

# Improving combined contraceptive pill/oral contraceptives prescribing in general practice

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## ABSTRACT

**Introduction** Eighty per cent of contraceptive care occurs in the general practice setting. UK Medical Eligibility Criteria provides clear guidelines for the safe provision of appropriate contraception. The Faculty of Sexual and Reproductive Health and the National Institute for Health and Care Excellence offer further recommendations for initiation and continuation of the combined contraceptive pill/oral contraceptives.

**Method and analysis** Using the Egton Medical Information Systems database of an inner city, average size general practice we performed a retrospective analysis of combined contraceptive pill/oral contraceptives consultations to identify areas of substandard prescribing. Through three subsequent improvement cycles we demonstrated that the safety of combined contraceptive pill/oral contraceptives prescribing could be enhanced by consistent application of UK Medical Eligibility Criteria. By encouraging general practitioners to promote safe sex and use local long-acting reversible contraception options we were able to enhance the quality of consultations as dictated by national guidelines. Regular education and use of an amended EMIS template (to include UK Medical Eligibility Criteria) enabled us to improve both the safety and quality of community-combined contraceptive pill/oral contraceptives prescribing in a sustainable fashion.

## PROBLEM

A Foundation Year Two split placement between an inner city general practice (GP) and a sexual health centre highlighted the vast difference in the quality of contraception consultations between the two settings. Eighty per cent of contraceptive care occurs in the GP setting.<sup>1</sup> In GP, combined contraceptive pill/oral contraceptives (COC) prescriptions are seen as an 'easy and quick' consultation, and through anecdotal observation we noticed that such consultations often did not meet the safety and standards of similar consultations occurring in a sexual health clinic.

This project initially set out to define the areas in which primary care COC consultations were lacking when measured against national guidance. The safety of consultations was judged on adherence to UK Medical Eligibility Criteria (UKMEC),<sup>2</sup> and the quality

on compliance with national standards set by Faculty of Sexual and Reproductive Health (FSRH)<sup>3</sup> and the National Institute for Health and Care Excellence (NICE).<sup>4</sup> Upon obtaining objective evidence that COC consultations did not meet national standards the project team aimed to improve the safety of COC prescribing to 100% adherence with UKMEC criteria over an 8-month intervention time period. Within the same time period the project team aimed to increase compliance with NICE guidance such that at least 80% of consultations discussed long-acting reversible contraception (LARC) options and risk assessed for sexually transmitted infections (STI).

The GP in which this project was conducted is recognised by the Care Quality Commission (CQC) as being 'situated within a significantly more deprived area than the England average and is in the most deprived area in Bristol.' The 2016 CQC report cited that patients 'at this particular practice experience the highest levels of health inequality in the South West of England.'<sup>5</sup> The project team acknowledged that this particular surgery caters for a deprived population who are often difficult to engage. Our expectation was that while all safety criteria should be met regardless of patient demographic, full compliance with all quality criteria may occasionally be unrealistic within a 12min appointment. Given the health depravity of our patient cohort the project team felt that 80% compliance with quality aspects of the COC consultation would represent a significant but achievable shift in prescribing culture.

## BACKGROUND

The vast majority of contraceptive provision occurs in the primary care setting and comprehensive national guidelines exist for the safe and quality provision of the COC (as summarised below).

## Faculty of sexual and reproductive health

Guidance recommends assessing medical eligibility by establishing and documenting the



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following: blood pressure (BP), body mass index (BMI), history of migraine, cardiovascular risk factors (including thrombophilia and previous venous thromboembolism (VTE) and smoking status), current and previous medical conditions, family history and use of enzyme-inducing medications. Each criterion corresponds to a UKMEC category as follows:

UKMEC category 1: A condition where there is no restriction for use of this method

UKMEC category 2: A condition where the advantages of this method generally outweigh the theoretical or proven risks

UKMEC category 3: A condition where the theoretical or proven risks generally outweigh the advantages of using the method (advise specialist advice sought)

UKMEC category 4: A condition that represents unacceptable health risk if the method is used

Following an initial comprehensive COCP check, FSRH then advocates a pill check 3 months after initiation followed by annual pill checks subsequently.

