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# Public and private providers' involvement in improving their patients' contraceptive use

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**Abstract**

**Background:** This study measured differences in the provision of care between public and private providers of contraceptive services, what problems using contraception these providers perceived their patients to have and providers' views on how to improve their patients' method use.

**Study Design:** A nationally representative mixed-mode survey (mail, Internet and fax) of private family practice and obstetrician/gynecologist physicians who provided contraceptive care in 2005 was conducted. A parallel survey was administered to public contraceptive care providers in community health centers, hospitals, Planned Parenthood clinics and other sites during the same period. Descriptive and multivariate analyses were conducted across both surveys.

**Results:** A total of 1256 questionnaires were completed for a response rate of 62%. A majority of providers surveyed believed that over 10% of their contraceptive clients experienced ambivalence about avoiding pregnancy, underestimated the risk of pregnancy and failed to use contraception for one or more months when at risk for unintended pregnancy. Implementation of protocols to promote contraceptive use ranged widely among provider types: a full 78% of Panned Parenthood clinics offered quick-start pill initiation, as did 47% of public health departments. However, 38% of obstetrician-gynecologists, 27% of "other public" clinics and only 13% of family physicians did so. Both public and private providers reported that one of the most important things they could do to improve patients' contraceptive method use was to provide more and better counseling. At least 46% of private providers and at least 21% of public providers reported that changing insurance reimbursement to allow more time for counseling was very important.

**Conclusions:** Strategies to improve contraceptive use for all persons in need in the United States have the potential to be more effective if the challenges contraceptive providers face and the differences between public and private providers are taken into account.



*Keywords:* Contraception; Health professionals; Counseling; Family planning; Delivery of services

## 1. Introduction

Unintended pregnancy remains a persistent problem in the United States: In 2001, 49% of pregnancies were unintended [1]. The major direct causes of unintended pregnancy are contraceptive nonuse and inconsistent or incorrect use of contraception. Clinicians who provide contraceptive services can play a key role in helping women adopt and adhere to consistent and correct use of contraception. This article reports findings from a national survey of public and private contraceptive service providers. The overall aim of this survey, combined with findings from a companion survey of women [2,3], was to add to the evidence base needed for developing service practice recommendations that have the potential to improve contraceptive use and ultimately reduce high levels of unintended pregnancy. Such an examination is critical because many of the reasons identified by women for their difficulties with contraceptive use (for example, coping with side effects, accurately assessing pregnancy risk or choosing methods more easily adhered to during periods of infrequent sex or personal changes) could be moderated by the timely receipt of appropriate counseling, information and services [4].

In addition to over-the-counter contraceptive purchases, American women receive contraceptive care in a variety of different service settings. Among the 26 million US women

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who report receiving any contraceptive service from a health care provider, three in four receive at least one service from a private physician [5]. Among those seeking private sector care, two-thirds receive care from obstetrician-gynecologists, 21% from family physicians, 11% from internists and 2% from other provider types [6]. One in four women obtaining contraceptive care does so from one of the approximately 6000 publicly funded family planning clinics providing free or subsidized contraceptive care [7]. These clinics include county health departments, Planned Parenthood facilities, hospital out-patient departments, community or migrant health centers, and other types of community or women's health care centers.

National data suggest that there are differences in the scope of reproductive care provided by public and private providers, with patients of publicly funded clinics receiving a wider range of sexual and reproductive health services, particularly STD services, than those visiting private providers [5]. These differences may be due to differences in the characteristics of clients seeking care from each type of provider, the providers' response in meeting the needs of their particular clientele, and/or practice differences characteristic of different provider types. However, little is known from a national perspective about the content of contraceptive service visits and whether or not content varies between private and public providers.

There is particularly little information about contraceptive counseling. Recent practice guidelines have emphasized the critical importance of contraceptive counseling when providing initial and continuing contraceptive care. The US Preventive Services Task Force recommends periodic counseling about effective contraceptive methods for all persons at risk of unintended pregnancy, specifying "that counseling should be based on information from a careful sexual history and should take into account the individual preferences, abilities and risks of each patient" [8]. In 2004, the World Health Organization released updated eligibility criteria for contraceptive use and included recommendations for general practices and counseling, stating that "[c]ounseling is a key element in quality of care and is also an important part of both initiation and follow-up visits and should respond to clients' needs not only in contraception but also related to sexuality and the prevention of STIs" [9].

