Evaluation of Hawaii's Healthy Start Program

TWENTY-NINTH

in a Series

of Seminars

on MCHB-funded

Research Projects

Thursday, July 6, 2000 • 12:30–2:00 p.m.

Parklawn Building, Conference Room D

Presenter: Anne K. Duggan, Sc.D.

ASSOCIATE PROFESSOR OF PEDIATRICS, THE JOHNS HOPKINS UNIVERSITY SCHOOL OF MEDICINE, AND ASSOCIATE PROFESSOR OF HEALTH POLICY AND MANAGEMENT, THE JOHNS HOPKINS UNIVERSITY SCHOOL OF HYGIENE AND PUBLIC HEALTH

Reactor: Harriet J. Kitzman, R.N., Ph.D.

LORETTA C. FORD PROFESSOR OF NURSING
UNIVERSITY OF ROCHESTER SCHOOL OF MEDICINE AND DENTISTRY

Moderator: Gontran Lamberty, Dr.P.H.

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Research Roundtable 29

U.S. Department of Health and Human Services
HRSA
Health Resources and Services Administration
Maternal and Child Health Bureau

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Research Roundtable

About the Presenter...

Anne K. Duggan, Sc.D., is Associate Professor of Pediatrics at The Johns Hopkins University School of Medicine, and Associate Professor of Health Policy and Management at The Johns Hopkins University School of Hygiene and Public Health. She is Director of the Johns Hopkins General Pediatrics Research Center and Director of Research Training for postdoctoral fellows in general academic pediatrics, adolescent medicine, pediatric emergency medicine, and behavioral pediatrics. Dr. Duggan is principal investigator of experimental studies of statewide home visiting programs that aim to improve family functioning, promote child health and development, and prevent child abuse and neglect in families with young children in Hawaii and Alaska. She also leads evaluation of the process and outcomes of Baltimore City's Comprehensive Family Support Strategy. The Strategy uses outreach and integrates home- and center-based services with other services for families with young children to achieve its goals of promoting child health and development and preventing child abuse and neglect in seven target communities.

About the Reactor...

Harriet J. Kitzman, R.N., Ph.D., is the Loretta C. Ford Professor of Nursing at the University of Rochester. Working with an interdisciplinary team, she has conducted randomized trials of the impact of a nurse home visitation program on pregnancy outcomes, the health and development of children, and the life course development of mothers. (In the program she studied, nurses visited women while the women were pregnant and during the first 2 years of their child's life.) Professor Kitzman is a member of the Board of Children, Youth, and Families of the National Research Council/Institute of Medicine.

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Anne K. Duggan, Sc.D., Associate Professor of Pediatrics, The Johns Hopkins University School of Medicine, and Associate Professor, Health Policy and Management, The Johns Hopkins University School of Hygiene and Public Health

Statement of the Problem

Community home-visiting programs such as Healthy Start are widely perceived as being beneficial to families whose children are at risk for poor health outcomes. However, efforts to establish such programs have been impeded by a paucity of research on the programs' costs and effectiveness. This deterrent must be addressed if informed policy and program development is to take place.

Research Objectives

Hawaii's Healthy Start Program (HSP) is a well-established outreach program providing (1) community-based screening to identify newborns at environmental risk for child abuse and neglect, and (2) home visiting by paraprofessionals to promote healthy family functioning and child development through role modeling, education, and linkage with pediatric primary care and other needed community

resources during the child's first 5 years of life. The objective of this longitudinal study was to evaluate the HSP in order to add to the existing research on home visiting programs.

Study Design and Methods

From November 1994 through December 1995, 684 at-risk families with newborns were recruited and randomly assigned to the HSP or to a control group. They were monitored until the children were 3 years old. Baseline and annual follow-up data were collected through HSP record reviews, structured maternal interviews, and several strategies that focused on the index child: observation of the home environment and mother-child interaction, child developmental testing, review of pediatric medical records, analysis of health-care-use files, and review of Child Protective Service records. In addition, detailed information on fathers was collected through maternal interviews during baseline and annual follow-up assessments.

