Use of Best Practice Alerts in Electronic Medical Records to Improve Care for Women of Childbearing Age Taking Anti-Seizure Medications

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Objective:

✓ Develop a best practice alerts (BPA) tool in electronic medical records (EMR) to ensure fertile women taking anti-seizure medications (ASM) are co-prescribed folic acid supplementation (FAS).

Background:

✓ AAN Epilepsy Quality Measures recommend that women at 12-44 years of age be counseled about ASM effects on contraception and pregnancy.
✓ AAN also recommends that women of childbearing age on ASM routinely take FAS.
✓ Previous study at our center showed that less than 50% of women taking Valproate presenting to a large multi-hospital EEG laboratory had both adequate contraception and appropriate FAS.

Methods:

✓ **Inclusion criteria**
  A. Women at 12-44 years old (yo) at the time of encounter (2014.1.1-2014.12.31)
  B. With prescription of any ASM
  C. With a diagnosis of epilepsy OR other medical/ psychiatric issues requiring ASM

✓ **Rate of compliance = (B + C)/A**
  A. Total number of 12-44 yo women on any ASM
  B. Number of 12-44 yo women on ASM with FAS
  C. Number of 12-44 yo women on ASM without FAS, but with surgical sterilization

✓ **BPA triggering criteria**
  A. Gender: female
  B. Age: 12-44 yo
  C. On any ASM
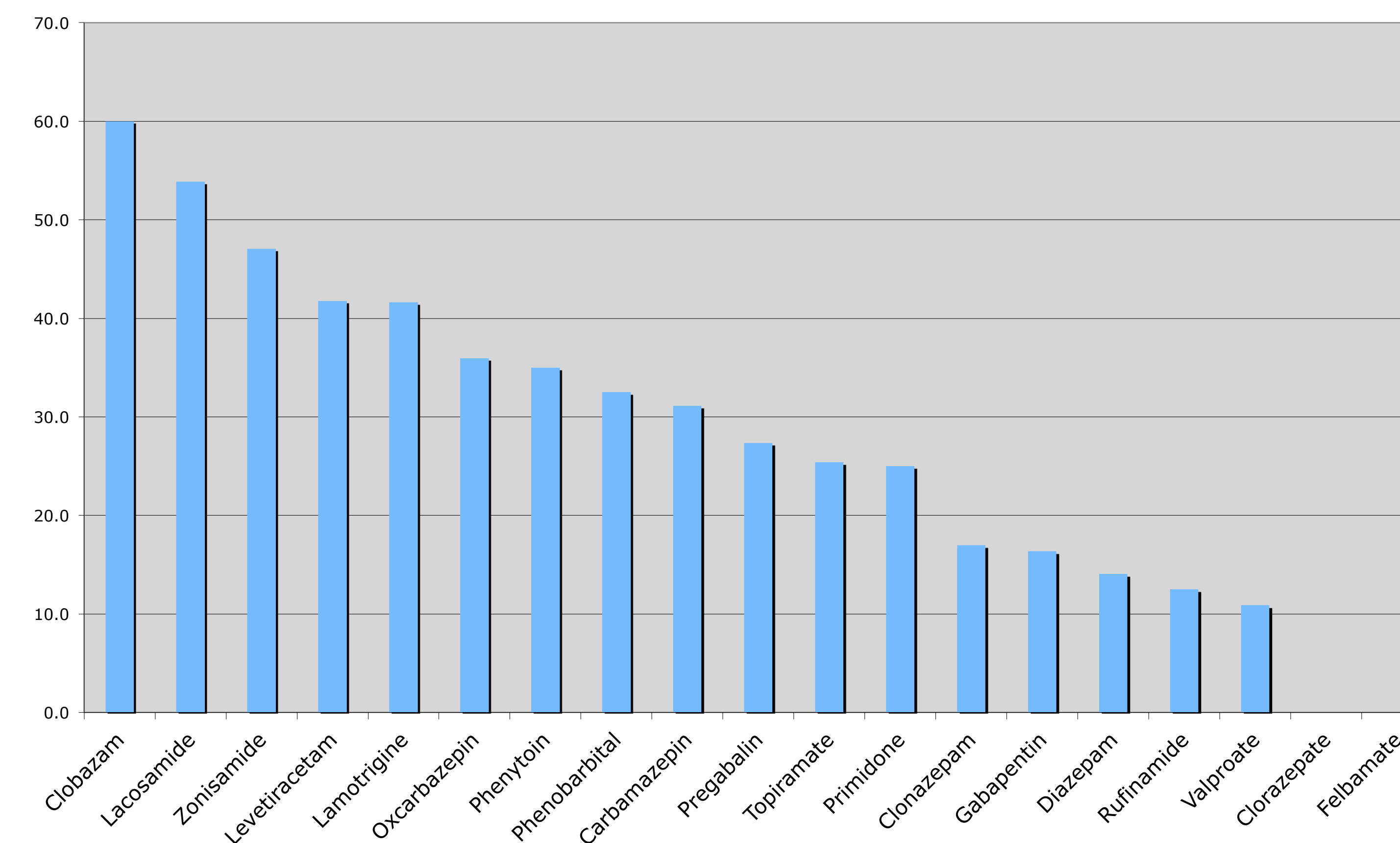 D. NOT on FAS (> 0.4mg/day) **AND** NOT surgically sterilized

