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Appointment Wait Times in Female Pelvic Medicine and Reconstructive Surgery: A Mystery Caller Study

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Dear Dr. Chescheir,

Please find my attached submission, “Appointment Wait Times in Female Pelvic Medicine and Reconstructive Surgery: A Mystery Caller Study”.

1. The authors have solely submitted to *Obstetrics & Gynecology*.
2. The manuscript is not under consideration elsewhere, and we pledge that we will not submit elsewhere unless a final negative decision is made by the Editors of *Obstetrics & Gynecology*
3. The declaration of transparency from the lead author

   The lead author* affirms that this manuscript is an honest, accurate, and transparent account of the study being reported; that no important aspects of the study have been omitted; and that any discrepancies from the study as planned (and, if relevant, registered) have been explained. Signed by: Tyler Muffly, MD

4. The Colorado Multiple Institutional Review Board deemed this study non-human subject research.
5. The STROBE checklist is included.

Respectfully,

Tyler M. Muffly, MD

Appointment Wait Times in Female Pelvic Medicine and Reconstructive Surgery: A Mystery Caller Study

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The authors have no financial conflicts of interest.

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Short title: Wait Times for Urogynecologic Care

Précis:

Typically, a woman with uterine prolapse can expect to wait at least four weeks for a new patient appointment with a board-certified female pelvic medicine and reconstructive surgeon.

Abstract:

OBJECTIVE: To evaluate the mean appointment wait time for a new patient visit at outpatient female pelvic medicine and reconstructive surgery offices for US women with the common and non-emergent complaint of uterine prolapse.

METHODS: The American Urogynecologic Society "Find a Provider" tool was used to generate a list of female pelvic medicine and reconstructive surgery (FPMRS) offices across the United States. Each of the 427 unique listed offices was called. The caller asked for the soonest appointment available for her mother, who was recently diagnosed with uterine prolapse. Data for each office were collected including date of soonest appointment, FPMRS physician demographics, and office demographics. Mean appointment wait time was calculated.

RESULTS: Four hundred twenty-seven FPMRS offices were called in 46 states plus the District of Columbia. The mean appointment wait time was 23.1 business days for an appointment (standard deviation 19 business days). The appointment wait time was six days longer when seeing a female FPMRS physician compared to a male FPMRS physician (mean 26 vs. 20 business days, $p<0.02$). There was no difference in wait time by day of the week called.

CONCLUSION: Typically, a woman with uterine prolapse can expect to wait at least four weeks for a new patient appointment with an FPMRS board certified physician listed on the American Urogynecologic Society website. First available appointment is more often with a male physician. A patient can expect to wait six days longer to see a female FPMRS physician.

Introduction:

Audit studies, often called mystery caller studies, offer a single-blinded and patient-centered approach to conducting public health research. They can be particularly useful in capturing information regarding patient access to care, as they mimic a patient's experience of attempting to schedule appointments in real time. Patient satisfaction is known to decrease with longer appointment wait times.(1, 2) Additionally, there is some evidence to suggest that shorter wait times for outpatient specialty appointments may be related to improved patient outcomes.(1) Mystery caller studies examining a variety of specialties including obstetrics and gynecology have found that overall appointment wait times for non-urgent visits are increasing. From 2014 to 2017, mean appointment wait times in metropolitan areas increased 30%, from 18.5 days to 24 days. (3)

Insurance type also influences access to care. Patients with public insurance face significantly longer wait times for specialty clinic appointments and appointments for urgent medical conditions compared to privately insured patients.(4, 5) Medicare may present less of a barrier than Medicaid.(6, 7) Patients with public insurance also have a much higher likelihood of being denied an appointment due to insurance type.(4)

Wait times for patients seeking visits in the field of Female Pelvic Medicine and Reconstructive Surgery (FPMRS) remain unknown. We evaluated appointment wait times for Medicare-insured US women with the common and non-emergent complaint of uterine prolapse, via a cross-sectional mystery caller approach.

Methods:

The American Urogynecologic Society (AUGS) publishes a patient accessible online tool called "Find a Provider" (www.augs.org). This is a list of US board-certified FPMRS physician offices across the United States. Physicians who are not members of AUGS or are not board-certified are not included in this list. This is the most comprehensive list of female pelvic medicine surgeons available to patients and was acquired for this study on June 1, 2019. From June 25, 2019 to July 18, 2019 one female author (SRR) called each office during normal business hours. During the call, she requested the soonest available appointment for her mother (see box 1). The name, age, and chief complaint for the patient remained the same throughout the project. If asked, the patient was said to have Medicare insurance. An appointment was requested once at each of the 427 unique offices.

