

HOW HOME ENVIRONMENTS SHAPE ASTHMA OUTCOMES IN MAINE



Presented by: Leigh Riley and Michelle Mitchell

IAQ & Energy 2025

Maine Asthma Self-Management Education Program



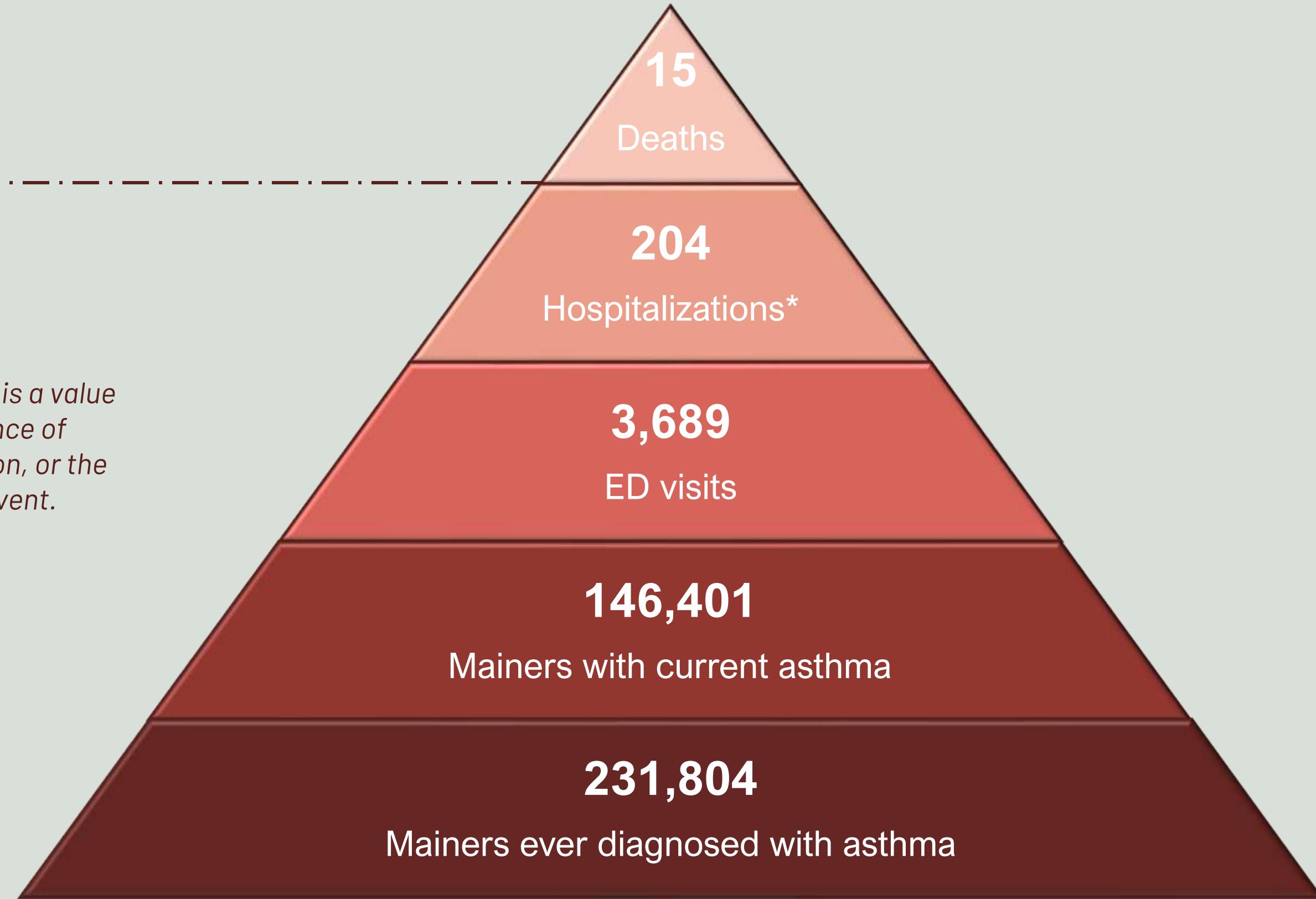
OVERVIEW

ASTHMA IN MAINE (2023)