In addition to appropriate contraceptive counseling, other strategies for ensuring contraceptive success include removing barriers to use — such as waiting periods and prerequisite screenings usually associated with provision of hormonal methods [10]. Specifically, two practices that have recently become accepted as standards of care are delaying pelvic exams (that is, providing a limited prescription for oral contraceptives before a patient must undergo a pelvic or other full medical exam) and "quick-start" initiation protocols (such as taking the first pill at the doctors' office). In 1993, the FDA revised package inserts for oral contraceptives, allowing women to delay a pelvic exam when seeking hormonal contraception [11]. In 2001, the federal government approved similar guidelines for the Title X program [12]. In 2003, a full 70% of publicly funded family planning agencies allowed clients to delay a pelvic exam when beginning use of oral contraceptives (up from 45% in 1995) [13]. In the quick-start protocol, patients take their first pill or receive their first contraceptive injection under the direct observation of the provider at the visit, regardless of the timing of their cycle [14]. Research has demonstrated significantly higher injectable continuation rates but not pill continuation rates if this protocol is used [14,15]. Questions remain, however, about how widely different types of contraceptive service providers adopt such innovations.

Prescribing or providing emergency contraception (EC) in advance is another recent standard of care designed to reduce unintended pregnancy recommended by The American College of Obstetricians and Gynecologists [16]. Among private sector providers, overall EC provision has increased dramatically over the past decade [17] — from 50% to 85% of obstetrician-gynecologists prescribing EC at least once between 1994 and 1997, and from 34% to 69% of family physicians over the same period [18]. Among all publicly funded family planning agencies, the percentage dispensing or prescribing EC rose from 38% in 1995 to 79% in 2003 [13]. The percentage of publicly funded agencies reporting advance provision of EC rose significantly in the recent period — from 21% in 1999 to 47% in 2003, with 85% of Planned Parenthood affiliates reporting adoption of this practice. However, there is little information available about how widely advance provision or prescription has been adopted among private sector providers.

This article reports findings from a national survey of public and private contraceptive service providers that collected data on providers' counseling practices and service protocols. We examine the extent to which new standards of care and recommended practices of contraceptive service provision are followed, comparing different types of providers and assessing factors associated with these differences. We expect that this information will be useful in designing recommendations for improving contraceptive service delivery practices and will be used by policy makers, program planners, educators and contraceptive service providers themselves.

## 2. Data and methods

A four-page questionnaire was mailed to nationally representative samples of private physicians and public clinics in spring 2005. A person who performs most, or a large portion, of the contraceptive counseling and education for either the private practice or the clinic was instructed to complete the survey. Respondents provided data on the number of patients served, staffing, patient characteristics, contraceptive services offered, other services and protocols, topics discussed during contraceptive counseling, problems contraceptive patients face, impact of insurance policies on

service provision, and steps that could be taken to improve patients' contraceptive use.

For private physicians, simple random samples of 595 family physicians and 490 obstetrician-gynecologists were selected from the member databases of the American Academy of Family Physicians (AAFP) and the American College of Obstetricians and Gynecologists (ACOG), respectively. Physicians in these two specialties were chosen because they provide the bulk of office-based reproductive health services to women [6]. For the public clinic survey, a stratified random sample of 376 health departments, 332 Planned Parenthoods, 221 community/migrant health centers, 104 hospitals and 175 other clinics were selected from a regularly updated Guttmacher Institute database of all US publicly funded clinics that provide family planning services [19]. Clinics in the "other" category included community-based clinics that receive other Bureau of Primary Care funds, clinics that are listed as federally qualified health center look-alike sites, women's centers and primary care clinics that are not affiliated with any other provider types. In our final analyses, community/migrant health centers, hospitals and "other clinics" were combined into a larger "other public" category.

Respondents completed either the paper version of the questionnaire or an electronic version available on a secure website. Nonresponse follow-up efforts included a second mailing and up to four telephone calls. Mailings to family physicians and obstetrician-gynecologists included an endorsement letter from the AAFP and ACOG, respectively.