Female pelvic medicine and reconstructive surgery offices were not aware that research was being conducted until after the calls were completed. Because the offices were not informed of their participation during the study, we conducted it with a number of ethical safeguards. The telephone calls to office staff were made in a routine manner that attempted to minimize time spent on the telephone. No appointments were actually scheduled. After the calls were completed, all offices received debriefing letters which detailed the nature of the study, and they were encouraged to contact the research team with any questions or concerns. The cross-sectional study was performed according to the STROBE statement. Missing data was not imputed but left missing.

If the incorrect phone number was provided on the list and the person who answered was able to provide the correct office number, the correct number was called. An office was excluded from calculation of appointment wait time if: no phone number was provided on the list, an incorrect phone number was provided and the person who answered did not provide the

correct number, the call went to voicemail, the caller was on hold for greater than five minutes, the office required a review of medical records or referral prior to scheduling, the office required patients to see an advanced practice provider, or the office was part of a closed medical system. Offices were also excluded if the office did not accept Medicare, did not accept new Medicare patients, or the office was not accepting new patients in general.

Data were analyzed using R (version 3.6.2) to generate mean appointment wait times of included offices in business days. Linear regression was used to evaluate the relationship between a number of additional office characteristics and appointment wait time. Approval was granted by the Denver Health Office of Research and this study was deemed non-human subject research by the Colorado Multiple Institutional Review Board.

Results:

Four hundred twenty-seven FPMRS offices were called in 46 states plus the District of Columbia. Two hundred and one offices were excluded from the appointment wait time calculation (See Figure 1). Primary reasons for exclusion were phone went to voicemail (27%), phone number was to FPMRS physician's personal phone and correct number not obtained (19%) and closed medical system (e.g. Kaiser or military) (13%). Eight percent of offices were excluded due to not accepting new and/or Medicare patients. Two-hundred twenty-six offices (53%) were successfully contacted and accepting new patients. Supplemental digital content with an interactive map demonstrating included and excluded offices is available at: https://exploratory.io/viz/8171776323392484/Dot-map-VQG6RIQ9cT.

All calls were fewer than ten minutes in length with a mean time of 3.2 minutes and a standard deviation of 1.7 minutes. Of the 226 FPMRS offices included in the analysis, 97%

were located in areas classified by ZIP code as being urban by the United States Census Bureau. The typical FPMRS physician with the next available appointment was male (61%) and the American Congress of Obstetricians and Gynecologists (ACOG) region with the most offices was ACOG District IV (see Table 1).

The mean appointment wait time for a new patient visit was 23.1 business days ±18.6 (see figure 2). When the first available appointment was with a female FPMRS physician, the wait time was six days longer than when the first available appointment was with a male FPMRS physician (mean 26 vs. 20 business days, $p<0.045$). There was no significant difference in wait times by ACOG region ($p=0.99$) or day of the week called ($p=0.99$) on univariate analysis. Figure 3 maps wait times by individual FPMRS offices and an interactive map is available as supplemental digital content at: https://exploratory.io/viz/8171776323392484/Included-only-map-bZN1KRg1sh.

Linear regression was performed with all predictors in the model. With ACOG District I (New England) as the referent, the ACOG Districts IV (Southern states), V (Ohio River Valley), VI (High Prairie), VIII (Western states), and IX (California) had significantly shorter wait times for new patient appointments ($p<0.02$ for all). Female gender remained significantly associated with appointment wait time ($p<0.01$) with a coefficient of 7.9 (95% CI 2.7-13.0).

Conclusion:

Pelvic floor dysfunction affects over 40% of women age 60 or older, with approximately 13% of women undergoing urogynecologic surgery at some point in their life.(8, 9) The challenge faced by the caller in our study mimics the challenge faced by many women — finding a physician who is able to see them for a newly diagnosed health problem. We found that

FPMRS offices in the United States offered a wide range of waiting periods for new appointments to see a physician. Typically, a woman with uterine prolapse can expect to wait at least four weeks for an initial appointment with an FPMRS board-certified physician, although wait times varied greatly from a single day to up to 96 business days. The mean wait time of 23 days found in our study is similar to previously published average wait times for specialist appointments.(3)

When the first available appointment is with a female physician, the patient can expect to wait six more days than when the first available appointment is with a male physician. While we do not know the reason for this increased wait time, the ratio of female to male FMPRS surgeons at the offices included in this study, as well as patient preference may play a role. Available literature suggests that patients with "sensitive" complaints prefer to see physicians of the same sex in emergency settings.(10) Additionally, an interview based study of obstetric and gynecologic patients found that while 52.8% of women surveyed preferred a female physician, only 9.6% preferred a male physician.(11) This represents an area for further investigation.