Mortality

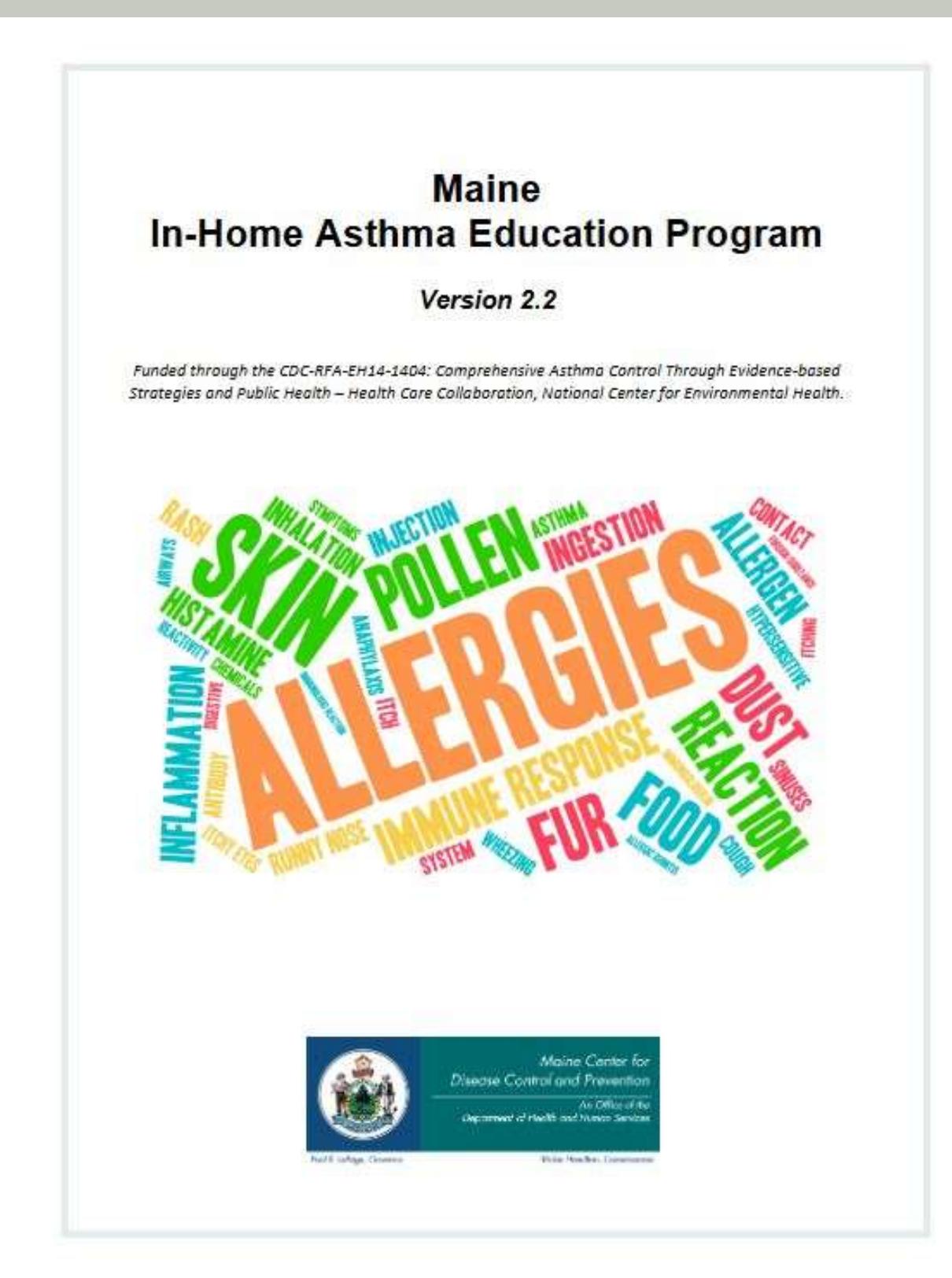
Morbidity

A morbidity indicator is a value describing the presence of disease in a population, or the degree of risk of an event.

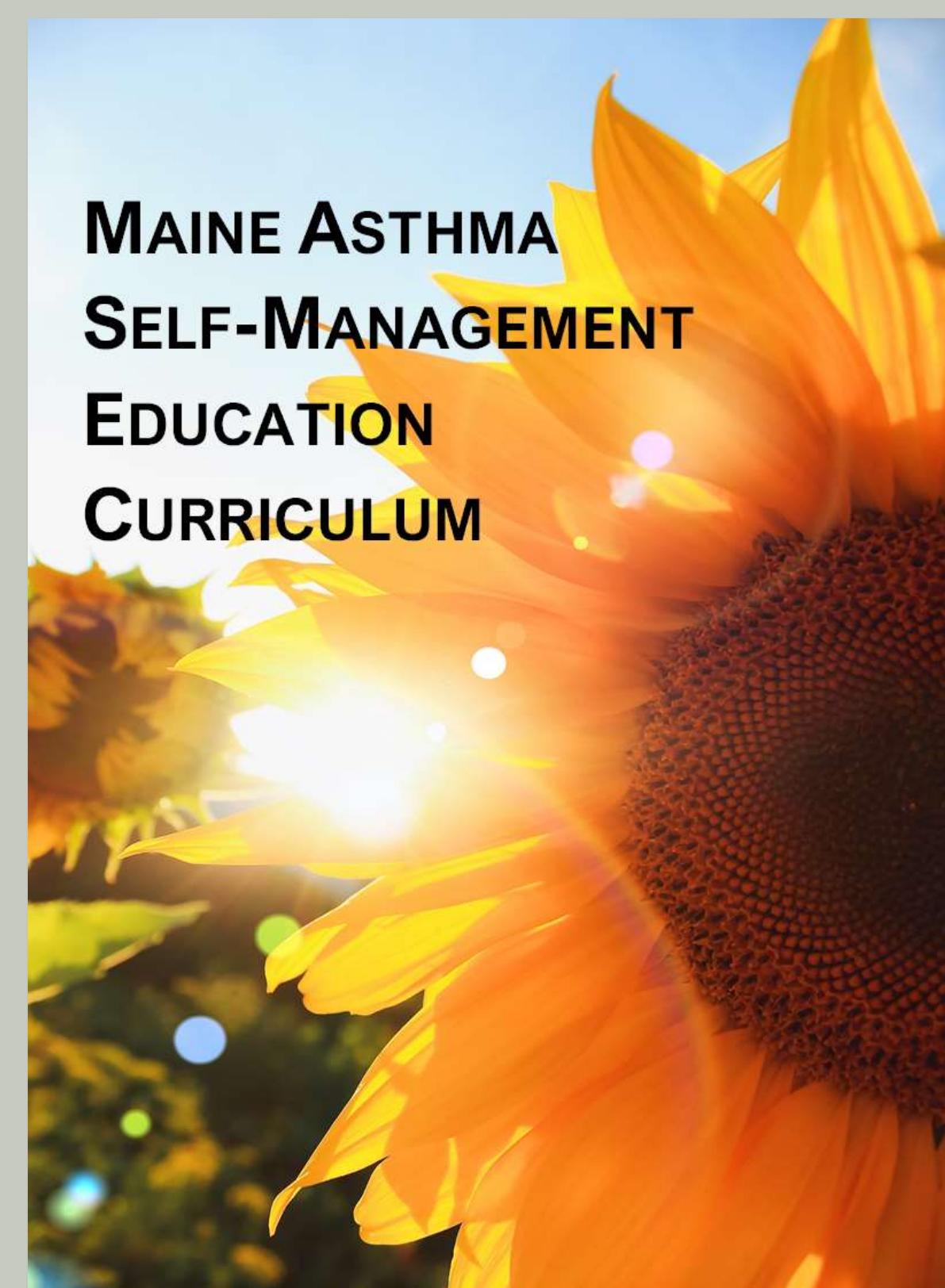


* 2023 data for all indicators, except hospitalizations (2021).

