Abortion Underreporting among Young Australian Women: Findings from a Linked Analysis

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Short Abstract

Researchers regularly rely on surveys-based measures to generate abortion data, though the threat of under-report undermining data quality is a major concern. We present levels of agreement between self-reported and administrative abortion data from a cohort of young Australian women and examine variations in under-reporting based on socio-demographic characteristics. We linked self-reported abortions in the Australian Longitudinal Study on Women's Health with administrative abortion data from Medicare, the Pharmaceutical Benefits Scheme and hospital morbidity data. We considered self-report to be "in agreement" with administrative data if the survey-based abortion date was within eight weeks of an abortion event in administrative data. Overall, the highest number of abortion events were recorded in the Medicare Benefits Scheme (n=2144), followed by survey self-reported data (n=1974). Among women with an abortion in any administrative data source, just under two-thirds (64%) self-reported this abortion. Women with a healthcare card, and residents of outer regional, remote and very remote areas were significantly more likely to not report an abortion. Separately, among women who self-reported an abortion, 28% did not have a corresponding record in any administrative dataset. This is the first Australian study to examine under-reporting of abortion and document missing abortion data in administrative records.

Extended Abstract

Background

Examining and improving accuracy of induced abortion estimates remains a core focus of scientific enquiry, given inherent challenges in measuring this common but socially sensitive health outcome.[1] Data on abortion is essential to measure and track fertility experiences and outcomes;[2] determine who does and does not have access to safe and affordable abortion care;[3] improve quality of care;[4] and determine adequate allocation of public funds towards sexual and reproductive health services across geographical areas and population groups.[5]

Australia's National Women's Health Strategy 2020-2030 recognises sexual and reproductive health (SRH) as a key priority area for improving health outcomes and enhancing wellbeing for women and girls.[6] Included in the essential package of SRH information and services is timely, affordable and equitable access to abortion care. Evaluating progress towards these goals requires updated and reliable data that quantifies the frequency of abortion and assesses disparities in access to inform evidence-based policies and programs aimed at improving reproductive health.

Presently, abortion data collection for public health planning and assessment remains limited in Australia and varies by state.[7] The absence of a uniform approach to collecting national data has made it challenging toto report timely and updated national estimates of the annual number and incidence of abortions. A recent effort to do so suggests that the annual abortion incidence for the year 2017-18 was 17.3 per 1000 reproductive-aged women, translating to an annual number of 88, 287 abortions.[8] Separate from a global incidence measure, information on the characteristics of individuals who have abortions (e.g., by age, residence) remains limited, which means that tracking the composition of the population of women having abortions, and related measures such as determining equity in access cannot be easily operationalized. These data gaps have made it challenging to use an evidence-based approach to inform knowledge, policy and programmatic decision-making, and strategic future planning to address existing lacunae in service provision.

In the absence of comprehensive reporting systems, utilizing survey-based self-reported abortion data can be an efficient and cost-effective approach to abortion measurement. From a methodological perspective, a key consideration when utilising abortion data is to assess the extent of data completeness. Survey-derived measures using self-reported data may be susceptible to under-reporting given concerns around social disapproval and stigma surrounding abortion.[1] Abortion can be an intensely personal experience, and enquiry via survey may be viewed as an intrusion on privacy. Under-reporting can also differ by characteristics (for instance by age and marital status), which prevents straightforward application of adjustment factors. Presently, we have limited understanding of the completeness of abortion reporting among women in Australia. Separately, using administrative data for abortion measurement has its own set of challenges, since not all

pregnancy terminations are recorded in health service datasets, for instance if a client chooses not to use her Medicare card (publicly funded health insurance in Australia) when obtaining a medical abortion for purposes of privacy, or for abortion clients who don't have Medicare (e.g., international students).

The Australian Longitudinal Study on Women's Health (ALSWH) has been a vital data source on women's health and wellbeing across four age cohorts that encompass the adult life-course, collecting information on a range of health topics, including reproductive health and fertility behaviours.[9] A key advantage of ALSWH data is its support of linking self-reported survey data with administrative health datasets at the national and state/territory levels. The linkages between ALSWH and administrative health datasets permit a unique analysis to assess levels of agreement between these two data sources (survey and administrative health data) and to better understand where data gaps may exist to inform improvements in data collection approaches.

