

# Increasing access to contraceptive implants in the postnatal period via a home insertion service by community midwives

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## WHY WAS CHANGE NEEDED?

The refreshed framework for maternity care in Scotland (2011)<sup>1</sup> states that a quality indicator for maternity services is achievement of improved provision of contraceptive advice and contraception, prior to discharge from postnatal care. The Lothian Sexual Health and HIV Strategy specifically states that a key goal is to reduce inequalities in sexual health.<sup>2</sup> As part of NHS Lothian's sexual health strategy a pilot project known as 'APPLES' (Access to Post Partum Contraception in Edinburgh South East) was implemented throughout 2014–2016.<sup>3</sup> In Lothian, since 2006, the Prepare Team, comprising two specialist community midwives, has been providing comprehensive midwifery care to women with substance misuse problems. In the first few years of the service operating it became apparent to the team that a significant number of women had very short interpregnancy intervals. Prepare Team clients were an integral part of the APPLES cohort, and within the Lothian region one in thirteen women have been shown to have an interpregnancy interval of less than 1 year.<sup>4</sup>

Rapid repeat pregnancies in this client group potentially exacerbate other existing maternal health problems, and are associated with higher risks of preterm birth and neonatal death.<sup>5,6</sup> The time required to detoxify among this group of women is also significant to avoid neonatal abstinence syndrome (NAS) or fetal alcohol spectrum disorder (FASD). Both NAS and FASD can have significant long-term effects on the health of the baby.<sup>7</sup>

## WHAT NEEDED CHANGING?

Accessibility to effective contraceptive methods including long-acting reversible

contraception (LARC) needed to improve for this particularly vulnerable group of women who find it difficult to engage with mainstream services. It was felt that setting up an enhanced service to improve access to LARC methods such as the contraceptive implant could improve the quality of life for this client group, giving them greater reproductive control and life choices.<sup>8</sup>

In 2010 the Prepare Team began to offer a semi-enhanced postnatal contraceptive service. It involved provision of transport to attend a dedicated women's clinic offering specialist contraceptive advice and methods at a Harm Reduction centre in central Edinburgh. However, some women still failed to attend the transport-arranged appointments and others declined to do so because they did not wish to come in contact with other drug users who attended the same centre.

## WHAT CHANGES WERE MADE?

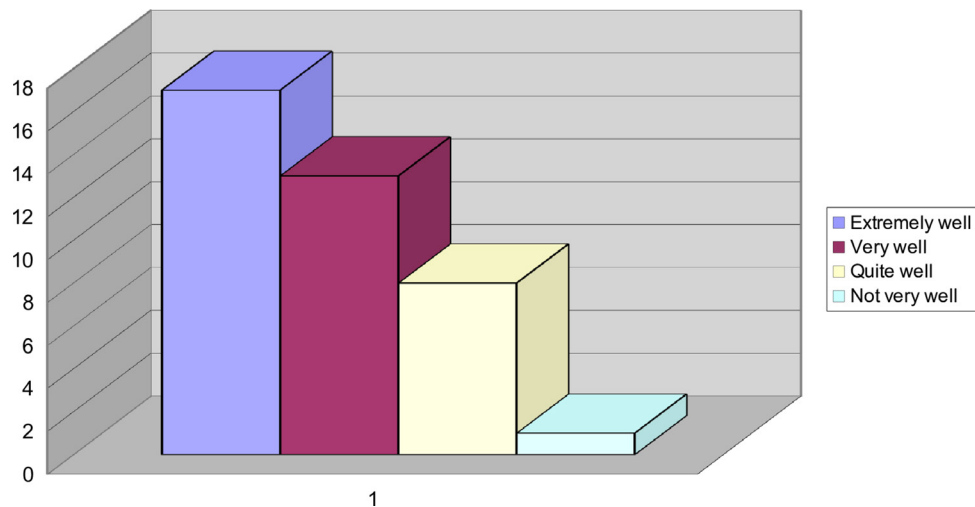
The APPLES project involved routine antenatal contraception counselling by community midwives for pregnant women living in South East Edinburgh (or registered with the Prepare Team) and provision of their chosen method, including the subdermal implant (SDI) before discharge from hospital.<sup>3</sup> It was not always possible to provide women with an SDI prior to discharge. As a result, the option of providing home insertion was explored.

