

Strengthen the Evidence for MCH Programs: Environmental Scan of Strategies

National Performance Measure (NPM) #3: Perinatal Regionalization *Percent of very low birth weight (VLBW) infants born in a hospital with a Level III+ Neonatal Intensive Care Unit (NICU)*

Introduction

This environmental scan identifies collections of strategies to advance performance for NPM #3, Perinatal Regionalization. The information provided in this document focuses on strategies to achieve the NPM, not on the content of care or specified health outcomes. Please note that the quality of the evidence in this compilation has not been evaluated, and that data sources describing a single strategy, rather than a collection of strategies, have been excluded.

This compilation includes the following sections:

- **Reviews and Compilations:** Identifies existing compilations for strategies that intend to improve performance for each measure
- **Frameworks and Landmark Initiatives:** Frameworks includes conceptual models underlying strategy implementation; Landmark Initiatives include seminal programs/policies related to the NPM
- **Data Sources:** Indicates sources, search criteria, links to search strategy and selected organizational websites
- **Inclusion and Exclusion Criteria:** Denotes types of studies, setting, populations of interest and exclusion criteria

Technical assistance for State Title V MCH programs related to using evidence to inform State Action Plans, selection of strategies, and development of evidence-based or evidence-informed Strategy Measures may be requested at <http://www.semch.org/technical-assistance.html>

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Reviews and Compilations

Review/Compilation	Summary	Web Link
Rashidian et al. (2013). The effectiveness of regionalization of perinatal care services - a systematic review. <i>Public Health</i> . [Target ¹ : A,B,C]	<ul style="list-style-type: none"> • Objective: “review of interventional studies assessed the effects of implementing a perinatal regionalization program in a country, or in a region(s) of a country” • Two different studies found increase in births at level III hospitals <ul style="list-style-type: none"> - Usher 1977: Quebec regionalized referral system for high risk pregnancies - McCormick et al. 1985: USA national program of regionalization, funded coordinated perinatal care systems 	http://dx.doi.org/10.1016/j.puhe.2014.08.005
AMCHP Innovation Station [Target: A,B,C]	<ul style="list-style-type: none"> • Internatal Care Program (ICP): Phoenix, Arizona <ul style="list-style-type: none"> - Provides care coordination in Maricopa Integrated Health System, which includes level III NICU 	http://www.amchp.org/programsandtopics/BestPractices/InnovationStation/ISDocs/ICP.pdf

¹ Target specifies Target Audience for the strategies mentioned in each Review/Compilation: A = Hospital Inpatient (includes physical, mental, and oral health); B = Hospital Outpatient (includes physical, mental, and oral health); C = Non-Hospital Outpatient Providers (e.g. community health centers, private medical groups, health maintenance organizations); D = Community Organizations (e.g. WIC, advocacy organizations, child care providers, home visiting services); E = Social Service Organizations (e.g. Head Start, child welfare); F = Schools and School Systems; G = Consumers/Families; H = Other

Frameworks and Landmark Initiatives

Framework/Initiative	Summary	Web Link
Kim et al. (2013). Telemedicine collaboration improves perinatal regionalization and lowers statewide infant mortality. <i>Journal of Perinatology</i> .	<ul style="list-style-type: none"> • Telemedicine collaboration program in 9 Arkansas hospitals over 13-month period associated decrease in VLBW neonates delivered in hospitals without NICUs 	http://dx.doi.org/10.1038/jp.2013.37
Menard et al. (2015). Levels of Maternal Care. <i>American Journal of Obstetrics and Gynecology</i> .	<ul style="list-style-type: none"> • Level III facilities should: <ul style="list-style-type: none"> - Coordinate perinatal health care services - Provide outreach/education for facilities and health care providers • Analyze regional data 	http://dx.doi.org/10.1016/j.ajog.2014.12.030
Freeman. (2010). Very low birth weight babies delivered at facilities for high-risk neonates: a review of Title V national performance measure 17.	<ul style="list-style-type: none"> • Comprehensive prenatal and perinatal care system to ensure birth at appropriate facility including: <ul style="list-style-type: none"> - Screening early for risk of premature delivery and LBW - Education for women to reduce risk of delivering preterm - Transport services that ensure arrival at appropriate facility - Relationships between primary and tertiary care providers 	http://mchb.hrsa.gov/grants/natlperformmeasure17rpt.pdf
Gardner et al. (2015). Merenstein & Gardner's Handbook of Neonatal Intensive Care, 8 th Edition- Chapter 3 Perinatal Transport and Levels of Care.	<ul style="list-style-type: none"> • Inter-hospital transport of pregnant women essential to regionalization • Strategic planning and definition/organization of levels of care • Organized referral system: subspecialty care regional perinatal center responsible for coordinating perinatal transfer. Should consist of: <ul style="list-style-type: none"> - Leadership - Communication 	https://books.google.com/books?hl=en&lr=&id=idpiCAAQBAJ&oi=fnd&pg=PA32&dq=perinatal+regionalization+review&ots=zJSFUuKRzg&sig=DPCgm9sE5Nu0CjrSiH7fTp9LOc8#v=onepage&q=perinatal%20regionalization%20review&f=false

