



Testimony
Committee on Homeland Security
United States House of
Representatives

CDC Activities: Health Concerns
Related to FEMA Temporary Housing
Units

Statement of

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Introduction

Good afternoon Chairman Thompson and other distinguished Members of the Committee. Thank you for the opportunity to provide an update on the Centers for Disease Control and Prevention (CDC) activities evaluating health concerns related to trailers and mobile homes used by the Federal Emergency Management Agency (FEMA) as temporary housing.

Background

FEMA officially requested CDC assistance in answering questions related to indoor air quality of the trailers and mobile homes, and the health of the occupants of those temporary housing units, in a letter to CDC Director Dr. Julie Gerberding dated July 13, 2007. Following discussions with FEMA and the Department of Homeland Security, CDC identified four areas for its work: (1) expert panel review; (2) indoor air quality assessments (for occupied and unoccupied travel trailers and manufactured housing (mobile homes)); (3) child health study; and, (4) health communication.

Much of the on-going health concern that residents of FEMA-provided temporary housing units have communicated to FEMA relates to possible formaldehyde exposure. Formaldehyde is a colorless, flammable gas that has a distinct, pungent smell. It is used in the production of fertilizer, paper, plywood, and urea-formaldehyde resins. It also is used as a preservative in some foods and in many products used around the house. Low levels of formaldehyde can cause irritation of the eyes, nose, throat, and skin. The International Agency for Research on Cancer has determined that formaldehyde may reasonably be anticipated to be a carcinogen.

Expert Panel Review

On September 18, 2007, CDC convened an independent panel of experts to obtain the best scientific knowledge about indoor air quality in travel trailers and mobile homes used by FEMA as emergency temporary housing. The panel members looked at issues related to, but not limited to, formaldehyde, and individually provided scientific input to CDC in the design of the indoor air quality assessments and the child health study.

The expert panel provided a draft report to CDC on October 19th, 2007. CDC reviewed the draft and requested clarification of certain comments and recommendations contained in the report. CDC received a final version of the report on December 3, 2007, a summary of which is posted on the CDC Web site at:

<http://www.cdc.gov/nceh/ehhe/trailerstudy/pdfs/FEMAExpertPanelSummary.pdf>

CDC will reconvene the expert panel later this year to discuss the results of the indoor air quality assessments and the revised child health study protocol.

Two major recommendations in the panel report are:

- Travel trailers were not designed for long-term housing for families and efforts should be made to limit the use of these units to short-term emergency housing only.
- CDC should use similar methodologies in each of the sampling plans for occupied and unoccupied travel trailers and mobile homes, and for the children's health study.

The report also provides support for the evaluation of indoor air quality in travel trailers and mobile homes used by FEMA as temporary housing and guidance on epidemiological issues for the children's health study.

Indoor Air Quality Assessments

In discussions with FEMA, CDC identified two important issues with respect to air quality--and formaldehyde levels--in travel trailers and mobile homes. First, there is a need to understand what air quality issues exist under actual living conditions in the units; and second, it is important to identify practical means of reducing indoor air levels of formaldehyde. To address these issues, CDC determined that it would be necessary to test both occupied and unoccupied units.

Occupied Units

CDC's testing of occupied units involves a representative sample of approximately 500 occupied travel trailers and mobile homes in Mississippi and Louisiana purchased by FEMA to provide temporary housing. These tests will determine formaldehyde levels under actual living conditions. The temporary housing units that were tested are representative of the various manufacturers and models being used in substantial numbers in the two states.

CDC originally had a contract in place that could have resulted in testing in early November. On review of the testing plan, however, a joint interagency panel determined that before testing should be done, there needed to be an understanding of how various results could be interpreted and actions that would need to be taken based on these results. These analyses were completed during the month of November, a new contract was awarded on December 11, 2007, and field work began on December 21, 2007.

In addition to collecting formaldehyde samples, there was also a brief questionnaire and a walkthrough of the units to identify other visible problems such as mold.

As of January 23, 2008, CDC completed sampling of occupied units. The contractor is expected to provide CDC a database, which will include formaldehyde levels, the week of February 4, 2008. Participants will be notified of their results in person by approximately 25 teams that will include representatives from both the Department of Health and Human Services (HHS) and FEMA. The notification visits are expected to begin the week of February 18 and be completed as expeditiously as possible, within approximately three weeks or less. In addition, CDC plans to offer informational sessions at which the

public, including residents of units that were not tested, will have the opportunity to ask questions about CDC's findings.

Unoccupied Units

CDC is assessing formaldehyde levels across different models and classes of unoccupied travel trailers and mobile homes used by FEMA as temporary housing. The purpose of this sampling is to identify the factors that may predict high exposure scenarios inside the units, and to investigate cost effective solutions to reduce the formaldehyde concentrations. Components of travel trailers and mobile homes are being tested for off-gassing of formaldehyde. FEMA is providing the units to be tested.

CDC began initial field work to assist in protocol development in late July, 2007. From September 25-27, CDC sampled more than 50 unoccupied travel trailers and mobile homes stored in Mississippi to determine the range of formaldehyde levels in the various units. CDC collected samples of travel trailer and mobile home components from November 14-16 for testing at Lawrence Berkeley National Laboratory under an interagency agreement. In addition, CDC is working with NASA to evaluate photocatalytic oxidation air cleaning technologies. Other potential methods will also be tested, including ventilation and treatment of the travel trailers.

Child Health Investigations

The possibility of health effects associated with living in FEMA provided travel trailers and mobile homes was first brought to the public's attention by pediatricians in Mississippi and Louisiana who observed respiratory and skin symptoms in their patients that they thought might be associated with living in the trailers. Investigating the possible relationship between residing in these units and children's health is an important component of CDC's overall investigation.

The goal of the children's health investigations is to determine if there is an association between living in a FEMA provided travel trailer or mobile home in a storm damaged region of the U.S. Gulf Coast, and adverse health effects such as respiratory illness and dermal reactions in children. Below are descriptions of two health investigations, one well underway, and the other in development:

- A chart review of medical records of children who were treated for respiratory illness, skin conditions, or gastrointestinal illnesses in Hancock County, Mississippi. Field work was conducted in November 2007 with all pediatric health care providers in the County. Data analysis and follow up interviews are currently being conducted. Analysis is expected to be completed in February 2008.
- A cohort study of children who lived in trailers in areas of Texas, Louisiana, Mississippi, and Alabama, and were affected by Hurricanes Katrina and Rita. Children will be recruited from FEMA aid lists. Participating children will be followed for approximately five years. CDC is

currently preparing a protocol for the study and expects to apply for Institutional Review Board (IRB) approval in February 2008.

Health Communication

The goal of CDC's health communication program is to provide residents with information to help them make decisions on where to live, and how to reduce risks. CDC has worked closely with FEMA to develop key messages and communications strategies related to FEMA provided trailers and mobile homes and health concerns of residents.

Teams of communication specialists from CDC have spent time in Louisiana and Mississippi meeting with focus groups comprised of residents, community leaders, and health care providers to identify the particular health information needs of residents living in FEMA provided travel trailers and mobile homes.

The teams also worked with members of the community to develop the best means of reaching this specific segment of the public. The teams learned that, while television often is a useful way of disseminating health guidance, many of the people most in need of the information do not have televisions. Community suggestions led to the use of other mechanisms through which information could reach the largest number of temporary housing residents.

CDC has developed a series of printed materials, in multiple languages, aimed at residents and health care providers. Materials provide information on formaldehyde as well as other indoor air quality issues, and help residents assess their level of risk and how to reduce it. CDC also has developed messages for radio and other audio distribution. These materials are available online at <http://www.cdc.gov/nceh/ehhe/trailerstudy/default.htm>.

In addition, as noted above, residents whose units were tested will be notified of their results by a team comprised of representatives from HHS and FEMA. And, CDC continues to respond to inquiries from the public and the news media about health concerns related to FEMA provided travel trailers and mobile homes.

Conclusion

CDC has responded to a request from FEMA for assistance in assessing health concerns related to travel trailers and mobile homes used as temporary housing. CDC began work in July 2007, following receipt of the request, and devised a multiple-part approach to assess actual exposures, determine if feasible methods exist to reduce formaldehyde levels, develop knowledge and understanding of health effects in vulnerable populations, and provide residents and health care providers with health information to recognize and reduce health effects potentially related to indoor air quality issues.

It is important to note that formaldehyde is not the only potential health issue related to living in temporary housing units. Other potential health issues relate to mold and moisture, safety concerns, mental health issues, and disruption of

day-to-day lives. CDC has attempted to consider the range of health issues to insure that we do not focus entirely on formaldehyde and overlook other issues that are important to public health.

We agree with FEMA that the long-term goal is to move displaced residents into more permanent housing instead of travel trailers. CDC's goal is to help residents reduce risks to their health until then, and protect their health during the process of relocating to permanent housing.

Thank you for the opportunity to provide this testimony on CDC's activities related to health concerns and FEMA temporary housing units. I would be happy to answer any questions you may have.