Methods

Sample

This study analysed data from 16,993 women who were participants in the Australian Longitudinal Study on Women's Health (ALSWH).[9] This study included women born 1989 to 1995 who had consented to external data linkage.

Data sources

This study used both self-report survey data from ALSWH and administrative data from the Medicare Benefits Scheme (MBS), the Pharmaceutical Benefits Scheme (PBS) and the Admitted Patients Data Collection (APDC) for each state and territory.

Identifying abortions

Dates of abortions were self-reported in the ALSWH survey data at Wave 2 (2014), Wave 3 (2015), Wave 5 (2017) and Wave 6 (2018/19). Participants were asked to provide the month and year of each of their abortions. The day of the month was not asked for confidentiality reasons, and so further analyses treated each abortion as having occurred on the 15th of the month.

Medical abortions were identified in the PBS data by item codes 2710P (Mifepristone) and 10211K (the combination regimen). Procedural abortions were identified in the MBS data by item codes 16525, 16530, 16531 and 35643, in the APDC data by International Classification of Diseases (ICD) codes O04.0 to O04.9, O05.0 to O05.9, O06.0 to O06.9 and Z32.2, and in the APDC by diagnosis-related groups (DRG) codes O04A, O04B, O05Z, O61A, O61B, O63A, O63B and O63Z. Where an abortion event occurred twice or more within six weeks in a single data source (e.g. two MBS records for abortion 10 days apart), this was counted as a single abortion event.

Calculating agreement

We calculated the percentage of abortions in each linked data source that were also self-reported by survey participants. A self-report was in agreement if the date of the abortion reported in the survey was within eight weeks of an abortion event in an administrative data source. When calculating agreement between self-report survey data and administrative data sources, we only included abortions that occurred prior to the last eligible survey returned by each participant. This could be Wave 2, Wave 3, Wave 5 or Wave 6. This was necessary to ensure that the participant had had the opportunity to provide a date for each abortion. Confidence intervals for percentages were Clopper-Pearson (exact) confidence intervals.

Regression analysis

We also examined what sociodemographic factors were associated with not self-reporting an abortion in survey data, when an abortion had been recorded in administrative data set (MBS, PBS or APDC). We constructed a logistic regression model with the outcome of interest being not self-reporting an abortion and sociodemographic predictors including age, year of abortion, highest qualification, area of residence, relationship status, ability to manage on available income and health care card. The eligible sample for this regression model was women who had ever had an abortion and was restricted to their first abortion. Sociodemographic characteristics were obtained from the ALSWH survey closest to the date of the abortion, up to a maximum of three years.

Results

Descriptive statistics

The number of abortion events and the number of women who had an abortion in each data source is presented in Table 1. The greatest number of abortion events were identified in the MBS (n=2144), followed by the survey self-report data (n=1974), APDC using DRG codes (n=1704), the APDC using ICD codes (n=767) and the PBS (n=596).

Table 1. Number of abortion events with dates reported in each data source.

	Number of abortion events[A]	Number of women	Number of women after restrictions[B]
Survey data	1974	1226	1226
PBS	596	537	167
MBS	2144	1643	844
APDC (ICD)	767	616	329
APDC (DRG)	1704	1358	711

Agreement

Among women with an abortion in any administrative data source (PBS, MBS or APDC), 64% also self-reported this abortion in survey data (95% CI=62%, 67%) (Table 2). The percentage of women who self-reported an abortion was higher for the MBS and PBS: 78% of women with a medical abortion in the PBS also self-reported this abortion in survey data (95% CI=72%,

84%), while 72% of women with a procedural abortion in the MBS who self-reported this abortion in survey data (95% CI=69%, 75%). The percentage agreement for APDC (ICD) and APDC (DRG) was 68% and 52%, respectively.

