Providing support at home:

Importance of home health through the perinatal period and current work to increase referrals

Improving Care of Newborns with Substance Exposure Conference

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Objectives

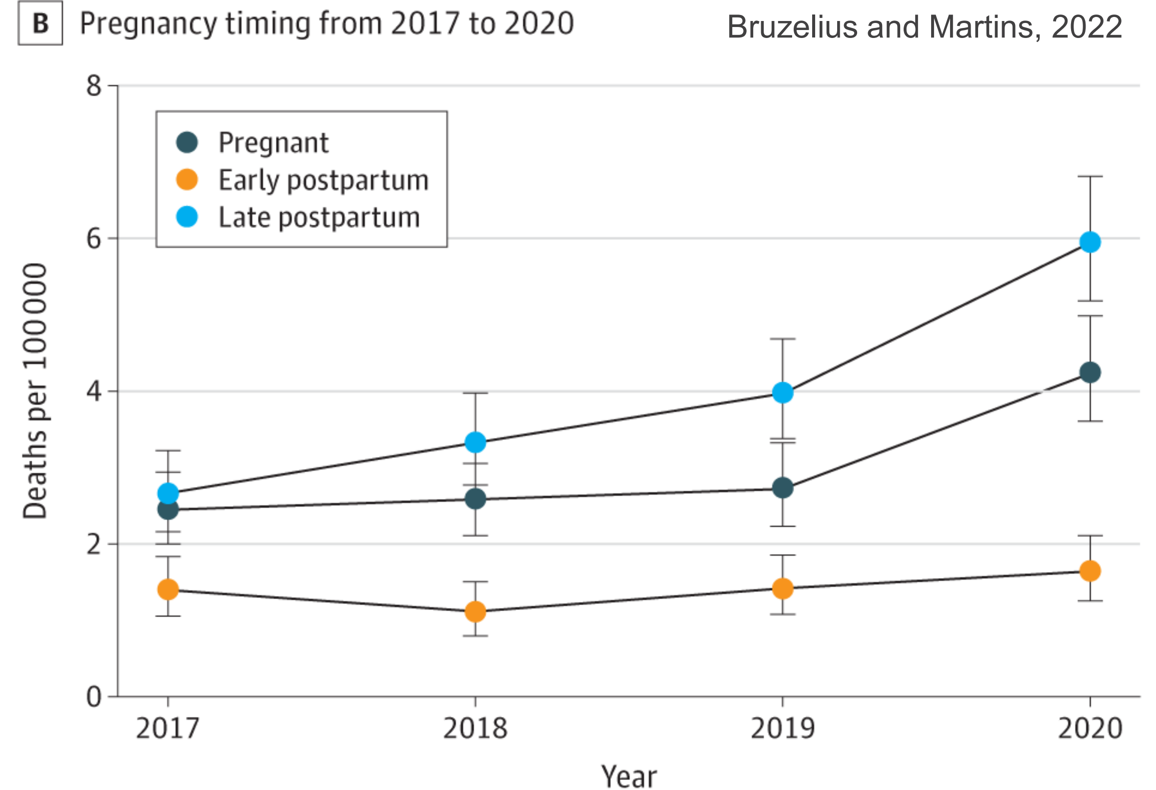
- Understand the role of home visiting in perinatal mental health screening and support
- Be familiar with approaches to and timing for home visiting referrals for birth parents and infants
- Be aware of ongoing quality improvement work aimed at improving referrals

Perinatal period is high risk for both infants and moms

High risk of relapse and overdose death

- Mental health and substance related deaths are leading cause of maternal mortality
  - 16% of deaths from 2017-2020 were overdose-related
  - From 2010-2019, drug related deaths, suicide, and homicide accounted for 22.2% of pregnancy associated deaths
  - Mortality for mothers of infants Neonatal Abstinence Syndrome (NAS)/Neonatal Opioid Withdrawal Syndrome (NOWS) is 11 time higher than for mothers of infants without NAS/NOWS

US overdose deaths



Schiff et al., 2018
Matone et al., 2023
Margerison et al., 2022
Bruzelius and Martins, 2022

