Appendix A. Search Terms Used in the Systematic Review

Concept	Search terms
PubMed search terms	
Family planning	"Family Planning Services"[Mesh] OR "Family Planning Policy"[Mesh] OR "Reproductive Health Services"[Mesh] OR "Family Planning" OR ("Title X") OR ("Planned Parenthood")
Contraception	"Contraception"[Mesh] OR "Contraceptive Agents"[Mesh] OR "Contraceptive Devices"[Mesh] OR ("Birth control") OR "Contraception Behavior"[Mesh]
Counseling	"Counseling"[Mesh]
Education	"Health Education"[Mesh] OR "Health Education"[All Fields] OR ("Health Educator")
Follow-up/Continuity of care	"continuity of patient care"[Mesh] OR "followup"[All fields] OR "follow up"[All fields]
PsychINFO search terms	
Family planning	(DE "Family Planning" OR DE "Birth Control" OR DE "Family Planning Attitudes") or "family planning" or "Planned parenthood" or "title X" or "birth control"
Counseling or education	((DE "Counseling" OR DE "Group Counseling" OR DE "Peer Counseling") OR (DE "Health Education")) or (behavi* OR "Reproductive life plan" OR education)
CINAHL search terms	
Family planning	(MH "Family Planning+") OR family planning OR (MH "Family Planning Policy") OR planned parenthood OR (title x)
Contraception	((MH "Contraception+") OR contraception OR (MH "Contraceptive Agents+") OR (MH "Contraceptive Devices+") OR (MH "Family Planning: Contraception (Iowa NIC)")) or (birth control)
Counseling or education	((MH "Counseling+") OR counseling OR (MH "Counseling Service (Saba CCC)+") OR (MH "Sexual Counseling") OR (MH "Reproductive Health") OR (MH "Health Education")) or (education or "Reproductive life plan")

Appendix B. Electronic Databases Searched in the Systematic Review

Database	URL for search platform
Cumulative Index to Nursing and Allied Health Literature	http://ebscohost.com/
The Campbell Library	http://www.campbellcollaboration.org/library.php
The Cochrane Library	www.thecochranelibrary.com
Database of Abstracts of Reviews of Effects	http://www.crd.york.ac.uk/crdweb/
EMBASE	http://ebscohost.com/
MEDLINE	http://ebscohost.com/
PsycINFO	www.apa.org/psychinfo
PubMed (pre MEDLINE)	http://ebscohost.com/
U.K. National Health Service Economic Evaluation Database	http://www.crd.york.ac.uk/crdweb/
U.S. National Guideline Clearinghouse	www.guidelines.gov
HealthSTAR	http://www.kfinder.com/newweb/Products/hstar.html
POPLINE	http://www.popline.org/
Education Resource Information Center	http://www.eric.ed.gov/
UK National Institute of Clinical Excellence	http://www.nice.org.uk/
Evidence for Policy and Practice Information and Coordinating Centre	http://eppi.ioe.ac.uk/cms/
TRIP	http://tripdatabase.com/

Appendix C. Evidence on Impact of Reminder Systems in Clinical Settings to Improve Family Planning Outcomes

Reference/ Funding	Design/Setting	Population	Intervention	Outcomes	Results	Quality
OC users						
Fox (2003)[8] Magee-Womens Hospital, University of Pittsburgh, General Clinical Research Center U.S.	Retrospective historical CT; 2 study groups Physician practices, hospital offices, family planning clinics and university health centers, Pennsylvania FU=3 months	Intervention group: 50 sexually active women aged 18–37 years (median age 21); new OC users; 84% white, 12% black, 6% NH; 72% full time students Returned diaries at 3 months FU: *n*=40 Historical control group participating in a OC adherence study received no reminders: *n*=103 (group characteristics NR) Recruitment:	Daily reminder e-mail messages on OC adherence sent at ~8:30am ± 30 minutes to participants via blind copy to maintain privacy; participants instructed to check email daily and reply to reminder to confirm receipt with replies logged; diary cards completed by participants to measure OC adherence High intensity Frequency: daily	Medium-term: increase correct use of contraception (OCs) Other: barriers for clients	Perfect adherence (no missed hormonal pills) was significantly (***p*<0.05**) higher for intervention vs historical reference group during all 3 cycles (cycle 1: 78% vs 58%; cycle 2: 80% vs 59%; cycle 3: 72% vs 53%) Although 64% of intervention participants expressed desire to continue receiving the daily email reminders, only 25% were willing to pay $5.00–$10.00 per month for the service; participants also noted that the reminders would have been more helpful if the time sent could have been individualized	Level II-3; high risk for bias Weaknesses: Selection bias Comparability between study groups unknown (potential for confounding errors) Comparability between completers and noncompleters unknown Self report bias Possible study reactivity (outcome improves in participants who are aware of being observed) Short FU time for behavioral outcomes