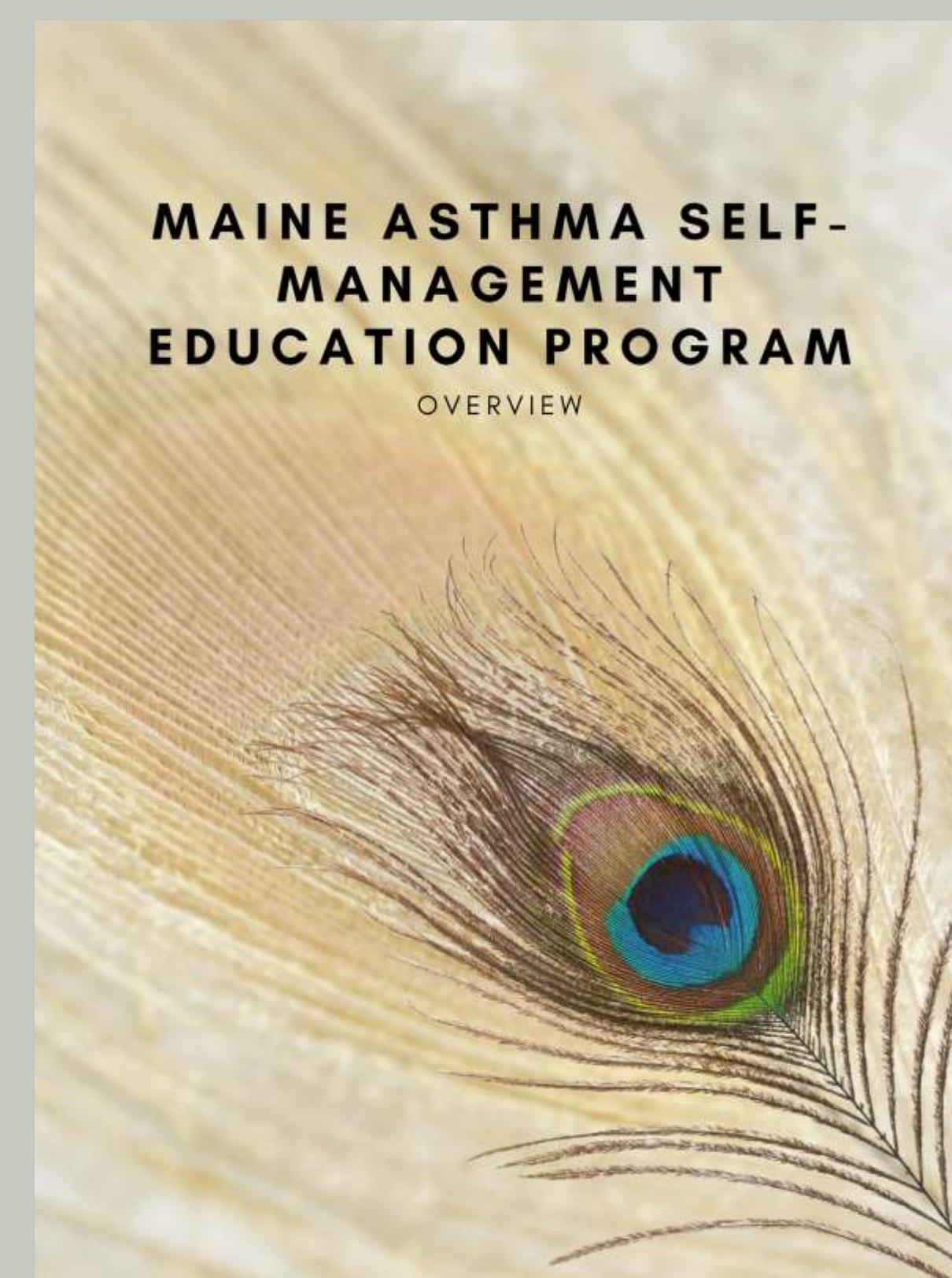
A DECADE OF PROGRAM REFINEMENT



2014 - 2019



2019 - 2024

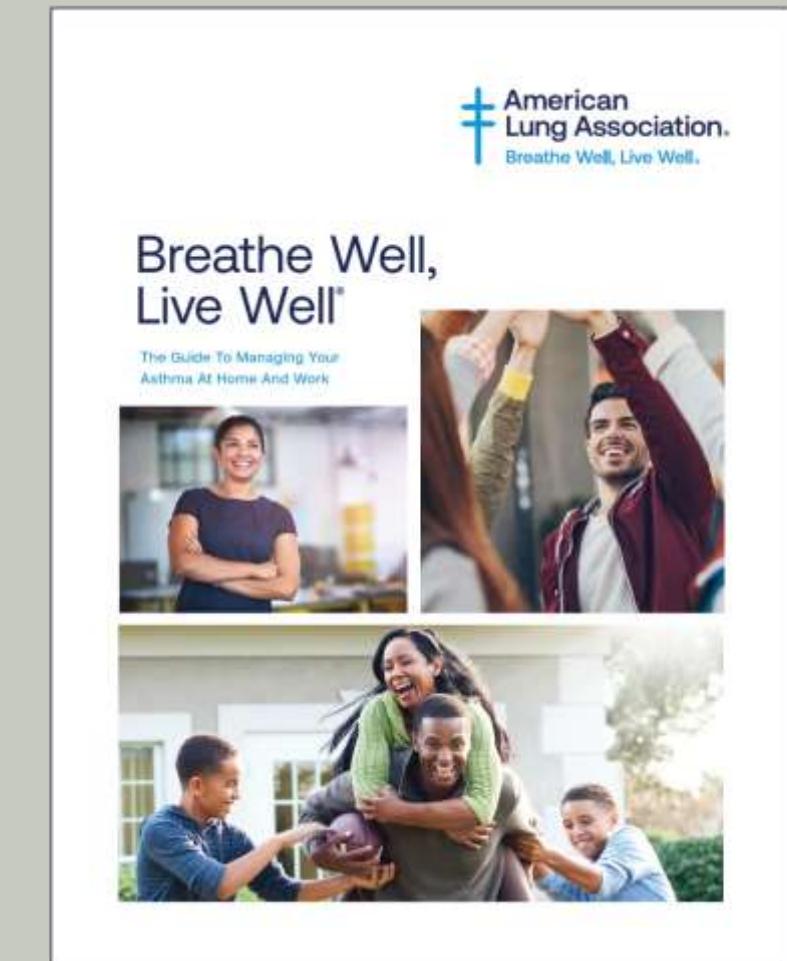


2024 -

MAINE AS-ME PROGRAM



**American
Lung
Association**

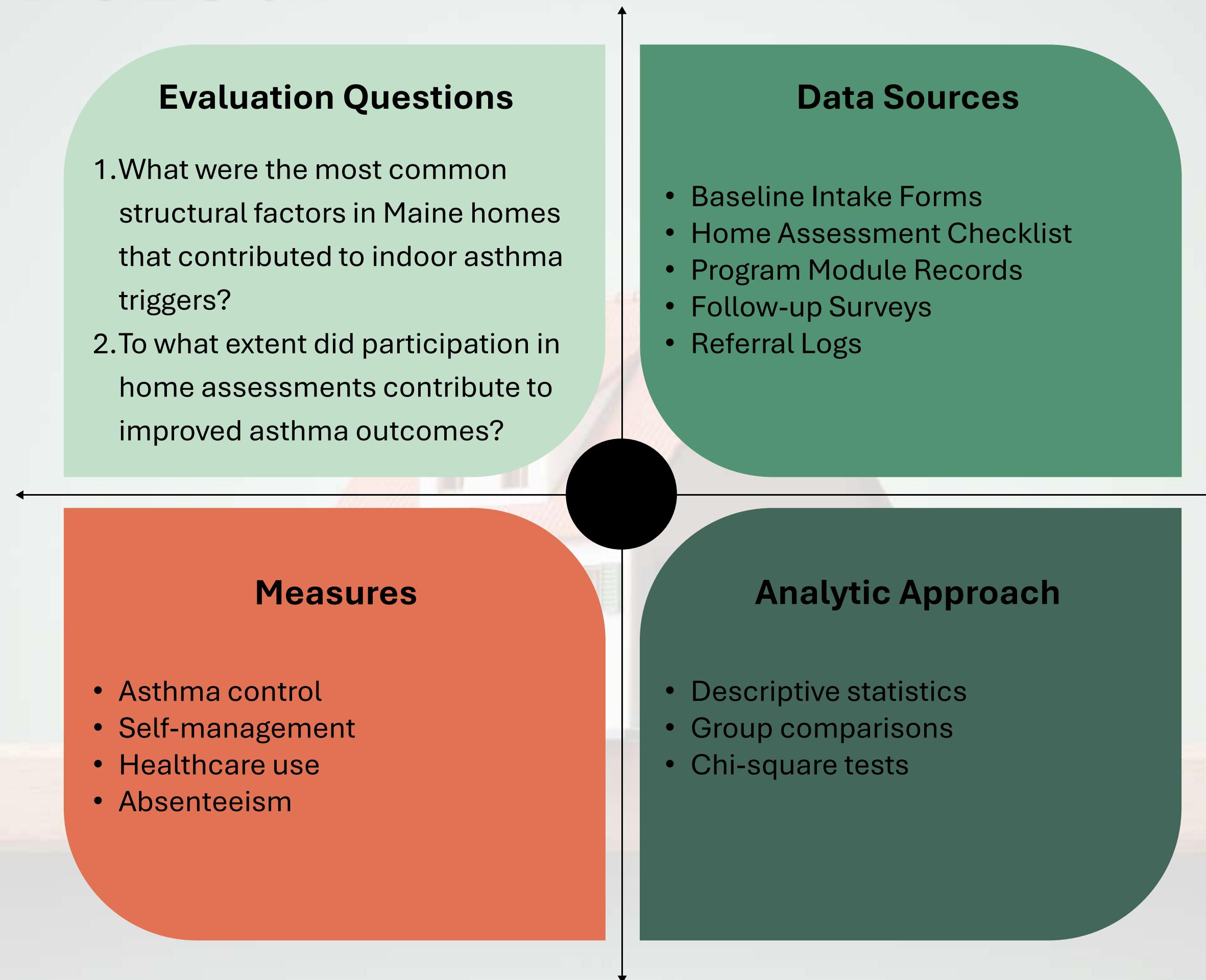


Structural Triggers & Impact of Home Assessments



METHODOLOGY

METHODOLOGY



172 PARTICIPANTS (2022 – 2024)

62% children



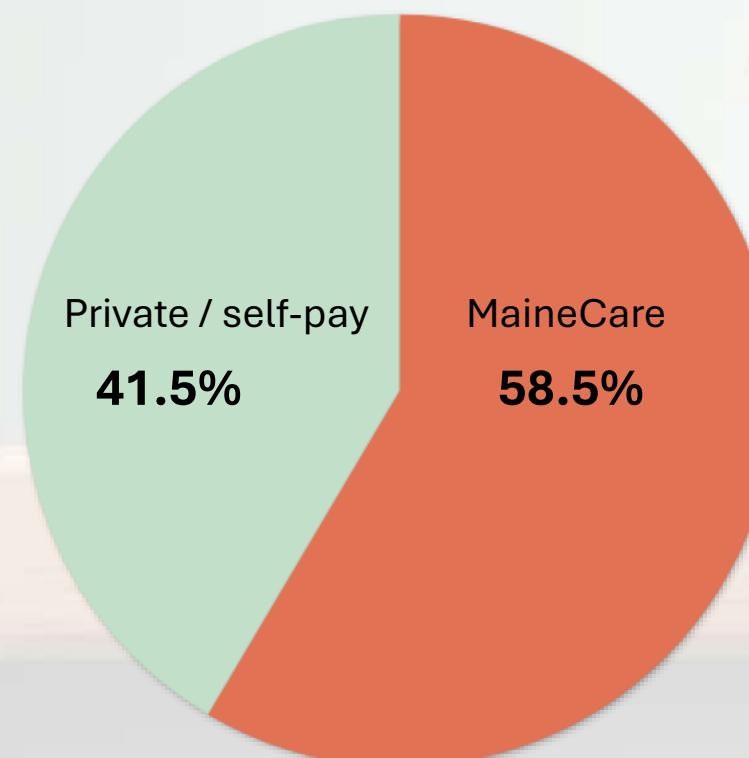
47.2% female

52.8 % male

38% adults

74.2% female

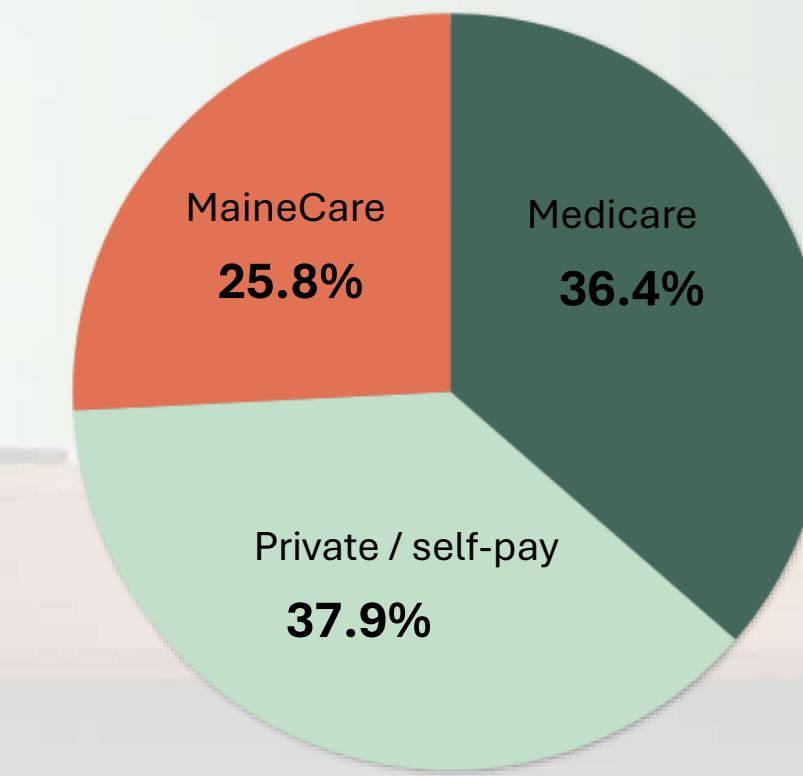
25.8% male



Health insurance

88.3%

Poorly controlled asthma



Health insurance

Common House Structures and Asthma Triggers