### National institute for health and care excellence

Guidance supports the FSRH and advises that these consultations should be used to promote safe sex. Specifically to include an STI risk assessment, with subsequent offer of appropriate tests (ie, heterosexual: chlamydia/gonorrhoea nucleic acid amplification tests (NAAT)+HIV/syphilis blood, men who have sex with men: three-site NAAT testing+HIV/syphilis/hepatitis blood). Furthermore, NICE recommends providing information about missed pill rules and practitioner advocacy of LARC.

Following the death of a 21-year-old woman, attributed to a pulmonary embolism secondary to COCP use,<sup>6</sup> it has been publicly suggested that general practitioners often fail to provide a comprehensive safety check for suitability for the COCP.<sup>7</sup> Mainstream media have stated that during such contraceptive consultations, safer and more appropriate contraceptive options are frequently not discussed.<sup>8</sup>

The project team observed that GP COCP consultations frequently did not refer to UKMEC eligibility, and often lacked an STI risk assessment, discussion of LARC options and missed pill advice. This was of particular relevance to our GP demographic, whose young patients were more likely than the average population to have a chronic medical condition.<sup>5</sup> Additionally, 50% of audited patients fell into a high-risk chlamydia age group,<sup>9</sup> and 100% patients resided within an area where national guidelines recommend routine HIV testing.<sup>10</sup> Although LARC discussions are often incentivised as part of the Quality and Outcomes Framework (QOF), at the time of the project it was not applicable to any QOF points being pursued by our GP. The EMIS COCP template being infrequently used by GPs prior to commencement of the project contained a series of white space boxes that did not comprehensively cover all UKMEC criteria, or prompt prescribers to encourage safe sex and LARC.

### BASELINE MEASUREMENT

Between 11 October 2015 and 11 January 2016, up to 56 women aged 14–39 years were prescribed the COCP by a general practitioner.

Forty-one per cent of consultations comprised standard risk assessment and documentation of medical eligibility. Documentation of medical eligibility was notably worse when prescribing for non-contraceptive purposes (eg, menorrhagia). The percentage of consultations that lacked the UKMEC eligibility documentation is detailed as follows, specific to each measured condition: BP, 16%; smoking status, 25%; BMI, 16%.

In our initial audit, three patients were documented to have a UKMEC condition 3 but received no specialist input: systolic BP 143, undiagnosed breast lump, first-degree family member with VTE.

Eighty-seven per cent of patients were not given relevant advice on compliance and missed pill rules, and 92% of patients had no formal STI risk assessment.

### DESIGN

It was evident that COCP consultations in our GP did not consistently comply with national safety and quality guidelines. The project team identified that key stakeholders would include all general practitioners, nurse practitioners who performed repeat pill checks and the practice manager who was responsible for Egton Medical Information Systems (EMIS) templates and CQC target records. All key stakeholders were amenable to change and improving standards but had concerns regarding the consultation time. The project team met monthly across the 8-month intervention period and devised an adapted EMIS template for COCP consultations. We recognised that while a modified EMIS template would be required to consistently raise standards, this alone would produce poor results. Key stakeholders were educated on national guidance and updated on current standards of practice; recent cases that did not comply with such guidance were discussed. Concerns and questions raised by stakeholders were addressed promptly to increase use of the new EMIS template, and results were fed back to stakeholders at regular intervals. Change was analysed by reviewing the EMIS patient notes of all COCP prescriptions in the calendar month period that followed each intervention.

### STRATEGY

Our SMART (specific, measureable, achievable, realistic and timely) aim was to improve the safety of COCP prescribing to 100% adherence with UKMEC criteria, and increase compliance with NICE and FSRH guidance such that at least 80% of consultations discussed LARC options, provided missed pill advice and risk assessed for STIs. UKMEC criteria entail a long list of medical conditions and lifestyle factors. The project team elected to analyse and improve upon documentation of the three most variable UKMEC criteria: BP, smoking status and BMI. This was decided in the knowledge that the EMIS

computer system would provide the practitioner with an up-to-date medical history for each patient (ie, would capture criteria such as breast cancer, history of VTE, and so on, anyway). We undertook three PDSA (plan, do, study, act) test cycles.

