide yet only 6% in Australia[2] vs 17% in France & 21% in Sweden[3]
- Low community awareness; lag in accurate knowledge amongst health care providers
- Persistence of myths & misperceptions? (IUC infection risk, future fertility & suitability for young and nulliparous women)
- IUC: Limited training opportunities; workforce issues; lack of clear, ***timely insertion-referral pathways***

1.Mazza D. Harrison C, Taft A et al *Med J Aust* 2012; 197: 110-114
2.Richters et al (2016)Aust NZ J Public Health
3.Black K, Lotke P et al. *Eur J Contra & Reprod Hlth Care* 2012; 17: 340-350;

Slide Acknowledgement: Dr Deborah Bateson FPNSW

# Not all LARCs are the same……

What are the challenges?

Have we muddied the waters?

# Implanon ® Advantages

- 99.95% effective
  - ovulation inhibition
  - changes in cervical mucus
- Lasts for 3 years
- Rapidly reversible

# Other advantages

- >85% report improvement in dysmenorrhoea
- Reduction or resolution of acne in 60% (reported as adverse effect in 12%)
- Safe in women with VTE risk (MEC 2 for past or current VTE)
- Can be used in breastfeeding women (MEC 1 from delivery)
- Very few contraindications
- Quick Start

Croxatto *Eur J Contracept Reprod Health Care* 2000
Taneepanichskul et al *Contraception* 2006

# Reasons for Discontinuation

- Adverse events was most common reason for discontinuation
  - This includes emotional lability [2.3%], weight increase [2.3%], acne [1.3%], headache [1.6%], and depression [1.0%])
- Bleeding irregularities was **single** most common reason for discontinuation

| Reason for discontinuation | All studies (N=942) |
|---|---|
| Adverse events | 13.9% |
| Bleeding irregularities | 10.4% |
| Planning pregnancy | 4.1% |
| Other reasons | 3.5% |
| Lost to follow-up | 2.4% |
| Amenorrhoea | 0.7% |

Blumenthal PD et al. *Eur J Contracept Reprod Health Care*. 2008

# Timing of Insertion

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Immediately effective if:

- Days 1 – 5 of menstrual cycle
- Within 14 wks of DMPA injection
- < 5 days since abortion or M/C ≤ 24 wks
- < 21 days post-partum

Otherwise, effective in 7 days

Contraception: An Australian Clinical Practice Handbook 4th Edition. 2016

## When should/can the implant be inserted?

- PI advises insertion day 1-5 of cycle (or anytime pregnancy excluded)
- BUT pregnancy can occur while waiting to initiate
- Consider **Quick Start:** initiating straight away rather than waiting for 'recommended time'

Quick Starting Contraception. Faculty of Sexual and Reproductive Healthcare. Clinical Effectiveness Unit 2010

# Quick Start – "Seize the day"

Quick start is a PRACTICAL strategy

With potential **advantages**:

- Decrease unintended pregnancies
- Improved adherence and continuation
- Useful when long and/or unpredictable cycles

- Pill and Implanon, sometimes DMPA but not IUDs

Faculty of Sexual and Reproductive Healthcare. Clinical Effectiveness Unit. ; 2010. Lopez, L. M., et al. (2008). Cochrane Database Syst Rev (2): CD006260. Rickert, V. I., et al. (2007), Schafer, J. E., et al. (2006),. Sneed, R., et al. (2005),. Westhoff, C., et al. (2002).. Balkus, J., et al. (2005). Edwards, S. M., et al\(2008)

# Bleeding Patterns

- Bleeding pattern will change
- Changes may relate to bleeding frequency (absent, less, more frequent, or continuous), intensity (reduced or increased) or duration
- Bleeding pattern experienced at about 3 months is broadly predictive of future bleeding patterns
- Amenorrhoea in about 1 in 5 women
- Frequent and/or prolonged bleeding in about 1 in 5 women
- Information and counselling are the most useful strategies to improve a woman's acceptance of her bleeding pattern
- Evaluation of change in bleeding may be indicated to exclude gynaecological pathology or pregnancy

Blumenthal PD et al. *Eur J Contracept Reprod Healthcare*. 2008

# Counselling re bleeding

- Bleeding is NOT periods
- Endometrial changes due to continuous systemic progestogen
- Thin but ‘fragile’ endometrium
- Microvascular bleeding