RESULTS

HOUSING CHARACTERISTICS



39.0%



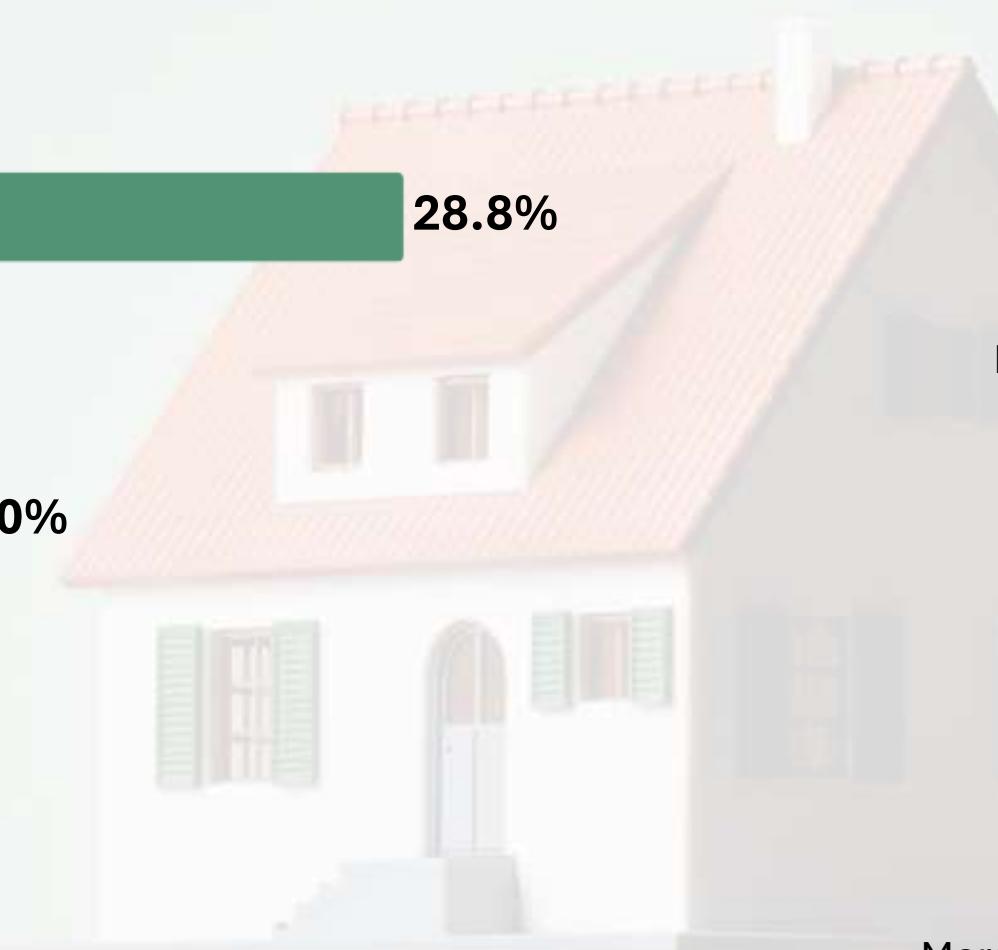
28.8%



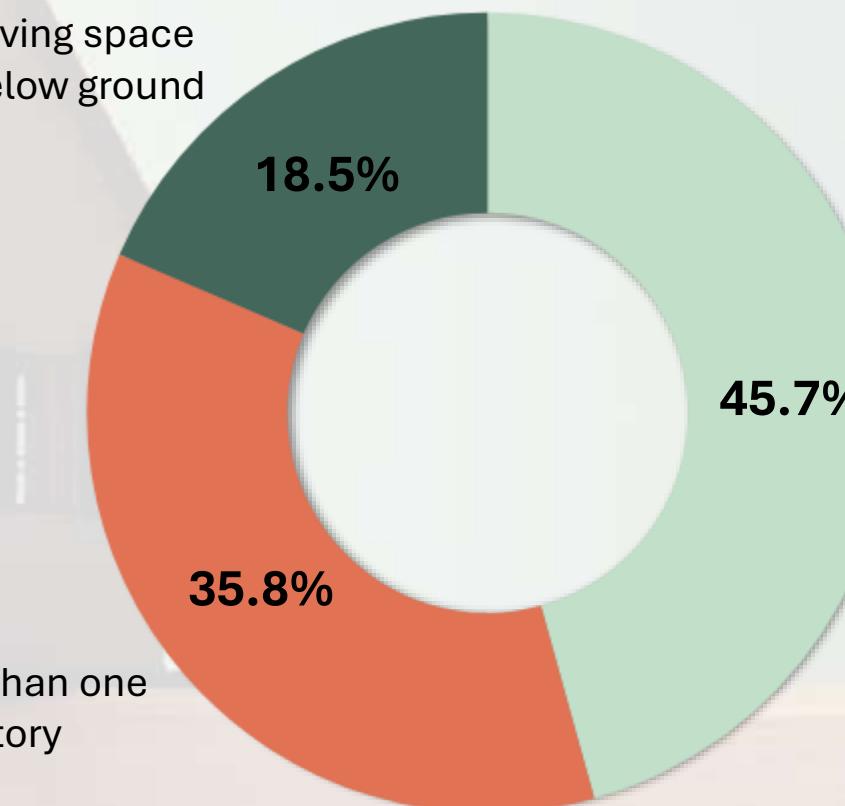
17.0%



15.3%



Living space
below ground



Crawlspace

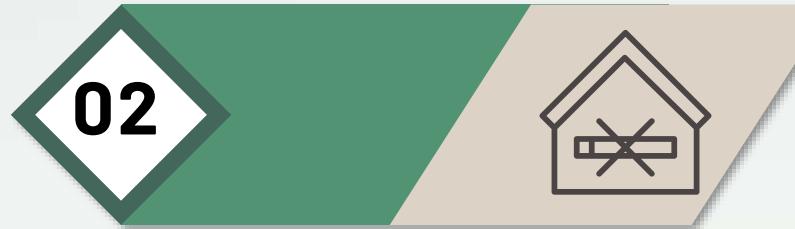
More than one
story

ASTHMA TRIGGERS



01 Heating and Cooling Systems

- 95.0% used fans.
- 68.3% used window ACs.
- 38.3% used forced hot air.
- 36.7% used baseboard heaters.



02 Tobacco Exposure

- 38.5% of households were exposed to secondhand smoke daily.
- 8.3% of households allowed tobacco use indoors.



03 Pets

- 78.3% of homes had pets.
- Of those, 53.3% had dogs and 46.7% had cats.