**PDSA cycle 1:** Our initial intervention was to hold a teaching session for all key stakeholders. This session provided team members with our baseline results, outlined all national guidance on COCP prescribing and highlighted cases where UKMEC guidance had not been followed in the preceding 3-month period. Staff were educated on local demographics in the hope that this may fuel a desire to promote safe sex, regularly assess for STI risk and use local LARC options. Presentation of baseline results revealed that general practitioners viewed COCP consultations as quick appointments and often considered them an opportunity to make up clinic time rather than promote safe sex. Discussion highlighted that practitioners were not all aware of UKMEC criteria, and many did not realise that they needed to continue to perform a basic assessment at subsequent pill checks (ie, repeat BP and BMI to ensure that UKMEC eligibility was unchanged). It was observed that general practitioners often presumed their patients to be at low risk of STIs, without any history to support that assumption. Feedback from general practitioners highlighted that time restraints were of the utmost concern.

**PDSA cycle 2:** Our second intervention was to introduce a new, COCP-specific, contraceptive template onto the EMIS system. This template was based on the FSRH/NICE prescribing guidelines and included tick boxes that could be used during the consultation to ensure all questions were asked and measurements, such as BP, were recorded. This information was then automatically recorded on the patient's notes for that consultation. The aim for this intervention was to improve the safety of COCP prescribing, and to streamline the process to ensure an efficient consultation, the stakeholders' main concern. Without introducing a further tick box to the template it was impossible to ascertain from the electronic notes whether COCP prescriptions were new or repeat/annual reviews as many young women source the COCP from a variety of sources. Given that the safety checks and information discussed at each appointment should not change between a new prescription or annual review the project team elected to not add further tick box onto an already question dense template, and accept that we would not capture how many patients were being seen for new or repeat prescriptions.

**PDSA cycle 3:** Our third intervention involved challenging stakeholders' perceived barriers to correct and thorough application of the COCP template. When discussing the COCP template at a practice meeting it became clear that barriers to using the template included: stakeholders feeling inundated with templates for multiple other presentations, and the ambiguous location of the new COCP template (namely it being embedded in the generic 'oral contraception' template). Stakeholders were

reminded of the importance of providing LARC advice, and that it was included as a tick box on the template. An email was sent to all stakeholders to remind them of the importance of template and where to find it.

See online supplementary file: 'PDSA Cycles'.

## RESULTS

Between January and May 2016, three PDSA cycles were completed. For each calendar month following an intervention, all COCP consultations were analysed, with their results below.

Results following PDSA cycle 1 showed an increased safety profile (zero patients with UKMEC 3 or UKMEC 4 eligibility were prescribed the COCP), and an increase in the number of consultations that met all NICE criteria (from 0% to 12%). While missed pill advice and STI screening offers improved (by 23% and 17%, respectively), LARC advice was given in 8% fewer consultations.

Introduction of the template (PDSA cycle 2) increased the number of consultations that met all NICE guidelines from 12% to 40%. LARC advice still decreased (given in 7% fewer consultations), however missed pill advice and STI screen offers improved again by 33% and 28%, respectively. Feedback regarding the template was that there were already many templates for other conditions and remembering to use all the templates in appropriate consultations was difficult.

Following PDSA cycle 3, there was an overall increase in compliance with NICE recommendations from 40% to 48%. LARC advice was given in 96% of consultations, this was an increase of 17% from the baseline results and the first increase observed during the project. STI screen was offered in 61% of consultations, this was an increase of 9% from the previous cycle. Missed pill advice was given in 61% of consultations which was 7% fewer than the previous cycle but a 49% increase from baseline. Feedback from this cycle was that the template was useful to ensure all criteria were met and aided an efficient consultation. Stakeholders highlighted that they did not feel it necessary to repeat measurements such as BP or BMI if it had been recorded in the preceding 6 months to a year; the template allowed for this clinical discretion by authorising electronic submission of the template without all sections being completed.