Of 1085 private practice physicians surveyed, 141 were excluded because they were retired, deceased, listed under an incorrect specialty or did not provide direct patient care in a private office-based setting. An additional 16 private physicians were excluded because after multiple attempts, they could not be located. Of 1208 public clinics surveyed, 110 were excluded because they were closed, school based, open once a month or less, only provided contraceptive services as part of abortion services or did not provide subsidized family planning services. Of the remaining eligible providers, 73% of the public clinics and 49% of the private practitioners responded to the survey. The response rate was highest among Planned Parenthood clinics (86%) and lowest among private family physicians (48%). Of the private physicians who responded, 70 were excluded from final analysis because they had less than 1 patient receiving a contraceptive service per week on average. Among all surveys used in final analysis, item nonresponse ranged from 0% to 6% for all questions except for the two open-ended questions, which had nonresponse rates of 21% to 31%. We excluded nonrespondents from calculations.

Analyses were weighted to correct for nonresponse and for the probability of selection within provider type. Public provider data were weighted to reflect the universe of clinics as defined by the aforementioned database of all US publicly funded clinics that provide family planning services. Private physician data were weighted proportionate to specialty size to reflect the total membership of practicing US physicians in the AAFP (57,441) and ACOG (30,502). This study was approved by our organization's institutional review board.

## 3. Results

### 3.1. Service settings

Most US women receive contraceptive care in private office-based settings where contraceptive clients are only a small fraction of all clients. In public settings, contraceptive clients are the majority of patients for 55% of health department family planning clinics and 97% of Planned Parenthood clinics (but only 33% of "other public" clinics). In contrast, in private settings contraceptive clients are the majority of patients for only 30% of all women visiting obstetrician-gynecologists and 1% of women visiting family practice physicians.

### 3.2. Type of staff

The type of staff responsible for contraceptive counseling and education also varies markedly among provider groups. In private provider settings, physicians were almost always involved in providing contraceptive counseling and education services (97% for both obstetrician-gynecologists and family physicians) while fewer than half reported that mid-level clinicians were involved in contraceptive counseling and 33–40% reported that nurses provided counseling or education. In contrast, higher percentages of public providers reported relying on mid-level clinicians (77–88%) and nurses (46–93%) for contraceptive counseling and education.

### 3.3. Patient characteristics

Public providers reported that larger proportions of their contraceptive clients were young, minority or disadvantaged, as measured by receipt of Medicaid and English proficiency, compared to the contraceptive clients of private sector providers. Providers in the "other public" category (consisting primarily of community health centers) reported the highest percentages of minority and disadvantaged clients. Just over half of these clinics reported that the majority of their patients were racial or ethnic minorities (compared to almost a quarter of Planned Parenthood clinics and about four in 10 health department respondents). Similarly, they reported higher percentages of clients paying for their visit with Medicaid or other state or federal assistance and having limited English proficiency.

Compared to all three groups of public providers, one-third to one-half as many private providers reported that 50% or more of their patients were young, minority, had limited English proficiency or paid for their visit with Medicaid or other state or federal assistance. Generally, family physicians and obstetrician-gynecologists had similar levels of disadvantaged clients.

### 3.4. Contraceptive provision

Oral contraceptives and injectable hormonal contraception were the most common methods, dispensed or prescribed by 97–100% of all provider types, with the exception of injectable provision by family physicians (92%) (Table 1). Three methods — the IUD, vaginal ring and EC — were recommended, prescribed or dispensed by 89–100% of obstetrician-gynecologists and Planned Parenthood clinics, but by significantly fewer of most other provider types (39–88%). Male condoms were recommended or dispensed by higher proportions of public clinics (95–100%), compared with both types of private physicians (76–89%). Natural family planning was offered as an option by 59–75% of providers.

### 3.5. Perceptions of contraceptive use problems

Providers were asked to estimate what proportion of their contraceptive clients experienced specific problems that might impact contraceptive efficacy. While private providers generally ranked the importance of different problems similarly to public providers, for each of the seven general problems, they reported that fewer clients experienced the problem (Table 2). The problem most commonly cited by both public (23%) and private providers (16%) as affecting at least half of their patients was underestimating the risk of pregnancy. A similarly high percentage of public providers reported that a majority of their clients had difficulty paying for visits or services (22%). However, only 7% of private providers reported that the majority of their patients had this difficulty. Among the method-specific problems, a high percentage of private (20%) and public (27%) providers reported that skipping barrier methods because they are inconvenient or unavailable affects a majority of their clients.

