



Sunday, October 13, 2019 4:00 PM

**207 Infection Prevention in Home Health Care: Results from a National Study of Home Health Care Agencies**



# **Infection Prevention in Home Health Care: Results from a National Study of Home Health Care Agencies**

**Jingjing Shang, PhD, RN, OCN and Ashley Chastain, DrPH, MPH**  
Columbia University School of Nursing  
October 13, 2019

Presented work funded by:  
NIH R01NR016865 & AHHQI  
(multi-PI: Jingjing Shang & Patricia Stone)  
No conflicts of interest

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## **Overview**

### **Recent Policy Changes for IPC and QI in HHC**

*Presented by Jingjing Shang*

### **National Study to Explore IPC and QI in HHC**

*Presented by Jingjing Shang*

### **Recent Trends in Home Health QoPC Star Ratings**

*Presented by Jingjing Shang*

### **Successes and Challenges in IPC and QI in HHC**

*Presented by Ashley Chastain*

### **Preliminary Findings from National Survey of HHC Agencies**

*Presented by Ashley Chastain*

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## Recent Policy Changes for IPC and QI in HHC

### Home Health Care (HHC)

- Defined as healthcare provided to a person in his/her own home\*
- Rapidly expanding health care sector
- Plays a significant role in providing patient care following hospital discharge
  - In 2017, about 3.4 million Medicare beneficiaries received HHC at a cost of \$17.7 billion\*\*

\*Thome, 2003, \*\*Medicare Payment Advisory Commission, 2019

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## Department of Health and Human Services (HHS) Strategic Goals\*

### 2018-2022

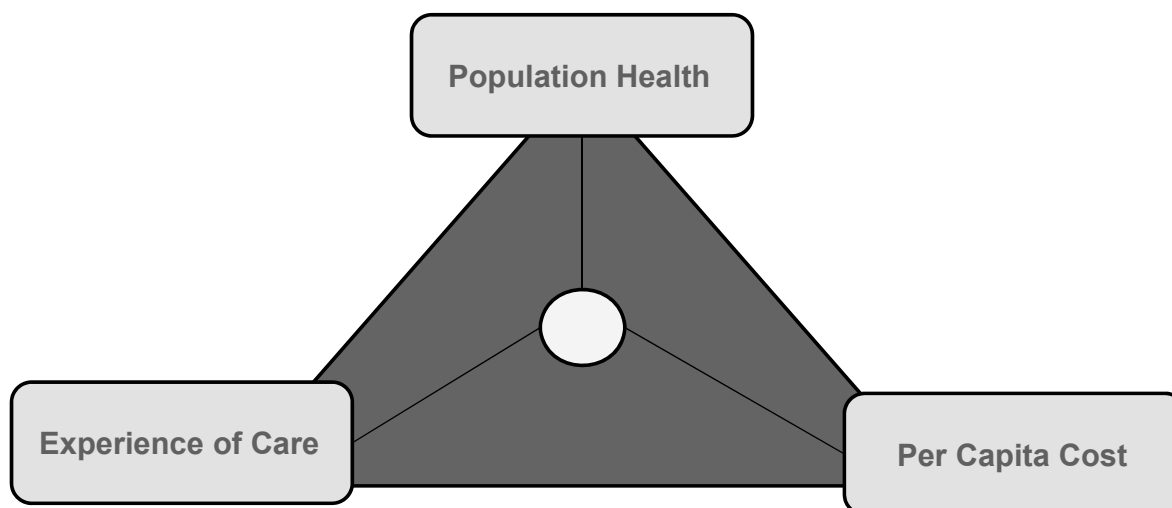
1. Reform, strengthen and modernize the nation's healthcare system
2. Protect the health of Americans
3. Strengthen the economic and social well-being of Americans
4. Foster sound, sustained advances in science
5. Promote effective and efficient management and stewardship

\*DHHS, 2018

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## 3 Dimensions of Health Care Delivery Reform\*



