

Utilization of ICD-10 Codes Indicating Weeks of Gestation in Routine Clinical Care of Pregnant Women in the US

Kelesitse Phiri, MS, ScD^{1*}; C Robin Clifford, MS¹; Michael Doherty, MS¹; Robert Gately, MS¹; John D Seeger, PharmD, DrPH, FISPE¹

¹Optum Epidemiology, Boston, MA/Ann Arbor, MI, USA. *Corresponding author: kelesitse.phiri@optum.com; Presented by Anthony Nunes
The study was funded by Optum Epidemiology

Background

Administrative claims databases are increasingly being used for research to evaluate the safety and effectiveness of medications used during pregnancy. However, these databases have been criticized for lacking an important data element, last menstrual period (LMP), and thus inferring this date using algorithms derived from claims. Adaptation of the new ICD-10 code category that is specifically tied to weeks of gestation offers the opportunity to enhance estimation of weeks of gestation, and subsequently the LMP date.

Objective

To assess the utilization of the new ICD-10 code category (Z3A.***) that is specifically tied to the pregnancy weeks of gestation.

Data Source

Optum Dynamic Assessment of Pregnancies and Infants (Optum DAPI) is a database compiled from:

- Optum Research Database (ORD): Contains eligibility, pharmacy and medical claims data from a large US health insurer. It is geographically diverse and represents ~4% of the US population.

Linkable Data Sources

- Optum Electronic Health Records (EHR) Database: Patient-level database that combines electronic medical record data (medical claims, prescription, and practice management data) from over 60 US hospitals and medical groups
- Medical Charts
- National Death Index

Methods

Time Periods

- 01 October 2015 to 31 December 2017
- Trimesters: *First trimester*: < 14 weeks 0 days; *Second trimester*: 14 weeks 0 days to < 28 weeks 0 days; *Third trimester*: 28 weeks 0 days until delivery

Inclusion Criteria

- Females age 15 – 49 years
- Have both medical and pharmacy coverage
- Have at least one claim that indicate pregnancy based on the International Classification of Diseases, 9th or 10th Revision diagnoses or procedure codes, Healthcare Common Procedure Coding System (HCPCS) codes, or Current Procedural Terminology (CPT) codes
- Have continuous enrollment in the ORD from at least 6 months prior to the beginning of pregnancy through the end of the pregnancy episode

Analysis

- Descriptive assessment of the utilization of the Z3A.** codes:
 - In a random sample of chronological listing of claims profiles for pregnancies ending in a livebirth, stillbirth, elective abortion or spontaneous abortion (25 each)
 - In the full cohort of pregnancies occurring during the study period