Fewer than 12% of providers believed that a majority of their clients were affected by each of the remaining problems that providers were asked to assess. However, between 40% and 70% reported that these problems were important for 10–49% of clients. More than 50% of both public and private providers reported that some of their clients stopped contraceptive use for more than a month when at risk for unintended pregnancy, returned late or never for follow-up visits, were ambivalent about avoiding pregnancy, were confused about correct method use, stopped or skipped hormonal methods because of side effects, and skipped two or more pills in a cycle. In a break from the pattern of private providers reporting their clients experienced fewer problems than public providers, 74% of private providers perceived that more than 10% of their patients stopped or skipped hormonal method use because of side effects, compared to 66% of public providers.

### 3.6. Topics discussed during counseling

Providers were asked how frequently 11 topics were discussed during initial and subsequent contraceptive visits (the three choices were never/rarely, sometimes and often/always). During a patient's initial contraceptive visit, the vast majority of providers reported that they often or always discuss virtually all 11 topics (data not shown). However, there was considerable variation among providers in the content of contraceptive counseling reported for subsequent (second or later) visits.

At subsequent contraceptive visits, more than 70% of public providers often or always take a sexual history. In contrast, among private providers, 58% of obstetrician-gynecologists and 43% of family physicians often or always take a sexual history at subsequent visits (Table 3). Discussing changes or difficulties in patients' lives is often or always covered at subsequent visits by fewer than half (and typically by fewer than 40%) of all provider types. Relatively high proportions (80% or greater) of obstetrician-gynecologists and all groups of public providers reported that at subsequent visits they often or always

Table 1
Percentage of providers that dispense, prescribe or recommend various contraceptive methods by provider type

| Method | Provider type | | | | |
|---|---|---|---|---|---|
| | Obstetrician-gynecologist | Family physician | Health department | Planned Parenthood | Other public |
| Unweighted, *n* | 194 | 187 | 273 | 265 | 267 |
| Oral contraceptive | 100 | 99 | 99 | 100 | 100 |
| IUD | 89 | 39*** | 45*** | 89 | 57*** |
| Injectable | 97 | 92* | 97 | 100 | 99 |
| Patch | 99 | 95** | 89*** | 99 | 95** |
| Vaginal ring | 97 | 64*** | 60*** | 98 | 73*** |
| Cervical cap | 20 | 18 | 22 | 60*** | 32** |
| Diaphragm | 90 | 56*** | 80** | 96* | 63*** |
| Emergency contraception | 93 | 66*** | 88 | 100*** | 82*** |
| Male condom | 76 | 89*** | 99*** | 100*** | 95*** |
| Female condom | 41 | 45 | 63*** | 89*** | 66*** |
| Spermicides | 76 | 74 | 85* | 95*** | 80 |
| Natural family planning | 72 | 59** | 65 | 75 | 62* |

* Significantly different from obstetrician-gynecologist at p<.05, ** p<.01, *** p<.001.

Table 2
Percentage distribution of providers by the percentage of their contraceptive patients who they believe have experienced certain problems and by type of provider

| Type of problem patients experience | Percent of patients | | | | | |
|---|---|---|---|---|---|---|
| | Private provider | | | Public provider | | |
| | <10% | 10–49% | 50%+ | <10% | 10–49% | 50%+ |
| *Problems for all users* | | | | | | |
| Underestimating the risk of pregnancy | 22 | 62 | 16 | 17* | 60 | 23** |
| Difficulty paying for visits or services | 35 | 58 | 7 | 42* | 36*** | 22*** |
| Stop use when at risk of pregnancy | 39 | 54 | 8 | 30** | 59 | 11 |
| Return late/never for follow-up | 35 | 60 | 5 | 20*** | 70** | 10** |
| Ambivalence about avoiding pregnancy | 44 | 53 | 4 | 34** | 57 | 9*** |
| Difficulty negotiating use with partner | 47 | 50 | 2 | 44 | 47 | 9*** |
| Confusion about correct method use | 44 | 52 | 4 | 41 | 53 | 6 |
| *Problems for specific method users* | | | | | | |
| Skip barrier method because inconvenient/unavailable | 22 | 58 | 20 | 17 | 55 | 27** |
| Experience condom breakage or slippage | 55 | 41 | 5 | 45** | 48* | 6 |
| Stop/skip hormonal method because of side effects | 26 | 68 | 6 | 34** | 59** | 7 |
| Skip/miss 2 or more pills in a cycle | 42 | 51 | 6 | 38 | 56 | 6 |
| Misunderstand what to do if miss a pill | 47 | 47 | 6 | 51 | 44 | 5 |
| Return late for Depo or Lunelle shot | 56 | 42 | 2 | 48* | 47 | 4* |
| Delay start of a new pill pack | 58 | 39 | 3 | 54 | 42 | 4 |