\*Institute for Healthcare Improvement

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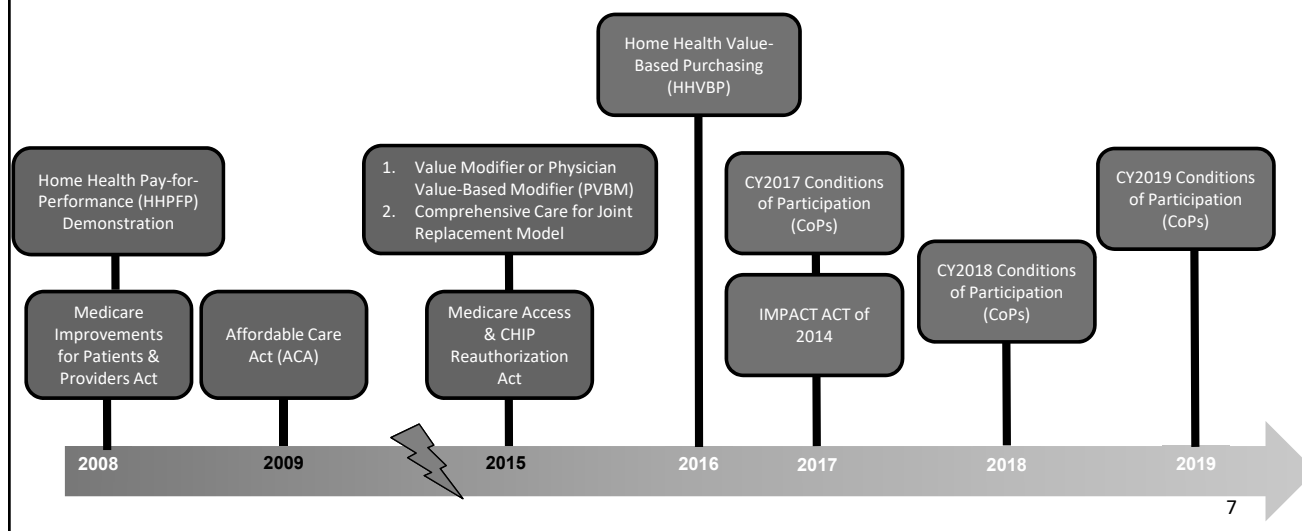
## The Landscape is Changing



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## Recent Policy Changes for IPC and QI in HHC



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## Home Health Conditions of Participation (CoPs)

### Significant Changes for CY2019\*

- Changes to rural-add on payments for CYs 2019 through 2022
- Changes to the home health value-based purchasing (HHVBP) model
  - Reduced quality measures to a total of 16
    - Removed Influenza Immunization Received and Pneumococcal Polysaccharide Vaccine Ever Received
    - Replaced Improvement in Ambulation-Locomotion, Improvement in Bed Transferring, and Improvement in Bathing with two composite measures
- Changes to HHQRP requirements

\*Florida Hospital Association, 2018

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## Home Health Conditions of Participation (CoPs)

### Significant Changes for CY2020\*

- Implementation of the Patient-Driven Groupings Model (PDGM)
  - Reducing the home health unit of payment from 60 days to 30 days
- Implementation of payment and regulations for home infusion therapy services
- Changes to the HHVBP model
- Changes to HHQRP requirements

\*Florida Hospital Association, 2019

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## Patient-Driven Groupings Model (PDGM)

- Begins on January 1, 2020
- Changes the unit of payment from a 60-day episode of care to a 30-day period of care
  - Home health care costs are higher earlier in an episode, so splitting into two 30-day periods distributes payments based on resource use
- Includes case mix methodology refinements
  - Based solely on patient characteristics, such as clinical characteristics and other patient information
  - Places patients into 432 payment categories

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## Value Based Purchasing (VBP)

- Pilot program began in 2016
- Model incentivizes agencies to provide higher quality and more efficient care
- Medicare payment adjustments are made based on agency performance score relative to the baseline year (CY2015)
  - Total Performance Score (TPS) is calculated from 16 quality measures\* from OASIS and HHCAHPS
  - In CY2019, the second payment adjustments (5%) will be made based on CY2017 performance

\*In CY2019

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## Value Based Purchasing (VBP) Q&A

### Question:

How many US states are involved in the VBP pilot program?

