

An Audit of Gender Codes for Gender Specific Cancers - California's Results

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Background

In the summer of 2013, one of the SEER regional cancer registries in California, the Cancer Registry of Greater California (CRGC), conducted a mini-reliability study as part of the Comparative Effectiveness Research (CER) project for the Centers for Disease Control and Prevention (CDC). CRGC reviewed their prostate cancer cases and identified that the sex field (gender) was often coded to "9" unknown. They assumed code 9 may be a default code in the direct entry screens, and a request was submitted to the California Cancer Registry (CCR) trouble ticket system to change the default. The Production Automation and Quality Control (PAQC) Unit at the central registry investigated CRGC's findings and made the decision to expand the original analysis to a statewide audit which would include both male and female organ cancers. Cases from each of the three California SEER regions were included in the audit (Region 1/8-Cancer Prevention Institute of California; Region 9-Cancer Surveillance Program; and CRGC-Regions 2, 3, 4, 5, 6, and 7/10).

Objective

- ⇒ To determine the confidence level of the quality of gender data in the Eureka DMS data base
- ⇒ To determine if an edit could be created or modified to disallow code "9" for gender specific cancers



Methodology

The PAQC Unit reviewed the reporting rules regarding coding the data item Sex established by the California Cancer Registry, Volume I; the SEER Program Coding and Staging Manual, and the North American Association of Central Cancer Registries (NAACCR), Volume II. The specific coding variables for the sex field include:

CODES	GENDER
Code 1	Male
Code 2	Female
Code 3	Hermaphrodite/Inter-sexed or persons with sex chromosome abnormalities
Code 4	Transsexual/Transgendered (persons who desire or plan to undergo or have undergone sex change surgery)
Code 9	Unknown

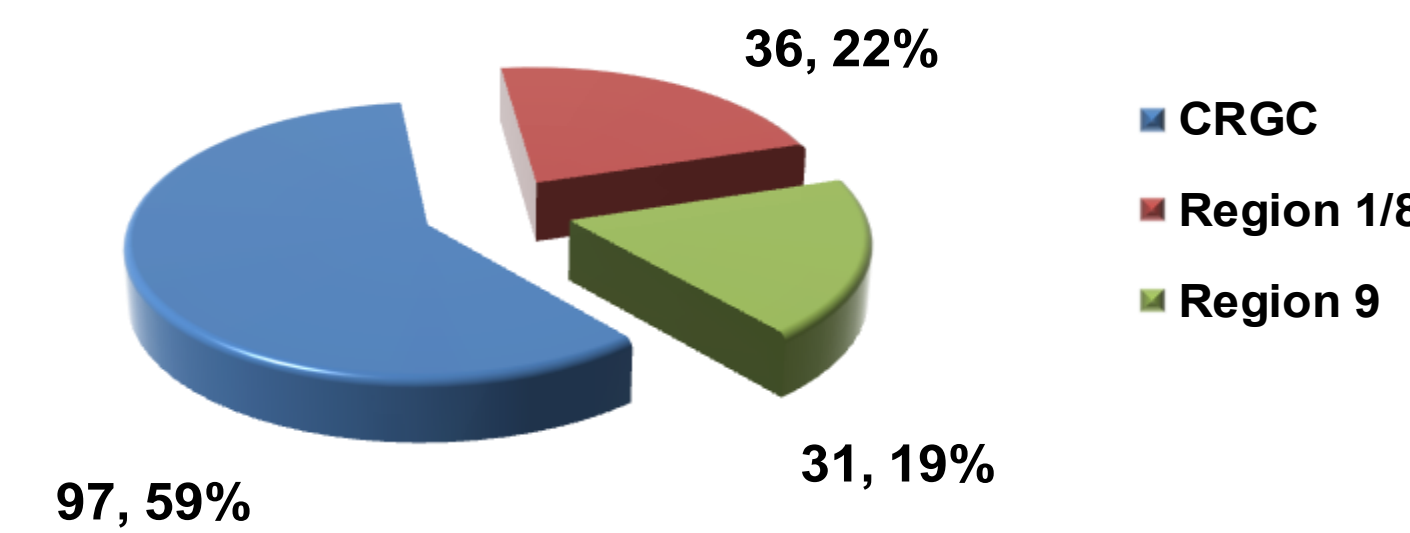
SQL queries were run on the Eureka DMS database to identify the number of cases diagnosed January 1, 1988 forward (CCR reference date) where male genital cancers were not coded to "1" (male) and female genital cancers were not coded to "2" (female). Analysis was performed by reviewing each case to determine if the sex code matched the text documentation in the abstract.