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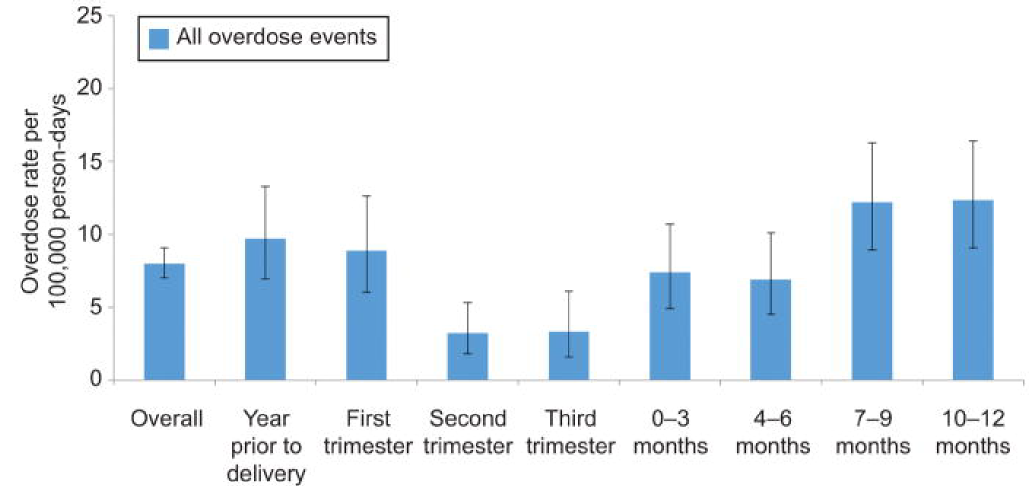
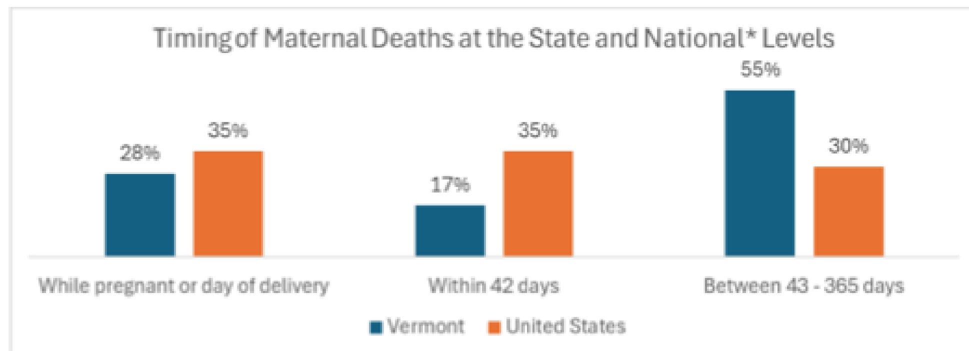
Rates of overdose increase over first year postpartum

Massachusetts, 2012-2015



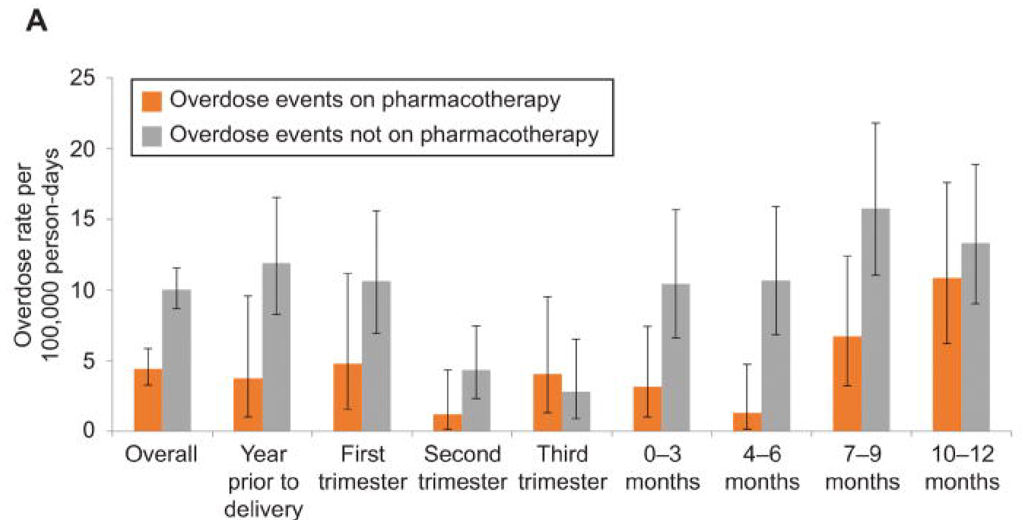
VT 2012-2023
US 2017-2019

Figure 2: Timing of Perinatal Deaths at the State and National Level



*At the time of data collection, 36 states were reporting maternal deaths.
Sources: U.S. Centers for Disease Control and Prevention (2017 – 2019), Vermont Vital Statistics (2012 – 2023)

healthvermont.gov



Schiff et al., 2018

Schiff et al., 2018
Frankeberger et al., 2023

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Perinatal period is high risk for depression and anxiety