### Options:

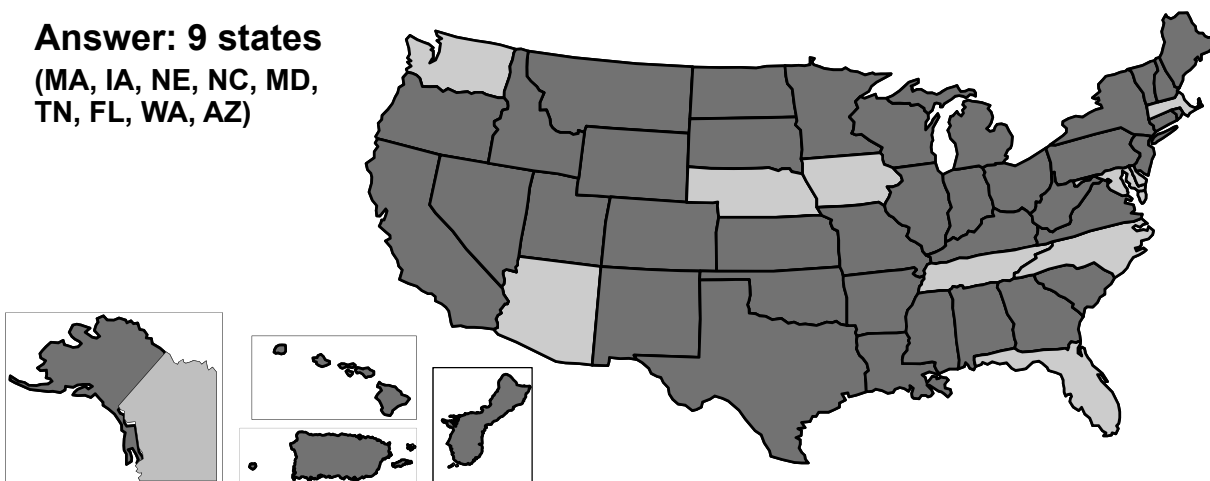
- 1) 11
- 2) 35
- 3) 9
- 4) 23

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## Value Based Purchasing (VBP) Q&A

- **Answer: 9 states**
- (MA, IA, NE, NC, MD, TN, FL, WA, AZ)



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## Infection Prevention & Control (IPC) in the Home Environment\*

- Nursing bag technique
- Handwashing criteria
- PPE
- Sterile field
- Disinfection of devices



\*Rhinehart, 2001; Bakunas-Kenneley & Madigan 2009

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## Infection Prevention in Home Health Care (InHome) Study



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## Infection Prevention in Home Health Care (InHome) Study

**Aim 2:** Describe the current infection prevention and control practices in HHC

- **Data:** Qualitative interviews, InHome survey, OASIS, Medicare claims, other public files
- **Qualitative analyses:** Content analysis
- **Quantitative analyses:** Multivariable models

**Sub-Aim 1:** Explore how HHA have responded to various quality and VBP initiatives

**Sub-Aim 2:** Conduct a survey to describe HHA QAPI programs and identify the types of HHA that respond to VBP incentives

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OASIS = Outcome and Assessment Information Set, POS = Provider of Services, PUF = Home Health Agency Utilization and Payment Public Use File, AHRF = Area Health Resource File

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## CMS Quality of Patient Care (QoPC) star ratings

### Methodology

- QoPC star ratings calculations began in July 2015
- Include process and outcome quality measures
- Agencies must have at least 20 complete patient episodes for a measure to be reported
- Changes were implemented in April 2018\*
- Agencies must have reported data for 5 of the 8 measures used in the ratings calculations

### Current Measures

- Timely initiation of care
- Drug education
- Ambulation
- Bed Transfers
- Bathing
- Pain interfering with activity
- Shortness of breath
- Acute Care Hospitalization

\*Influenza Immunization measure no longer included

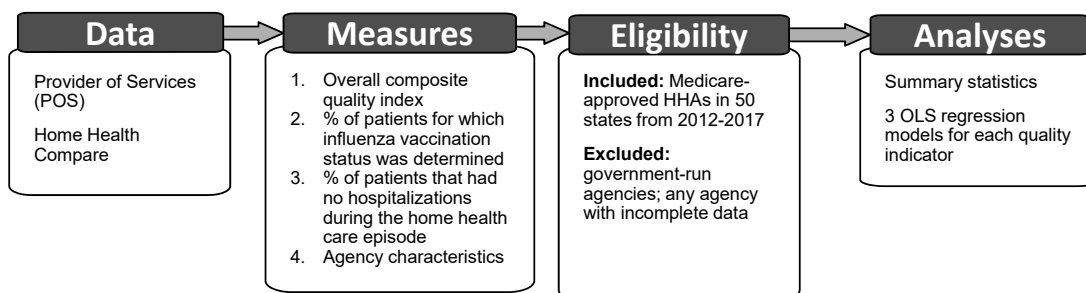
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## Recent Trends in HHC QoPC Star Ratings

