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MCH Innovations Database Practice Summary & Implementation Guidance

Healthy Mom, Healthy Family: Incorporating Interconception Care Into Well-Child Visits

Healthy Mom, Healthy Family, based on the national IMPLICIT model, is a quality improvement project designed to impact maternal and infant health by incorporating maternal interconception care into well-child visits in pediatric and family medicine office settings by focusing on four critical maternal health areas: depression/anxiety, tobacco use, family planning, and multivitamin use.



		
Location	Topic Area	Setting
Ohio	Health Screening/Promotion, Preconception/Reproductive Health	Clinical
		
Population Focus	NPM	Date Added
Women/Maternal Health, Perinatal/Infant Health	NPM 1: Well-Woman Visit NPM 3: Risk-Appropriate Perinatal Care NPM 14.1: Smoking – Pregnancy	July 2023

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Section 1: Practice Summary

PRACTICE DESCRIPTION

Healthy Mom, Healthy Family (HMHF) is a quality improvement (QI) project designed to impact maternal and infant health and is sponsored by the Health Resources and Services Administration through the Ohio Department of Health (ODH) and administered by the Ohio Colleges of Medicine Government Resource Center (GRC) in partnership with the Ohio Chapter, American Academy of Pediatrics (Ohio AAP) and March of Dimes. HMHF is based on the national network interconception care (ICC) model: Interventions to Minimize Preterm and Low Birth Weight through Continuous Improvement Techniques (IMPLICIT), developed in 2003 by the Family Education Consortium Collaborative and the March of Dimes.¹ HMHF builds on the QI science established by the IMPLICIT Network, modified to meet the priorities and needs of Ohio families with a focus on pediatric practices and providers and developed to improve maternal and infant health in response to the pregnancy-related mortality ratio (PRMR) and infant mortality rate (IMR) in Ohio.

The Ohio Infant Mortality Annual Report reveals Ohio's infant mortality rate is significantly higher than the national average. In 2020, the infant mortality rate in Ohio was 13.6 deaths/1,000 live births for Black infants and 6.7 deaths/1,000 live births for all races² in comparison to the same year infant mortality rate in the United States of 5.4 deaths/1,000 live births for all races.³ Risk factors among 2020 infant deaths in Ohio revealed 36.8% of infants were conceived less than 18 months after a prior birth; 19.7% of mothers smoked during their first trimester of pregnancy; and 38.6% of mothers did not have first-trimester prenatal care.² Among women with Medicaid, 34% and 47.5% reported prepregnancy depression and anxiety, respectively.⁴ The prevalence of these high-risk health behaviors/conditions and limited access to care for future pregnancies engenders the need to provide medical care for women of childbearing age during the interconception period.⁵

A healthy mom leads to not only a healthy family but also a healthy infant. The Ohio Pregnancy-Associated Mortality Review committee organized by ODH reviews all maternal deaths and makes recommendations to prevent future deaths. Half (57%) of pregnancy related deaths in Ohio from 2012-2016 were deemed preventable.⁶ One recommendation that led to informing allocation of funding to this project was “the promotion of preconception health and prevention of chronic diseases during women’s reproductive aged years to improve maternal health and prevent maternal morbidity and mortality and improve overall birth outcomes.”⁶ By the time a woman begins prenatal care, it is often too late to modify many of the high-risk health behaviors associated with poor birth outcomes.⁵ The most crucial period for modifying birth outcomes is before a woman becomes pregnant, so HMHF focuses on four risk factors that can be addressed between pregnancies. Studies have shown mothers regularly attend their child’s health care visits and are highly receptive to health advice at well-child visits (WCVs).⁷

By focusing on interconception health through screenings and interventions for mothers during well child visits 0-18 months, this QI project aims to address health behaviors and access to care that affect maternal and infant health in Ohio. The key population for this QI project is birth mothers 18 years and older attending a WCV with their 0–18-month infant. HMHF addresses barriers to maternal health care by educating and training primary care providers (PCPs)—both pediatricians and family health providers—to screen birth mothers during the interconception period in four critical health areas during well-child visits at 0-18 months and to provide brief counseling and referrals. The four focus areas include:

- depression and anxiety
- tobacco use
- family planning



- multivitamin use

QI methodology was utilized to introduce the interconception care concept to pediatric and family medicine providers and systemize the adoption of the interconception screenings, referrals and treatment into routine practice standards of care. The Model for Improvement as developed by Associates in Process Improvement as well as QI methodology developed by the Institute for Healthcare Improvement were utilized by GRC and Ohio AAP to design the HMHF QI project. PCPs attended monthly action period and coaching calls to review project data, receive education on QI topics and focus areas and share experiences of project implementation.