* Significantly different from private provider at p<.05, ** p<.01, *** p<.001.

discussed their patients' experiences, side effects and satisfaction with their current methods of contraception. However, family physicians were much less likely to do so (58%). Correct and consistent method use was often or always discussed with patients at subsequent visits by a high proportion of Planned Parenthood and health department providers (87% and 92%, respectively), but it was discussed by far fewer obstetrician-gynecologists and family physicians (58% and 41%, respectively). A high proportion (56–69%) of obstetrician-gynecologists and public providers often or always discussed motivation to prevent pregnancy with their contraceptive patients at subsequent visits. However, this topic was covered much less frequently by family physicians (32% discussed it often or always).

During subsequent visits for continuing oral contraceptive patients, from 53% to 68% of public providers often or always discussed topics related to improving use, such as ways to cope with side effects, different pill formulations to minimize side effects, ways to remember missed pills or what to do about missed pills. A lower percentage (21–55%) of private providers addressed these topics at such visits. Private providers were also less likely than public providers to speak with patients who

Table 3
Percentage of providers who discuss various topics often or always with their contraceptive clients at subsequent visits by provider type

| Topics discussed with clients | Private provider | | Public provider | | |
|---|---|---|---|---|---|
| | Obstetrician-gynecologist | Family physician | Health department | Planned Parenthood | Other public |
| *Topics for all users* | | | | | |
| Sexual history | 58 | 43** | 71** | 84*** | 71** |
| Changes in the patent's life (e.g., moving, job) | 48 | 35* | 37* | 47 | 38* |
| Difficulties in the patient's life (e.g., poverty) | 39 | 36 | 34 | 38 | 39 |
| Experiences, side effects and satisfaction with current method(s) of contraception | 80 | 58*** | 93*** | 87 | 81 |
| Correct and consistent method use | 58 | 41** | 92*** | 87*** | 77*** |
| Motivation to prevent pregnancy | 56 | 32*** | 69** | 68* | 62 |
| *Topics for condom and pill users* | | | | | |
| Availability of different pill formulations if patient experiences side effects | 55 | 37*** | 65* | 68** | 62 |
| Ways to cope with side effects of the pill | 37 | 28 | 66*** | 60*** | 60*** |
| What to do about missed pills | 33 | 21** | 66*** | 62*** | 56*** |
| Suggestions for how to remember daily pill use | 30 | 21* | 64*** | 59*** | 53*** |
| Instruction on correct condom use | 23 | 12** | 47*** | 50*** | 43*** |

* Significantly different from obstetrician-gynecologist at p<.05, ** p<.01, *** p<.001.

use condoms about correct condom use (12–23% vs. 43–50%, respectively).

### 3.7. Practices to promote access

Providers were asked about a range of activities that can promote patient access to contraceptive care. The percent of providers who offered evening or weekend hours ranged from highs of 64% and 90% for family practice and Planned Parenthood providers to lows of 27% and 35% for obstetrician-gynecologists and health departments (Table 4). More Planned Parenthood and "other public" providers offered bilingual staff (65% and 72%, respectively) than other provider types (49–57%). Obstetrician-gynecologists were more likely (93%) to use a postcard, phone call or other reminder before a scheduled visit compared to other providers (61–77%). Obstetrician-gynecologists were also more likely (89%) to phone or otherwise contact patients who missed a visit compared to other providers (54–78%).

