Toxicology Screening Practices for Perinatal Substance Use Among New York State Birthing Hospitals

Amanda Roy, MPH1; Solita Jones, MS1; Eileen Shields, BA1; Kristen Lawless, MS2; Marilyn Kacica, MD, MPH1,2
1Division of Family Health, New York State Department of Health (NYSDOH); 2SUNY Albany, School of Public Health

Background

• National prevalence of pregnant women with substance use disorder (SUD) increased dramatically in the past decade.
• Women with SUD may not be identified during pregnancy for various reasons, including limited to no prenatal care (1).
• Deliveries and birth hospitalizations present an opportunity to identify and treat pregnant women with SUD and newborns at risk for neonatal abstinence syndrome.
• The purpose of this study was to assess the variation in toxicology screening policies and practices for mothers and newborns in NYS birthing hospitals.

Methods

• In January 2017, the NYSDOH’s NYS Perinatal Quality Collaborative (PQC) administered a survey to all 124 NYS birthing hospitals (17 Regional Perinatal Centers (RPCs), 36 Level III, 24 Level II, 47 Level I hospitals).
• Hospitals were queried via SurveyMonkey regarding formality of screening policies, criteria for and types of screening, and referral practices.
• One survey was completed per hospital by a team of obstetrical and/or neonatal providers.
• Results were analyzed using SAS 9.4 and Excel.

Results

• Response rate was 100% (124/124).
• 61% of NYS birthing hospitals had a written policy for toxicology screening of mothers and 60% for newborns.
• 49% have a written policy for both, 12% for mothers only, 11% for newborns only, and 27% had none.
• During the birth hospitalization: 85% of birthing hospitals screened pregnant women based on specific risk criteria; 15% screened all pregnant women; and <1% did not screen any women for substance use (Table 1).
• Geographical differences exist; screening based on specific risk criteria is most common throughout NYS, except in Western NY where universal screening predominates (54%).

Table 1. Toxicology Screening Practices for Pregnant Women in NYS during the Birth Hospitalization by Region

<table>
<thead>
<tr>
<th>Region (# of Birthing Hospitals)</th>
<th>N (%) Screening Some Pregnant Women Based on Specific Risk Criteria</th>
<th>N (%) Screening All Pregnant Women for Substance Use</th>
<th>N (%) Not Screening Any Pregnant Women for Substance Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeastern NY (n=13)</td>
<td>13 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Finger Lakes (n=9)</td>
<td>9 (100%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>New York City (n=39)</td>
<td>36 (92%)</td>
<td>3 (8%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Central NY (n=19)</td>
<td>17 (89%)</td>
<td>2 (11%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Mid-Hudson (n=18)</td>
<td>15 (83%)</td>
<td>2 (11%)</td>
<td>1 (6%)</td>
</tr>
<tr>
<td>Long Island (n=13)</td>
<td>9 (69%)</td>
<td>4 (31%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Western NY (n=13)</td>
<td>6 (46%)</td>
<td>7 (54%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Statewide (n=124)</td>
<td>105 (85%)</td>
<td>18 (15%)</td>
<td>1 (&lt;1%)</td>
</tr>
</tbody>
</table>

• Top five screening criteria for pregnant women include: history of drug use (73%); observed signs and symptoms during hospitalization (61%); late or no prenatal care (55%); placental abruption (42%); and self-report of current drug use (37%).
• Top five screening criteria for newborns include: positive maternal screen during pregnancy/postpartum (96%); maternal self-report of current drug use (96%); newborn signs of withdrawal (92%); maternal signs/symptoms of drug use (90%); and maternal history of drug use (89%).
• When a confirmed positive toxicology screen is obtained for the mother, 91% of hospitals referred to social work consultation for an assessment and 83% refer to Child Protective Services (CPS) (Table 2).
• A higher percentage of RPCs refer for a maternal confirmed positive compared to lower level hospitals.

Table 2. Interventions Offered When a Confirmed Positive Toxicology Screen Is Obtained for the Mother, by Perinatal Care Level

<table>
<thead>
<tr>
<th>Level (# of Birthing Hospitals)</th>
<th>Social Work Consultation for Assessment</th>
<th>Referral to a Substance Rehabilitation Program</th>
<th>Referral for Outside Counseling Services</th>
<th>Referral for Visiting Nurse Services</th>
<th>Referral to Child Protective Services</th>
<th>Other Interventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level II (n=24)</td>
<td>24 (100%)</td>
<td>8 (33%)</td>
<td>8 (33%)</td>
<td>7 (29%)</td>
<td>21 (88%)</td>
<td>1 (4%)</td>
</tr>
<tr>
<td>Level I (n=17)</td>
<td>36 (77%)</td>
<td>14 (30%)</td>
<td>13 (28%)</td>
<td>22 (47%)</td>
<td>39 (83%)</td>
<td>7 (15%)</td>
</tr>
<tr>
<td>Statewide</td>
<td>113 (91%)</td>
<td>60 (48%)</td>
<td>49 (40%)</td>
<td>52 (42%)</td>
<td>103 (83%)</td>
<td>9 (7%)</td>
</tr>
</tbody>
</table>

• Variations exist in toxicology screening policies and practices at NYS birthing hospitals, including among perinatal levels and geographic regions.
• 60% of birthing hospitals reported having written toxicology screening policies for pregnant women and/or newborns, fewer than half (49%) had both.
• Western NY (54%) and Long Island (31%) had the highest percentages of birthing hospitals conducting universal toxicology screening of pregnant women.
• The findings of this survey present an opportunity for the NYSPOQC to address variation in toxicology screening, and referral policies and practices during deliveries and birth hospitalizations in NYS.

Discussion

• Top five scenarios for filing a CPS report:
  • Positive maternal and newborn toxicology screen at delivery (100%);
  • Positive newborn toxicology screen, but mother’s screen was negative (89%);
  • Maternal or infant toxicology screen positive only for THC (marijuana) (88%);
  • Positive maternal toxicology screen at delivery, not considering newborn’s result (76%); and
  • Positive maternal toxicology screen at delivery, negative newborn screen (74%).

References


We would like to acknowledge the NYSPOQC staff and the NYSPOQC Neonatal Expert Workgroup, Dr. Anne Marie Reynolds and the staff at John R. Oishei Children’s Hospital.