Overall Results

164 cases analyzed:

- 111 (67.7%) male specific cancers that were not coded to 1 (male)
- 53 (32.3%) female specific cancers that were not coded to 2 (female)

Regional Distribution of Cases in Audit
n=164



Analysis of all gender specific cancers revealed:

- 127 (77.4%) of the 164 cases were coded incorrectly
- 77 (47.0%) of the 164 cases did not have text documentation to support the code
- 44 (26.8%) of the 164 cases were visually edited. Of these 44 cases, 33 (75.0%) were coded incorrectly and missed by the visual editor

Distribution of the 127 miscoded cases:

- 75 (59.0%) were incorrectly coded to code 9 (unknown)
- 33 (26.0%) were incorrectly coded code 3 (Hermaphrodite/Inter-sexed)
- 19 (15.0%) were incorrectly coded to 4 (Transsexual/Transgendered)

Discrepancy Distribution:
Gender Specific Cancers

Codes	Discrepancies	
Original	Re-Code	Number of Discrepancies
9	1	67
9	2	8
4	1	15
4	2	4
3	1	13
3	2	18
3	4	2
Total Cases		127

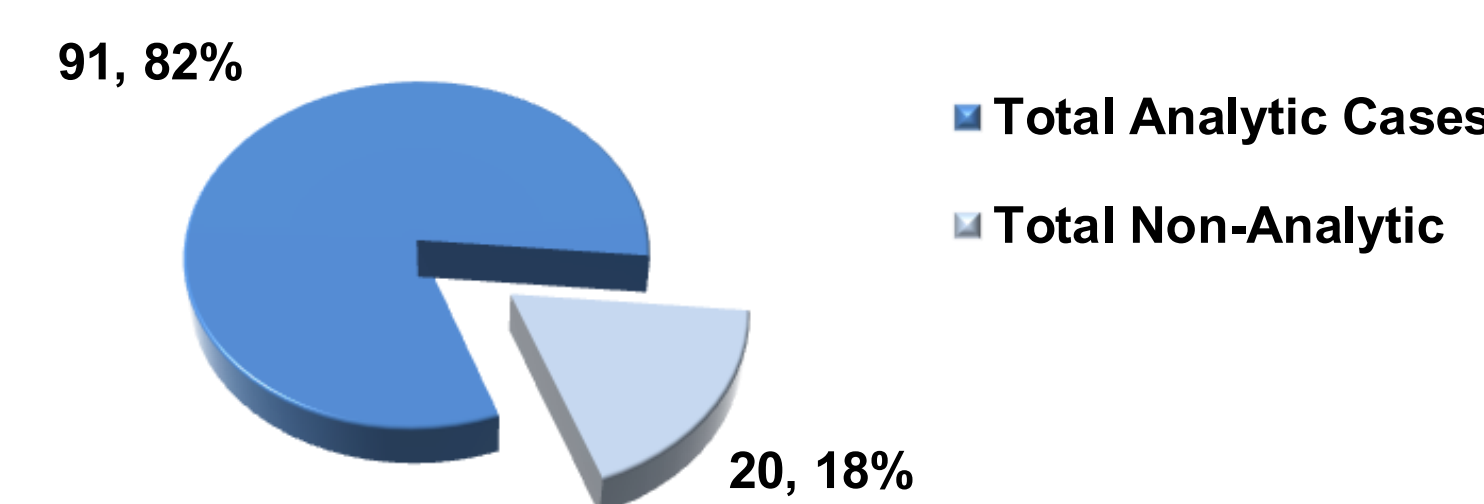


Male Genital Organs

111 male gender specific cases evaluated:

- 91 (82.0%) were analytic
- 20 (18.0%) that were non-analytic

Male Cancers
n = 111



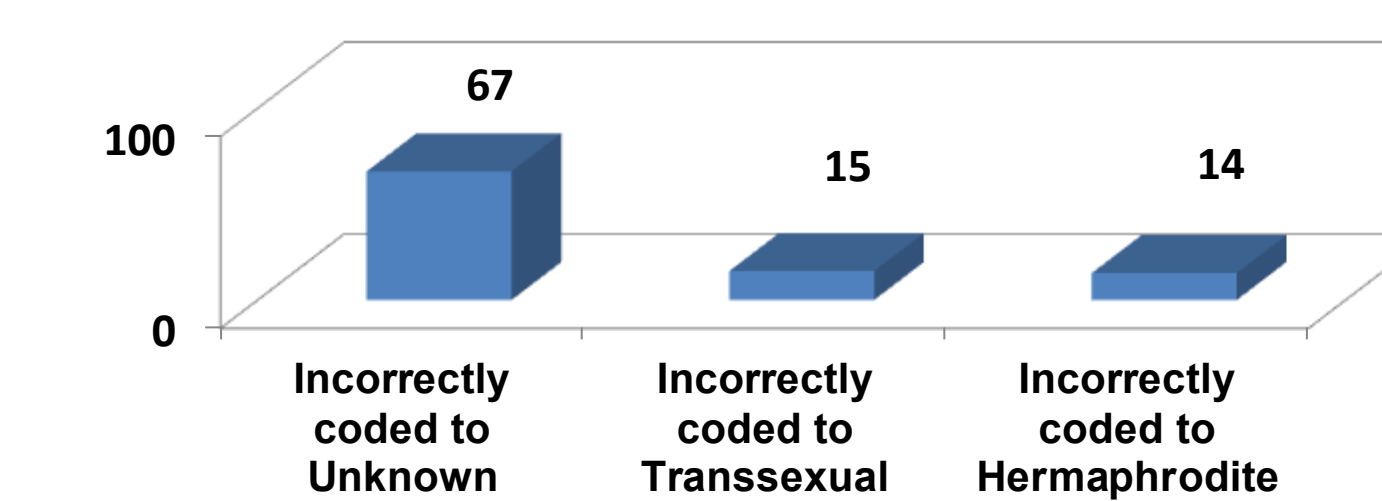
Analysis of the male gender specific cancers revealed:

- 96 (86.5%) of the 111 cases were coded incorrectly
- 56 (50.5%) of the 111 cases that did not have text documentation to support a code
- 29 (26.1%) of the 111 cases were visually edited. Of these 29 cases, 25 (96.6%) were coded incorrectly and missed by the visual editor

Distribution of the 96 miscoded male gender specific cases:

- 67 (69.8%) were incorrectly coded to code 9 (unknown)
- 15 (15.6%) were incorrectly coded code 4 (Transsexual/Transgendered)
- 14 (14.6%) were incorrectly coded to 3 (Hermaphrodite/Inter-sexed)

Male Gender Specific Cancers
Incorrectly Coded
n=96

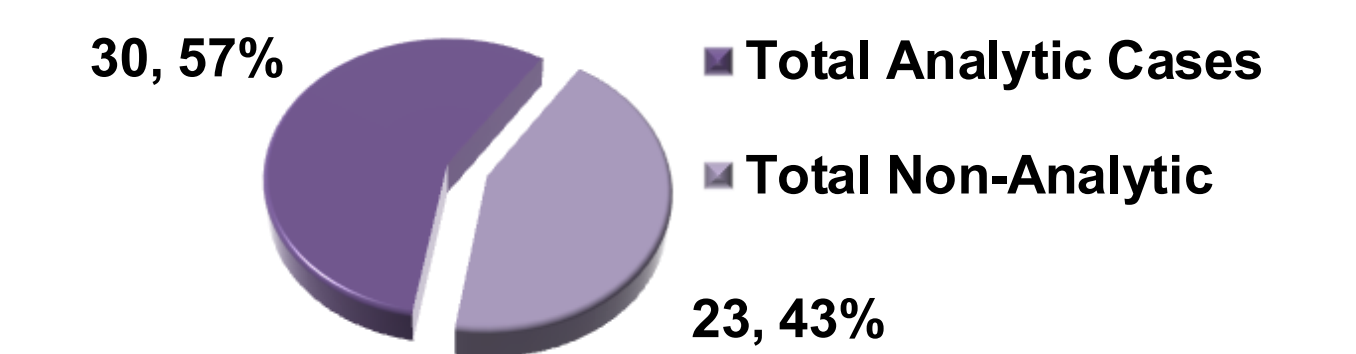


Female Genital Organs (Primary Site Codes C510-C589)