### Aims

1. Use an overall composite quality metric (with Home Health Compare data) to evaluate trends in quality over time
2. Compare trends over time among HHAs in VBP participating states and those not participating, as well as for-profit & non-profit HHAs



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## Recent Trends in HHC QoPC Star Ratings

Summary Statistics, Overall and by Ownership (2017)

|                                      | All Agencies  | VBP Agencies | For-profit Agencies | Nonprofit Agencies |
|--------------------------------------|---------------|--------------|---------------------|--------------------|
| <b>N of Agencies</b>                 | 7,458 (100.0) | 1,381 (18.5) | 6,047 (81.1)        | 1,411 (18.9)       |
| <b>Agency Characteristics</b>        |               |              |                     |                    |
| <b>Staffing Skill Mix</b>            |               |              |                     |                    |
|                                      |               | Mean (SD)    |                     |                    |
| % RN                                 | 66.5 (21.8)   | 70.8 (20.4)  | 64.2 (22.0)         | 76.0 (17.9)        |
| % LPN & LVN                          | 21.8 (19.6)   | 18.1 (14.2)  | 24.5 (19.9)         | 10.2 (13.1)        |
| % CNA                                | 11.7 (14.0)   | 11.0 (13.9)  | 11.3 (14.0)         | 13.7 (13.9)        |
| <b>% of column total</b>             |               |              |                     |                    |
| <b>In-house Staffing<sup>a</sup></b> |               |              |                     |                    |
| Home health aide services            | 87.9          | 80.4         | 88.2                | 86.7               |
| Nursing services                     | 91.6          | 85.3         | 91.8                | 90.9               |
| Provided <5 service types            | 12.5          | 15.4         | 12.2                | 13.7               |
| Compliant with CMS regulations       | 94.3          | 96.7         | 94.4                | 93.9               |
| Medicare only                        | 23.0          | 33.7         | 26.1                | 9.8                |
| Operates Medicare hospice            | 7.2           | 6.9          | 3.4                 | 23.7               |
| Rural                                | 15.8          | 11.4         | 12.1                | 32.0               |
| Hospital-based                       | 7.6           | 7.4          | 1.0                 | 36.3               |

<sup>a</sup>Non-contracted services

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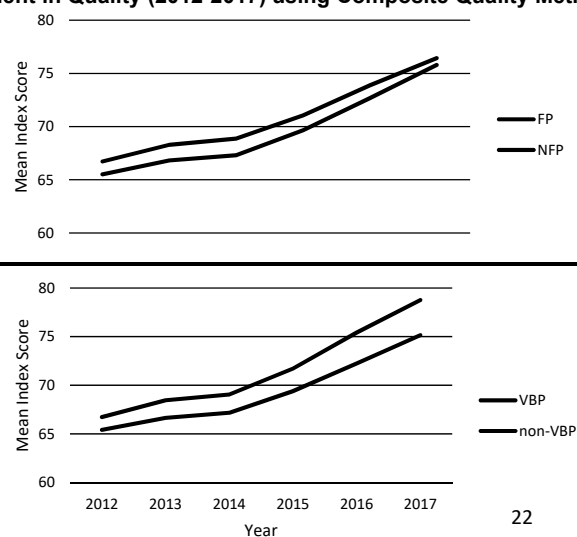
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## Recent Trends in HHC QoPC Star Ratings

### Agency characteristics positively associated with higher quality

- Not-for-profit (NFP) agencies
- RN staffing
- Nurse and aide services with in-house staff
- CMS compliance
- Rural location
- VBP program participation