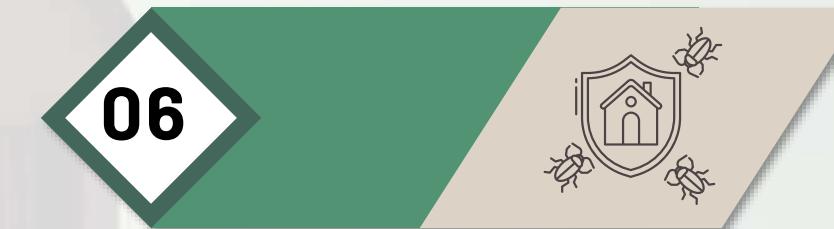
04 Kitchens

- 73.3% used electric stoves.
- 26.7% used gas stoves.
- 92.9% had an exhaust fan.
- 49.1% didn't use exhaust fans while cooking.



05 Moisture and Mold

- 53.3% had visible condensation.
- 43.5% reported musty/mold odors.
- 34.5% had evidence of water damage, moisture, or leaks.
- 30.2% had visible mold.
- 29.3% had active leaks.



06 Pests and Dust Mites

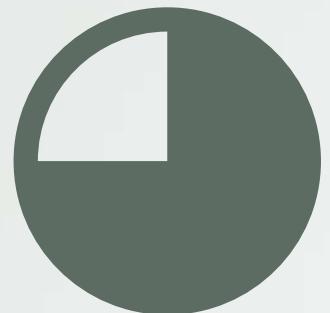
- 74.1% used pest control methods for insects.
- 68.3% had carpet.
- 44.1% had visible dust.
- 44.1% reported infrequent vacuuming.
- 39.7% had evidence of mice/rats.

