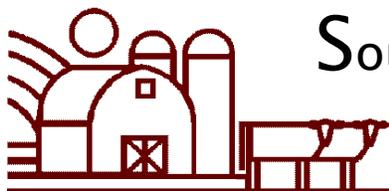


# Development of a Methodology for Assessing the Effect of a Lay Home Visitation Program for Rural High-Risk Women and Infants



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# **Development of a Methodology for Assessing the Effect of a Lay Home Visitation Program for Rural High-Risk Women and Infants**

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## EXECUTIVE SUMMARY

Case management is a community-focused approach to augmenting prenatal and well child care which incorporates health education and social support. Lay health care workers from the clients' community are thought to be influential in modifying behavioral and environmental determinants because of their common social, cultural, and environmental milieu. The positive impact of paraprofessional support programs on use of services was consistently documented in the literature. However, their effects on pregnancy and birth outcomes among low-income, rural women were less clear.

This small pilot study tested a linked data set approach for evaluating the effectiveness of a community health worker program for women at risk for poor pregnancy and birth outcomes. We applied the method to a home visitation program that uses lay health workers to provide health education, referral, and social support to rural, low-income pregnant African American women and their infants receiving Medicaid. Adequacy of preventive services and health outcomes were compared across three groups of mother-infant pairs: (a) participants in the Resource Mothers Program during its first year of operation ( $n = 39$ ), (b) a comparison group from similar counties in which the program was not offered ( $n = 243$ ), and (c) a comparison group from the same counties 2 years prior to program implementation ( $n = 283$ ). Analysis was performed using de-identified data elements from Vital Records Birth Certificates, Medicaid, and Low Country Healthy Start.

Readers are advised to interpret the statistical results with caution. Given that (a) the purpose of the pilot study was to test feasibility of the design and procedures, (b) generation of data occurred during first year of operation of the home visitation program, and (c) the small Study Group sample size (39 mother-infant pairs), results may be biased.

### *Key Findings*

- The pilot study successfully demonstrated that a retrospective, population-based, comparative design is a feasible method for evaluating the effect of a maternal-infant home visitation program on adequacy of preventive services and health outcomes.
- Subjects in our sample, comprised of pregnant Medicaid women and their resulting infants from rural, African American communities, shared many characteristics that increased the risk of poor pregnancy and birth outcomes, including age (below 18 or over 34 years, 18%), less than a high school education (30%), and first pregnancy (46%).
- Approximately half of mothers obtained adequate prenatal and post partum care. Adequacy of maternal preventive services was similar among the three comparison groups.
- Adequate well child care was obtained by 37% of infants. However, infants in the Study Group (47%) were nearly 3 times as likely as those in the Same Counties Comparison Group (18%) to obtain adequate preventive care ( $p < .0001$ ).
- Fewer infants (8%) in the Study Group than in Similar (25%) or Same Counties (22%) Comparison Groups recorded any visits for preventable conditions, a finding that approached statistical significance ( $p = .0589$ ). On the other hand, Study Group infants averaged more medical encounters for nonpreventable conditions ( $M = 19$ ) than

Comparison Group infants (Similar,  $M = 14$ ; Same,  $M = 12$ ). .

- Initial program data collection methods failed to control adequately for completeness and accuracy, impacting program evaluation. For example, 10% of Medicaid recipient numbers for program participants were inaccurate. This resulted in loss of 17 mother-infant pairs from the Study Group. Immunization data were frequently missing from client records.

### *Recommendations for Further Research*

To address the racial disparities in the health of African American pregnant women and their infants in rural communities with scarce financial resources, cost effective interventions must be identified. It is critical to dispel the ambiguity surrounding the cost effectiveness of home visitation programs using lay health workers to improve pregnancy/birth outcomes and infant health and decrease the cost of medical care

We recommend that:

- further investigation of the effectiveness of maternal-infant home visitation programs should be conducted among rural, minority populations in underserved areas. Studies should include measurement of cost effectiveness.
- research efforts extend the monitoring of effects of care coordination on children past the 60-day period following birth, as the greatest effects of the intervention are likely to be on infant care and health. We recommend evaluation through the first 2 years of life.
- particular attention to systematic measurement of the impact of a lay home visitation program on health-related behaviors. Our preliminary findings indicated the possible positive impact of lay health workers on increasing adequacy of well child visits and decreasing encounters for preventable illness and injury among infants.
- process evaluation should be incorporated into the research design to monitor the quality of program implementation and data reporting.
- data included in formal program evaluation should be drawn from the period when the program is at full strength, with all staff and systems operational.

### *Programmatic Recommendations*

As a preliminary evaluation effort primarily designed to assess the feasibility of rigorous study of a lay home visitation program, our research does not yield broad programmatic recommendations regarding provision of services. However, as evaluators, we note that effects of community-based programs will fail to be detected unless efficient data capture procedures are in operation.

- We recommend that all Healthy Start programs apply continuous quality improvement techniques to primary data collection. Without consistent, reliable and timely data collection, program evaluation results are jeopardized and the ability to make future policy recommendations threatened.