- 10-15% of birthing parents have depressive symptoms during perinatal period
  - 10% have anxiety symptoms
  - 20% in women of low socioeconomic status
- Parents with SUD are at higher risk for postpartum depression
  - Over 80% of women with prenatal opioid exposure
- Postpartum women in treatment for OUD are more likely to stop treatment if they have comorbid mental health disorders
- Managing an infant with withdrawal symptoms can exacerbate mental health conditions
- Women with SUD are more at risk of interpersonal violence

Roberti et al., 2022
Tandon et al., 2018
Faherty et al., 2018
Petruzzi et al., 2026
Leyenaar et al., 2021
Frankeberger et al., 2023

Perinatal depression impairs bonding and development

- More difficult to engage with and respond to infants
  - Can be harder to bond with infants with significant symptoms
- Altered stress response hormone pathways in infants whose mothers have depression and anxiety
- Associated with developmental delays
  - Social interaction difficulties
  - Attachment insecurity
  - Cognitive impairments
- Less frequent use of preventative health services

Nawaz et al., 2022
Tandon et al., 2018
Labella et al., 2021
Ledford et al., 2026
Renbarger et al., 2023

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Mascarenhas et al., 2025
Chaiyachati et al., 2024
Makarious et al., 2022
Van Horn et al., 2020
Leyenaar et al., 2021
Blangis et al., 2024
Larson et al., 2019
Arter et al., 2020
Hall et al., 2013

Infant risks during perinatal period

- Neurodevelopment
  - Increased risk of developmental delays
    - Increased screening recommended by American Academy of Pediatrics
  - Lower cognition scores
  - Increased behavioral issues and ADHD
- Feeding and growth
  - Symptoms can develop after discharge even after appropriate monitoring period
- More likely to be readmitted to the hospital
  - Especially for nonaccidental trauma or maltreatment or accidental overdose
    - Most common time for child physical abuse is age 1-7 months
  - Less likely to obtain all recommended well child visits and vaccinations
- Increased mortality
  - Increased risk of SIDS

Barriers to obtaining follow up care

- Transportation
- Pediatric, obstetric, and mental health care are often siloed
  - Focus on dyads is likely more effective and has better retention
- Time
  - Parents cite too many appointments and too much to keep track of
- Fear of medical system/prior experiences of feeling judged
  - Prior interactions with healthcare system cited as reasons to delay prenatal care
- Prior interactions with CPS/concern for reporting

Jilani et al., 2024
Miller et al., 2024
Schiff et al., 2022
Burduli et al., 2022
Goodman et al., 2020
Peacock-Chambers et al., 2020
Peacock-Chambers et al., 2023
Peacock-Chambers et al., 2025

Opportunities during perinatal period

- Being pregnant and having a baby is commonly cited by parents as motivation for entering and staying in treatment
- Frequent medical appointments and prolonged hospitalization for observation for NOWS provide opportunity to develop strong relationships through non-judgmental care

Peacock-Chambers et al., 2021

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Home visiting to address care gaps for at risk families

What home visiting can provide

- Nursing assessment, BP checks, lactation support (IBCLC, CLC)
- Parental education on childbirth, prenatal/postpartum care, newborn care
- PMADs: curriculum based, screening & referral coordination
- Growth & Development: weight checks, feeding, developmental screenings
- Coordination of Care: referrals, resource connections & navigation
- Social determinants of health: coordination
- Parenting skills: reading, playing, and praising good behaviors
- Curriculum based: language development, early learning, & social emotional/attachment
- Goals setting & behavioral change
- Safety & injury prevention

Slide courtesy of Katy Leffel, RN
Avellar and Supplee, 2013

Benefits of home visiting for high-risk families

- Better detection and management of post-partum depression
- Fewer ER and physician visits for accidents and injuries, reduced rate of intentional injury
- More reliable attendance at well child visits and higher immunization rates
- Improved nutrition for infants and parents
- Improved positive parenting practices
- Neurodevelopmental
  - Fewer child behavior problems
  - Improved cognitive and socioemotional outcomes