Results

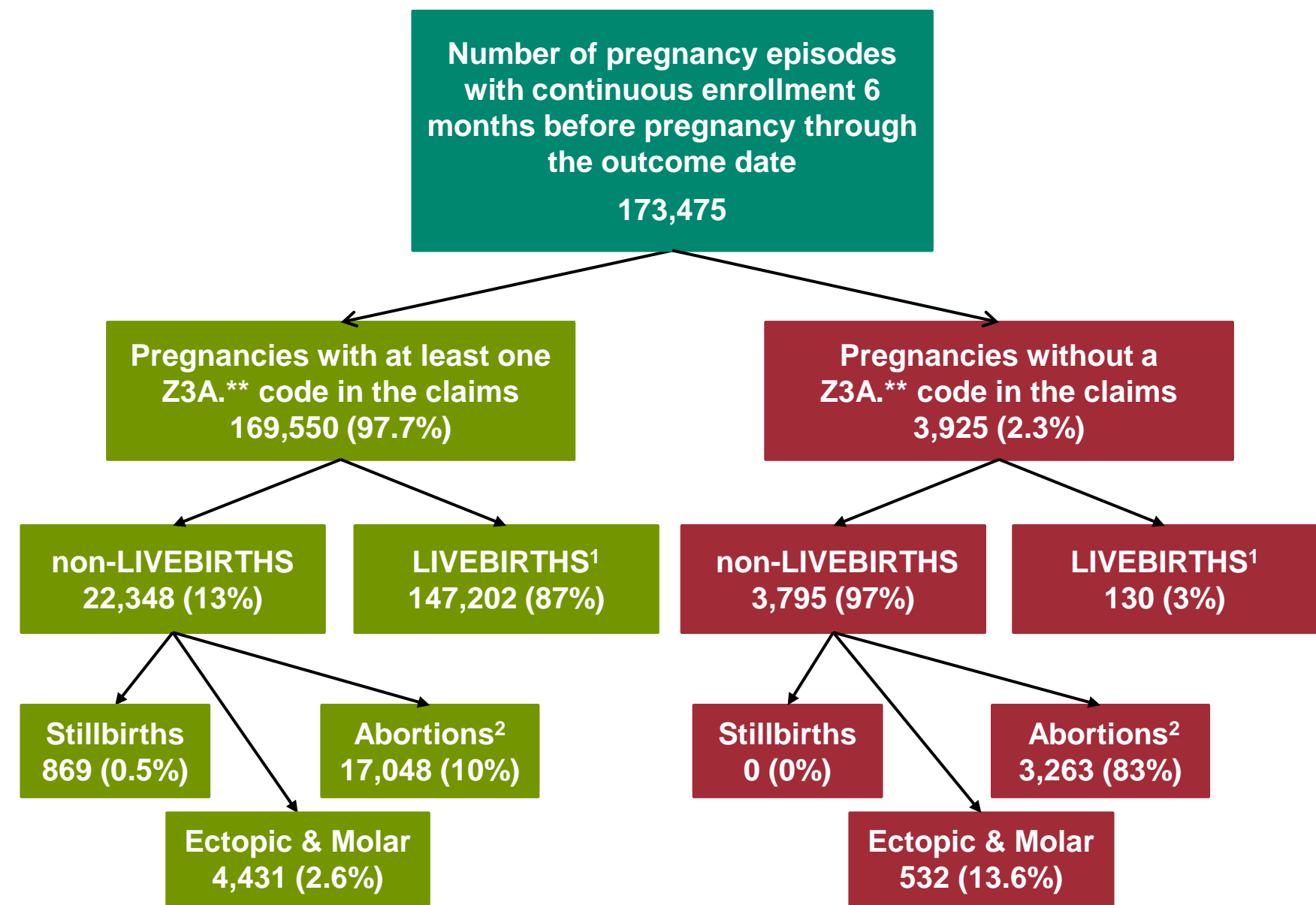
Table 1. Example of a listing of Z3A.** codes in claims for a pregnancy

Days since estimated LMP	Descriptor / Results	Code
60	Enc Supervision Normal Pregnancy Uns 1 Trimester	Z34.91
60	8 Weeks Gestation of Pregnancy	Z3A.08
60	Ob Us < 14 Wks, Single Fetus Dx: Z34.91, Z3A.08	76801
89	12 Weeks Gestation of Pregnancy	Z3A.12
89	Ob Us < 14 Wks, Single Fetus Dx: O99.211, E66.01, O10.911, Z3A.12	76801
97	Morbid Severe Obesity Due To Excess Calories	E66.01
97	Essential Primary Hypertension	I10
151	21 Weeks Gestation of Pregnancy	Z3A.21
151	Ob Us, Detailed, Sngl Fetus Dx: O10.912, O99.211, E66.01, Z3A.21	76811
169	METHYLDOPA 500 MG TABLET (METHYLDOPA) Quantity: 60, Days Supply: 30	
228	32 Weeks Gestation of Pregnancy	Z3A.32
228	Fetal Biophys Profil W/O Nst Dx: O16.3, O99.213, E66.01, Z3A.32	76819
274	38 Weeks Gestation of Pregnancy	Z3A.38
274	Anesth/Analg, Vag Delivery Dx: O75.0	1967
274	Single Live Birth	Z37.0

Results

- From the 100 profiles assessed, at least one Z3A.** code was observed in 25 (100%) pregnancies ending in a livebirth; 24 (96%) pregnancies ending in a stillbirth; 14 (56%) pregnancies ending in a spontaneous abortion; and 22 (88%) pregnancies ending in an elective abortion.