Table 2 Agreement between administrative data sources (PBS, MBS, APDC) and survey self-report

Description	Numerator	Denominator	%	95% CI
Women with an abortion in PBS who also self-reported in survey data	145	185	78	72, 84
Women with an abortion in MBS who also self-reported in survey data	654	905	72	69, 75
Women with an abortion in APDC (ICD) who also self-reported in survey data	237	348	68	63, 73
Women with an abortion in APDC (DRG) who also self-reported in survey data	396	757	52	49, 56
Women with an abortion in any linked data source (PBS, MBS or APDC) who also self-reported in survey data	880	1368	64	62, 67

Predictors of not self-reporting an abortion

Women who had a health care card had 44% higher odds of not self-reporting an abortion, compared to women without a health care card (95% CI=1.05, 1.97) (**¡Error! No se encuentra el origen de la referencia.**). Similarly, women who lived in outer regional, remote or very remote areas had 74% higher odds of not self-reporting an abortion, compared to women who lived in major cities (95% CI=1.11, 2.74). Older women were more likely to not self-report an abortion (AOR=1.11, 95% CI=1.03, 1.20), as were women who were non-partnered (AOR=0.46, 95% CI=0.34, 0.60). Over time, women were less likely to not self-report an abortion (AOR=0.92, 95% CI=0.85, 0.99).

Planned analyses and discussion

We will conduct a sensitivity analysis to examine what percentage of abortions that occurred prior to the completion of Wave 1 in 2012/13 were self-reported in the survey data. The methods for this analysis will differ slightly, as the Wave 1 survey did not ask participants for the month and year of their abortions, but the survey did ask participants if they had ever had an abortion for medical reasons or personal reasons. We will examine the percentage of women who self-reported having ever had an abortion for any reason in the survey data among those women with an abortion in any administrative data source (MBS, PBS, APDC-DRG or APDC-ICD) prior to the date they returned their Wave 1 survey.

We will also examine the percentage agreement between administrative data sources. We anticipate that the lowest percentage agreement will be observed between the PBS and MBS, since the former records a medical abortion, while the latter records a procedural abortion for a given pregnancy, but not both. The agreement between APDC (ICD) and MBS should be relatively higher since they are both designed to record procedural abortions.

The implications of these findings will be discussed in the Australian context and compared with levels of underreporting documented in other high-income countries.

References

1. Singh S, Remez L, Tartaglione A, editors. Methodologies for Estimating Abortion Incidence and Abortion-Related Morbidity: A Review: New York: Guttmacher Institute; and Paris: International Union for the Scientific Study of Population 2010.

2. Bearak J, Popinchalk A, Ganatra B, Moller AB, Tunçalp Ö, Beavin C, et al. Unintended pregnancy and abortion by income, region, and the legal status of abortion: estimates from a comprehensive model for 1990-2019. *Lancet Glob Health*. 2020;**8**(9):e1152-e61.

3. Ganatra B, Gerdts C, Rossier C, Johnson BR, Jr., Tuncalp O, Assifi A, et al. Global, regional, and subregional classification of abortions by safety, 2010-14: estimates from a Bayesian hierarchical model. *Lancet*. 2017;**390**(10110):2372-81.

4. Dennis A, Blanchard K, Bessenaar T. Identifying indicators for quality abortion care: a systematic literature review. *J Fam Plann Reprod Health Care*. 2017;**43**(1):7-15.

5. Popinchalk A, Beavin C, Bearak J. The state of global abortion data: an overview and call to action. *BMJ Sexual & Reproductive Health*. 2022;**48**(1):3-6.

6. Department of Health. National Women's Health Strategy 2020-2030. Department of Health, Commonwealth of Australia 2018.

7. Pratt A, Biggs A, Buckmaster L. How many abortions are there in Australia? A discussion of abortion statistics, their limitations, and options for improved statistical collection. Department of Parliamentary Services, Parliament of Australia 2005 14 February 2005 Report No.: 9.

8. Keogh LA, Gurrin LC, Moore P. Estimating the abortion rate in Australia from National Hospital Morbidity and Pharmaceutical Benefits Scheme data. *Med J Aust*. 2021;**215**(8):375-6.

9. Loxton D, Tooth L, Harris ML, Forder PM, Dobson A, Powers J, et al. Cohort Profile: The Australian Longitudinal Study on Women's Health (ALSWH) 1989-95 cohort. *Int J Epidemiol*. 2018;**47**(2):391-2e.