Finello et al., 2016
McKelvey et al., 2024
Easterbrooks et al., 2019

Home visiting services for families affected by substance use disorder

- Ideally visits begin prenatally
- Home visiting strongly recommended at discharge for all infants with in-utero substance exposures as part of comprehensive wrap around care
- Many programs are being developed to focus on these families
  - Many provide MAT
  - Often focus on peer support

Larson et al., 2019

TABLE 2 Examples of Promising Programs and Models

Program or Model	Service Description	Web Site Link	State
Project Respect	Obstetric and SUD treatment, case management, and peer support	http://www.bumc.bu.edu/obgyn/special-programs/project-respect/	Massachusetts
MTP	Relapse prevention, developmental therapy, anger management, spirituality and recovery, family nurturing, and pathways to reunification	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2802496/	Connecticut
The Bridging Program	Home visiting, wraparound planning, occupational and physical therapy, developmental therapy, family support services, parent education, and case management	https://www.cccmaine.org/services-programs/bridging/	Minnesota
CAP	Substance-abuse treatment, family planning, case management, housing, transportation, primary care, integrative services, education, and parenting support	https://www.hopkinsmedicine.org/psychiatry/patient_information/bayview/medical_services/substance_abuse/center_addiction_pregnancy.html	Maryland
REACH	Case management, recovery coaching, peer support, and parental education	https://www.ct.gov/dmhas/cwp/view.asp?a2902&q=607228	Connecticut
PATHWAYS	Peer support, buprenorphine treatment, education, legal support, prenatal and postnatal health services, developmental therapy, case management, and integrative services	https://med.uky.edu/news/pathways-program-demonstrates-success-evidence-based-collaborative-approaches-perinatal-opioid	Kentucky
MOTHER	Education, counseling, developmental therapy, case management, and parenting support	https://www.northlandtreatment.com/m-o-t-h-e-r-program/	Ohio
MOMS	Case management, buprenorphine treatment, counseling, social services, and education	https://www.stonybrookmedicine.edu/patientcare/obgyn/MOMS	New York

CAP, Johns Hopkins Center for Addiction and Pregnancy; MOMS, Maternal Opioid Management Support; MOTHER, Maternal Opiate Treatment and Healthy Educational Resources; MTP, Mothers and Toddlers Program; PATHWAYS, Perinatal Assistance and Treatment Home; REACH, Recovery, Engagement, Access, Coaching, and Healing.

Lowell et al. ,2023
Larson et al., 2019
Peacock-Chambers et al., 2022

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Home visiting for perinatal mental health

- Programs screen for mental health disorders
  - Only 16% of Medicaid patients and 9% of privately insured patient screened for depression during pregnancy from 2019-2021
- Improved referrals to mental health providers
- Many programs associated with decrease in depression and anxiety symptoms
- Ongoing work developing programs for addressing mental health
  - Many home visiting providers do not feel comfortable addressing mental health

Ledford et al., 2026
Petruzzi et al., 2026

Home visiting nationally and in Vermont

Home visiting service options

- Home Visiting:
  - Preventative supportive service
  - Screenings for mental health, interpersonal violence, and substance use
  - Case management
  - Goal setting
  - Health and development education

- Home Health Medical Nursing:
  - Medically indicated or lactation based skilled nursing referral
  - Same agencies provide this
  - A referral to nursing services will also provide preventative support services

Federal support for home visiting for high-risk families

- Maternal, Infant, and Early Childhood Home Visiting (MIECHV) Program
  - Established as part of ACA in 2010
  - Home visiting program funded in 2023 for 5 additional years
  - Monitors for improvement in 6 areas to allow for continued funding

HOME VISITING
EVIDENCE OF
EFFECTIVENESS

- HomVEE
- Provides systematic review of home visiting models offered in US
- Determines whether there is sufficient high or moderate evidence of effectiveness of home visiting approaches
- 24 home visiting models that meet currently criteria for evidence-based benefit and qualify for federal (determined by MIECHV)