Results:

✓ **Distribution of individual ASM prescription**

ASM	%	Pregnancy Category
Gabapentin	35.88	C
Levetiracetam	14.92	C
Diazepam	10.84	D
Clonazepam	8.69	D
Topiramate	7.20	D
Lamotrigine	5.74	C
Carbamazepine	5.31	D
Pregabalin	3.40	C
Phenytoin	3.25	D
Oxcarbazepine	1.43	C
Lacosamide	1.04	C
Valproate	0.74	X
Phenobarbital	0.64	D
Zonisamide	0.55	C
Rufinamide	0.13	C
Clobazam	<0.1	C
Felbamate	<0.1	C
Primidone	<0.1	D
Clorazepate	<0.1	N

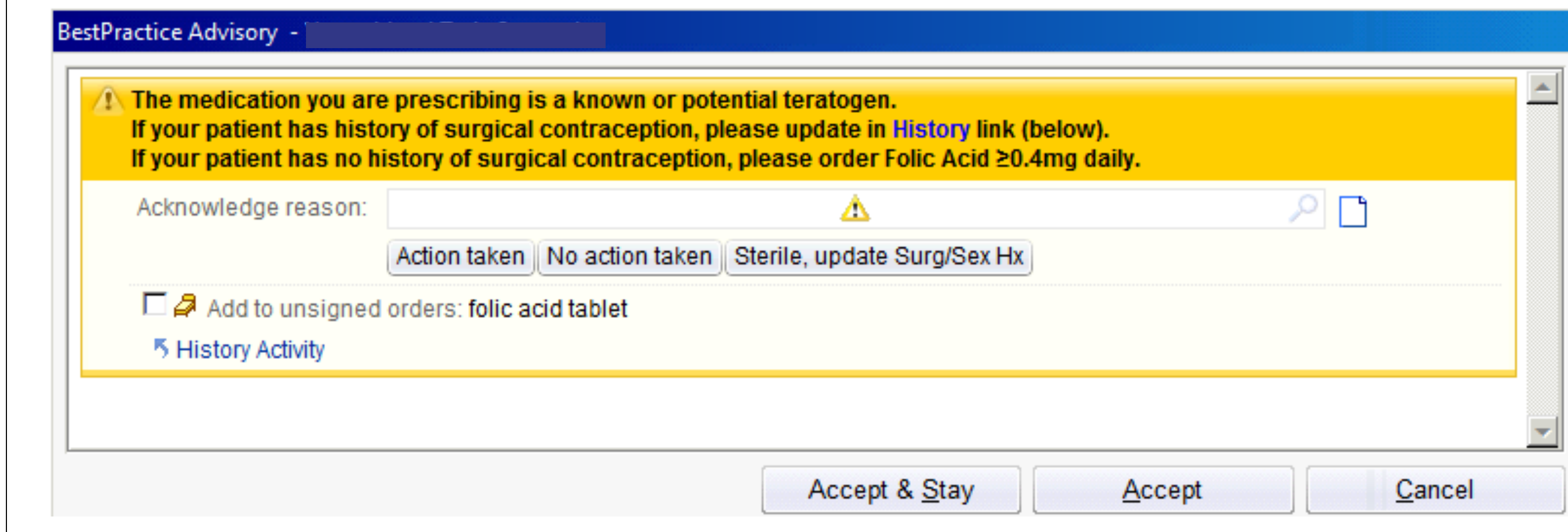**Parkland Memorial Hospital, 2014, N=6238.**

Results:

✓ **Rate of compliance before BPA is in effect**

Results:

✓ **Construction of Best Practice Alert in EMR**

Future directions:

✓ Compliance rate will be monitored every 3-6 months after BPA is in effect and be compared to baseline.

Conclusion:

✓ In year 2014, about 24.7% (1543/6238) of childbearing age women prescribed any ASM at our center were either taking FAS or were surgical sterilized. This represents a significant care gap.
✓ A new BPA tool has been constructed and will be in use. The percentage of compliance will be monitored after the BPA takes effect and compared to baseline.
✓ By using this new BPA in an EMR, we hope to track AAN quality measure compliance for FAS in women taking ASM, when indicated, to improve patient care in this sub-population.

References:

1. Quality improvement in neurology: AAN epilepsy quality measures: Report of the Quality Measurement and Reporting Subcommittee of the American Academy of Neurology. Neurology. 2011 Jan 4;76(1):94-9.
2. AAN Epilepsy Quality Measures: Electronic Medical Record Documentation of Folic Acid and Contraceptive Method Use in Women of Childbearing Age Taking Valproic Acid Referred for Electroencephalography. Neurology Feb 12, 2013; 80 (Meeting Abstracts 1): PD4.001.