Children’s National Hospital
Virtual Home Visiting Program
Fannie Mae Innovation Challenge

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Full Scope Overview

June 2019 – June 2021

- 2 Parent Focus Groups
- 7 Healthy Housing Collaborative Meetings
- 50 Virtual Home Visits → 70 Improvements
- 3 White Paper Working Group Meetings
- 1 White Paper Summary

**Preparation**
June 2019 – Jan. 2020

**Execution**

**Evaluation**
Jan. 2021 – June 2021
Preparation Phase

*June 2019 – Jan. 2020*

- 2 Parent Focus Groups
  - Patient Level of Satisfaction survey
- 2 Healthy Housing Collaborative Meetings
  - Indoor Environmental Trigger Checklist
- Visit protocol of Virtual Home Visits
- EMR template
- Virtual Home Visit Protocol
Focus Group Key Findings

Participants expressed enthusiasm about virtual home visits, recognizing that technology is just one piece of a solution.

**Smartphone/internet accessibility**
- 90% of focus group participants have smartphones and access to internet in the home.
- Participants have concerns about who will have access to the virtual home visit video, storage location, and its potential use.

**Key Findings**

**Home repair completion**
- Participants experience challenges with substandard and unhealthy housing conditions.

**Ease of access**
- Participants expressed desires for a virtual visit application to be as simple to use as possible.

**Conclusions**
- Comprehensive waivers and consent process
- Scheduling flexibility
- Eliminating barriers to smartphones/internet
**Trigger Checklist**

The Indoor Environmental Trigger Checklist will be used to guide assessment of housing conditions.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Yes</th>
<th>No</th>
<th>Follow - Reviewer’s Comments</th>
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</table>
| **Housing conditions:**  
  NOTE: Photos should be taken at items rated, as possible.  
  Pests: (Specify rooms or areas pests have been seen.)  
  a. Have you ever seen rodents in your home?  
  b. Have you ever seen cockroaches in your home?  
  c. Have you ever seen other pests in your home?  
  PHOTO: Please show me any pest evidence.  
  2. If yes, who has taken action?  
    a. Building manager has taken action  
    b. Family has taken action  
    c. No action taken  
  What action has been taken?  
    a. Pest Management company was called  
    b. Over the counter sprays, traps or poisons  
  Was the pest action effective?  
  Heating and Air Conditioning:  
  Do you have any problems heating your home?  
  Do you have oil heat?  
  Do you have gas heat?  
  Do you use any wood or kerosene burning heating in home? (Specify rooms used)  
  Are there radiators?  
  Do you have air or heat vents?  
  When was the last time the furnace filters were  
    a. Never  
    b. 6 months ago  
    c. One year ago  
  Assess factors such as heating/AC, smoking, pests, carpeting, structural/surface damage, etc. |
Execution Phase


• 100 families approached
  – 75 scheduled
• 50 Virtual Home Visits
  – 70 Improvements
• 4 Healthy Housing Collaborative meetings
• 2 White Paper Working Group meetings
Virtual Home Visit Protocol

**Workflow developed to ensure high quality of care, appointment show rate and patient satisfaction**

1. **Recruitment**
   Patients living in sub-standard housing conditions will be identified at the IMPACT DC Asthma Clinic.

2. **Pre-VHV**
   Confirmation call and reminder call completed with parent/guardian to improve patient show rate and comfort level using telehealth.

3. **VHV**
   1 hour visit will include a ~15 minute medical assessment led by a clinician and ~40 minute housing assessment led by a housing specialist.

4. **Post-VHV**
   Housing partners will coordinate home services and repairs for each family. Project Lead will complete a data assessment and survey to parent/guardian 72 hours, 1 month and 6 months after the VHV.
Data Management

REDCap will be utilized to track all data related to recruitment, VHV's, and post-visit assessments.

Record ID 1

<table>
<thead>
<tr>
<th>Data Collection Instrument</th>
<th>Pre-VHV</th>
<th>VHV</th>
<th>Post-VHV</th>
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<tbody>
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<td>Recruitment Demographics</td>
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<td>Phone Encounters</td>
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<td>Patient Satisfaction Survey</td>
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<td>1 Month Assessment</td>
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<td>Closed Out Status</td>
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Data Management

*In-depth housing data collected pre-VHV*

Data such as ward of residence, property type and number of residents per home will be collected to better understand housing demographics of our patient population.
Data Management

Scheduling data maintained via REDCap and eClinicalWorks

Scheduling data will be recorded and analyzed to help better understand patient recruitment, retention, and show-rate.
Data Management

Housing assessment from VHV charted directly into REDCap

The Indoor Environmental Trigger Checklist will guide housing specialists as they assess housing triggers related to mold, pests, ventilation, structural damage, carpeting etc. and will allow for future analysis of this data.
**Data Management**

*Medical assessment from VHV is copied from eCW into REDCap*

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Components of the VHV medical assessment will be copied into REDCap to capture data related to asthma impairment, risk, severity and control. This data will be used as a frame of reference as patient health outcomes are analyzed at the 6 month post-VHV assessment.
Post-VHV Data Collection

Data assessments and patient surveys will be completed at three points after the Virtual Home Visit

### 72 Hour Survey
- Patient satisfaction
- Patient experience
- Process clarity
- Timeliness of VHV

### 1 Month Assessment
- Recommended home repairs
- Patient experience
- Process clarity
- Communication of housing plan
- Efficiency/timeliness of home services and repairs

### 6 Month Assessment
- Healthcare outcomes (emergency department visits, hospitalizations, oral corticosteroid use)
- Number and type of home repairs completed
- Cost assessment of home repairs
- Patient experience
- Overall feedback
Pilot Phase Key Findings

*Lessons learned for the future*

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<th>Challenges</th>
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<tr>
<td>• Effective recruitment criteria</td>
<td>• Patient retention</td>
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<tr>
<td>• Streamlined patient identification</td>
<td>• Recruitment &gt; home visit &gt; home remediation</td>
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<tr>
<td>• Robust community partnership</td>
<td>• Telehealth technical issues</td>
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**Conclusion**

- Prefer in-person recruitment and scheduling
- Prioritize testing video/audio prior to VHV
- Create recruitment one-pager for families
  - Over-communication of program expectations
Evaluation Phase

Jan. 2021 – June 2021

• 1 Healthy Housing Collaborative Meeting
• 1 White Paper Working Group
• White Paper Summary
  – Pilot description
  – Results of intervention
  – Financial sustainability plan
Program Goals

What success looks like

• Improve asthma health outcomes
  – Decrease patient healthcare utilization
• Improve patient satisfaction
• Increase home visit show-rate
• Reduce intervention time
• Increase stock of healthy, affordable housing
  – Increase existing property value
  – Add value to neighborhoods
• Create a framework for expansion and sustainability
Thank You!

Questions?

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