Over the 8-month intervention period both the safety and quality of COCP prescribing were enhanced by this project. A 100% compliance with UKMEC guidance was achieved through the use of education, and a specific COCP template. Over the project period full adherence to NICE guidance improved by 48%. Although this is below the predicted value of 80%, it evidences a huge shift in prescribing culture when compared with the initial audit result of 0%. The 32% gap between our predicted and actual compliance with NICE criteria is likely due to an underestimation of what is achievable in a 12 min consultation at a GP that caters for a deprived socioeconomic patient cohort (online supplementary file: Run chart 1).



While overall, documentation of all UKMEC criteria remained reasonably constant throughout the project, there was improved documentation of the UKMEC criteria that were likely to change between each repeat prescription. Looking specifically at BP, smoking status and BMI, documentation at each consultation improved to 96%, 87% and 91%, respectively. Introduction of the COCP-specific template enabled this improvement, acting as a physical reminder for prescribers to document these variables. An unexpected failure of the initial template was that it was not easily accessible on the EDIS system; further education outlining its location improved use of the template and subsequently enhanced documentation of UKMEC criteria (online supplementary file: Run chart 2).

UKMEC criteria are broad and all encompassing. The project team decided prior to commencing PDSA cycles that, excluding highly variable factors such as BP, BMI and smoking status, if consultation documentation/patient EDIS information did not explicitly state the presence of a UKMEC criterion (eg, active breast cancer) then it was assumed to be absent. It was felt this could be reasonably assumed as the EDIS computer system provides a list of active and past medical problems on its opening page. The project team acknowledges that this could be construed as missing data and it is accepted that this may have contributed towards falsely reassuring safety results.

This project produced vast improvements in the number of consultations that provided NICE recommended safe sex advice. Following the final PDSA cycle, 60% consultations offered an STI screen, 61% gave missed pill advice and 96% discussed use of LARC options. These large gains are attributable to stakeholder education that highlighted local LARC availability, and reminded stakeholders of their patient demographic with reference to STI statistics. This was further reinforced with the COCP-specific template that again acted as a visual prompt for adherence to national guidelines (online supplementary file: Run chart 3).

## LESSONS AND LIMITATIONS

The project's aim was to improve the safety and quality of COCP prescribing in GP. To achieve this goal in a busy GP that catered for a deprived and difficult-to-engage population required a multifaceted and tenacious approach; use of the PDSA cycles enabled identification of barriers to progress. While initial introduction of the project was met with enthusiasm by all stakeholders, our PDSA cycles identified that interest and passion did not necessarily translate to improved results. It was clear that communicating with stakeholders was essential to the success of our project. Initial attempts at stakeholder communication were delivered via group practice meetings, immediately excluding those not physically present. In hindsight employing email communication was an easy way to ensure that fewer stakeholders were uninformed due to circumstantial factors, and application of this only later

in the project likely hindered results in the first two PDSA cycles.

It was quickly identified that the COCP GP consultation was viewed as a quick consultation, an opportunity for prescribers to perhaps discuss other medical issues with patients, or make up time on their busy clinic lists. This remained a barrier to change, even after education that outlined the importance of the project with reference to local demographics and examples of poor practice preceding the project. It was imperative to create an easy access and time-efficient template that would not immediately discourage prescribers. In retrospect, it would have been helpful to electronically time consultations so that we could disprove (or prove!) prescriber concerns that a safer consultation was a longer consultation. Using education to reinforce time-efficient aspects of the national guidelines—that is, that after an initial three monthly check repeat prescriptions could be made annually—may also have helped to alleviate GP concerns regarding consultation time. As discussed above, the project team elected to not measure how many prescriptions were new or repeat, hence we were unable to provide prescribers with feedback on whether COCP consultations were being held more frequently than necessary (ie, every 3 months instead of annually).