CORE COMPONENTS & PRACTICE ACTIVITIES

HMHF provides education and training to PCPs on best practices for implementing screening, counseling and education for mothers about critical maternal health focus areas during the interconception period at WCVs. Clinic sites are recruited for a one-year implementation period and six-month sustainability period. Sites are supplied with a printed and electronic toolkit of information including the Model for Improvement guidelines, process algorithms/workflows, and education and resources on the four focus areas. PCPs attend a learning session that provides education on national and state recommendations and guidelines for maternal screening and care as well as education on the four focus areas and instruction on implementing and submitting the data collection tool during the QI project.

Throughout the year-long implementation period, sites are encouraged to attend monthly action period (AP) calls, attend quarterly QI coaching calls, develop a site-specific Key Driver Diagram, and submit two Plan-Do-Study-Act (PDSA) forms emphasizing quality improvement. PCPs were encouraged to adapt standards of care, processes and methods already being utilized in their clinics as they implemented HMHF. For example, some PCPs administered the Patient Health Questionnaire (PHQ)-2 and the Generalized Anxiety Disorder (GAD)-2 and some administered the Edinburgh Postnatal Depression Scale (EPDS) for the initial screening on depression and anxiety. Encouraging PCPs to modify and adapt HMHF to their routine practices was an intentional effort to promote sustainability.

At site level, PCPs used a standardized paper or electronic data tool to collect information on maternal behaviors/symptoms related to depression and anxiety, tobacco use, family planning and birth spacing, and multivitamin use at 0–18-month WCVs. PCPs aimed to administer initial screenings on all four focus areas to all participants. Secondary screenings, tailored education and counseling, and referrals were provided to mothers with initial at-risk screens.

The 5A's typically utilized for treating tobacco dependence⁸ were modified by IMPLICIT ICC Model¹ and HMHF to implement the intervention care screenings, counseling, education and referral components for the four maternal health focus areas. During a WCV, the HMHF algorithm prompts PCPs to:

Ask mothers 18 years or older that opt-in about depression & anxiety symptoms, tobacco and multivitamin use, and family planning.

Advise: mom about desired healthy behaviors and respond to maternal health needs.

Assess: readiness for change and **Assist.**

Arrange for mom to follow up with Ohio Quit Line, PCP, OB/GYN, family planning center or specialist to receive interconception care via a referral or screening note.



Core Components & Practice Activities

Core Component	Activities	Operational Details
Initial Screening	Screening of maternal health behaviors/symptoms	Providers perform initial screening of maternal health behaviors/symptoms on four focus areas.
Secondary Screening	Follow-up screening of maternal health behaviors	For positive initial screens, providers perform secondary screenings or provide interventions.
Education & Counseling	Brief education and/or counseling by providers	For positive initial screens, providers offer education or counseling on four focus areas.
Connecting & Referrals	Referrals and linkages to external community resources	For positive initial screens, providers offer referrals to a PCP or specialist. Providers unable to complete a referral provide mom with a note they can give to their PCP reviewing positive screens which may require follow-up or care.

HEALTH EQUITY

HMHF was developed to improve maternal and infant health in response to the PRMR and IMR in Ohio and remove barriers to healthcare for moms by incorporating interconception care into WCVs. PRMR in Ohio from 2008-16 was 14.7%, with 57% of pregnancy-related deaths deemed preventable.⁶ In 2020, the Infant Mortality Rate in Ohio was 13.6% for Black infants and 6.7% for all races.² Maternal attributes of infant deaths in Ohio for 2020 include 36.8% of mothers with interpregnancy intervals of <18 months; 19.7% of mothers smoked in first trimester; 38.6% of mothers had no first trimester prenatal care.² Additionally, 59.7% of mothers resided in an Ohio Equity Institute (OEI) county, which have the greatest racial disparities in infant mortality.²

HMHF practiced focused recruitment efforts for sites serving the Medicaid population and sites within OEI counties. For Wave 1, HMHF was implemented in 2 pediatric sites and 7 family medicine sites throughout 6 counties in Ohio and included 8 sites located in OEI counties. For Wave 2, HMHF was implemented in 10 pediatric sites and 9 family medicine sites throughout 11 counties in Ohio and included 8 FQHCs and 6 sites located in OEI counties. For Wave 3, HMHF was implemented in 14 pediatric sites and 4 family medicine sites throughout 7 counties in Ohio and included 3 FQHCs and 14 sites located in OEI counties.