53 female gender specific cases evaluated:

- 30 (56.6%) were analytic
- 23 (43.4%) were non-analytic

Female Cancers
n = 53



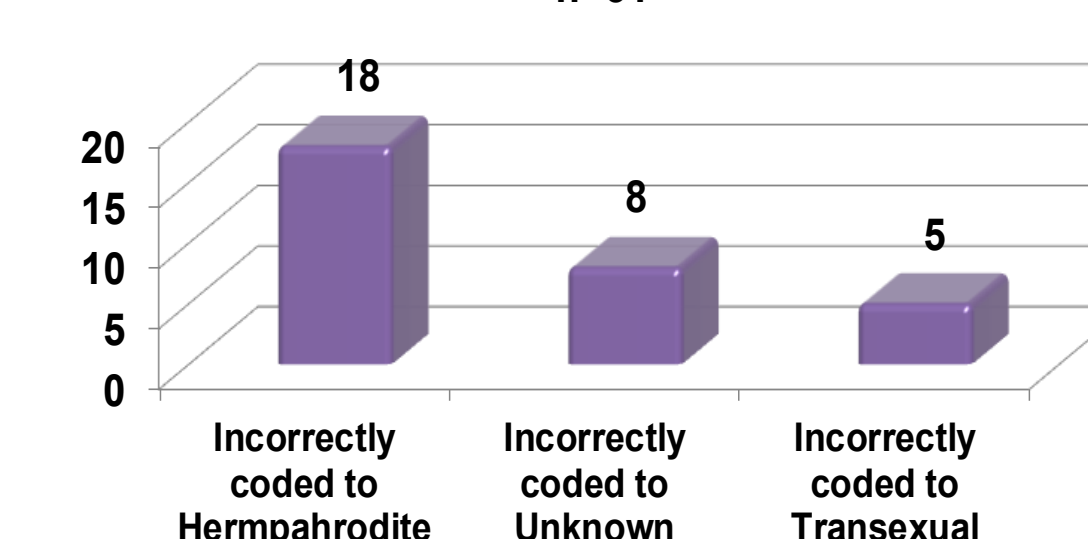
Analysis of the female gender specific cancers revealed:

- 31 (58.5%) of the 53 cases were coded incorrectly
- 21 (39.6%) of the 53 cases did not have text documentation to support a code
- 15 (28.3%) of the 53 cases were visually edited. Of the 15 cases, 8 (53.3%) were coded incorrectly and missed by the visual editor

Distribution of the 31 miscoded female gender specific cases:

- 18 (58.1%) were incorrectly coded code 4 (Transsexual/Transgendered)
- 8 (25.8%) were incorrectly coded to code 9 (unknown)
- 5 (16.1%) were incorrectly coded to 3 (Hermaphrodite/Inter-sexed)

Female Gender Specific Cancers
Incorrectly Coded
n=31



Conclusion

Coding gender in the sex code field is not a difficult task to complete. The challenge, however, can be making sure text validates the corresponding code. Based on the results of this focused audit, it appears that abstractors can easily miss either including text documentation to support codes or correctly coding what is documented in the text. Male gender specific cancers are to be coded as male for sex (code 1) unless there is documentation to support an alternative code. Female gender specific cancers are to be coded as female for sex (code 2) unless there is text documentation stating otherwise. If a patient is a Hermaphrodite or Inter-sexed (code 3) or is Transsexual or Transgendered (code 4) there must be text documenting that fact. As a result of the gender audit, an edit request was submitted and approved (NAACCR Edit IF619) to disallow Sex Code 9 for gender specific cancers (C510-C589-female; C600-639-male). Regions were requested to correct cases identified with discrepancies. An article in the PAQC Unit's quarterly newsletter was included emphasizing the importance of text documentation for these types of cancer cases.

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*The CalCARES Program partners with the California Department of Public Health (CDPH) to manage the operations of the state mandated California Cancer Registry program