

Appendix 1. Additional Methods Description

For each Medi-Cal beneficiary, the dataset included an encrypted ID number, date of birth, city, state, zip code, longitude and latitude of the beneficiary residence, race, date(s) of service, diagnoses (International Classification of Diseases, 9th Revision [ICD-9] codes), and procedures or treatments (Healthcare Common Procedure Coding System [HCPCS], Current Procedural Terminology [CPT] codes). For each abortion procedure, the dataset also included the provider number, the address, city, state, zip code where provider is licensed, the facility type (Hospital, Outpatient Clinic, Physician's Office or Group), and amount paid per individual treatment.

We calculated the distance that each beneficiary traveled to obtain her abortion using TRAVELTIME3, a STATA module that uses a Google Maps application program interface to calculate travel time and distance via road as described previously.^{1, 2}

Abortions were identified using Healthcare Common Procedure Coding System (HCPCS) codes (59840–59841, 59850–59852 and 59855–59857, S0199, X7724, Z0336); additionally, in some cases abortions were identified using a combination of both an induced abortion ICD-9 code (635) and either a treatment of miscarriage Current Procedural Terminology (CPT) code (59812, 59820, 59821) or a labor and delivery CPT code for inductions (0720, 0721, 59409). HCPCS and CPT codes also indicated the abortion type: 1) medication abortions, which include use of mifepristone and misoprostol; 2) first-trimester aspiration, which includes both manual and electric aspiration abortions as well as dilation and curettage “in the first 12–14 weeks of gestation”³ and 3) second-trimester or later abortions which include dilation and evacuation or induction terminations³. We also identified diagnoses and alternate procedures (such as ultrasounds), which were trimester-specific; if there was disagreement

Upadhyay UD, Johns NE, Meckstroth KR, Kerns J. Distance traveled to an abortion provider and source of care after abortion. *Obstet Gynecol* 2017; 130.

The authors provided this information as a supplement to their article.

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regarding trimester between claims of an episode of care, we used the most frequently occurring trimester.

We identified episodes of follow-up care as any care up to 6 weeks after an abortion procedure. If a repeat abortion occurred within the 6 weeks, this was not treated as a new abortion, but rather as follow-up care for the initial abortion. However, another abortion procedure after 6 weeks was considered an abortion for a new pregnancy in the same woman. Follow-up care at the abortion provider or other non-ED provider was classified as abortion-related if any claim on that day and at that location had an abortion-related diagnosis (ICD-9 codes: 635* (Legal abortion), 637* (Unspecified abortion)) or procedure codes for abortion, medication abortion, or mifepristone; as well as codes for treatment of miscarriage and labor and delivery. Other codes may have been applicable but were not present in the dataset. We then checked codes for remaining follow-up visits not classified as abortion-related and reviewed those codes for obstetric or gynecological diagnosis or procedure codes that were likely abortion-related. Obstetric-related ultrasounds were the most commonly identified codes indicating a visit was likely abortion-related, and other obstetric or gynecological codes likely to be related to the abortion were also included (these included 'excessive menstruation' and other bleeding-related diagnosis codes; diagnoses related to cramping and pelvic pain; administration of misoprostol; and any codes that would indicate a complication, such as genital surgery or infection). Pregnancy tests (human chorionic gonadotropin blood or urine tests) were also considered an abortion-related follow-up code. Visits with claims only for contraception were not considered abortion-related follow-up. Follow-up at these providers had to occur between one day and 6 weeks after the abortion to be considered follow-up care. Clinical labs and pharmacies were not considered sources of follow-up care.

Additionally, while 22.8% of medication abortion claims used separate codes for each service or visit, the vast majority (77.2) of medication abortions used HCPCS code S0199 or the

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(now defunct) Medi-Cal interim code Z0336, which are “bundled codes” that include coverage of a routine follow-up visit. A procedure code of S0199 or Z0336 was counted as including a return visit to the original site when at least the full standard amount of \$383.10 was reimbursed. In about 4% of procedures with the billing codes S0199 and Z0336, reimbursement was less than the standard amount and thus were considered to have not included a follow up visit (we did not have alternate modifiers to these billing codes that would otherwise indicate reduced services). For those procedures with bundled billing codes, the date of follow-up visit could not be ascertained.