EVIDENCE OF EFFECTIVENESS

Ohio sites self-selected to participate in 2 distinct year-long waves between February 1, 2021—January 31, 2022 and February 1, 2022—January 31, 2023. Wave 3 is ongoing. HMHF measures program effectiveness in the following ways:

Pre /Post Assessments: The assessments were completed by PCPs and analyzed prior to project implementation and at the project end. Wave 1 self-reported pre (n=12) and post (n=7) survey data also showed that PCPs' level of comfort with talking to mom of patients about interconception health increased from 92.3% to 100%. In wave 2, PCPs' level of comfort increased from 72.7% to 80% with the matched pre/post survey data set (n=11).

Data Collection Tool: During the implementation period, PCPs used a QI data tool to collect information from moms on the project focus areas. Data collection tools were submitted on a monthly basis to be analyzed and shared with PCPs to improve screening, counseling, and referral processes. The total number of data collection forms submitted in wave 1 was 1,536 and a total of 5,559 in wave 2.

Screening Rates: Ohio Pregnancy Assessment Survey (OPAS) data were used to compare HMHF WCV screening rates in each of the four focus areas to statewide screening rates at women's postpartum visits. The HMHF screening rate in each of the four focus areas was higher than the statewide screening rate for each area at postpartum visits.

Focus Area	OPAS Postpartum Visit Screening Rate (2021) ⁴	HMHF WCV Screening Rate (2021-2022)	HMHF WCV Screening Rate (2022-2023)
Depression/Anxiety	90.6%	92.1%	99.4%
Tobacco Use	60.7%	92.5%	99.8%
Multivitamin Use	48.0%	92.2%	94.3%
Family Planning	52.4%	91.6%	90.3%

Referral and Education Rates: Referral and education rates related to each focus area were also tracked with the data collection tool and shared with participating sites to guide their QI efforts.

Depression/Anxiety: For women with positive screens for mental health symptoms, referral rates for mental health services were 47.6% in wave 1 and 50.7% in wave 2.

Tobacco Use: For women with positive screens for tobacco use, PCPs assessed 79.9% in wave 1 and 76.4% in wave 2 for willingness to quit tobacco use. Of those willing to quit, referral rates were 82.7% in wave 1 and 63.6% in wave 2.

Multivitamin Use: For women with a positive screen for not using a multivitamin, the referral rate was 33.9% in wave 1 and 9.7% in wave 2.

Family Planning: Of the women with positive screens for need of family planning counseling, 64.0% in wave 1 and 75.7% in wave 2 received education on 18-month healthy birth spacing and referral rates to a provider or clinic for family planning were 28.6% in wave 1 and 17.1% in wave 2.



Educational Handout: Of women with at least one positive screen, 77.5% in wave 1 and 85.2% in wave 2 received the Prescription for a Healthy Family Handout with education on all four focus areas.



Section 2: Implementation Guidance

COLLABORATORS AND PARTNERS

The HMHF QI project is a collaborative partnership between ODH, GRC, Ohio AAP, March of Dimes, the clinical advisory committee, and participating clinical sites and providers.

Practice Collaborators and Partners			
Partner/ Collaborator	How are they involved in decision-making throughout practice processes?	How are you partnering with this group?	Does this stakeholder have lived experience/come from a community impacted by the practice?
Ohio Department of Health	Oversee project design, implementation and evaluation. Provide expertise on maternal and infant health specific and relevant to Ohio.	All project partners engage in bi-weekly meetings, monthly action period calls with providers, and monthly calls with the clinical advisory group.	N/A
Ohio Colleges of Medicine Government Resource Center	Lead project design, implementation and evaluation. Manage project logistics and data collection and analysis. Assist with QI coaching and education.	All project partners engage in bi-weekly meetings, monthly action period calls with providers, and monthly calls with the clinical advisory group.	N/A
Ohio Chapter, American Academy of Pediatrics	Assist with project design, implementation, and evaluation. Implement QI coaching and education with project partners.	All project partners engage in bi-weekly meetings, monthly action period calls with providers, and monthly calls with the clinical advisory group.	Developing lived experience advisory committee to advise on project initiatives and design.