Impact of Home Assessment on Asthma Outcomes



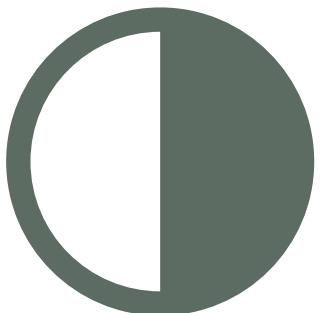
RESULTS

ENGAGEMENT GROUPS



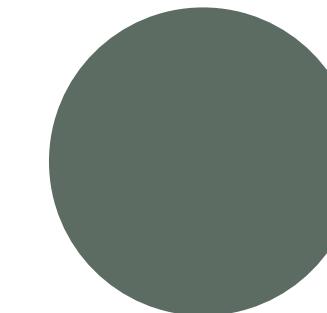
Low-Engagement Group
(n=33)

- Fewer than 5 Program modules completed.
- No home assessment conducted.



Engaged Group
(n=81)

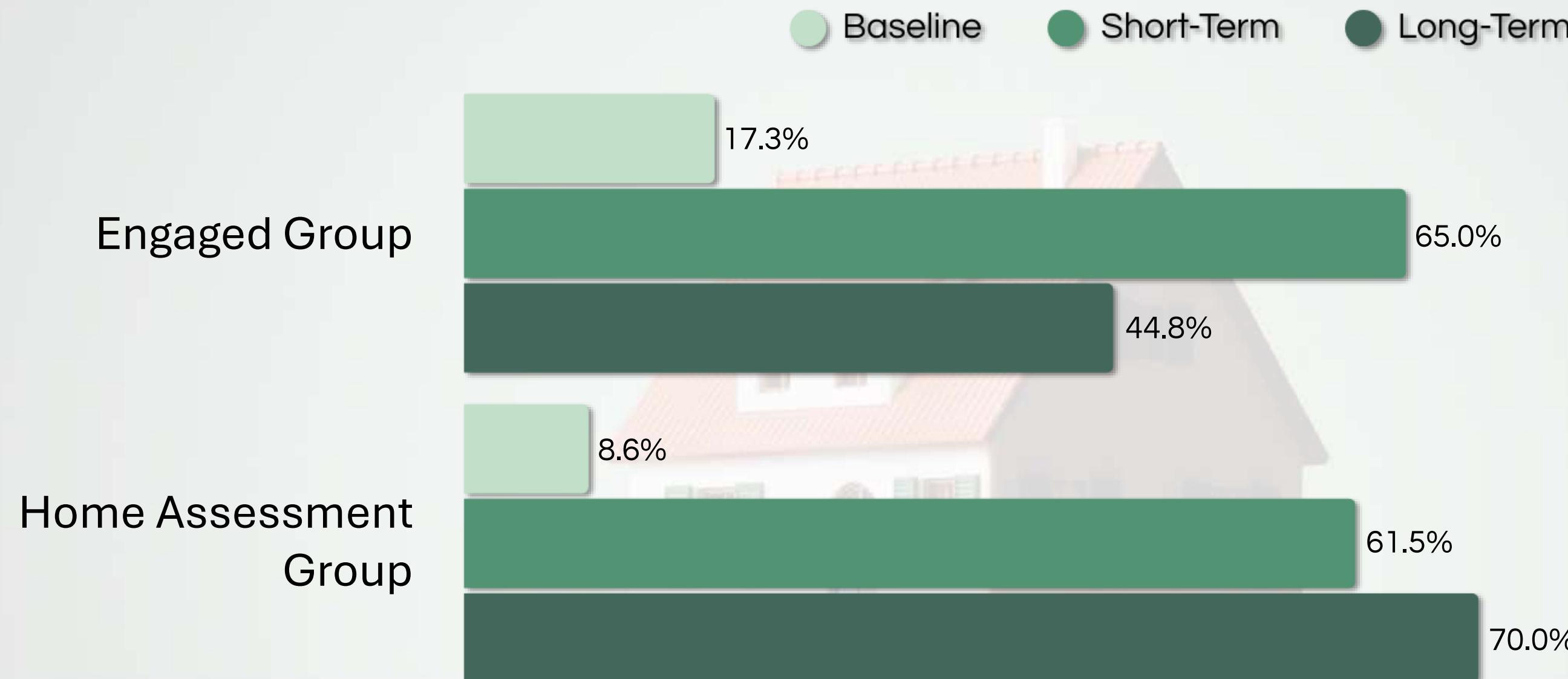
- At least 5 Program modules completed.
- No home assessment conducted.



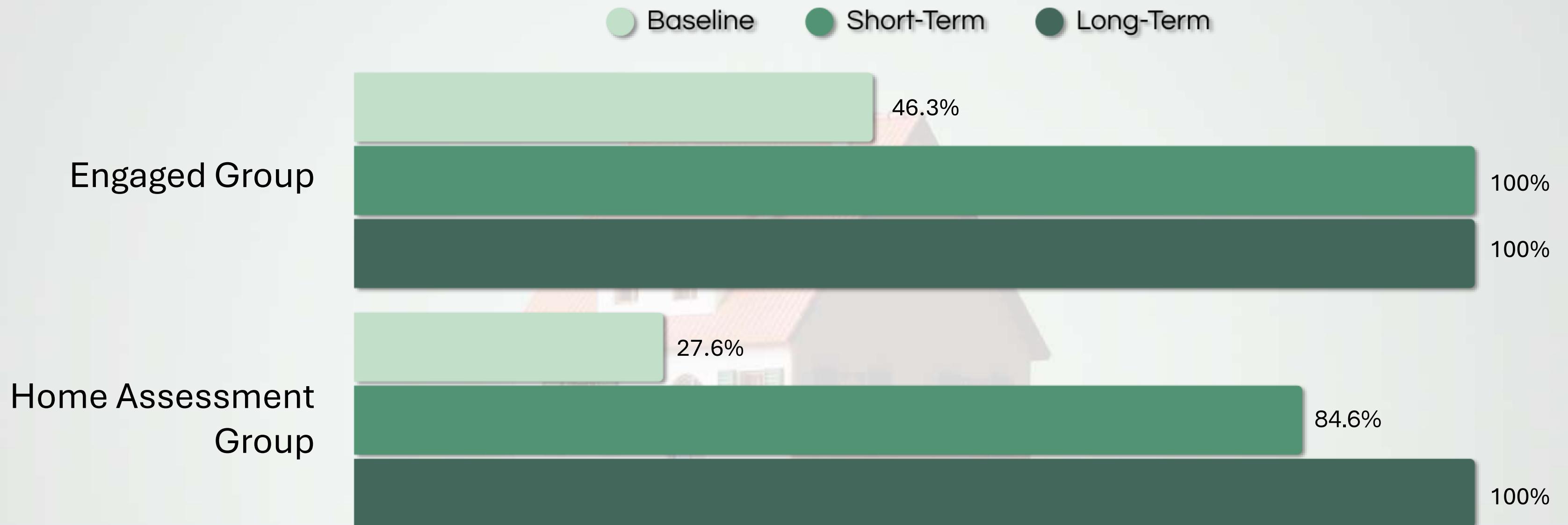
Home Assessment Group (n=58)

- At least 5 Program modules completed.
- Home assessment completed.