Maternal Early Childhood Sustained Home-Visiting

- 22-25 60-90 minute home visits through child's 2nd birthday
- Provides:
  - Parent education
  - Child development screenings
  - Support for parent-child relationships and family wellbeing
  - Maternal health and well-being
  - Support for housing and finances
- Evidence for benefit in maternal health, child development and school readiness, child health (SIDS knowledge and breastfeeding duration), and positive parenting practices

https://homvee.acf.gov/

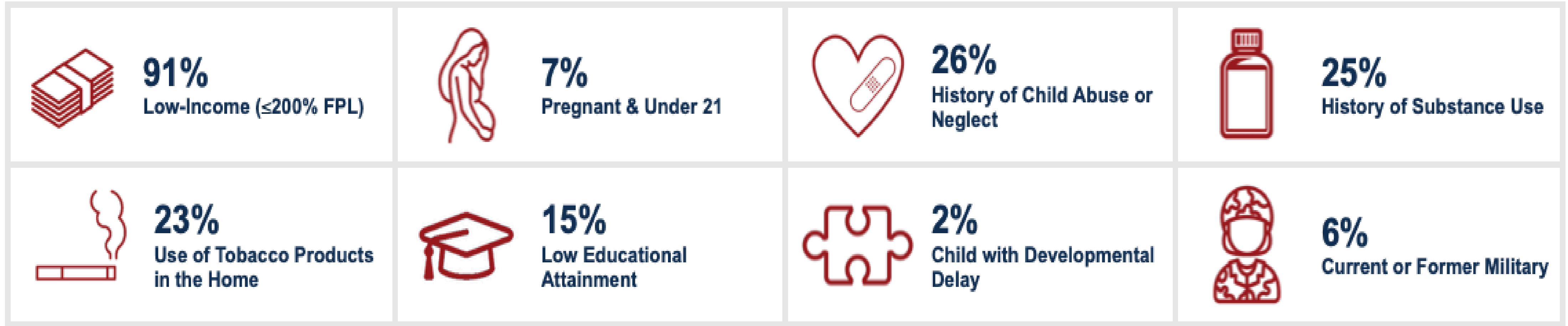
Parents as Teachers (PAT)

- At least 12 home visits annually from pregnancy to kindergarten entry
- Provides
  - One-on-one home visits
  - Parent group connections
  - Developmental screenings
  - Connection to community resources
- Evidence for improved child development and school readiness, positive parenting practices, and family economic self-sufficiency

pactfamily.org
https://homvee.acf.gov/

Home visiting programs in Vermont

- 2024 MIECHV served 462 households with a total of 3551 home visits (including 165 virtual visits)



https://data.hrsa.gov/topics/maternal-child-health/miechv

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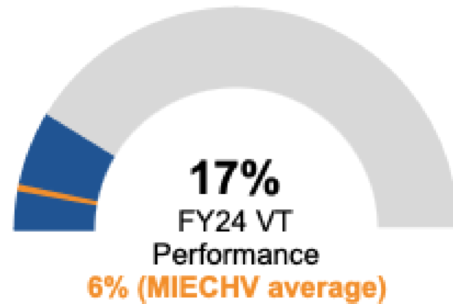
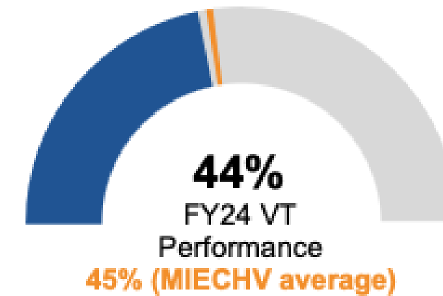
MIECHV performance measures: infant safety and wellbeing

Child Maltreatment*
Percent of children that had at least 1 investigated case of maltreatment following enrollment

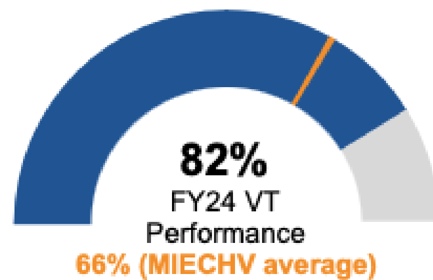
*Intended direction of improvement is **downward**



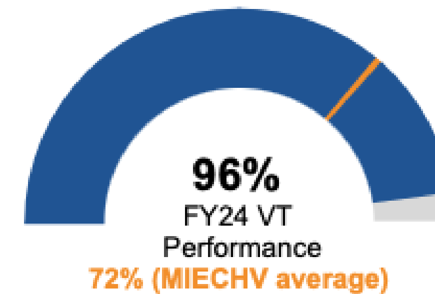
Breastfeeding
Percent of infants receiving any breastmilk at 6 months old