It is reassuring that only 8% of successfully contacted offices were not accepting new or Medicare patients. While having public insurance can be a barrier to medical care access, some studies have demonstrated that patients with Medicare are much more likely to be able to schedule specialty appointments than those with Medicaid.(6, 7) Our study suggests that in the field of FPMRS, Medicare may not represent a significant barrier to access.

Thirty percent of offices in our study were able to offer an appointment within 10 business days. While there is no established gold standard for specialist appointment wait times, longer wait times may worsen health outcomes, and these shorter wait times represent a standard to emulate for this sensitive and uncomfortable issue. (1, 2) It is anticipated that the US

population over the age of 65 will double between 2010 and 2050.(12) With increasing numbers of aging Americans, many of whom will undoubtedly seek urogynecologic care, efforts to decrease wait times would be worthwhile.

There are a number of limitations to this study. The major limitation was that only FPMRS offices listed on the AUGS "find a provider" feature with functional telephone numbers were included in this study. The list provided may be incomplete, and additionally, this study identified that much of the information provided on the list is not accurate. Many offices were not successfully contacted. It is unknown if the offices included in this study differed in significant ways from the offices that were not contacted and whether this would have affected the results. The American Urogynecologic Society was informed of incorrect phone numbers to be revised. Additionally, each office was only called once, and the study was performed over a four-week time period. While we found no difference in wait time based on day of week, it is possible that wait times differ by time of year.

The wait times found in this study highlight potential problems in timely access to care for Medicare populations. Institutional or state efforts to measure access to care should consider monitoring appointment wait times as one key metric. Mystery caller studies offer an efficient and effective approach for doing that.

Authors' Data Sharing Statement

- Will individual participant data be available (including data dictionaries)? Yes
- What data in particular will be shared? All data will be shared.

- What other documents will be available? The maps and R code are available as well on a github repository.
- When will data be available (start and end dates)? The data is available now.
- By what access criteria will data be shared (including with whom, for what types of analyses, and by what mechanism)? The data will be shared with anyone who requests it by e-mail to tyler.muffly@dhha.org.

Appendix:

Figure 1: Reasons for Female Pelvic Medicine and Reconstructive Surgery Office Exclusion