Improvement in Quality (2012-2017) using Composite Quality Metric



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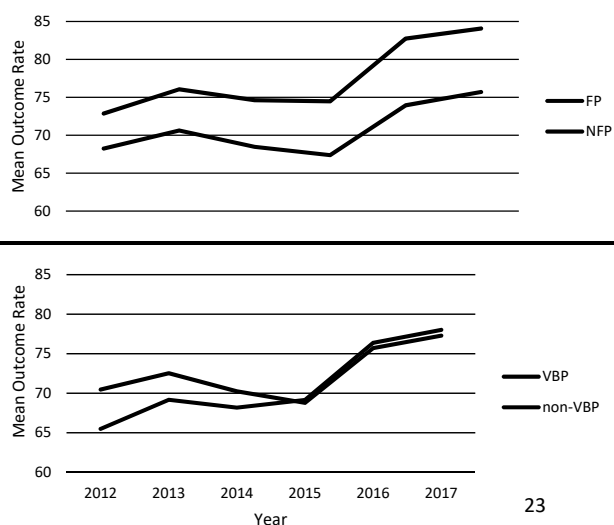
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## Recent Trends in HHC QoPC Star Ratings

### Agency characteristics positively associated with influenza vaccination verification

- Not-for-profit (NFP) agencies
- RN staffing
- Nurse and aide services with in-house staff
- CMS compliance

Improvement in Vaccination Verification (2012-2017)



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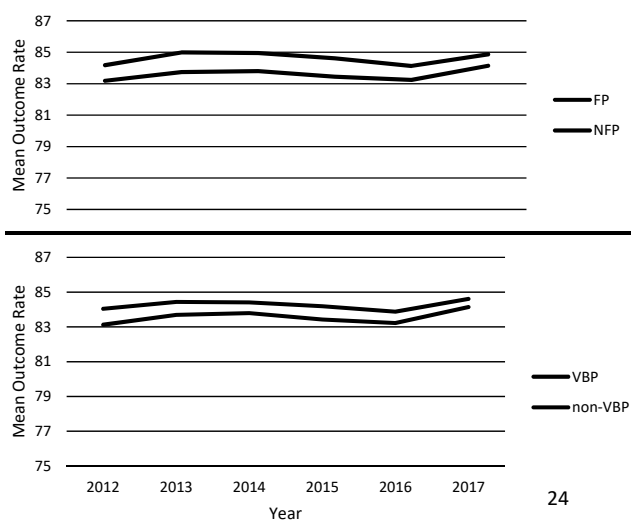
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## Recent Trends in HHC QoPC Star Ratings

### Agency characteristics positively associated with avoidance of patient hospitalization

- For profit agencies
- Home care aide staffing
- Contracting nursing and aide services
- Serving Medicare patients only
- Urban location

Avoidance of Patient Hospitalization (2012-2017)



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## Recent Trends in HHC QoPC Star Ratings

- Development of a normalized quality metric that includes each of the QoPC measures equally
- Quality of home health services does vary by agency characteristics, particularly by ownership status and VBP program participation
- Overall quality has improved substantially from 2012 to 2017
  - Improved rates of influenza vaccination verification
    - Largest increase occurred in 2016, particularly among VBP agencies
  - Little improvement in avoidance of hospitalization rates

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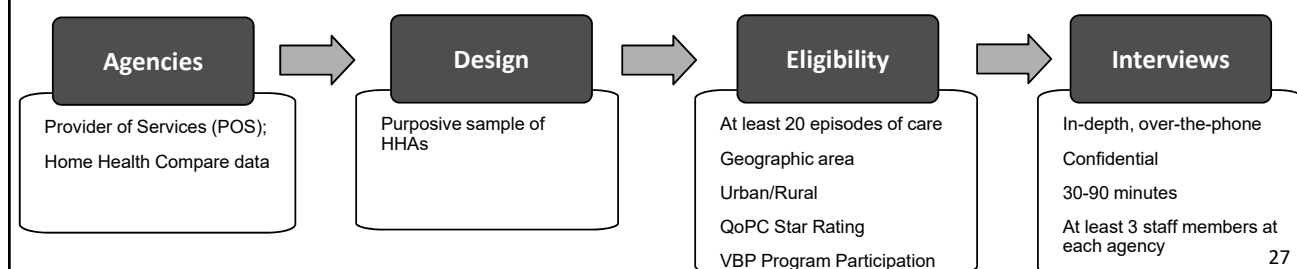
## Successes and Challenges in IPC and QI in HHC

### Qualitative Study Goals

1. Describe the current infection prevention and control infrastructure and policies in HHC agencies
2. Explore how HHA have responded to various quality and VBP initiatives