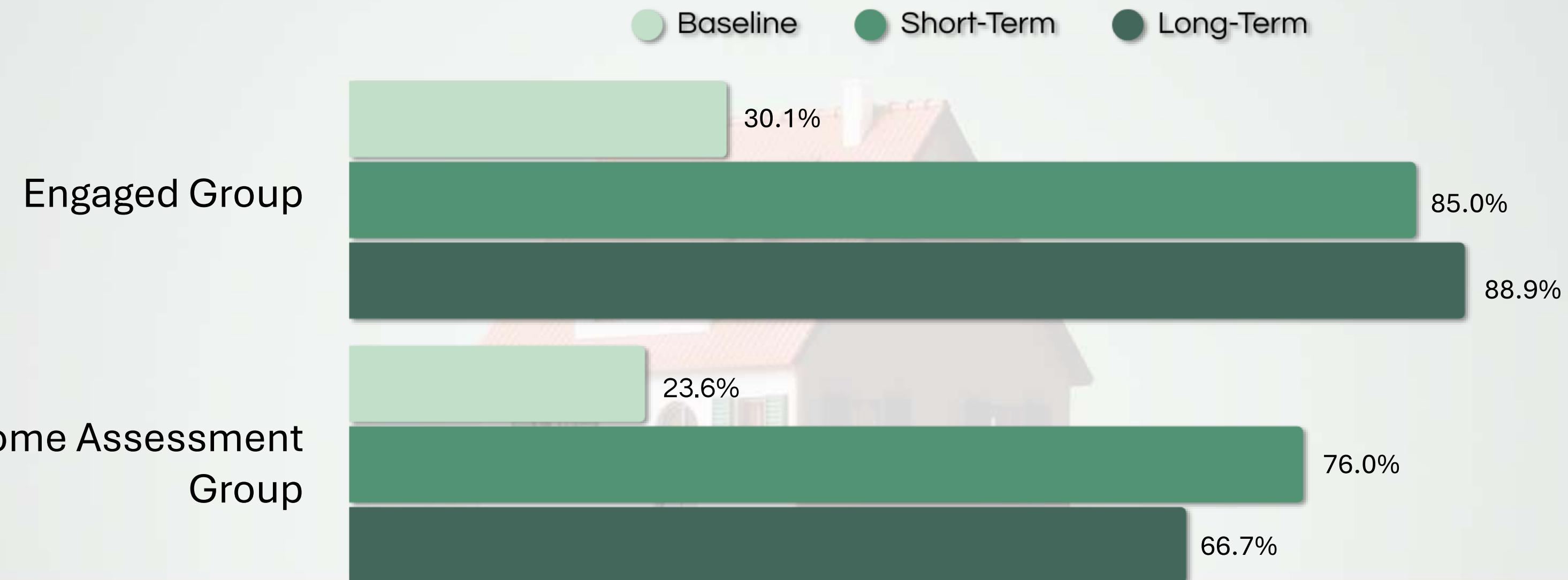
ACHIEVED GOOD ASTHMA CONTROL



USE OF ACTION PLAN



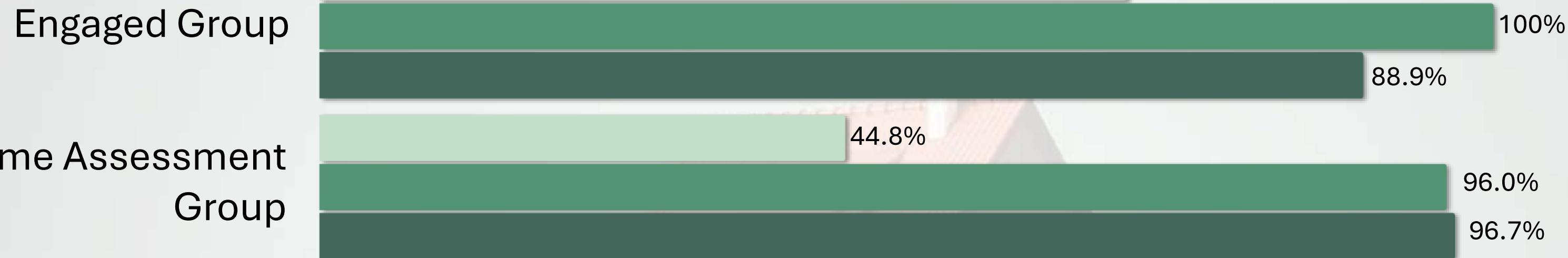
MEDICATION ADHERENCE



HEALTHCARE UTILIZATION

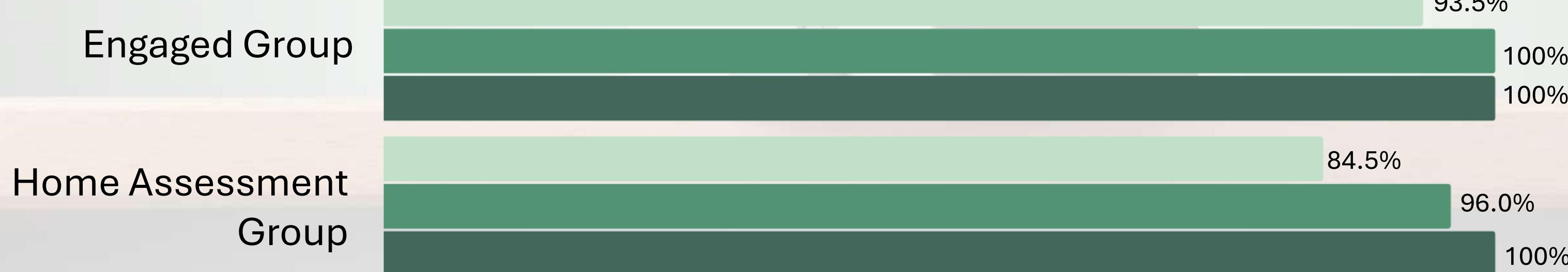
No ER Visits

● Baseline ● Short-Term ● Long-Term



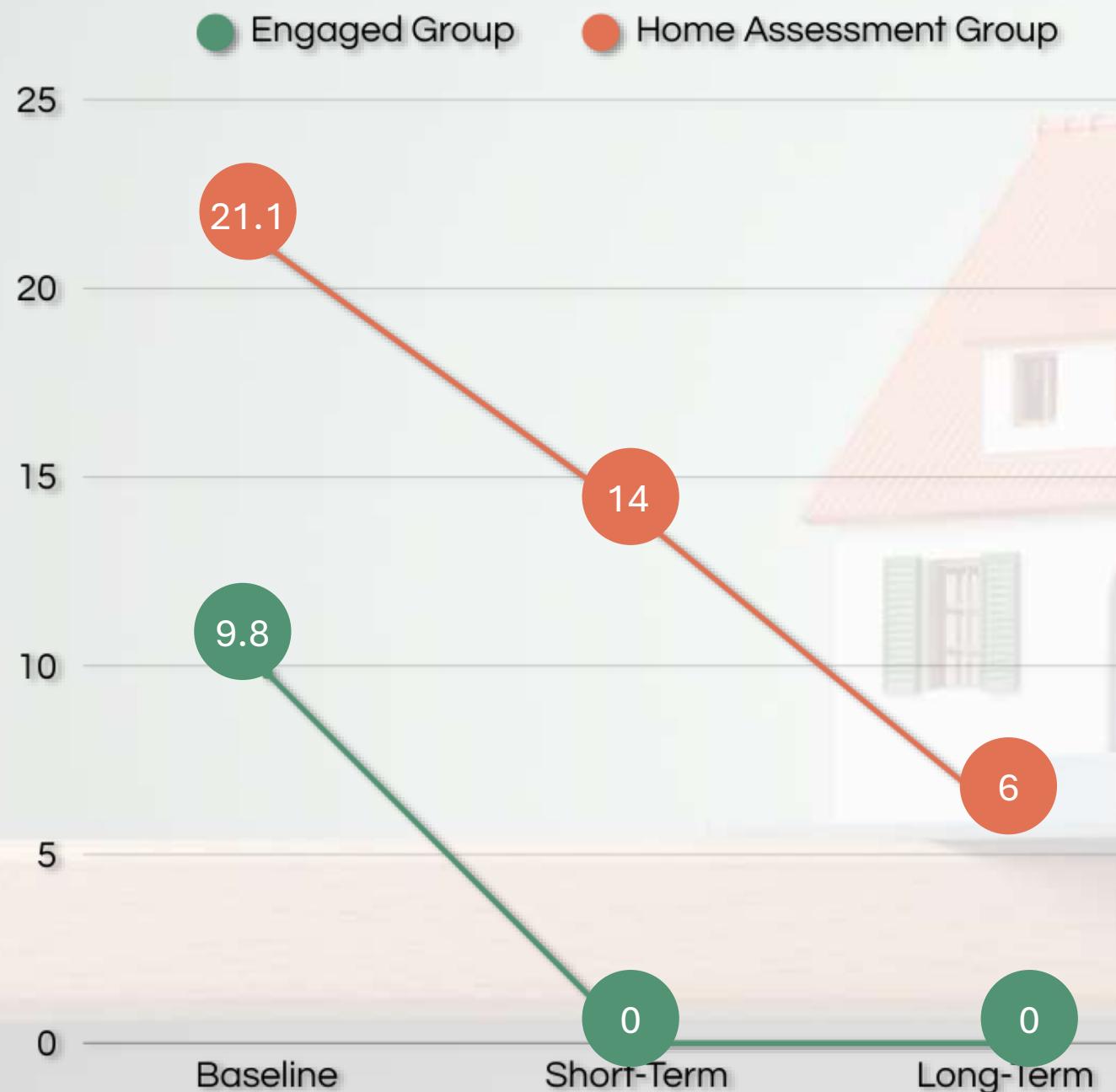