### 3.8. Protocols to improve use

Providers were asked about three particular protocols: allowing new hormonal users to delay a pelvic exam for up to 6 months, quick-start initiation of oral contraceptives and advance provision of EC. Eighty-six percent of Planned Parenthoods allowed for new hormonal users to delay a pelvic exam. In contrast, only about half of other provider types did so (49–56%). More than three-quarters (78%) of Planned Parenthood clinics offered quick-start pill initiation, as did 47% of public health departments. However, 38% of obstetrician-gynecologists, 27% of "other public" clinics and only 13% of family physicians did so. Among public providers, Planned Parenthoods were the most likely to provide EC in advance (93%), while health departments and "other public" clinics were markedly less likely to do so (37–38%). At the time this survey was fielded, EC was not available over-the-counter. Among private providers, obstetrician-gynecologists were more likely to prescribe or provide EC in advance (42%) than family physicians (25%).

### 3.9. Approaches for improving use

Providers were asked to rate the importance of six broad approaches for improving their patients' contraceptive use, as either "not," "somewhat" or "very" important. Strategies for reducing patient costs by improving insurance (expanding coverage for contraceptive care and expanding public insurance to include the uninsured) were rated "very important" by the largest percentage of providers (Table 5), ranging from 72% (obstetrician-gynecologists) to 45% (health departments) for expanding private contraceptive coverage and from 75% (Planned Parenthood) to 49% (health department) for expanding public insurance. A related approach, changing insurance reimbursement to allow for more counseling time, was considered "very important" by half of private providers (48–49%), but only about one-quarter of public providers (22–27%).

The importance of other approaches also varied among provider types. With the exception of "other public" providers, one in three providers (32–33%) responded that increasing initial counseling time to help choose methods was "very important." This approach was rated very important by a somewhat higher percentage of "other public" providers (43%). A greater proportion of Planned Parenthood and other public providers (48–55%) thought developing new and better contraceptive methods was "very important" than did obstetrician-gynecologists (38%) and family physicians (33%). Over one-quarter of

Table 4
Percentage of providers offering various services and protocols by provider type

| Practice/protocol | Private provider | | Public provider | | |
|---|---|---|---|---|---|
| | Obstetrician-gynecologist | Family physician | Health department | Planned Parenthood | Other public |
| *Practices to promote access* | | | | | |
| Evening or weekend office hours | 27 | 64*** | 35 | 90*** | 55*** |
| Bilingual staff | 57 | 49 | 50 | 65 | 72*** |
| Postcard, phone call or other reminder before scheduled visit | 93 | 69*** | 71*** | 61*** | 77*** |
| Phone or other follow-up for missed visits | 89 | 78** | 70*** | 54*** | 78** |
| Provide telephone counseling to women with side effects | 95 | 92 | 100** | 97 | 92 |
| *Protocols to prevent pregnancy* | | | | | |
| Allow new hormonal users to delay the pelvic exam for up to 6 months | 49 | 56 | 54 | 86*** | 56 |
| Offer quick-start pill initiation protocol (taking the first pill at the doctor's office) | 38 | 13*** | 47* | 78*** | 27* |
| Provide/prescribe EC in advance | 42 | 25*** | 37 | 93*** | 38 |

* Significantly different from obstetrician-gynecologist at p<.05, ** p<.01, *** p<.001.

Table 5
Percentage of providers who thought the following approaches were very important for improving their patients' contraceptive method use by provider type

| Approach | Private provider | | Public provider | | |
|---|---|---|---|---|---|
| | Obstetrician-gynecologist | Family physician | Health department | Planned Parenthood | Other public |
| Reduce costs insured patients must pay for methods and services by improving coverage of contraceptive care | 72 | 62* | 45*** | 66 | 55*** |
| Reduce costs uninsured patients must pay for methods and services by expanding public insurance | 62 | 63 | 49** | 75** | 61 |
| Change insurance reimbursement to allow more time for counseling | 49 | 48 | 22*** | 24*** | 27*** |
| Develop new and better contraceptive methods | 38 | 33 | 47 | 55*** | 48* |
| Increase time for initial counseling to help choose method | 33 | 33 | 32 | 33 | 43* |
| Reduce waiting time for appointment or add more evening or weekend office hours | 10 | 11 | 29*** | 45*** | 31*** |

* Significantly different from obstetrician-gynecologist at p<.05, ** p<.01, *** p<.001.

public providers (29–45%) said adding more evening or weekend office hours was "very important," while only 10–11% of private providers rated this approach "very important".

### 3.10. Views on improving contraceptive use

Providers were asked two open-ended questions: "What are the most important things providers could do themselves to improve patients' contraceptive method use?" and "Beyond what providers can do, what are the other most important steps that can be taken to improve patients' contraceptive method use?"