A literature review produced no evidence of a similar home SDI insertion service in the UK. One very small randomised controlled trial in the USA compared rates of implant uptake between home and clinic within 10 weeks of delivery. It suggested that immediate



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**Figure 1** Women's responses about how well the ethyl chloride anaesthetic spray worked.

postpartum insertion might improve uptake but did not specify the method of insertion.<sup>9</sup>

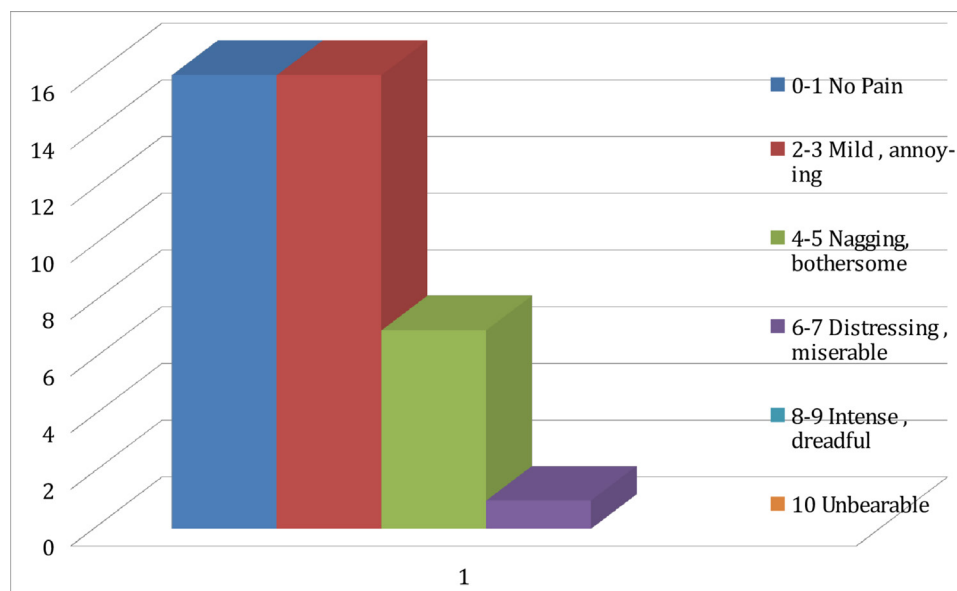
Until this pilot, SDI insertion had been carried out in Lothian under local anaesthetic, but due to a very small risk of anaphylactic reaction associated with the use of subdermal lidocaine it was not considered appropriate to administer this in the home setting. A literature search indicated that more recently there has been increasing interest in the use of a topical anaesthetic spray, ethyl chloride, as an alternative to lidocaine for the insertion of contraceptive implants.<sup>10</sup> The use of ethyl chloride for minor surgical procedures in paediatrics is well established.<sup>11 12</sup> It was therefore decided to use ethyl chloride as the local anaesthetic for SDI insertion in the home.

The Nexplanon® patient group direction (PGD) was updated to enable midwives and nurses who undertook relevant training to be able to insert SDIs

in women's homes, in the immediate postnatal period. Portable sharps bins were used for disposal and transport of sharps.

The training was comprehensive and included successful completion of the Faculty of Sexual & Reproductive Health (FSRH) E-learning modules and online electronic Knowledge Assessment (eKA) ([http://www.fsrh.org/pages/Diploma\\_of\\_the\\_FSRH.asp](http://www.fsrh.org/pages/Diploma_of_the_FSRH.asp)). Model arm training followed, with practical training sessions provided at the specialist Chalmers Centre. Midwives who undertook this training were then acknowledged as 'contraceptive champions' able to insert implants and to offer Depo-Provera® and progestogen-only pills using modified PGDs.

The SDI home insertion service commenced in December 2014. In 2015 the service expanded to include the South East Edinburgh cohort, which encompasses a vulnerable pregnant client group



**Figure 2** Women's pain scores associated with ethyl chloride anaesthetic.

(including substance abuse, domestic violence, poverty and learning disability).

### HOW WAS THE CHANGE EVALUATED?

From the end of December 2014 to the end of January 2016, 11 women in the Prepare APPLES cohort and 29 women from the South East Edinburgh APPLES cohort who had chosen to have an SDI as their preferred method of postnatal contraception (but who had not had this inserted prior to discharge) were offered SDI insertion at home using ethyl chloride spray.

Immediately following home insertion these women were offered a short, self-administered, anonymous questionnaire. Questions asked for tick box answers and respondents were asked to score their experience of pain using both a statement and a visual analogue scale (VAS). A free-text box allowed women to say whether anything could have been done differently or better. Completed questionnaires were placed in opaque, sealed envelopes and handed to the midwives before they left. Coded data were then entered into an Excel database (Microsoft Office 2016) and descriptive statistics conducted.

The response rate was 40/42 (95%). Ages ranged from 17 to 40 years (median 28 years) with the Prepare Team cohort (n=12) having a slightly older age profile (median 31 years) compared with the South East Edinburgh cohort (n=30, median 26 years). Parity was routinely recorded from October 2015, with the majority (80%) of women having had previous births ranging from one to four children (median one). Four (20%) women were nulliparous and only one (3%) woman had a history of previous abortion.

### WAS THE CHANGE BENEFICIAL?

The rate of LARC uptake, among the PREPARE cohort of women, increased throughout the duration of the APPLES pilot project from 48% in 2011–2012 to 74% in 2015–2016.

Of the 40 respondents, 39 opted for home insertion and one opted for insertion at a clinic. (One woman had subsequently chosen to have an SDI fitted by a midwife in a clinic setting so did not respond to this question.) All 40 women opted for insertion using ethyl chloride as local anaesthetic.