The HSP offers services to fathers and extended family members, not just to mothers. Therefore, through interviews with fathers and direct observation of father-child interaction, the study evaluates the HSP's impact on both parents. Measures were selected on the basis of demonstrated validity and reliability, appropriateness for the Hawaiian population, objective assessment, and previous use in studies of home visiting.

Population Description and Sampling Plan

The target population was families with newborns at environmental risk for abuse and neglect. The accessible population was families of newborns on Oahu who were identified as being at risk during study recruitment. A family is eligible for the HSP if it (1) lives in an HSP catchment area, (2) is determined to be at risk, and (3) is not already known to Child Protective Services. A family was eligible for the evaluation if (1) it was eligible for the HSP, (2) the mother did not need a translator (less than 3 percent of those eligible for the HSP need a translator), (3) it was assessed at the time of the infant's birth (less than 20 percent of HSP-eligible families are prenatal referrals), and (4) it had never been enrolled in the HSP.

Early identification assessment and study recruitment activities were integrated. All families in HSP catchment areas were screened and assessed.

Program effectiveness was assessed with the intent-to-treat model (i.e., outcomes were measured with regard to family assignment to the HSP, regardless of the intensity of services a family received through the HSP). However, to measure program efficacy (impact under ideal conditions) and dose-response effects, we used a group-allocation ratio weighted toward the experimental group.

Analysis Plan

The comparability of study participants and nonparticipants is examined for measures available for all families who were at risk at the time of the child's birth.

Overall program process estimates are derived from sample statistics (proportions, means) and 95 percent confidence intervals. Fidelity of implementation is assessed by determining whether interval estimates span program process standards. Summary process measures are compared among HSP sites, parent agencies, and population subgroups by using standard tests of significance. Within both the HSP and the control groups, families are categorized in terms of characteristics at the time of the child's birth. These characteristics include family ethnicity, initial risk-assessment score, family substance abuse, family violence, and maternal age. For each outcome, multivariable models are used to test for differences in outcome between the HSP group and the control group in the presence of differences in initial risk and the degree of resolution of other outcomes.

Results of the process assessment are used to categorize the families in the HSP group by the intensity and adequacy of services received, compared to program standards of care. Generalized linear models are used to relate program outcomes to the adequacy of services provided.

Within both groups, levels of use and associated costs are measured for health services, child protective services, police and legal services, and other community services. For families in the HSP group, direct program costs are also measured. Differences in costs per child between HSP and control group families are assessed.

Findings

Early-identification staff determined risk status for 84 percent of target families. Families with higher risk scores, young mothers with limited schooling, and families with infants at biologic risk for special health care needs were more likely to enroll in home visiting programs. Half of those who enrolled were active

1 year after enrollment, with an average of 22 visits. Families where the father had multiple risk factors and where the mother was abusing substances were more likely to have 12 visits or more; mothers who were unilaterally violent toward the father were less likely to have this range of visits. Most families were linked with a medical home; linkage rates for other community resources varied widely by type of service. Half of families overall, but 80 percent or more of those active 1 year after enrollment, received core home visiting services. Performance varied by program site. Departures in implementation from the program model reduced overall program effectiveness. At some follow-up points, the program was found to have positively affected enrollees by (1) increasing their access to a medical home, (2) decreasing parenting stress, (3) increasing parenting efficacy, (4) increasing paternal involvement in child care, and (5) improving maternal mental health. Programs at some study sites show a positive impact on maternal use of nonviolent discipline, mother-child interaction, and child development.

Publications

Duggan A, Windham A, McFarlane E, Fuddy L, Rohde C, Buchbinder S, Sia C. 2000. Hawaii's Healthy Start Program of home visiting for at-risk families: Evaluation of family identification, family engagement, and service delivery. *Pediatrics* 105(1):250–259.

Duggan A, Windham A, McFarlane E, Salkever D, Rohde C, Rosenberg L, Buchbinder S, Fuddy L, Sia C. 1999. Evaluation of Hawaii's Healthy Start Program. *The Future of Children* 9(1):66–90.

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