	- Quality Assurance	
March of Dimes. (2010). Toward Improving the Outcome of Pregnancy III.	<ul style="list-style-type: none"> • Develop consistent national guidelines for regionalization • Research strategies for enhancing communication between delivery systems or hospitals 	http://www.marchofdimes.org/materials/toward-improving-the-outcome-of-pregnancy-iii.pdf

Data Sources

Data Source*	Search Criteria	Web Link
Cochrane Library	Search Term: perinatal regionalization Limited to review	N/A
	Search Term: NICU bed distribution	
	Search Term: maternal transport Limited to review	
	Search Term: levels of care regionalization	
Campbell Systematic Reviews	Search Term: perinatal regionalization	http://www.campbellcollaboration.org/lib/?go=monograph&search=perinatal+regionalization&search_criteria=all_text
PubMed	Search Term: perinatal regionalization Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=perinatal+regionalization
	Search Term: maternal transport Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=maternal+transport
	Search Term: maternal transport LBW Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=maternal+transport+lbw
	Search Term: NICU bed distribution Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=nicu+bed+distribution
	Search Term: levels of care regionalization Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=Levels+of+care+regionalization
	Search Term: Risk appropriate neonatal care lbw Limited to review	http://www.ncbi.nlm.nih.gov/pubmed/?term=risk+appropriate+neonatal+care+lbw
CINAHL Plus	Search Term: perinatal regionalization AND review	N/A
	Search Term: levels of care AND regionalization AND review	N/A

	Search Term: maternal transport AND review	N/A
Google Scholar	Search Term: perinatal regionalization review	https://scholar.google.com/scholar?start=240&q=perinatal+regionalization+review&hl=en&as_sdt=0,21
	Search Term: maternal transport review	https://scholar.google.com/scholar?q=maternal+transport+review&btnG=&hl=en&as_sdt=0%2C21
	Search Term: risk appropriate neonatal care lbw review	https://scholar.google.com/scholar?start=30&q=risk+appropriate+neonatal+care+lbw+review&hl=en&as_sdt=0,21
AMCHP Innovation Station	State: all Region: all Practice Category: all Primary topic: all National Performance Measures: all Year: N/A Keywords: N/A	http://www.amchp.org/programsandtopics/BestPractices/InnovationStation/Pages/default.aspx
Georgetown Knowledge Base	MCH Knowledge Base and Library Collection → Professional Resource Guides and Briefs → Perinatal Regionalization	http://ncemch.org/evidence/NPM-3-VLBW.php
Infant Mortality Collaborative Improvement and Innovation Network	Search Term: perinatal regionalization	http://www.nichq.org/search.aspx?q=perinatal%20regionalization
National Fetal, Infant, and Child Death Review Center	Search Term: perinatal regionalization	https://www.childdeathreview.org/?s=perinatal+regionalization
Vermont Oxford Network	Search Term: perinatal regionalization	https://public.vtoxford.org/
March of Dimes Towards Improving the Outcome of Pregnancy (TIOP) III	N/A	http://www.marchofdimes.org/materials/toward-improving-the-outcome-of-pregnancy-iii.pdf

**The Strengthen the Evidence Team of Experts and selected HRSA discretionary grantees contributed to the identification of data sources*

Inclusion and Exclusion Criteria

Inclusion Criteria	Exclusion Criteria
<ul style="list-style-type: none"> • Types of studies: reviews of studies, organization websites also count as 'compilations' • Language: English • Population of interest: VLBW infants 	<ul style="list-style-type: none"> • Articles describing single strategies that are not part of a larger review • Articles focused on effect of regionalization on health outcomes • Articles regarding transport of infants after birth