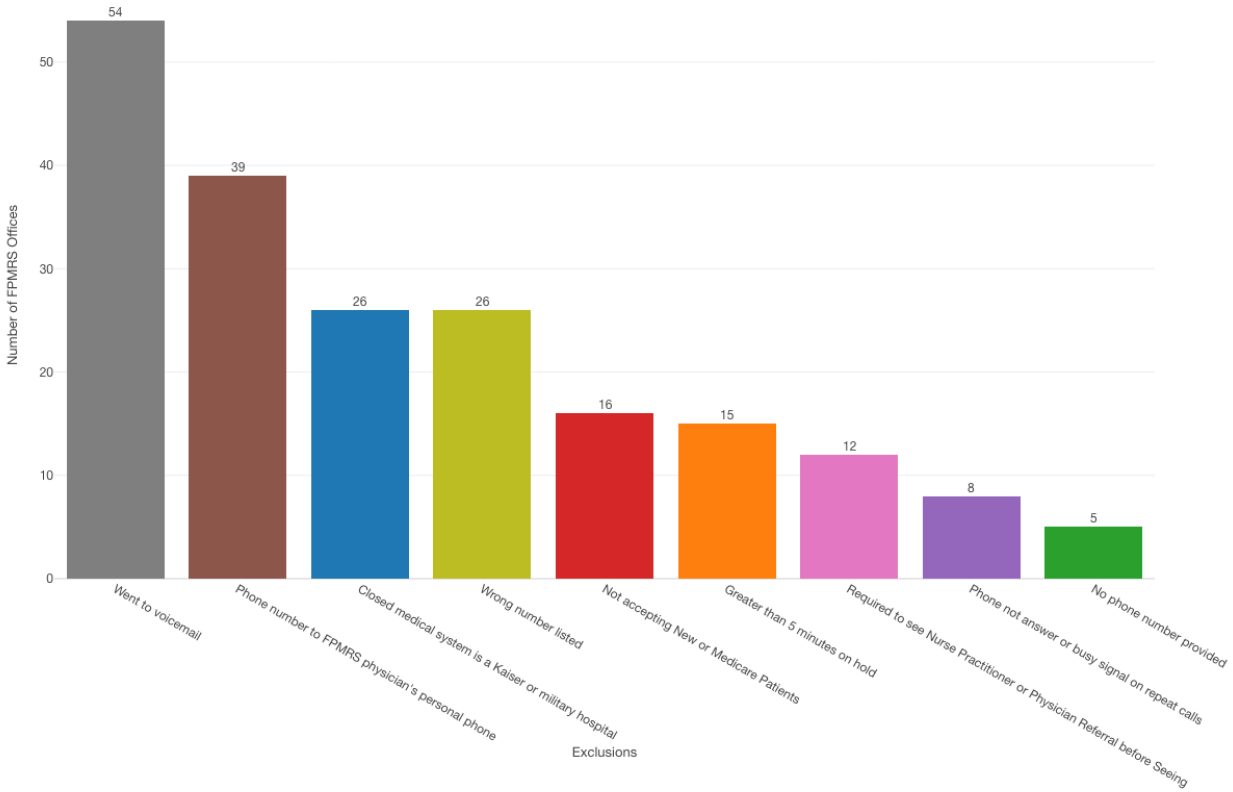
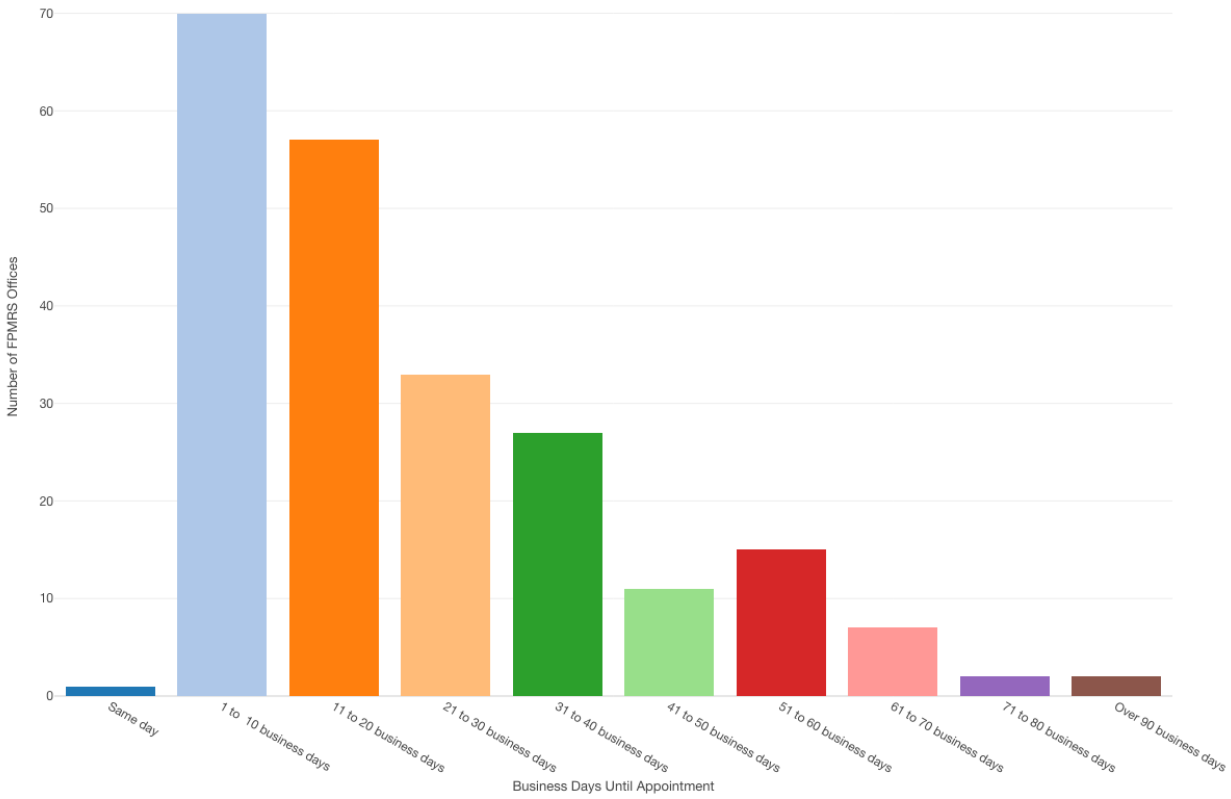