In response to the first question, 85% of respondents mentioned topics related to counseling or education (data not shown). A majority of these responses included suggestions for improving communication between patient and provider, spending more time with the patients and better understanding individual patient circumstances. Other respondents wrote that providers could improve their counseling on particular topics such as how to use methods, side effects, different method options available, and patient concerns and solutions.

Improving access was the second most frequent general response, noted by 19% of providers. The diverse responses in this category ranged from offering bilingual staff, more office hours or walk-in service to providing low-cost contraceptives and having contraceptive samples. The third most frequent response, mentioned by 12% of providers, was to provide better follow-up care.

In response to the question on steps beyond what providers can do, improving access was the most frequently mentioned strategy. Half (49%) of respondents mentioned such topics as lowering the cost of contraceptives for patients, providing better insurance coverage for patients and developing new or better methods. Slightly fewer respondents (45%) mentioned topics related to improving education, such as public service announcements, printed educational materials or manufacturer-provided inserts. Beyond improving access and patient education, 8% of respondents wrote that other individuals, such as partners, parents and pharmacists, should be more involved in patients' contraceptive care.

### 3.11. Multivariate analyses

Multivariate logistic regression analyses were conducted to examine the relationship between provider type and contraceptive counseling practices and service protocols, controlling for the degree of contraceptive specialization and patient characteristics (data not shown, but available from the authors upon request). A number of models were examined predicting (1) the frequency that providers discuss various issues with their patients at subsequent contraceptive visits (such as the motivation to prevent pregnancy or how to remember daily pill use); and (2) whether the provider offered particular protocols (such as quick-start pill initiation or allowing new hormonal users to delay their pelvic exam for up to 6 months).

Generally, the significant differences between provider type and specific counseling practices and protocols observed in the bivariate results (Tables 3 and 4) were reduced and sometimes eliminated when the percent of the provider's patients who receive a contraceptive service were accounted for. In particular, the odds ratios of family practice physicians rise closer to the reference group of obstetrician-gynecologists; in contrast, the odds ratios for health department and Planned Parenthood clinics decline from their high position. Generally, providers are less likely to offer a wide range of contraceptive services if less than one-quarter of their patients receive a contraceptive service.

Models that controlled for measures of patient demographic characteristics (percent of patients who are less than 25 years of age, percent who are racial or ethnic minorities, percent who have limited English proficiency and percent who receive Medicaid or other public health assistance) had very little predictive effect on the services that providers offered, and, as a consequence, they had little impact in changing the odds ratios of provider type and the percent of patients who receive a contraceptive service.

## 4. Discussion

### 4.1. Perceptions of contraceptive use problems

Surveys of public and private contraceptive service providers reveal that they recognize a variety of challenges faced by women in using contraception consistently and correctly. A majority of providers surveyed believe that over 10% of their contraceptive patients experience most of the difficulties asked about, including being ambivalent about avoiding pregnancy, underestimating their risk of pregnancy and failing to use contraception during all months when they are at risk of an unintended pregnancy. And, although we cannot match these opinions with the actual behavior of their clients, in general, the perceptions that providers have about their patients' problems correspond with behavioral and clinical studies citing women's reports of their experiences and difficulties using contraception [4,20].

### 4.2. Counseling practices

Both public and private providers reported that one of the most important things they could do to improve patients' contraceptive method use was to provide more and better counseling. While all providers reported offering contraceptive counseling on a wide range of topics at the initial visit, contrary to widespread recommendations to revisit these issues at least annually, many providers do not routinely counsel on contraceptive use. For example, Planned Parenthood was the only provider type in which more than 75% of the providers often or always updated their patients' sexual histories or discussed changes or difficulties in their patients' lives. Private providers were particularly less likely than public providers to discuss how their patients could be more effective condom or pill users at subsequent visits.

Providers, especially private ones, report that insurance reimbursement is a barrier to providing counseling. At least 46% of private providers and at least 21% of public providers reported that changing insurance reimbursement to allow more time for counseling was very important. The fact that private providers are more likely than public providers to report counseling reimbursement as a problem is consistent with their being more dependent on insurance payments for the majority of their clients. Guidelines such as those released by ACOG that assist providers in more effectively billing for preventive medicine visits, including those that involve 15 to 60 min of counseling time, need wider distribution [21].