Safe Sleep
Percent of infants that were always placed to sleep on their backs, without bed-sharing and without soft bedding



Well Child Visit
Percent of children that completed the most recent AAP-recommended well-child visits



https://data.hrsa.gov/topics/maternal-child-health/miechv

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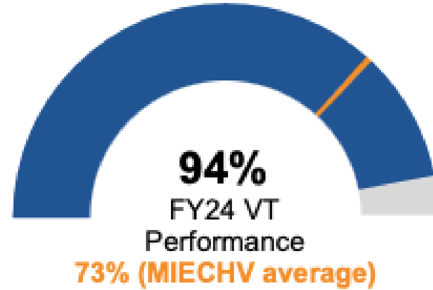
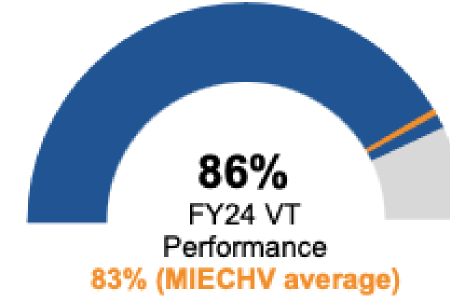
MIECHV performance measures: infant development

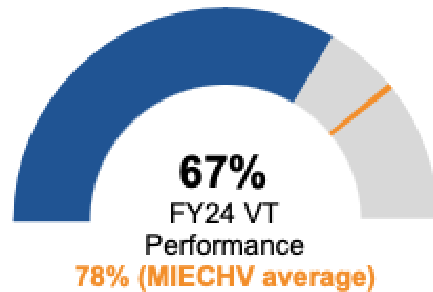
Parent-Child Interaction
Percent of caregivers that received an observation of caregiver-child interaction by a home visitor using a validated tool



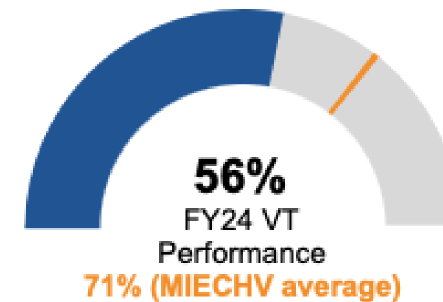
Early Language and Literacy Activities
Percent of children that had a family member who read, told stories, and/or sang with them on a daily basis



Developmental Screening
Percent of children that received a screening for developmental delays with a validated, parent-completed tool



Completed Developmental Referrals
Percent of children with positive screens for developmental delays who received services in a timely manner



https://data.hrsa.gov/topics/maternal-child-health/miechv

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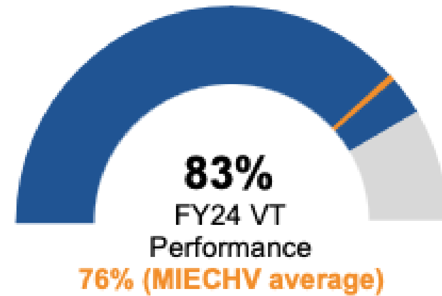
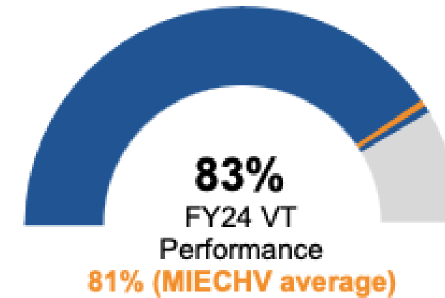
MIECHV performance measures: maternal wellbeing and follow up

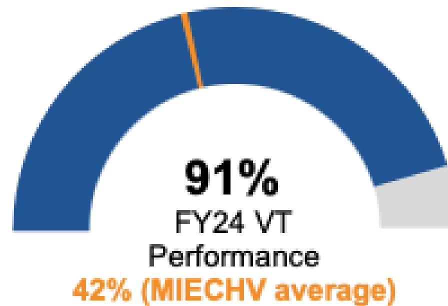
Postpartum Care
Percent of mothers that received a postpartum visit with a health care provider within 8 weeks of delivery