# Options for bleeding management

## Little evidence, short term benefit only

*First line options:*

- COC
- 5 days of NSAID e.g. mefenamic acid 500mg bd or tds, ibuprofen 400 - 800mg tds
- 5 days of tranexamic acid 500mg bd

*Second line options:*

- Norethisterone 5mg tds for 21 days
- LNG POP 30mcg bd for 20 days
- Doxycycline 100mg bd for 5 days
- Early replacement of implant

Contraception: An Australian Clinical Practice Handbook 4th Edition. 2016

# Implanon research

- Uptake increased and highest in youngest (Bingham et al,2016)
- Continuation rates (Lewis et al, 2006 Harvey et al 2003, Weisberg et al, 2014 )
- Benefits, undesirable experiences, perseverance (Inove et al, 2016)
- Acceptance and continuation in remote Aboriginal communities high (Griffiths et al,2016)
- Practice Nurse insertion high acceptance by GPs and PNs (Garrett et al, 2016)

# Advantages of intrauterine contraception

- Highly effective and very long-acting with minimal action required by the user[1]
- Effects are rapidly reversible once device is removed[1]
- Relatively inexpensive due to long duration of use (and LNG-IUD is subsidised on the PBS)[1]
- Provides a good alternative to sterilisation[1]
- May be useful for women concurrently using liver-enzyme inducing medication[2*]

1.Family Planning NSW, Family Planning Victoria and True. Contraception: an Australian clinical practice handbook. 4th edition, 2016.
2. National Collaborating Centre for Women's and Children's Health. Long acting reversible contraception – the effective and appropriate use of long acting reversible contraception. October 2005.
3. Forrest JD. *Obstet Gynecol Surv* 1996;51(12 Suppl):S30-4.

# Intrauterine contraception available in Australia[1,2]

| | LNG-IUDs | Cu-IUDs |
|---|---|---|
| **Description** | Small plastic device fitted in uterus which slowly releases levonorgestrel (20 µg/day) | Small plastic and copper device fitted in uterus |
| **Duration of use** | Stays in place for up to 5 years | Stays in place for up to 5 or 10 years |
| **Bleeding patterns** | Initial irregular bleeding/spotting<br>Makes periods lighter after several months<br>May cause amenorrhoea | May make periods heavier and longer in the first few months and/or may increase period pain |
| **Reliability** | >99% effective | >99% effective |
| **Return to fertility** | Immediate | Immediate |

1. Marie Stopes International Australia (2011). Contraception chart. Available at: http://contraceptioninfo.com.au/component/content/article/62-contraception-chart/132-contraception-chart-contraception-information-2. Accessed July 2011. 2. Family Planning NSW, Family Planning Victoria and True . Contraception: an Australian clinical practice handbook. 4rd edition, 2016.

# Intrauterine Methods

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- Few contraindications to **use** BUT

- **Insertion procedure** can be a specific barrier
  - Trained inserters
  - Patient factors
  - Timing/excluding pregnancy

- A “front end” method

# Case study:Tara

**Tara, 20 year old pharmacy student**

- Presents for contraceptive advice to
- Has tried the pill and implant and thinks that “hormones just don’t agree with me”
- Never had a Cervical screening test

# Further history

- Nulliparous
- In a mutually monogamous relationship for 1 year
- Using condoms
- Cycle 4–5/30; occasional dysmenorrhoea; no inter-menstrual or post-coital bleeding
- LMP “last week”

**Information on all contraceptive methods is discussed including LNG-IUD and Cu-IUD. Tara decides she wants a LNG-IUD. What next?**

# Insertion options for women

1. **GP insertion**
2. Family Planning clinic
3. Abortion clinic or sexual health service (if offered)
4. Gynaecologist/hospital gynaecology OPD

# Practicalities: IUD accessibility

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- Can be costly or long wait if need specialist referral
- Excluding pregnancy may compound the wait and result in pregnancy while waiting
- Post partum and post abortion- missed opportunities
- Safe to do in GP, including nullips

- Recommendations since 2013 to address ***barriers in system*** as well as women and practitioners

# Insertion options for women

- If GP not an inserter…… what happens?
- Costs, travel, delays, lost motivation
- Unplanned pregnancy, use of less satisfactory or unsuitable method

GPIIN concept

# Where are we now?

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- **Implanon**
- Best uptake in younger women
- Continuation rates lower than IUD
- Systemic effects esp mood
- BLEEDING
- Nurse/MW insertion

- **IUDs**
- Insertion reluctance
- Insertion access/referral pathways
- MBS reimbursement
- Insertion training
- Nurse/MW insertion

# GPs' perspectives on prescribing intrauterine contraceptive devices

**Gabrielle Lodge,** Lena Sanci, Meredith Temple-Sm REPRINTED FROM AFP VOL.46, NO.5, MAY 2017 **327**

- "For GPs not performing IUCD insertions themselves, barriers associated with the referral process presented a major limitation for uptake. To increase access to IUCDs, the time and cost barriers associated with these referrals would need to be minimised or removed".