Figure 2: New patient appointment wait time in business days for FPMRS Offices



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194 Figure 3: Wait Times by Individual Female Pelvic Medicine and Reconstructive Surgery Offices

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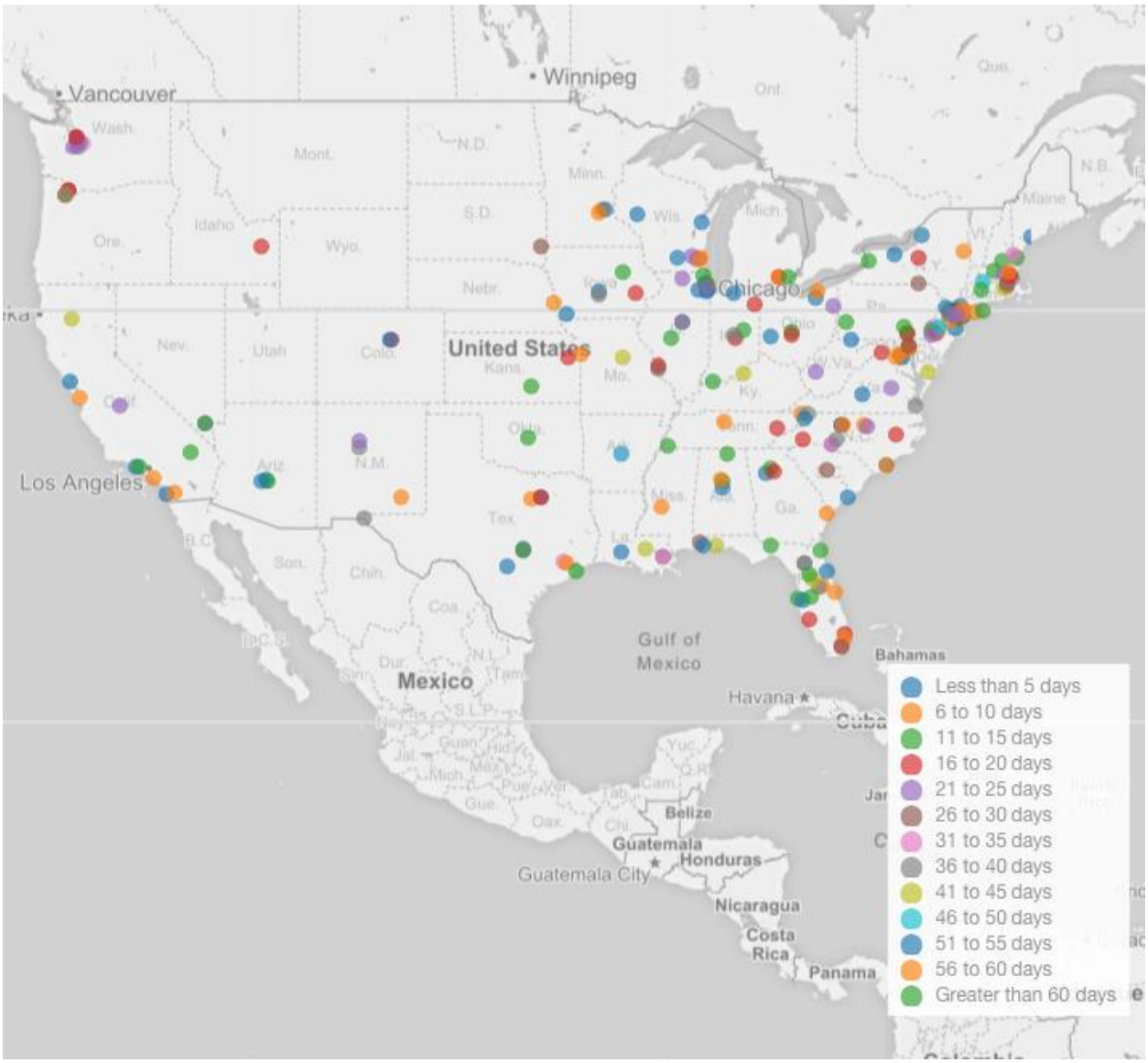