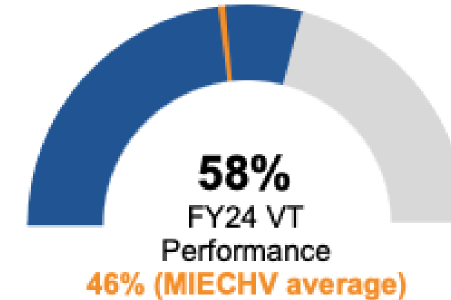
Depression Screening
Percent of caregivers that were screened for depression within 3 months of enrollment or 3 months of delivery



Intimate Partner Violence Referrals
Percent of caregivers that had a positive IPV screen and received referral information for IPV services



Completed Depression Referrals
Percent of caregivers with positive screens for depression that received recommended services



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https://data.hrsa.gov/topics/maternal-child-health/miechv

How to refer families to home visiting

How and when to refer

Patient need:

- Medical Care / Skilled Care → Home Health Referral needed

- Preventative / Supportive
  - Home Visiting
  - Community Services
  - Developmental support

Help Me Grow can connect patient to appropriate services in their community

Anyone can place a referral to Help Me Grow, including families (self-referral)
Infants with NOWS/NAS qualify for a medical order

When to refer: As early as possible

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Common questions

- I placed a lactation referral. Should the baby still have a referral?
  - Yes! A lactation referral often will result in preventative newborn services but doesn't always. If the family decides not to breastfeed, they may not pursue lactation.
- The family had home visiting prenatally. Should the baby have a referral?
  - Yes! The baby should have their own referral. Duplicate referrals are OK and will just ensure that services are provided if there is any issue with the maternal referral.
- The family is living at Lund (or other location with nursing available). Should they still have a referral?
  - Yes! The residential staff and the VNA agencies will evaluate whether there are services that the residential staff cannot provide. Often, the residential nursing staff provides all needed services but it's better to have the referral in just in case the family needs more or moves.
- The baby is in foster care or adopted or has DCF involvement. Do they still need home visiting?
  - Yes! All babies with in-utero opioid exposures are at risk for neurodevelopmental differences and benefit from the extra screening and support provided by home visiting.
- This family is worried about cost and wants to make sure they are not charged.
  - The visiting nursing agency will evaluate the family's services and what is covered before providing any services. Even if a medical order is placed, they will evaluate insurance coverage before any services are provided. All newborns qualify for preventative services in Vermont.

When in doubt, place a referral. The agencies will evaluate and ensure the family gets the correct services.

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Home visiting to improve care for opioid exposed newborns

Lessons from quality improvement work at University of Vermont to improve home visiting referrals at discharge

Home Visiting QI Team

- Social Workers:
  - Sydney Tetreault
  - Adam Fortune
  - Kristy Perry
- Nurses:
  - Melinda Pariser-Schmidt
  - Kayla Panko
  - Andrea Corley
- Perinatal Health Program Coordinator, Division of Family and Child Health:
  - Katy Leffel
- Physicians:
  - Michelle Shepard
  - Molly Rideout
  - Jennifer Covino
  - Adrienne Pahl
  - Julia Litzky
- Medical Student:
  - Zoe Nicozisin

Quality Improvement Aims

- **Global:** To increase home visiting visits for newborns who are exposed to opioids in utero
- **Specific Aim 1:** To increase the rate of home visiting referrals sent for prenatally opioid-exposed newborns on discharge from UVMMC to 90% by Jan 31, 2026
- **Target population:** All prenatally opioid exposed newborns discharged from UVMMC
  - Excludes iatrogenic exposures and non-opioid exposures
  - Excludes infants whose parents were on opioids for chronic pain
  - Infants identified by use of ESC protocol during admission

Initial process

- Home visiting referral could be placed by clinicians, nurses, and social workers
- Referrals were a mix of medical referrals for home nursing and non-medical referrals for home visiting
- Referral could be completed through a phone call, faxed form, or via medical order through the EMR

- 27% of families with in utero opioid exposure were being referred to home visiting
- Consistent lack of documentation of any discussion on home visiting

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Updated process

- Developed electronic Family Care Plan template which includes home visiting
- Transitioned to opt-out language
  - Provided education on home visiting as standard of care for all newborns, but especially those at high risk such as those with in utero opioid exposures
- Developed family handout that explains home visiting role
  - Aim to demystify home visiting services and help providers frame conversations with families
- Simplified ordering process by requesting a medical order for all infants with in utero opioid exposure
  - Verified with home visiting agencies that there was capacity for this change first
  - Only the clinician can place this order, simplifying who is responsible for referral
  - Provided education and handout on how to place order to providers

