Analyzing Compliance with the NICU Neonatal Abstinence Syndrome Pathway

Elizabeth Guju MS4
USF MCOM- LVHN Campus

Wendy J. Kowalski MD
Lehigh Valley Health Network, wendy_j.kowalski@lvhn.org

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Analyzing Compliance with the NICU Neonatal Abstinence Syndrome Pathway

Elizabeth Guju MS4; Wendy Kowalski M.D.

Lehigh Valley Health Network, Allentown, Pennsylvania

Background

- Neonatal abstinence syndrome (NAS) is a withdrawal syndrome of newborns that develops after birth with the abrupt discontinuation of in utero exposure to drugs of abuse. It typically manifests in the first few days of life and clinical symptoms include neurologic excitability, autonomic instability, impaired weight gain, irritability, and gastrointestinal dysfunction.
- It has been shown that an algorithmic management of NAS is useful for the standardization of management in order to ensure all infants at risk are identified and receive proper treatment and outpatient follow-up.
- Specifically, clinical pathways are common tools used to standardize the care processes in order to maximize patient outcomes and improve organizational efficiency.
- Lehigh Valley Health Network (LVHN) aims to provide the best quality of maternal and neonatal care through implementation of the multidisciplinary Comprehensive Pathway for Perinatal Substance Abuse. (Figure 1) This pathway was developed to ensure all mothers with substance abuse and their infants at risk for NAS, or with NAS, are identified, treated, and followed after discharge. Pathway compliance has not previously been assessed.

Problem Statement

- This is a quality improvement project designed to assess compliance and non-compliance (in percentage %) with the LVHN multidisciplinary Comprehensive Pathway for Perinatal Substance Abuse.

Methods

- Internally designed quality improvement project within the LVHN Labor and Delivery, NICU, and Mother Baby Units.
- Retrospective chart review of neonates placed on the Comprehensive Pathway for Perinatal Substance Abuse from July 1, 2017 - July 1, 2018.
- Charts identified using a urine (UDS-10) or meconium (MecDS) drug screen code.
- Exclusion criteria: the baby died; the baby was transferred to an outside center for care.
- Pathway compliance was measured using 6 pre-determined compliance points in Table 1.
- Number of charts included for each compliance point was determined on chart-by-chart basis, as following the Comprehensive Pathway for Perinatal Substance Abuse.
- Chart review of consisted of looking through EPIC specifically in the clinical notes, lab orders, and nursing flow sheets tab.
- Percent compliance and non-compliance with the pathway was determined for each compliance point.
- Qualitative data for 5-6 recorded.
- Goal for pathway compliance was set at 100% for each compliance point 1 through 6.

Results

- A total of 161 charts were pulled due to having either UDS10 or MecDS code ordered.
- 2 charts were excluded (refer to Table 2 for full description of analyzed groups).
- Refer to Table 3 for percentage compliance at each compliance point 1 through 6.
- Qualitative data regarding documented provider reasoning for non-compliance with compliance points 5 and 6 is presented in Table 4.

Table 2

<table>
<thead>
<tr>
<th>Compliance Point</th>
<th>Inclusion Criteria</th>
<th>Compliance (%)</th>
<th>Non-compliance (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (Path UDS-10 and MecDS ordered)</td>
<td>190</td>
<td>88.05</td>
<td>11.95</td>
</tr>
<tr>
<td>2 (Finnegan scoring indicated when necessary)</td>
<td>100</td>
<td>100.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3a (UDS for Illegal substances (excluding THC) was ordered)</td>
<td>14</td>
<td>100.00</td>
<td>0.00</td>
</tr>
<tr>
<td>3b (UDS for Illegal substances was a CAC (excluding THC) follow-up required)</td>
<td>14</td>
<td>78.57</td>
<td>21.43</td>
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<tr>
<td>4a (Finnegan score needed to re-order)</td>
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General Discussion

- Compliance point that met 100% was referral to OCYS.
- Compliance point 1 had 88.05% compliance. Reasons for non-compliance may be lack of knowledge or nurse education for the other clinical parameters. Infants that fall in this group are those patients who did not have an order for a urine drug screen or meconium drug screen when the urine was ordered as negative, which is inappropriate and requires reeducation.

Discussion

- To improve compliance: To ensure all includes Finnegan scoring and drug screen were ordered early in the pregnancy currently the providers in the NICU (EIC-NCIC), there is no information for the appropriate timing of Finnegan scoring.
- To improve compliance: Increased Finnegan scoring may be critical to document parameters for referring staff with Finnegan scoring as well as accurate education of providers of when Finnegan scoring needs to be conducted. Upon initial data assessment it appears the completion with Finnegan scoring was required, however, the majority of the charts indicated that Finnegan scoring was not ordered. In the future, the pathway will implemented.

Conclusion

- Overall, this project assessed compliance with the Comprehensive Pathway for Perinatal Substance Abuse and determined that only one compliance point met the 100% compliance goal.
- Data gathered allowed departments (Obstetrics, NICU, MBU) to identify areas where pathway compliance is low so that changes could be implemented.
- Possible reasons for non-compliance were discussed within the involved departments.
- Current and future changes include:
  - development of order sets that include both urine/meconium drug screens and Finnegan scoring
  - non-pharmacologic management of NAS
  - modification of the pathway to better defined outpatient follow up needs
  - re-education of nursing and providers regarding proper Finnegan scoring and morphine weaning protocols.

REFERENCES