March of Dimes	Assist with project design, implementation, and evaluation.	All project partners engage in bi-weekly meetings, monthly action period calls with providers, and monthly calls with the clinical advisory group.	Community based organization supporting moms and babies.
Clinical Advisory Committee	Provide clinical expertise as needed throughout the project, develop conference abstracts and manuscripts for dissemination, develop and present educational seminars for providers.	Meet to review project activities and clinical components and engage with peers in monthly action period calls with providers.	N/A
Clinical Sites & Providers	Implement core components and activities, engage in QI to systemize the interconception care process, and submit monthly implementation data.	Partner for one year of implementation and data submission and six months of sustainability activities, engage in monthly action period calls, and engage in quarterly QI coaching.	N/A

REPLICATION

HMHF was implemented in 9 practices in Wave 1 and 19 practices in Wave 2. Wave 3 currently includes 18 active sites in the implementation period. While the core components of the project have remained the same through implementation in all 3 waves, the order of the initial screenings was modified after Wave 1 from the initial screening order: depression/anxiety; tobacco use; multivitamin usage, family planning to a modified order: depression/anxiety; family planning; multivitamin usage; tobacco use. This change was made as a result of discussion and feedback from PCPs about a more natural flow of conversation between focus areas.

For successful replication, training is needed for pediatric and family medicine PCPs on the 4 maternal health focus areas. HMHF can be replicated with varying levels from state-wide initiatives such as this one to incorporating the concept of interconception care at WCVs at individual pediatric or family medicine sites, the potential for impact and spread is promising.

As the project was replicated from the national IMPLICIT ICC model to focus on pediatric practices and providers, this project can be replicated by utilizing the national IMPLICIT ICC Model six key concepts¹.

IMPLICIT ICC Model Six Key Concepts: Screening and Intervention Concepts¹

1. The screening needs to be brief. Two major barriers to providing evidence-based screening interventions are lack of time and competing priorities of both provider and patient.



2. The screening needs to be performable within the context of a well-child visit and relate to the child's health and well-being, not requiring a separate visit that focuses solely on maternal health. This model builds on age-specific recommendations for routine health prevention screenings and anticipatory guidance that affect the child's health.
3. The screening and intervention needs to have strong evidence for improving future birth outcomes. Relying on strong evidence-based recommendations and guidelines is a cornerstone to the IMPLICIT Network QI work.
4. The intervention for at-risk mothers needs to be brief and straightforward. The intervention can be as simple as scheduling a follow-up appointment to address the concern or referring the woman to an appropriate provider for further care.
5. The screening and intervention should be team based and staff-driven, rather than depend solely on the provider. As often as possible, clinical assistants, care managers or other office staff should perform them.
6. The model should be performable in all clinical and nonclinical environments where preventive health care for children is offered. Not all providers or practices have the education, resources or financial ability to address all a mother's needs themselves, but all are capable of screening and arranging/referring for needed services.

INTERNAL CAPACITY

Significant internal capacity is required to implement this QI project including recruiting sites, collecting and analyzing data, and providing routine QI education and coaching. This 5-year state-wide QI project consisted of a core team of 6 individuals: project manager, project director, researcher, senior researcher, clinical lead, and outreach and education manager as well as representatives from the March of Dimes, the project sponsor: Ohio Department of Health, and the clinical advising committee.

The project can be implemented as a QI project on a smaller scale regionally or system-wide to test effectiveness with less personnel and infrastructure. The project can also be implemented as a policy change to the procedure at a system or site level utilizing existing internal capacities.

PRACTICE TIMELINE

Implementing the practice at a state level or smaller regional or system wide level can vary. The timeline noted below details the timeframe needed to implement one phase on a large scale such as state-wide. Considerable time should be spent recruiting project partners, securing sustainable funding, and recruiting participating clinical sites. A year-long implementation period should be provided to clinical sites to implement the core components and site activities allowing adequate time for sites to implement procedures and policies for sustained efforts utilizing QI science and methodology.