Reference/ Funding	Design/Setting	Population	Intervention	Outcomes	Results	Quality
		flyer and newspaper advertisements				
Hou (2011)[9] Anonymous foundation U.S.	RCT; 2 study groups Planned Parenthood clinic, Boston FU=3 months	82 sexually active women aged 18–31 years randomized from 103 women enrolled; new OC users; 79% White; 99% completed HS 73/82 (89%) had usable data at end of data collection Intervention group: *n*=37 Control group received no reminders: *n*=36 Recruitment: women seeking care at Planned Parenthood clinic were invited to participate	Daily reminder text messages on OC adherence sent at designated time chosen by participants; participants were given an electronic monitoring device and 3 cycles of OCs; electronic monitoring devices monitored pill taking by sending wireless signal to two servers (main and backup) each time participants opened the devices to remove a pill; diary cards were also maintained High intensity Frequency: daily	Medium-term: increase correct use of contraception (COCs) Other: barriers for clients	Mean number of missed COCs did not significantly differ between intervention and control groups (4.9 ± 3.0 and 4.6 ± 3.5 per cycle, respectively, with number of missed pills increasing, but not differentially according to group, with each cycle over 3 months FU) Although >85% expressed that they would continue or consider continuing to use the reminder system, 43% would not pay for the service; however, 57% stated that they would pay a median acceptable cost of $5.00 per month for the service	Level I; moderate risk for bias Strengths: 80% participation rate 89% completion rate FU rate ≤15% different between groups (90% for intervention and 88% for control groups) Comparable study groups related to age, marital status, race/ethnicity, education, gravidity, parity, prior OC use, and prior use of reminders Objective measurement of adherence (electronic monitoring device) Randomization assignment was computer-generated Investigators blinded to group assignment Weaknesses:

Reference/ Funding	Design/Setting	Population	Intervention	Outcomes	Results	Quality
						Selection bias Possible study reactivity (outcome improves in participants who are aware of being observed) Device did not mimic real-life OC dispenser Short FU time for behavioral outcomes
Lachowsky (2002)[11] Funding source not stated France	Cohort study; 2 study groups Setting: NR FU=3-6 months	975 women seeking OC prescription (new and continuing users); 93% aged ≤30 Intervention group: *n*=485 Control group received no reminder device: *n*=490 Recruitment: invited to participate by 180 participating gynecologists	Distribution of a credit card-sized reminder device which emitted an audible beep at a time selected by the participant to aid in establishing OC dosing as a daily routine; adherence assessed via survey at FU High intensity Frequency: daily	Medium-term: increase correct use of contraception (OCs)	Intervention group had a significantly (***p*<0.005**) higher rate of perfect OC adherence (no missed hormonal pills) during the preceding 3 months compared with control group (41% vs 19%)	Level II-3; high risk for bias Weaknesses: Selection bias (provider non-systematically determined study groups) Participation rate unknown Study groups appear to differ related to age and past OC usage (although statistical tests not conducted) Self report bias Recall bias Completion rate unknown Short FU time for behavioral outcomes
DMPA users						
Keder (1998)[10]	RCT; 2 study groups	250 sexually active women; new DMPA	A reminder letter was sent to DMPA users two weeks before the	Medium-term: increase correct use of contraception	Rates of late and missed injections were similar	Level I; moderate risk for bias

Reference/ Funding	Design/Setting	Population	Intervention	Outcomes	Results	Quality
Funding source not stated U.S.	Magee-Womens Hospital clinic, Pennsylvania FU=1 year or 4 injections	users; mean age 20.7 years; 68% black; 96% Medicaid insurance Number of participants in intervention and control groups NR; control group participants received a written appointment card only Completed FU: n=205 Recruitment: approached at clinic	upcoming injection appointment and repeat phone calls were made if participants missed the appointment until they changed contraceptive methods, were lost to FU, or study completion Variable intensity Frequency: variable	(timely DMPA injections), increase continuation of use Other: barriers for clinics	between groups (data not shown). Intervention did not improve DMPA continuation: 42.7% of intervention and 45.2% of control group continued DMPA through 12 months FU (RR=0.94, 95% CI=0.71, 1.25); although side effects were thought to be a reason for discontinuation, the percentage of women reporting side effects did not differ between those who chose to continue DMPA (82.0%) and those who did not (83.8%) Intervention was more intensive than would be easily incorporated into most office settings	Strengths: Comparable study groups related to age, gravidity, parity, education and marital status Continuation of use validated via clinic records Randomization assignment was computer-generated FU time ≥ 1 year Weaknesses: Selection bias Participation rate unknown Comparability between completers and noncompleters unknown Investigator blinding NR Possible study reactivity (outcome improves in participants who are aware of being observed)
Madlon-Kay (1996)[12] Funding source not stated	Retrospective cohort study (via chart review); 2 study groups	184 sexually active DMPA users aged 13–50 (mean age=23); 69% white, 21% black, 6% Hispanic; 86%	Distribution of a wallet-sized reminder card containing the date of the next DMPA injection; a reminder postcard was also sent shorty before the	Medium-term: increase correct use of contraception (timely DMPA injections)	Intervention was significantly (***p*<0.05**) associated with improvement in timeliness of DMPA injections; before the	Level II-3; high risk for bias Strengths: Continuation of use validated via clinic records Weaknesses:

Reference/ Funding	Design/Setting	Population	Intervention	Outcomes	Results	Quality
U.S.	Family physician clinic, Minnesota FU=3 months	receiving state medical assistance Number of participants in intervention group and control group (who received no reminders) NR. Recruitment: charts of DMPA users reviewed	upcoming injection appointment Moderate intensity Frequency: twice		intervention, 64% of injections were received on time, while 76% of injections were received on time after the intervention was instituted. The mean number of days late for an injection significantly (***p*<0.05**) decreased from 20 days late to 8 days late.	Comparability between study groups unknown (potential for confounding errors) Short FU time for behavioral outcomes

Note: Intensity of intervention defined as low (intervention took place during a single visit), moderate (intervention took place during more than one visit, but less than weekly), or high (intervention took place weekly).
CT, prospective nonrandomized controlled trial; DMPA, depot medroxyprogesterone acetate; FU, follow-up; HS, high school; NR, not reported; NYC, New York City; NH, non-Hispanic; NR, not reported; OC, oral contraceptive; RR, relative risk.