There are three major limitations of this project. The first project limitation relates to lack of in-depth data availability for all UKMEC criteria. The project team relied on EDIS patient information to highlight any ongoing medical conditions and did not actively seek out information regarding family history, or undocumented medical history, on each patient record analysed. As described above, excluding highly variable criteria, UKMEC conditions were assumed to be absent unless specifically stated in the consultation notes or EDIS patient profile. Considering this, it is possible that some patients with unidentified UKMEC 3 and UKMEC 4 criteria may have been inappropriately prescribed the COCP. If the project was to be completed again, in the absence of time and resource constraints, it would be beneficial to perform an extended history to exhaustively analyse all UKMEC criteria.

The second limitation is the lack of project continuity. On completing this project, there was no further foundation trainee to receive its handover and as such it is likely that the results obtained through persistent verbal and electronic reminders, and repetitive teaching sessions, will be lost. As a direct consequence of having no trainee to hand over to, the project team lost the ability to reaudit several months after PDSA cycle 3, and ensure that our improvements were sustained. Additionally, when NICE/FSRH/UKMEC guidance is updated there is no allocated person to amend the template and provide further prescriber education. Reflecting back on the process, it would have been helpful to initially identify a primary stakeholder (eg, the practice manager) to ensure that the project was allocated to rotating doctors and that the template was kept up to date.

The final limitation relates to lack of data collected on stakeholders' knowledge and attitudes. As described above, the project team perceived that the attitude of stakeholders remained a barrier to change throughout the project. Additionally, much project time was spent on stakeholder education and this was felt to have a huge impact on the success of the project. In order to measure the effect of these variables, it would have been beneficial to have stakeholders complete a preproject and post-project survey that allowed for qualitative analysis of their beliefs and knowledge.

## CONCLUSION

The project team improved the safety and quality of COCP prescribing in the community setting. The COCP is, in the majority of cases, prescribed to young healthy woman who would not necessarily visit their GP otherwise. It is a legitimate ideal that during a COCP consultation every effort is made to promote sexual health and minimise potential health risks. This project was a valid attempt to raise community prescribing standards in line with national guidance and other local COCP providers. The safety of COCP prescribing was enhanced through prescriber education and an electronic EDIS template that is easily replicated. The original aim of 80% of consultations complying with NICE guidelines was only partially met, this figure in part accounted for by patient demographic and perhaps reflecting time constraints within a GP consultation. With a continued effort to ensure use of an up-to-date template, we believe that the results of this project are sustainable.

On a personal level, this project addressed healthcare inequality. To work for both a sexual health clinic and a GP service provided a unique opportunity to recognise the vast difference in safety and quality of COCP prescribing between specialist and community settings. It remains true that in the UK women can choose to attend a specialist sexual health clinic, or their own GP, for the provision of contraception. Most women would assume equality in service provision at both locations and we are proud that this project made some headway in making safe and quality COCP prescribing a reality in the community.

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**Contributors** SR and HW designed and implemented the project, drafted and revised the quality improvement report, and act as guarantors for the report.

**Competing interests** None declared.

**Ethics approval** According to the policy activities that constitute research at University Hospitals Bristol NHS Foundation Trust, this work met criteria for operational improvement activities exempt from ethics review.<sup>11</sup> The following criteria were fulfilled. Policy criterion 1: The project constituted a clinical audit and

not research. Explanation: The work is primarily intended to improve local care, not provide generalisable knowledge in a field of inquiry. We sought only to evaluate the improvements in compliance with national guidance on COCP prescribing, through auditing, adjustments of pre-existing local templates and feedback of compliance rates. The project did not involve: a patient survey; a completely new treatment or practice; the use of control groups or placebo treatments; any disturbance to the patient beyond that required for routine clinical management; allocating patients randomly to different treatment groups. Policy criterion 2: The project was conducted within an ethical framework. Explanation: The project team were compliant with the six Caldicott principles of handling patient identifiable information, the 1998 Data Protection Act and the 2003 NHS Confidentiality Code of Practice. Policy criterion 3: Clinical audit projects may be published without ethical approval, for example, the Quality Improvement Reports published by the British Medical Journal Publishing Group. Explanation: The project team intend only on publishing this work in the above format.

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