

Introduction to Precision Home Visiting

The Home Visiting Applied Research Collaborative (HARC) aims to advance the use of innovative methods in home visiting and translate research findings into policy and practice. This brief was prepared by the HARC Guidelines Task Team on behalf of HARC. It is the first in a series introducing the concept of precision home visiting and related research guidelines and methods to inform researchers, practitioners, and other stakeholders in the field.

Origins of precision home visiting

For decades, home visiting has provided critical services to families so they can support their children in the earliest stages of life. Home visiting promotes positive parenting and has been proven to improve outcomes for both children and families. The Home Visiting Evidence of Effectiveness (HomVEE) project, launched by the U.S. Department of Health and Human Services to review the field's research base, currently recognizes 20 home visiting models for demonstrating positive effects on family functioning, parenting, and child well-being.ⁱ

Home visitors know that what works for one family might not work for another. Precision home visiting uses research to identify what aspects of home visiting work for which families in what circumstances.

In traditional home visiting research, studies typically compare the outcomes of families who receive home visiting services against the outcomes of families who do not. Such studies often show that families engaged in home visiting do better than their peers on average; what they don't indicate is that some families receive fewer benefits than other participants, some don't benefit at all, and some may even be worse off than they were before receiving services. More precision is needed to identify the different experiences and outcomes of those who participate in home visiting programs.

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Precision home visiting research seeks to determine the elements of home visiting that work best for particular types of families in particular contexts. Drilling down to this level of detail can help the field move beyond whether a program works "on average" and help programs better tailor services to families' unique strengths, risks, and needs.^{ii,iii}

Precision home visiting does not seek to discredit home visiting models or to throw out the evidence base compiled through

traditional evaluation research. Rather, it seeks to strengthen outcomes by using lessons gleaned from precision medicine and precision public health. In precision medicine, researchers test and develop the most effective treatment for individual patients to account for their biological makeup, genetics, and environments.^{iv} Precision public health takes a broader approach, looking at geographic and community-level characteristics to match individuals to interventions tailored to their needs.



Precision home visiting research principles

Active ingredients

Active ingredients are the elements of an intervention empirically proven to be responsible for changes in specific outcomes. If active ingredients are not present, the intervention will not produce the desired outcomes. Specifying active ingredients can help home visiting programs focus their time and resources on services deemed effective.

Active ingredients may look different from study to study. For example—

- Some active ingredients are universal; without these elements, a home visiting intervention likely will not work effectively for most participants.
- Other active ingredients may only be “active” for certain families.
- Multiple active ingredients may be needed to produce certain changes in outcomes.

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Active ingredients can improve outcomes directly related to child and family well-being (e.g., parents’ responsiveness to their children) or positively influence outcomes indirectly related to child and family well-being. HARC’s initial work on precision home visiting will focus on active ingredients that directly impact child- and family-level outcomes.

Active Ingredients in Practice

Limited research has been done on the active ingredients of home visiting interventions, but current models provide theory-based examples of this concept. For example, the Attachment and Biobehavioral Catch-Up (ABC) model aims to help caregivers have sensitive, responsive interactions with their children. Coaches visit families in the home for weekly, 1-hour sessions over 10 weeks to observe caregiving behaviors and provide specific, “in-the-moment” feedback. This method of feedback is one theorized active ingredient for improving caregiving behaviors using the ABC model.^v

Meaningful subgroups of children and families

Most home visitors tailor services to meet families’ perceived needs or to navigate factors that prevent them from implementing an intervention exactly as designed.^{vi} Precision home visiting supports this approach by breaking interventions into individual elements and testing how those individual elements change outcomes for different families or situations. In doing so, researchers generate empirical evidence about the active ingredients that benefit specific groups of families.

Research with a precision lens differs from traditional home visiting research in two key ways:

- Most studies test an intervention across an entire population, then run a secondary analysis to determine if subgroups differ in their response. Precision home visiting research sets out to test an intervention's effect on different subgroups and incorporates participant factors into the initial research design.
- Researchers who include subgroups in their analyses typically focus on common demographic factors such as race, gender, and socioeconomic status. Precision home visiting research looks beyond commonly used characteristics to consider needs, strengths, and risk levels that might influence participants' outcomes.^{vii} Examples include parental history of domestic violence or child maltreatment, family access to health services, and how children are attached with their parent.

Precision home visiting supports tailoring services to meet families' needs by breaking interventions into individual elements and testing how those individual elements change outcomes for different families or situations.

Meaningful subgroups in practice

Some research suggests that maternal depression and attachment security can affect home visiting's impact on specific outcomes. One study found that a home visiting intervention improved outcomes for children whose mothers were either depressed or uncomfortable trusting others, but not for children whose mothers were both depressed and uncomfortable trusting others. The study also found that children whose mothers were not depressed and were comfortable trusting others generally experienced positive outcomes, regardless of whether they were in the home visiting program or not.^{viii}

At its core, the concept of precision home visiting includes both research and implementation of findings into daily practice. A study may find, for example, that a lesson meant to strengthen socio-emotional development only improves outcomes for children who score below a certain threshold on the Ages and Stages Questionnaires: Social-Emotional. Those who score above that threshold may not need any lesson on this topic because they already are proficient enough in that area, or they may need a different lesson (or combination of lessons) to achieve the desired outcome. By testing different combinations of lessons, researchers can determine the active ingredients that lead to greater socio-emotional development for children above the threshold. These findings could help programs offer the right mix of lessons to children based on their questionnaire scores.

This is just one example of how precision home visiting research can improve program implementation. A study could also find that for certain children, completing lessons intended to strengthen socio-emotional development has no impact on this outcome. In these instances, a different program element (e.g., mental health supports for parents) may have a stronger effect on socio-emotional development. This knowledge would allow home visiting programs to tailor the specific services these children and families receive to improve their outcomes.

The future of precision home visiting

Precision home visiting provides an innovative framework for designing, conducting, and using research to make home visiting programs more effective. By moving away from findings that look at results “on average,” the field can—^{ix,x,xi}

- Identify the elements of a home visiting program that are essential to achieving desired outcomes for specific families.
- Identify meaningful subgroups of children and families to help organizations better tailor home visiting programs.
- Match families to the best possible programs and services for their individual needs, interests, and desired outcomes.

Precision home visiting research reflects a shift from traditional research, which can take many years to advance from discovery to practice, to a nimbler approach that helps fine tune existing practice. Such a shift can help the field advance toward equity in child health and development, but it requires the collective support of home visiting researchers, practitioners, policymakers, and other stakeholders to be effective. [Join HARC](#) today to become a part of this effort.

Introduction to precision home visiting research guidelines and methods

HARC’s work on precision home visiting is based on four key hallmarks:^{xii}

- A focus on active ingredients to support the scale-up of effective practices
- Broad-based partnerships between researchers and stakeholders, such as front-line staff and families, to design and test interventions that are relevant and feasible
- Explicit definitions and measurements to assess how active ingredients achieve specific outcomes for different groups of families
- Efficiency in testing ingredients, including the use of new research designs like adaptive trials and rapid cycle techniques, to accelerate learning and implementation

Future briefs on precision home visiting will explore specific approaches to conducting research that aligns with these tenets.

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