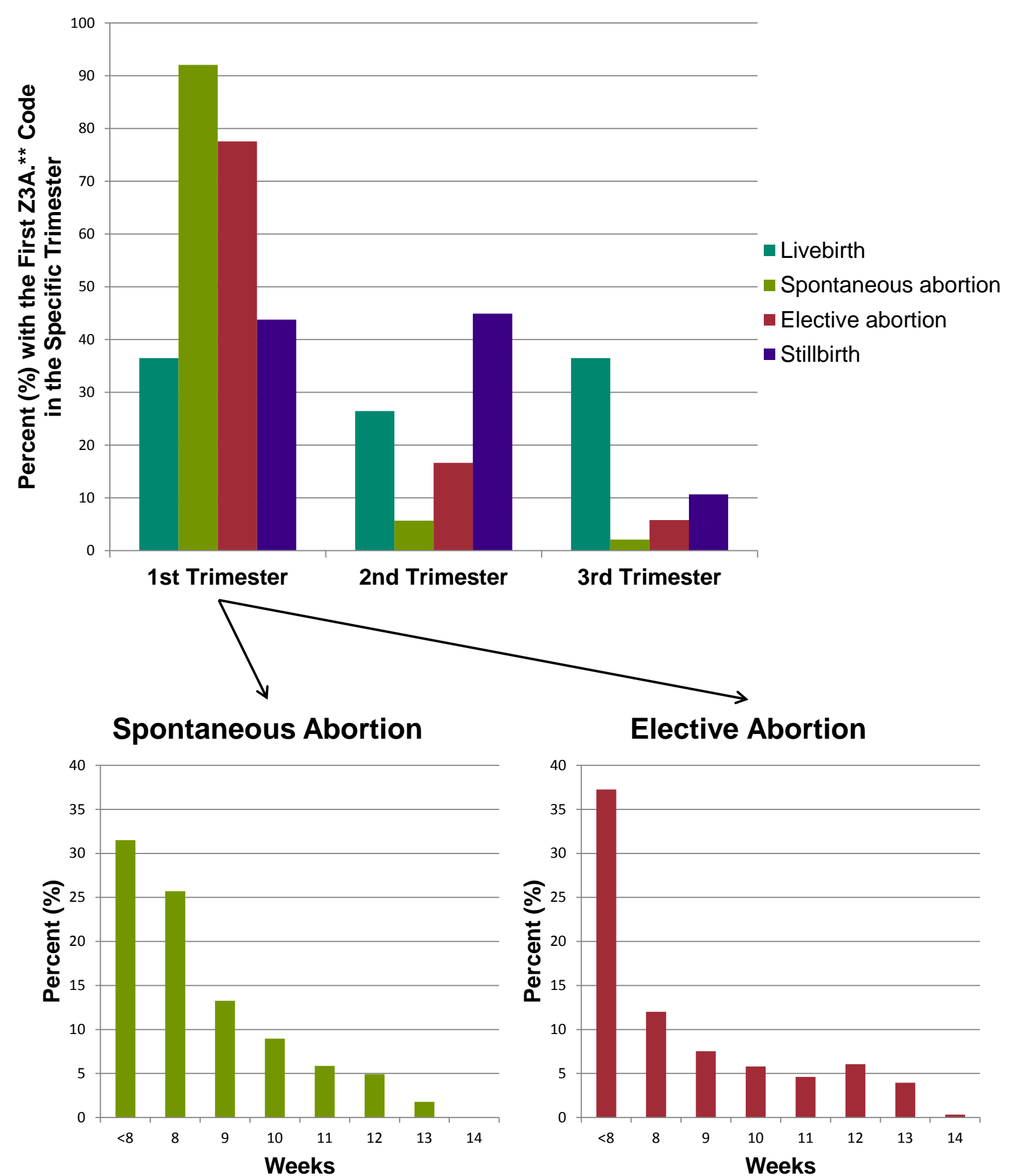
Figure 1. Pregnancies with and without a Z3A.** code



¹ Includes multi-gestations with a livebirth and stillbirth

² Includes codes for all abortion types (spontaneous, elective, and unknown)

Figure 2. Timing of the first Z3A.** code for each pregnancy episode by pregnancy outcome



- From pregnancies ending in a livebirth, 37% had a first Z3A.** code occurring in the 1st trimester, 27% in the 2nd trimester, and 36% in the 3rd trimester.
- For pregnancies ending in a spontaneous abortion, 32% had less than 8 weeks gestation as the first Z3A.** code.

Discussion

- The new ICD-10 code category for weeks of gestation (Z3A.***) was observed in 85% of the 100 profiles assessed, and 97% of all pregnancies in the study time period.
- These observations suggest extensive utilization of the code in routine clinical care of pregnant women, most likely because it is required by some health plans for reimbursement of prenatal care.
- The Z3A.** code category may serve to more accurately estimate beginning and end of pregnancy in administrative claims data, and decrease the potential for selection bias.
- Further assessment of the presence and performance of the code, particularly for pregnancy loss, is warranted.

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