Table 1: Characteristics of Successfully Contacted Female Pelvic Medicine and Reconstructive Surgery Offices

	Overall (N=226)
Business Days Until Appointment	

Same day	1 (0.4%)
1 to 10 business days	70 (31.1%)
11 to 20 business days	57 (25.3%)
21 to 30 business days	33 (14.7%)
31 to 40 business days	27 (12.0%)
41 to 50 business days	11 (4.9%)
51 to 60 business days	15 (6.7%)
61 to 70 business days	7 (3.1%)
71 to 80 business days	2 (0.9%)
81 to 90 business days	0 (0.0%)
Over 90 business days	2 (0.9%)
Gender of first available female pelvic medicine and reconstructive surgeon	

Female	88 (38.9%)
Insurance type asked before offering appointment	
Yes	56 (24.8%)
Day of the week the office was called	
Monday	56 (24.8%)
Tuesday	61 (27.0%)
Wednesday	38 (16.8%)
Thursday	49 (21.7%)
Friday	22 (9.7%)
Hold Time (min)	
n	226

Mean, Standard Deviation	0.4 ±1
Length of call (min)	
n	226
Mean, Standard Deviation	3.2 ±2
Number of transfers	
n	226
Mean, Standard Deviation	0.2 ±0.4
Rurality	
Urban	219 (96.9%)
American Congress of Obstetricians and Gynecologists District	
District I (Atlantic Provinces, Connecticut, Maine, Massachusetts, Rhode Island, Vermont)	16 (7.1%)
District II (New York)	20 (8.8%)
District III (Delaware, New Jersey, Pennsylvania)	19 (8.4%)

District IV (District of Columbia, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia)	33 (14.6%)
District V (Indiana, Kentucky, Ohio, Michigan)	16 (7.1%)
District VI (Illinois, Iowa, Minnesota, Nebraska, North Dakota, South Dakota, Wisconsin)	29 (12.8%)
District VII (Alabama, Arkansas, Kansas, Louisiana, Mississippi, Missouri, Oklahoma, Tennessee)	26 (11.5%)
District VIII (Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming)	26 (11.5%)
District IX (California)	10 (4.4%)
District XI (Texas)	11 (4.9%)
District XII (Florida)	20 (8.8%)

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Box 1: Phone Script:

"Hello, my mother will be moving to the area soon, and she was just diagnosed with uterine prolapse. We were wondering when your first new patient appointment is?"

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9. Wu JM, Matthews CA, Conover MM, Pate V, Jonsson Funk M. Lifetime risk of stress urinary incontinence or pelvic organ prolapse surgery. Obstet Gynecol 2014 Jun;123(6):1201-6.

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12. Vincent GV, VA. The Next Four Decades The Older Population in the United States: 2010 to 2050. 2010 [cited 2020 1/1/2020]; Available from: https://www.census.gov/prod/2010pubs/p25-1138.pdf

STROBE Checklist:

STROBE Statement—Checklist of items that should be included in reports of ***cross-sectional studies***

	Item No	Recommendation	Page No
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	4
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	6
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	8
Objectives	3	State specific objectives, including any prespecified hypotheses	8
Methods			
Study design	4	Present key elements of study design early in the paper	9
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	9
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants	10
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	9

Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	-
Bias	9	Describe any efforts to address potential sources of bias	9
Study size	10	Explain how the study size was arrived at	9
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	-
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	10
		(*b*) Describe any methods used to examine subgroups and interactions	-
		(*c*) Explain how missing data were addressed	10
		(*d*) If applicable, describe analytical methods taking account of sampling strategy	-
		(*e*) Describe any sensitivity analyses	-
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	-
		(b) Give reasons for non-participation at each stage	-
		(c) Consider use of a flow diagram	10
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	Table

		(b) Indicate number of participants with missing data for each variable of interest	Table
Outcome data	15*	Report numbers of outcome events or summary measures	10
Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	11

Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	11
		(*b*) Report category boundaries when continuous variables were categorized	-
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	-
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	-
Discussion			
Key results	18	Summarise key results with reference to study objectives	12
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	13
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	14

Generalisability	21	Discuss the generalisability (external validity) of the study results	14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	-