Follow-up care at the ED was assessed with the same codes as follow-up care at the abortion provider or other provider except for three differences. First, an ED visit was considered abortion-related if there were any abortion-related claims on the day of the ED visit (any location, not only at the ED). Second, ED visits occurring on the day of the abortion were included as follow-up care at the ED. Third, those ED visits where a pregnancy test was administered but no other abortion-related diagnoses or procedures were present were not considered to be abortion-related because such tests are extremely common,⁴ often done routinely among women of reproductive age.^{5, 6}

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Appendix 2. Source of Subsequent Care and Median Total Costs by Type of Procedure and Distance Traveled for Abortion Care, Medi-Cal 2011-2012

		Abortion-related care at ED		Abortion-related care at abortion site		Abortion-related care at any site – (original provider, ED, or other provider)	
		% of abortion type & distance category seeking care at ED	Median total cost, \$ (IQR)	% of abortion type & distance category seeking care at abortion site	Median total cost, \$ (IQR)	% of abortion type & distance category seeking care at any location	Median total cost, \$ (IQR)
Medication abortion	Overall	4.1	965 (600)	77.3	536 (108)	79.6	536 (110)
	<25 miles	4.2	959 (579)	78.9	536 (109)	80.9	536 (111)
	25-49 miles	5.0	908 (569)	75.5	546 (126)	78.8	548 (138)
	50-99 miles	5.0	1251 (1041)	65.6	555 (168)	71.1	555 (192)
	100+ miles	9.0	1121 (868)	62.5	565 (157)	69.0	566 (205)
	Missing	1.2	822 (385)	77.7	516 (92)	78.4	517 (92)
1st trimester aspiration	Overall	2.9	926 (682)	3.5	504 (332)	8.9	657 (483)
	<25 miles	2.7	925 (636)	3.9	509 (333)	8.8	634 (463)
	25-49 miles	4.0	925 (714)	3.3	476 (346)	11.2	714 (635)
	50-99 miles	4.7	1005 (1019)	2.7	475 (213)	12.0	730 (701)
	100+ miles	5.5	945 (1326)	1.6	682 (256)	12.0	778 (808)
	Missing	0.8	496 (485)	2.9	495 (300)	3.7	495 (295)
2nd tri + later abortion	Overall	2.2	1017 (977)	3.2	886 (425)	9.0	838 (539)
	<25 miles	2.1	951 (676)	3.7	826 (517)	9.3	807 (491)
	25-49 miles	2.5	1334 (1401)	2.4	890 (236)	9.1	902 (860)
	50-99 miles	3.2	1017 (655)	2.0	874 (241)	10.1	796 (450)
	100+ miles	2.1	2370 (2516)	3.4	1041 (483)	11.2	1027 (1124)
	Missing	- *	- *	3.1	919 (278)	5.0	836 (470)
Total		3.1	941 (689)	24.5	536 (117)	29.0	544 (166)

*Suppressed due to small numbers

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Appendix 3. Table of Data on Percent of Emergency Department Visits and First Follow-up by Days Since Abortion, Depicted in Figures 2 and 3

Day since abortion	Medication abortion percent of first subsequent ED visit occurring on day	First trimester aspiration abortion percent of first subsequent ED visit occurring on day	Second trimester or later abortion percent of first subsequent ED visit occurring on day	First trimester aspiration abortion percent of first subsequent return to provider occurring on day	Second trimester or later abortion percent of first subsequent return to provider occurring on day
0	3%	15%	32%	-	-
1	22%	4%	3%	11%	4%
2	9%	6%	4%	5%	17%
3	3%	7%	4%	7%	8%
4	7%	12%	6%	6%	5%
5	5%	8%	7%	4%	4%
6	3%	6%	7%	4%	4%
7	2%	4%	6%	7%	7%
8	1%	3%	2%	1%	4%
9	2%	3%	4%	1%	5%
10	2%	2%	1%	1%	2%
11	1%	1%	1%	2%	2%
12	2%	1%	1%	2%	8%
13	1%	1%	0%	3%	6%
14	1%	1%	0%	8%	3%
15	2%	2%	1%	4%	4%
16	2%	1%	1%	1%	0%
17	2%	1%	0%	2%	1%
18	2%	1%	1%	2%	1%
19	2%	1%	1%	2%	2%
20	1%	1%	4%	3%	3%
21	2%	1%	1%	3%	1%
22	1%	2%	2%	1%	1%
23	2%	1%	1%	2%	1%
24	2%	1%	0%	2%	0%
25	1%	1%	1%	2%	1%

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26	0%	1%	1%	1%	2%
27	2%	1%	0%	2%	2%
28	0%	1%	0%	1%	0%
29	2%	1%	1%	1%	2%
30	1%	0%	0%	1%	1%
31	2%	1%	1%	1%	0%
32	0%	0%	1%	1%	1%
33	1%	0%	1%	0%	1%
34	2%	1%	1%	1%	1%
35	0%	1%	1%	1%	0%
36	0%	1%	0%	1%	1%
37	0%	0%	0%	1%	1%
38	1%	0%	1%	1%	1%
39	1%	1%	0%	0%	0%
40	1%	1%	0%	1%	0%
41	1%	1%	1%	1%	0%
42	1%	1%	0%	1%	0%

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