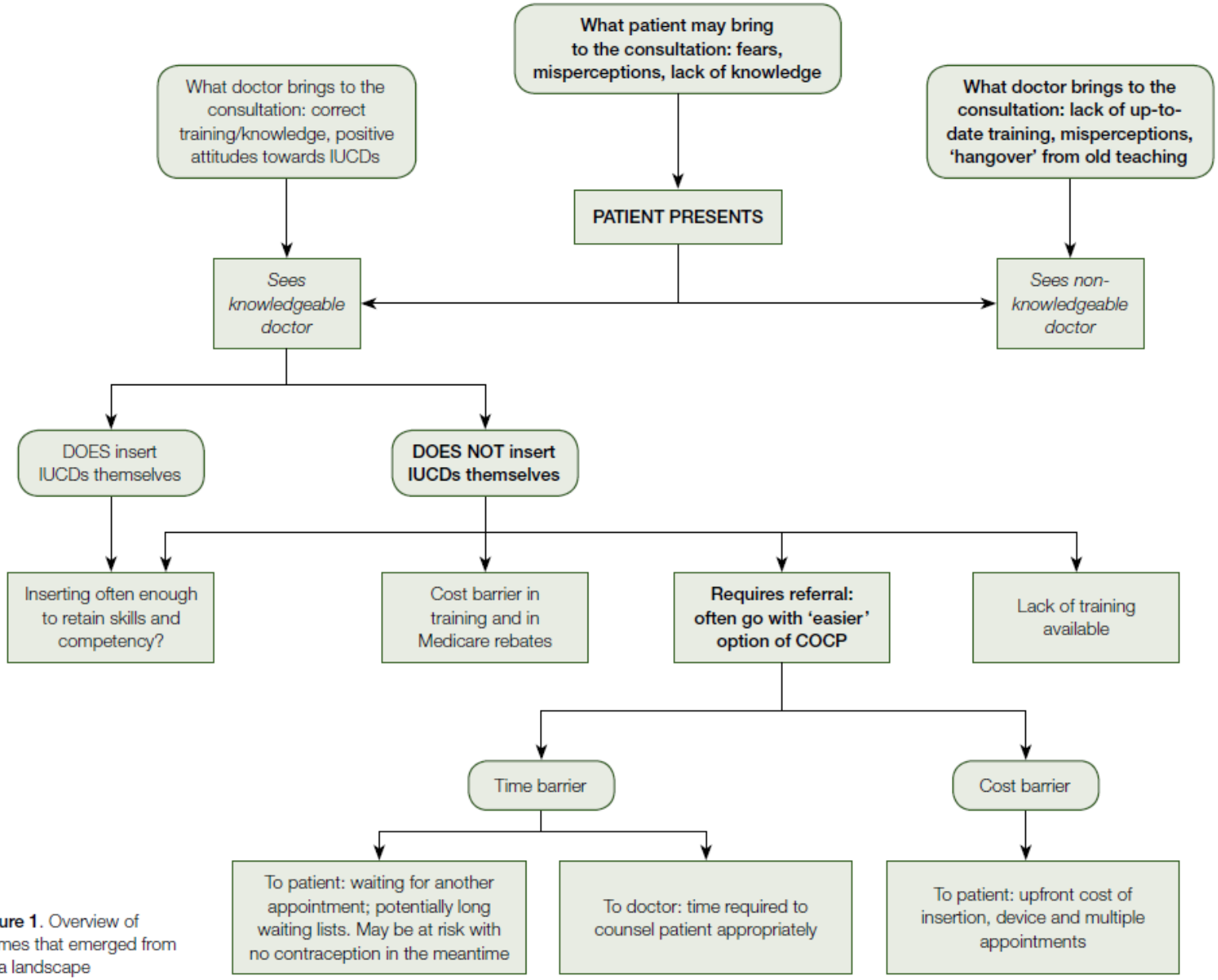


**Figure 1**. Overview of themes that emerged from data landscape

# “ Time for a change”: recommendation

*“Development of documented local referral pathways for women of all ages and in all areas to access LARCs, particularly IUDs”*

