Managing Hyperbilirubinemia: Integrating Best Practices across a System
Michele A. Island, RN, BSN, MBA
Fairview Health Services
Dina Westlund, Nancy Misurek, Neil Bratney, James Katter, Pam Heggie, Emily Borman-Shoap,
Deborah DeMarais, Yeng Yang, Cheryl Douglas, Ted Thompson, Anne Renaker, Jennie Mornes

Problem: Hyperbilirubinemia is a common occurrence in newborns if not identified and treated quickly
can result in severe encephalopathy or kernicterus. Moving evidence from research to practice presents
a challenge for large health care systems. Physicians identified a need when they found care plans
created for Hyperbilirubinemia were not followed from hospital discharge to follow-up visits.

Evidence: Since the publication of The American Academy of Pediatrics’ Clinical Practice Guidelines in
2004, evidence shows early identification of Hyperbilirubinemia using newborn bilirubin level reduces
rates of readmissions and severe Hyperbilirubinemia.

Strategy: An interdisciplinary team facilitated by provider / administrative lead dyad was formed. The
workgroup used the Initiate, Plan, Execute, Monitor and Control improvement cycle to guide work.

Practice Change: Current protocols for inpatient assessment and treatment of Hyperbilirubinemia did
not include the AAP recommendations. These protocols, assessment tools, and order sets were
modified along with development of specific guidelines for Emergency Departments and the clinics.
Phototherapy equipment was standardized across the 8 Fairview hospitals. Communication packages
were disseminated to all areas within Fairview through the life of the work.

Evaluation: The following was measured:
• Hyperbilirubinemia readmission rates
• Length of Stay:
  o Normal Newborns discharged with Hyperbilirubinemia
  o Normal Newborns Hyperbilirubinemia readmissions
• Cost / case for Normal Newborn Hyperbilirubinemia readmission
• Cost savings for Hyperbilirubinemia readmission reductions
• Phototherapy equipment costs

Results: Using 2010 for baseline and 2011 as post-intervention data:
• Hyperbilirubinemia readmissions: 1.11% to 0.79%
• Length of Stay reduced for birth stays and readmission stays
• Cost per case - Hyperbilirubinemia readmission: $1730 to $1514
• Cost savings related to:
  o Hyperbilirubinemia readmission reductions - $42,000
  o Phototherapy equipment - $11,000

ACE has published this as received and with permission from the author(s).
**Recommendations:** Next steps: push out work to private practice partners and query providers and nurse leaders to understand other research not integrated into care.

**Lessons Learned:** The speed of tool development and implementation was increased by capitalizing on input from physicians.

**Bibliography:**