Despite widespread acknowledgement about the importance of contraceptive counseling, there have been few rigorous evaluations. Some issues, including frequency of contraceptive counseling, topics addressed and adequacy of counseling, have been examined in a few studies [22,23]. One smaller study found that counseling is associated with satisfaction with care, adherence to medication and return for follow-up [24]. A recent Cochrane review identified only six randomized controlled trials measuring the effectiveness of hormonal contraception and only one was found to be effective [25]. The effective program reduced discontinuation rates of injectable contraception and distinguished itself from less effective trials by a higher intensity intervention — as measured by multiple counseling sessions [26]. The Cochrane review authors noted many of the random controlled trials evaluated had serious limitations such as small sample sizes and high losses to follow-up.

### 4.3. Adopting new approaches

More high-quality experimental and observational studies are needed to measure the effectiveness of particular counseling and other approaches in a clinical setting to reduce unintended pregnancy [27]. While the evidence is mixed on the longer-term efficacy of certain protocols, such as allowing new hormonal method users to delay a pelvic exam for up to 6 months, offering quick-start initiation protocol or providing EC in advance, these procedures reduce barriers to access [4,16,19,28]. Wide variation among provider types in whether or not they offer these protocols suggests that mechanisms are needed to help all providers, and particularly private doctors, adopt newer, effective protocols more rapidly. Groups such as ACOG and Planned Parenthood Federation of America, which have successfully set guidelines for their own members, have an opportunity to be leaders in innovation and standard setting for the wider field of contraceptive service providers. Private providers who provide contraceptive services, but are outside the scope of groups like ACOG, could benefit by receiving more information about newer protocols as well as some of the more standard tools for counseling and education used by nonphysician staff. In addition, more research is needed on the impact of supplementing client–provider communication with other sources of patient information such as handouts and Internet websites.

### 4.4. Reducing barriers

We have identified a number of gaps between the ideal set of services likely to help women be more successful contraceptive users and the set of services offered by many contraceptive service providers. In addition to the fact that not all providers offer counseling on a full range of topics or follow the most recently recommended service protocols, we found that many providers do not even prescribe, dispense or recommend the full range of contraceptive methods. Providing a full range of methods is necessary so that women can obtain the method that they and their provider believe will be most appropriate for their current life situation and health.

However, in order to use these findings to develop recommendations for improving contraceptive use through changes in clinical service delivery, it is critical that solutions be tailored to fit the vastly different environments in which contraceptive services are offered. Although we have shown that family practice doctors are typically less likely than obstetrician-gynecologists to offer the full range of contraceptive counseling topics and service protocols, and that

both private provider types are typically less likely than Planned Parenthood clinics to do so, a number of unmeasured factors may be contributing to these differences. Care must be taken not to infer that the restricted range of services offered by some providers is necessarily inappropriate for their clients. For example, in addition to the basic demographic differences in clientele measured by the survey and included in our multivariate analyses, there are likely unmeasured differences in clients' marital status or risk for unintended pregnancy that may be associated with the type of provider visited and might relate to the specific services offered.

Moreover, there are clearly structural differences between providers that are associated with what services a patient receives. Private providers, who are typically medical doctors, usually rely on their own clinical judgment about what services to offer a particular client, based on her particular needs. However, because they are generally reimbursed only for specific medical services rendered during a visit, they may have incentives to tailor their care and to limit counseling services that are generally inadequately reimbursed. On the other hand, clinicians at publicly funded clinics, who are typically nurse practitioners or medical assistants, usually follow a standard set of service delivery protocols that have been developed by a medical director and are designed to provide the full range of available services to the majority of clients. The existence of such protocols may also contribute to the likelihood that staff responding to our survey reported that most clients receive the care prescribed, even if actual practice differs somewhat from the protocols.

Despite these limitations and notwithstanding the possible reasons for some providers to offer a restricted set of contraceptive practices, the results described here and the words of providers themselves when asked suggest a number of strategies that have the potential to improve contraceptive care for women. We have discussed approaches related to accessibility and financing of services and to improvements in the counseling practices and service delivery protocols available to all women seeking contraceptive care. Additional research is needed to evaluate the effectiveness of specific practices and to assess the outcomes associated with the practices of different types of contraceptive service providers.

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