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REVIEW ARTICLE

Contribution of Dr. David. M. Paige in Field of Pediatrics

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ABSTRACT

Dr. Paige's research is most notably recognized for bringing the issue of lactose intolerance into the national spotlight, leading to policy changes within the federal school lunch program. His early work in the 1970s with the Maryland Food Committee and health departments was instrumental in establishing nutrition assistance programs that served as a model for the federal Women, Infants, and Children (WIC) nutrition program, which now serves a substantial portion of the nation's infants and children.

Furthermore, Dr. Paige was a major advocate for breastfeeding within the WIC framework. His scholarly output includes over 130 papers and authorship/ editorship of key textbooks like *Clinical Nutrition* and *Lactose Digestion: Clinical and Nutritional Implications.* He also held leadership roles at Johns Hopkins, directing the Master of Public Health program and making significant contributions to the development of general preventive medicine residency programs. He is recognized for his commitment to teaching and mentorship, receiving awards like The Johns Hopkins University Heritage Award and the March of Dimes Agnes Higgins Award.

Key Message: Prevention is paramount in early life: The most impactful work must be directed at pregnancy and the early years of life to prevent long-term health and cognitive issues.

KEYWORDS

• Women • Infants, and Children (WIC) • Infant and Child Nutrition/Clinical Nutrition • Lactose Intolerance • Breastfeeding • Public Health Policy

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INTRODUCTION

This report focuses on **Dr. David M. Paige (M.D., M.P.H.)**, a highly influential figure in public health, renowned for his foundational work in **maternal and child nutrition** and the creation of effective nutrition assistance programs in the United States.[1]

Who is the Scientist and Why She is Chosen?

The scientist is Dr. David Martin Paige (born 1939). He is a Professor of Population, Family and reproductive health with joint appointments in pediatrics at the johns hopkins school of Medicine and the Bloomberg School of Public Health.[2]

He is chosen because his work directly resulted in the creation of the federal Women, Infants, and Children (WIC) nutrition program, which has had a profound, measurable, and enduring impact on the health and development of millions of American children.[3] His career is a prime example of translating clinical research and public health urgency into national policy.[4]

Background:

Education: M.D. from New York Medical College (1964), M.P.H. from Johns Hopkins University School of Hygiene and Public Health (1969).[5]

Clinical Context: While a pediatric resident at Johns Hopkins in the late 1960s, Dr. Paige was deeply frustrated by the constant flow of iron-deficient and growth-stunted infants from low-income communities who required hospitalization, often due to their mothers diluting formula or using cow's milk prematurely to save money.[6]

Initial Idea: This clinical observation sparked his key insight: instead of just treating the *results* of undernutrition, he needed to "prescribe appropriate foods" a concept that fused clinical medicine with public health prevention.[7]

Scientific Contributions:

Creation of the WIC Program Model

- Iron-Fortified Infant Formula (IFIF) Program (1969): Dr. Paige and colleagues started a clinic-based program in a poor Baltimore neighborhood, Cherry Hill, providing iron-fortified infant formula via a voucher or "prescription."
- Maryland Food Committee Model: The initial IFIF program expanded into a statewide voucher program, demonstrating that providing specific, fortified foods to low-income pregnant women, infants, and children effectively reduced the risk of iron deficiency and undernutrition. This model was directly adopted and scaled by the U.S. Congress to establish the national WIC program in 1972.

2. Policy Change on Lactose Intolerance

- Research: Dr. Paige's research brought the issue of lactose intolerance/lactose maldigestion in various ethnic and low-income groups into the national conversation.
- Impact: This research resulted in policy changes to the federal school lunch program, allowing for lactose-reduced or non-dairy milk substitutes to be offered, ensuring children who are lactose intolerant could still receive adequate nutrition without adverse health effects.

Breastfeeding Advocacy

- Dr. Paige was a persistent and major proponent for incorporating and strengthening breastfeeding promotion and support within the WIC framework, recognizing its critical role in optimal infant health and development.

Challenges and Breakthroughs:

Aspect Challenge Breakthrough Program Development The need to move beyond clinical treatment to preventative public health intervention for poverty-related malnutrition. Developing the Iron-Fortified Infant Formula (IFIF) program and the voucher-based system, proving its efficacy, and establishing the model for WIC. Policy Influence Overcoming political and bureaucratic hurdles to secure federal funding and implement a new type of food assistance program.[8] Testifying before the United States Congress multiple times (over 20) and successfully influencing policy to launch and sustain the WIC program. Nutritional Science Misunderstanding or ignoring the prevalence and implications of lactose intolerance in diverse populations. Researching and raising awareness of lactose

intolerance, leading to the necessary policy changes in school lunch programs for milk substitutes.

Reflection and Relevance to Paediatrics:

Dr. Paige's work is immensely relevant to paediatrics and is an exemplary model of social pediatrics:

1. *Prevention over Cure:* He showed that a pediatrician's role extends beyond the Hospital. By addressing the social and nutritional determinants of health (like poverty and food access) in the prenatal period and infancy, he prevented conditions like iron-deficiency anemia and low birth weight, which have lifelong consequences.
2. *Cognitive and Developmental Impact:* His model emphasized that early nutrition is crucial for optimal cognitive development and school readiness in toddlers and preschool children.

WIC's Legacy: The WIC program, which he modeled, continues to be a cornerstone of preventive pediatric care in the US, serving approximately half of all infants today. Paediatricians rely on WIC to help provide high-quality, fortified food and nutrition counseling to their most vulnerable patients

CONCLUSION

Dr. David M. Paige is a foundational figure whose clinical experience as a paediatrician and expertise in public health policy culminated in one of the most effective and successful federal nutrition programs in U.S. history, WIC. His legacy is defined by his commitment to translating data into actionable policy, ensuring that the most economically disadvantaged women and children receive the prescriptive nutrition necessary for healthy growth and development.

Acknowledgement:

This report acknowledges Dr. David M. Paige, M.D., M.P.H., Professor Emeritus at the Johns Hopkins Bloomberg School of Public Health, for his pioneering research and advocacy that led to the creation and success of the Women, Infants, and Children (WIC) nutrition program and for his significant contributions to child nutrition policy in the United States.

Conflict of interest: none

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