TIME
FOR A
CHANGE

# Expert Round Table 2016

”To maintain currency of knowledge, and provide ongoing support, an online forum or ‘community of practice’ for IUD inserters could be created. Establishment of rapid referral pathways would facilitate access to skilled health providers inserters could be created. Establishment of rapid referral pathways would facilitate access to skilled health providers”

Aust N Z J Obstet Gynaecol 2017; 57: 206–212
DOI: 10.1111/ajo.12587
ANZJOG

ORIGINAL ARTICLE

**Current barriers and potential strategies to increase the use of long-acting reversible contraception (LARC) to reduce the rate of unintended pregnancies in Australia: An expert roundtable discussion**

Danielle Mazza[1], Deborah Bateson[2], Meredith Frearson[3], Philip Goldstone[4], Gab Kovacs[5] and Rod Baber[6]

# Australian LARC Research

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- LARC usage Freilich et al 2017, Holburn et al, 2015, Coombe et al, 2019
- CUPID: (Contraceptive Uptake, Pregnancy Intention and Decision Study)
  - LARC non usage in younger women Coombe et al,2017
  - Change motivators Coombe, et al, 2019

**Gaps:**

Health practitioner knowledge and skill, practice

Overcoming barriers – women, HPs, system

# Looking forward: ACCORd and SPHERE

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Open Access Protocol

BMJ Open

## Increasing the uptake of long-acting reversible contraception in general practice: the Australian Contraceptive ChOice pRoject (ACCORd) cluster randomised controlled trial protocol

Danielle Mazza,[1] Kirsten Black,[2] Angela Taft,[3] Jayne Lucke,[4] Kevin McGeechan,[5] Marion Haas,[6] Heather McKay,[7] Jeffery F Peipert[8]

**To cite:** Mazza D, Black K, Taft A, *et al*. Increasing the uptake of long-acting reversible contraception in

ABSTRACT

**Introduction:** The increased use of long-acting reversible contraceptives (LARCs), such as intrauterine

**Strengths and limitations of this study**

- The Australian Contraceptive ChOice pRoject

MONASH University

SPHERE

The Centre of Research Excellence in Sexual and Reproductive Health for Women in Primary Care

The National Health and Medical Research Council has awarded $2.5 million to the Department of General Practice, Monash University to establish **SPHERE**, a **Centre of Research Excellence** that is focused on improving the sexual and reproductive health of Australian women through primary care. SPHERE will commence operations in February 2019.

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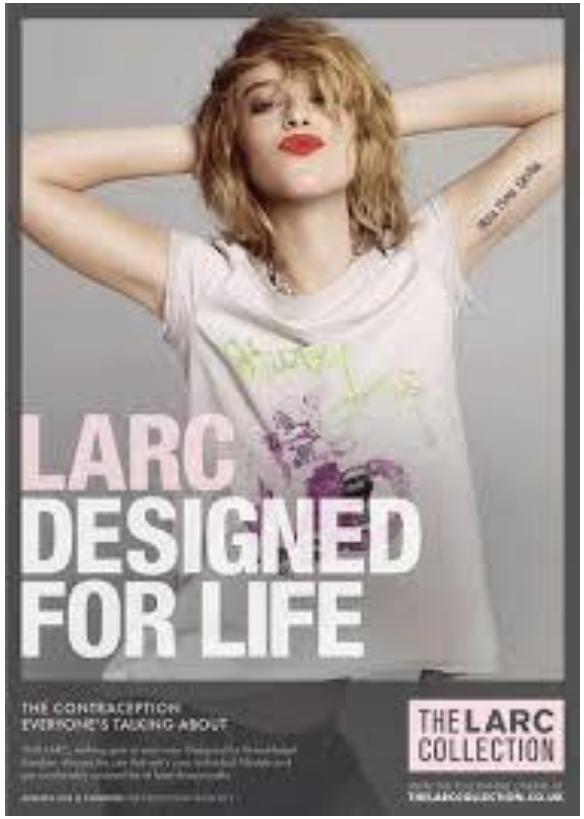
# TIME FOR A CHANGE

I ♥ MY LARC

LONG-ACTING REVERSIBLE CONTRACEPTION