Phase: Planning/Pre-Implementation

Activity Description	Time Needed	Responsible Party
Recruit project partners	3-6 month	Project Partners/Sponsor
Secure project funding	1-2 years	Project Partners/Sponsor
Define project plan, scope, budget and goals	6-12 months	Project Partners/Sponsor
Develop QI tools such as SMART AIMS, KDD, data collection tool and methods	3-6 months	Project Partners
Develop educational materials including change package, workflow diagrams, and patient education handouts	3-6 months	Project Partners
Recruitment of clinical sites	6-9 month	Project Partners

Phase: Implementation

Activity Description	Time Needed	Responsible Party
Hold learning sessions for recruited clinical sites and administer pre-survey	2-3 months	Project Partners
Provide clinical sites with printed and electronic educational	2-3 months	Project Partners



materials for providers and moms, and data collection tools		
Administer core components and practice activities	12 months	Clinical Sites
Collect and analyze QI data submitted by recruited clinical sites	12 months	Project Partners
Hold Action Period calls on educational and QI topics relevant to project focus areas with clinical sites	12 months	Project Partners
Hold quarterly QI coaching calls with clinical sites	12 months	Project Partners

Phase: Sustainability

Activity Description	Time Needed	Responsible Party
Provide replicable educational materials for clinical sites	1-2 months	Project Partners
Administer post-survey and provide ongoing digital educational resources	12 months	Project Partners
Administer core components and practice activities	12 months-indefinitely	Clinical Sites



PRACTICE COST

Cost to implement this practice could vary based on the scale of implementation at state level or smaller regional or system wide level. Major costs will be incurred from printing and distributing educational materials and data collection forms, staffing for project administration, data analysis, QI coaching, and incentives to recruit participating sites. Site level expenses include PCP time for screening and counseling. Provider costs can be recouped through billing for maternal postpartum depression screenings and tobacco cessation counseling. For more information on this practice startup costs and budgets, please contact us at grc@osumc.edu.

Budget			
Activity/Item	Brief Description	Quantity	Total
Patient Handout	Design, translation into 5 languages, printing and distribution	1,200 printed pieces	Apprx. \$3,100
Patient Handout & Provider Change Package	Design of educational handouts, translation of patient handout to 4 languages, printing and distribution	200 printed pieces	Apprx. \$2,500
Practice Incentives	Incentives such as multivitamins, board books, sleep sacks or monetary stipends to encourage practice site participation	10-20 sites	\$500-\$1,000 per site
Project Administration Staffing	Staffing to develop project design and educational materials, analyze data, and administer AP education and QI coaching calls.	Varies	Varies
Clinical Advisory Committee Stipends	Stipends for clinical advisory committee members to review project design, materials,	Varies	Varies



	implementation and data analysis		
Total Amount:			Varies

LESSONS LEARNED

QI methodology can successfully prepare pediatric and family medicine providers to incorporate models of care on interconception health into WCVs to improve maternal access to care and health outcomes for mothers and infants. Providers expressed a desire to implement these changes and reported that families positively received the discussions and resources.

PCPs expressed discomfort at initial implementation in having conversations with moms of patients around topics such as birth control and family planning, especially within weeks of delivery. PCPs were provided peer to peer advice as well as training resources on informational interviewing and patient engagement/decision making styles. PCPs were also provided books on parenting and multivitamins to distribute to moms, which helped providers open lines of discussion with mom and further address the needs of mothers. Focusing on pediatric practices and providers significantly increases opportunities for spread and sustainability, while reaching a high volume of families. From wave 1 to wave 2, the number of pediatric to family medicine sites more than doubled though as referenced in the Evidence of Effectiveness section, 1,536 data collection forms were submitted in wave 1 compared to 5,559 in wave 2. This significant increase in submitted data collection forms can be contributed to higher patient populations at the pediatric sites resulting in greater access to our key population of birth mothers 18 years and older attending a WCV with their 0–18-month infant. However, family medicine providers show promising opportunities for implementing these actions due to the colocation of care for mothers and infants.

NEXT STEPS

HMHF is currently being implemented in 18 practices as part of the wave 3 implementation period from February 2023—January 2024. In 2024, quantitative and qualitative project data from the implementation phases for all 3 waves will be compiled for a final evaluation. Special consideration will be given to include lived experience involvement in the final evaluation.

Healthy Mom, Healthy Family team members have participated with the Ohio AAP on a newly developed Maternal and Child Health Advisory Committee, which will engage lived experience experts. This group will also plan additional work on the topics included in Healthy Mom, Healthy Family.

An additional project has been launched by the Ohio Department of Health, Government Resource Center, and Ohio Chapter, AAP to further spread the concepts used in Healthy Mom, Healthy Family among family medicine, internal medicine/pediatric, and FQHC providers. This new effort, the Care2 Program, is planned for two QIP waves from August 2023 to August 2025, and will engage up to 24 additional practices.



RESOURCES PROVIDED

- Change Package
- Prescription for a Healthy Family
- Workflow Diagram

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