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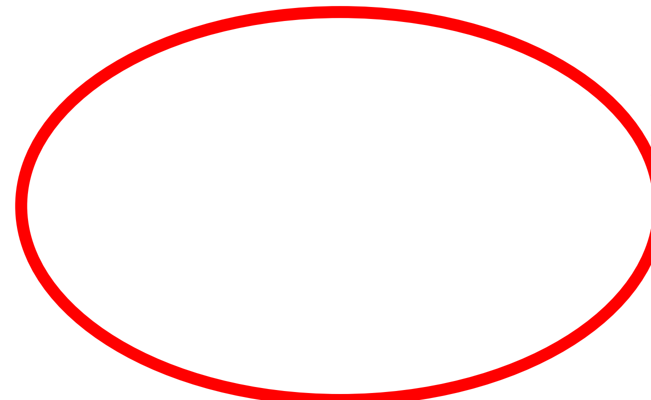
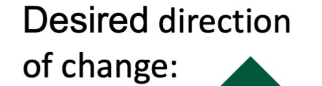
Opt-out language added here



Credit for design to Zoe Nicozisin, MS4

Percent of families with referrals has stabilized around 60%



Infants with home health referral placed at discharge
(Aug 2022 - Jan 2026)

Percent of infants with referral placed

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0

Aug-22
Sep-22
Nov-22
Jan-23
Apr-23
Jul-23
Nov-23
Mar-24
Jul-24
Sep-24
Jan-25
Apr-25
Jul-25
Nov-25

Project start

End of baseline data

Stakeholder education

Family Care Plan EMR
documentation change

Provider education;
Opt out language start

Order process change;
Family handout

Sequential cohort of 5 patients - any referral type

Median for any referral placed

Goal

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Majority of referrals are now medical orders

Infants with home health referral placed at discharge
(Aug 2022 - Jan 2026)

Desired direction of change: ↑

Percent of infants with referral placed

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0

Aug-22 Sep-22 Nov-22 Jan-23 Apr-23 Jul-23 Nov-23 Mar-24 Jul-24 Sep-24 Jan-25 Apr-25 Jul-25 Nov-25

Project start
End of baseline data
Stakeholder education
Family Care Plan EMR documentation change
Provider education; Opt out language start
Order process change; Family handout

Sequential cohort of 5 patients - any referral type
Percent of patients with a medical order placed
Median for any referral placed
Goal

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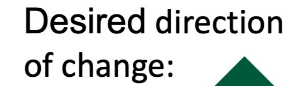
Families with Family Care Plans has stabilized around 80%

Infants with Family Care Plan documented at discharge
(Aug 2022 - Jan 2026)

Desired direction of change:



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Lessons learned

- **Multidisciplinary team:** Diverse team members were essential for understanding system, obtaining inter-departmental buy-in, and ensuring parent input
- **EHR templating:** Availability of EHR template reduced social work time burden and improved discussion documentation, especially through the Family Care Plan
- **Opt-out language:** Presenting home visiting as standard-of-care changed how staff discussed referrals with each other and families
- **Using medical orders:** Simplifying process and making one team owners of the system improved consistency

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Addressing opt-out language concerns

- Want to make sure families maintain autonomy and control
  - Concern that opt-out language removes that
- Requires shift in thinking about this as an optional support that some families want/use to being standard of care for newborns
  - Similar to expectation that families will attend well child checks and subspecialty follow ups
- A referral does not require any further follow through
  - Next step is the home visiting agency will call the family and discuss their needs and options for services
  - Family then schedules first appointment
  - Family can choose not to pursue services and can stop services at any time

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Conclusions

- Perinatal period is a high-risk time for mothers and babies
- All medical interactions are an opportunity to engage parents in care
- Home visiting offers an evidence-based intervention to help improve many outcomes including infant development and maternal mental health
- Simplifying the referral process and using opt-out language presenting home visiting as standard of care can improve referrals

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Thank you!

Please contact us at julia.litzky@uvmhealth.org or

prenatalpreparationfornows@FAHC.onmicrosoft.com

for questions or more info on our QI work

References on google drive:

References on UVMMC network: