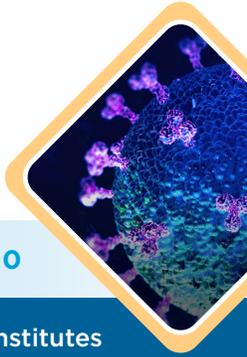


# AN UNPRECEDENTED IMPACT

A SERIES OF FACT SHEETS ON COVID-19 AND BIOMEDICAL RESEARCH

AUGUST 2020



We must maintain and strengthen our nation's investment in medical research through the National Institutes of Health. This is an urgent priority for Congress, as our nation works to restart stalled research, keep up with pressing public health challenges, continue to fight COVID-19 and prepare for the next potential pandemic.

## PART 3 | PROGRESS ON HOLD | Researcher Profiles

While research on the disease caused by the novel coronavirus has been on a fast track the past several months, most other medical research ground to a halt in March and has yet to resume at anything near its pre-COVID pace. It is impossible to know the full implications of suspended work, lost experiments and delayed clinical trials, but for those waiting for a cure, time matters.



**DR. BRENDA HEATON** is working to improve the health of disadvantaged populations, particularly low-income racial and ethnic minorities, who are disproportionately affected by dental and chronic diseases. She currently has two projects funded by the National Institute of Dental and Craniofacial Research, part of the NIH, that involve Boston public housing residents and build on more than a decade of work with the Boston Housing Authority (BHA) to address the health disparities faced by residents of public housing.

Earlier this year, the projects were on carefully sequenced paths — a study mapping the social networks of public housing residents to understand how they influence risk behaviors related to oral health, and a project developing tailored behavior-change messaging. Together, these projects would form the basis for a novel intervention that leverages the social network structure to change behavior. However, that was before the COVID-19 pandemic hit, keeping people at home, disrupting social networks and preventing the interpersonal contacts her studies rely upon.

It's important to me that we find ways to address the persistent disparities in health status. Attempts to translate research to populations facing significant disadvantage have often failed. I'm very committed to studying and finding solutions that address the complex interplay of factors leading to such poor health outcomes among these populations.

**Brenda Heaton, PhD, MPH**  
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of Health Policy &  
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Heaton is a social epidemiologist and assistant professor at Boston University's Henry M. Goldman School of Dental Medicine. She is interested in the role social networks play in diffusing behaviors within a group. Since people believe information more when it comes from someone they know — family, friends, acquaintances — understanding these networks and how to tap into them, she believes, may open the door to better ways provide education and modify behaviors.

In Heaton's social network study, baseline data is collected from participants at the time of enrollment and follow up assessments are



### THE LINK BETWEEN ORAL HEALTH AND OVERALL HEALTH

A growing body of evidence links oral health, particularly periodontal, or gum disease, to several chronic diseases, including:



diabetes



heart disease



stroke

In pregnant women, poor oral health has also been associated with **premature births** and **low birth weight**.

Source: [Healthypeople.gov](https://www.healthypeople.gov)

## UNPRECEDENTED IMPACT, *cont.*

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conducted at nine-month intervals to assess how participants' networks evolve and change over time. This understanding will help to identify the specific dynamics at play and inform the design of more effective interventions.

For her messaging research, residents are recruited to take photos of the things they encounter in their daily lives that impact their consumption of sugary beverages and food. The photos provide insight to social and environmental settings and document the nutritional influences encountered, such



### PUBLIC HOUSING FACTORS

- ✓ Residents are predominantly racial and/or ethnic minorities.
- ✓ The majority of residents live below the federal poverty line.
- ✓ Public housing communities have some of the highest burdens of chronic disease compared to other groups, including those facing similar disadvantage.
- ✓ Many public housing settings have become focal areas of poor health and health behaviors that adversely affect residents regardless of preexisting health conditions.

Source: Brenda Heaton

as store shelves and neighborhood parties. Photo collection is followed by a process to develop and validate theory-based health promotion messages and assess their acceptability among public housing residents.

In March, when stay-at-home orders were issued and BU halted non-essential research, Heaton had to pivot to a virtual format. Logistical challenges included childcare and other COVID-imposed issues for her staff, some of whom live in the communities

themselves. Moving work online meant ensuring participants had reliable access to phones and were comfortable using Zoom and other virtual tools. Tools like disposable cameras could no longer be dropped off at participant homes.

But these were "functional impacts" for which workarounds could be found. Heaton faced a much larger scientific challenge: how to study

“It’s frustrating and sad,” she said referring not just to the delays and complications, but also to the years of work that have gone into laying the foundation for the current science and building the community partnerships with the BHA. “They are invested in bringing science to their community. This is a novel and exciting opportunity. I can’t help but feel sad.”

social networks during a pandemic when people aren’t engaging in their normal routines and how to reconcile the data from follow up assessments with her pre-COVID baseline data.

In late July, things were looking up somewhat. She’d just received necessary approvals from BU and BHA to go back into the field and have boots on the ground in the community for her messaging study. Although COVID put her significantly behind on the two-year study, Heaton hopes that barring additional complications she might just make it “by the skin of my teeth.”

While the networking study has a longer time horizon, it faces bigger questions.

**“We need to understand how networks have or have not changed because of COVID.” This, she says, is going to be difficult because the situation remains unstable and because she doesn’t know whether additional funding will be available to support this necessary detour in her work. Finishing on time would “undoubtedly have to be on a smaller scale” she says.**