### Qualitative Study Period

- March to November 2018



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## Successes and Challenges in IPC and QI in HHC

### Study Participants

- 41 staff members from 13 agencies in 4 geographic regions (Northeast, Midwest, South, West)
- Interviewed participants with a variety of roles, including: administrators, clinical managers, field RNs, quality improvement coordinators, nurse educators, and home health aides

| Example Interview Topics                                   |                                                                 |
|------------------------------------------------------------|-----------------------------------------------------------------|
| Infection prevention and control policies at agency        | Patient and family/caregiver education                          |
| Communication and staff training                           | Quality/performance improvement processes/initiatives at agency |
| Availability of infection prevention and control resources | Successes and challenges in infection control in home care      |

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## Successes and Challenges in IPC and QI in HHC

- Interviews were recorded and professionally transcribed
- Core transcripts were openly coded and preliminary themes were developed

| Preliminary Themes                             |
|------------------------------------------------|
| Uniqueness of Home Health Care                 |
| Care Coordination Challenges                   |
| Infection Prevention and Control as a Priority |
| Keys to Success - Innovation                   |

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## Successes and Challenges in IPC and QI in HHC

### Uniqueness of Home Health Care

- Unpredictability/Home Environment
- Challenges related to Workload and Travel
- Staffing Challenges

"Well, it's not the hospital where it's a controlled environment. You're going into patient's homes that sometimes aren't the cleanest. They may have paths through it, and you just gotta do the best you can and try to be as clean and prevent infections as you can in the home..."

- Intake Coordinator/Supervisor

"The nurses I can say, they are just so stressed up, and they just want their work to end early, so they are just shortcutting... Shortcutting every intervention, shortcutting every technique they're supposed to do... because they are time constrained. They have too many patients to see, and they wanna make sure that they covered everything."

- Field RN

"I see anywhere from three to five patients a day. It depends on their schedule and their needs when I see them and where they're located. I think my furthest patient's about 60 miles away. I have quite a bit of miles usually. Some days up to 300 miles."

- Field RN/Case Manager

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## Successes and Challenges in IPC and QI in HHC

### Care Coordination Challenges

- Communication with Other Local Providers
- Working Hours

"Basically, we follow up with a physician, make sure they saw the fax, that it has the details of what is suspected, and then making sure that there's a conversation with them if that conversation is possible – sometimes the physicians aren't as available to us as we would like- and just keeping track of any kind of conversation that we do have..."  
- Administrator

"Our work day is 9:00 to 5:00. If there's something that happens after hours, there's no doctor to call. It's very difficult on that end, because we'll find ourselves in situations where our hands are tied. We can't do anything. We can't get a hold of a doctor. We can't get any new orders. What do we have to do? We have to send the patient to the hospital."  
- an RN/Case Manager

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## Successes and Challenges in IPC and QI in HHC

### Infection Prevention and Control as a Priority

- Focus on Hand Hygiene, Bag Technique
- Protection of Patients/Self
- Role in Preventing Hospitalizations

"The most important aspects of infection control are education and handwashing. It's the single most proven way to keep infections down and it's important to teach people to correctly wash their hands."  
- a Field RN

"For me, personally, it's very important. Not just for patients but also for what I'm bringing home. I've got a nine-month-old, so for me, I've got a young child, and I just don't wanna bring anything home."  
- a Hospice RN/Case Manager

"So for us, infection control is the main thing because, at the end of the day, our main objective is to prevent our patients from deteriorating or being rehospitalized."  
- an RN Case Manager

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## Successes and Challenges in IPC and QI in HHC

### Keys to Success and Innovation

- Agency focus on/culture of overall quality and patient satisfaction
- Reputation as a Key Driver of Quality
- Direct, multi-modal communication

"We don't have a reinfection admission rate. I mean it's a big stressor here... [Our leadership] makes sure you have what you need. Other companies could take a look at how supportive they are... it would help their rates a lot, as well."  
- a Field RN

"We always have a monthly meeting... When there is an update or a change in anything, that's something that we address during that meeting. It's not just the nurses. It's the PTs and the OTs too. Whoever is able to come, we have them all in one place. That way they can ask questions, bounce ideas off of each other. Those people that are not able to come for whatever reason, there's always handouts as well as Tigertext that we use to cover all the points that we discussed."  
- a Field RN

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## Successes and Challenges in IPC and QI in HHC

