



## A cost-benefit analysis of Long Acting Reversible Contraception use in Australia

Deborah Bateson, Sarina Lacey, Kristine Concepcion,  
**Kevin McGeechan** and Jane Estoesta

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### LARC definition and types

- LARC : Long Acting Reversible Contraception
- A contraceptive method administered less frequently than once per month
- LARC methods available in Australia
  - Etonogestrel implant (Implanon NXT™)
  - Levonorgestrel Intrauterine System (Mirena™)
  - Depot medroxyprogesterone acetate injection (Depo-Provera™ or Depo-Ralovera™)
  - Copper Intrauterine devices
    - Copper T380 IUD
    - Load-Cu 375
- With typical use, LARCs have >99% effectiveness at preventing pregnancy



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## Contraceptive use in Australia: Australian Survey of Health and Relationships 2001/2 vs 2012/3

Method	% use in 2001/2	% use in 2012/13
Oral contraceptives	36	33
Condoms	23	30
Vasectomy	19	14
Tubal ligation	11	6
Withdrawal	2	1
EC ever use	23	34
Implant	1	6
IUDs	1	5
DMPA	2	1
<b>All LARCs</b>	<b>4</b>	<b>12</b>

Richters J et al, Contraception 2016

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## Cost is a barrier to LARCs

- 63% of the key informants surveyed in the US identified cost as the main barrier to LARC uptake. (Foster et al, 2015)
- In the CHOICE project, when cost was removed, majority of the women chose LARCs. (Secura et al, 2010)
- Economic modelling studies in Norway (Henry et al, 2015), United Kingdom (Mavranouzouli et al, 2008) and Canada (Black et al, 2015) all show that LARCs are cost-effective compared to other methods



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## Methodology : Economic modelling

- Two principal changes in LARC adoption
  1. Increasing LARC uptake to international LARC adoption benchmark rates (from 12% to 15%) for women using the oral contraceptive pill
  2. Achieving 15% LARC adoption among women at risk of pregnancy and not using any prescribed contraception



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## Inputs and assumptions

- Costs were taken from Medicare data
  - MBS (GP consults, LARC insertion & removal rates)
  - PBS (costs of contraceptives)
- Choice of LARC method in line with current mix of LARC use
- Discontinuation rates based on published estimates
- Costs associated with unplanned pregnancy
  - Management of miscarriage
  - Abortion services



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## Average costs of contraception to the user

	Life cycle	Annualised over life of product*	Effectiveness (typical use (%))
Oral Contraceptive pill	Scripts provided for one year	274.93	94 to 99
Etonogestrel implant	3	148.8	>99
Hormone releasing IUD	5	96.7	>99
Contraceptive injection	3 months	307.69	91
Copper IUD	10	36.15	>99

\*includes initial cost for first year and discontinuation cost

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## Costs and benefits over 5 years: switching from the pill to a LARC

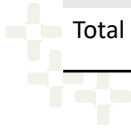
	Net cost (negative values indicate savings)	Net benefit from avoided unplanned pregnancy
	\$m	\$m
Consumer	-93.0	2.1
Government	24.9	2.7
Total	-68.0	4.8

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## Total net contraceptive cost: adopting a LARC for those with no previous contraception

	Net cost	Net benefit from avoided unplanned pregnancy
	\$m	\$m
Consumer	2.4	8.7
Government	15.2	11.3
<b>Total</b>	<b>17.6</b>	<b>20.0</b>



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## Sensitivity analyses

- Explored the impact of varying assumptions
  - Discontinuation rates
  - Miscarriage rates among unplanned pregnancies
- Little impact on overall results



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## Conclusion

- Women who switch from an oral contraceptive pill to a LARC would realise annual cost savings of, on average, \$114 to \$157.
- Women at risk of pregnancy but not using any prescribed contraception would face costs in adopting a LARC (\$36 to \$194 per year).
  - The average benefit for these women from avoided termination and miscarriages (\$121 to \$185 per year) offsets these costs.



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## Conclusion

- This analysis shows that LARC use in Australia is cost-effective both to the consumer and to the government.
- These results can be used to support women in making an informed decision about the contraceptive method that is right for them.
- This analysis can support advocacy efforts on policies to increase the accessibility of LARCs.



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