Most (36/39, 92%) women responded to the question about why they chose to have the SDI inserted at home. For 55% (20/36) the primary reason was convenience – they did not need to travel to the clinic to have the SDI inserted. For 11% (4/36) the primary reason was that while they would have been happy to have their implant inserted pre-discharge, they were not able to wait until a doctor became available to fit it. Almost half the women (17/36, 47%) said that the provider was a prime reason for choosing home insertion – they preferred their community midwife to fit their SDI.

All 40 respondents received ethyl chloride spray for local anaesthetic; 77% (31/40) felt the spray worked extremely well or very well; 20% (8/40) felt it worked quite well and one woman (3%) felt it did not work very well (figure 1). These responses correlated well with the women's experience of pain as graded using both a statement and a VAS (range 0–10). Scores ranged from 0 (no pain) to 7 (distressing, miserable pain) with the mean, median and mode being 2 (figure 2). As with evidence of factors influencing pain perception during intrauterine contraceptive (IUC) fitting,<sup>13</sup> women's pain scores in this group may have been influenced by their interaction with the midwife.

When asked about future preference, 87% (34/39) of respondents said that they would prefer to have the implant inserted at home in the future while the remaining 13% (5/39) did not mind whether the SDI was inserted at home or in a clinical setting. All (n=39) respondents said that they would recommend home insertion to others including the woman who had felt the spray did not work well and had rated her pain score above 5 on the VAS. 27 women had used an SDI previously, and of these 82% (19/27) said that of the two anaesthetic methods – spray or injection – they preferred the spray, 9% (2/27) preferred the injection and 9% (6/27) were not sure. Of these 27 women, 96% (26/27) said they preferred home insertion (including both of the women who preferred the injectable) and one (4%) woman said she had no preference. Women felt home insertion was more convenient and comfortable, and they liked the fact that they had an existing relationship with the midwife who carried out the procedure. Comments included “*it was easier at home with the new baby*”, “*providing a midwife I am comfortable with and a service easy for after having a baby*” and “*pain free, knew xxx (named midwife)*”.

### ADVICE TO OTHERS CONSIDERING CHANGE

Community midwives are well placed to provide postnatal contraception to women.

For new mothers, the first weeks and months following the birth can be disorganised and chaotic at times, and thus attending appointments for postnatal contraception is often difficult as the needs of the new baby and any older siblings takes higher priority. For those women who struggle to engage with or access services postnatally this is even more likely.

For some women struggling to come to terms with loss of a child for whatever reason, including removal by social services, postnatal contraception can be the last thing they will prioritise.

The one constant for all women discharged home in the first 10 days is the named midwife. She will have counselled the woman antenatally regarding her options for postnatal contraception and hence is well placed to review the woman's contraceptive choice with her and then, where an implant is the preferred choice, provide this in the comfort of the woman's

home and at a time which is convenient to her and by someone she knows and trusts.

Within the context of the wider Lothian 'APPLES' project, women were enabled to consider their options prior to delivery and to register a preferred choice.<sup>3</sup> All 40 women had opted for SDI as their method of choice. The Prepare clients were aware of the option to have an SDI fitted at home and all 11 women had been receptive to this opportunity. The SE Edinburgh cohort (n=29) were not made aware of the home insertion option until the time of discharge from hospital because their named midwife had begun her training at a later stage. The APPLES approach of counselling in the antenatal period ensured that women were fully informed of their contraceptive choices and, as demonstrated by the Prepare clients, women were receptive antenatally to the idea of post-delivery home insertion. It is likely that being fully informed of their choices was helpful to decision-making and therefore to insertion of the implant early in the postnatal period, however care was taken to avoid making women feel pressured to accept a particular contraceptive method.<sup>14</sup>

As demonstrated here, among a small cohort of postnatal women, fitting contraceptive implants using topical anaesthetic seems to be acceptable as an alternative to the standard approach of using subcutaneous anaesthetic injection. A substantial proportion of those women who had already had an implant fitted conventionally in the past said that they would prefer the topical option again in the future. Levels of pain were acceptable for all but one woman in this group.

Although there are challenges for the midwives in performing clinical procedures in a domestic environment (eg, the presence of children and pets), the convenience of home insertion was valued highly by women, as was having the implant fitted by their named community midwife.

Ethyl chloride is highly flammable so care must be taken in the home environment. When PGDs are being updated they could also include instructions on how to use ethyl chloride spray safely.

In Lothian we have continued to develop the 'contraceptive champion' role with at least one midwife in each community team and will continue to evaluate this service. The larger APPLES study has followed women up for 1 year post-delivery to assess continuation rates, and data from this study will be published in due course.

We would encourage specialist services to work with midwifery and obstetric teams to identify the best way to offer LARC within their own locality and, in particular, to consider whether community midwives might be well placed to offer implant insertion in people's homes to all women, but especially those in areas of multiple deprivation or who are particularly vulnerable.

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