No Hospital Stays

● Baseline ● Short-Term ● Long-Term

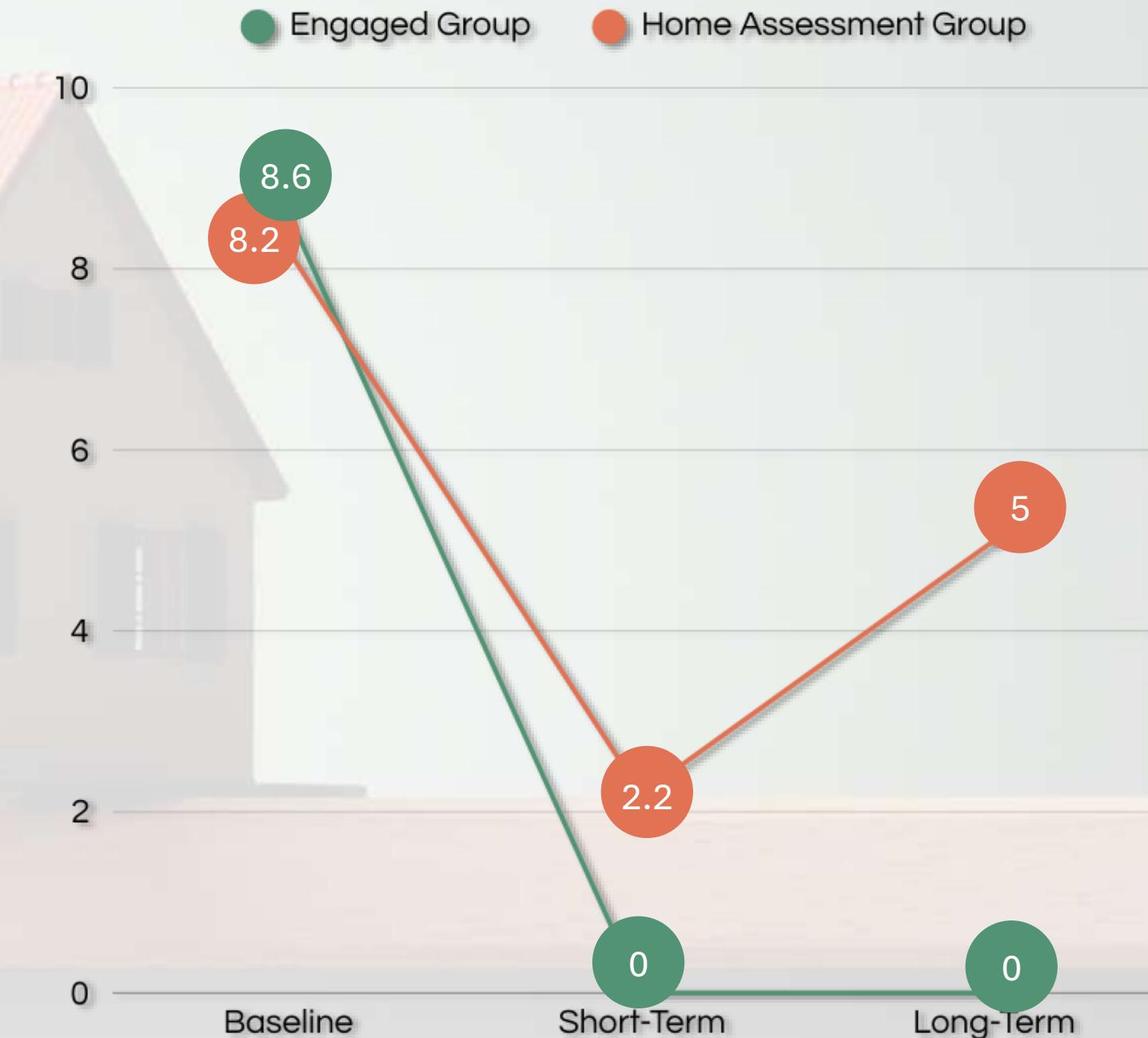


PRODUCTIVITY

Missed Work Days (adult)



Missed School Days (child)



Questions?

Surprises ?

Take away ?

Reflections ?



CONTACT DETAILS

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