### What we learned...

- Uniqueness of the home environment presents challenges (i.e. staffing, workload) for IPC
- HHC staff experience a number of challenges with care coordination (i.e. communication with local providers, working hours, etc.)
- Prioritizing IPC plays an important role in preventing hospitalizations
- Agency focus on quality and IPC can set staff up for success

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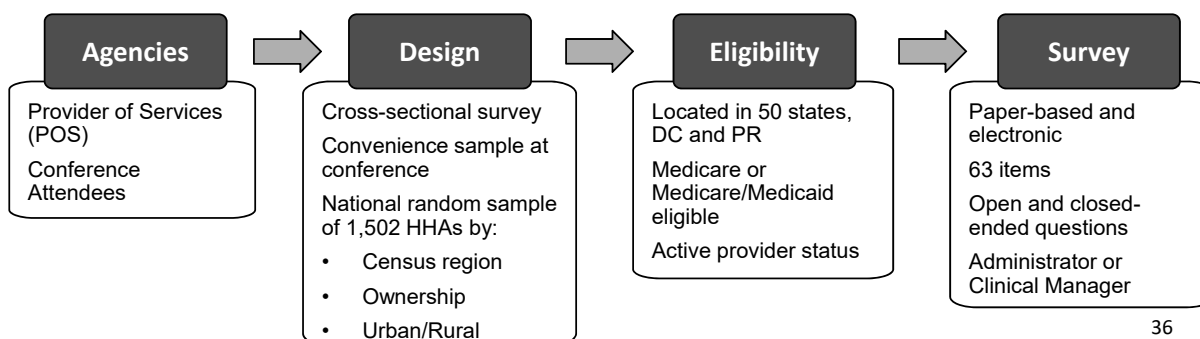
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### Survey Goals

1. Describe the current infection prevention and control infrastructure and policies in HHC agencies
2. Describe HHA QAPI programs and identify the types of HHA that respond to VBP incentives

### Survey Implementation Period

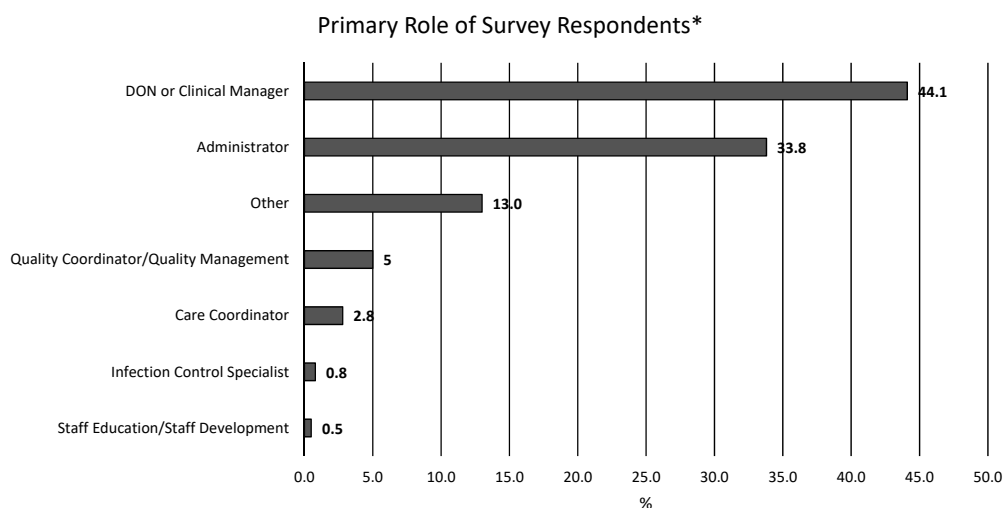
- October 2018 to October 2019



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## Preliminary Findings from National Survey of HHC Agencies

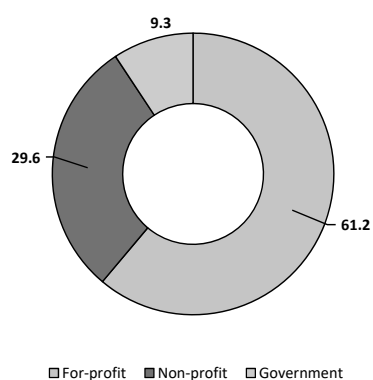


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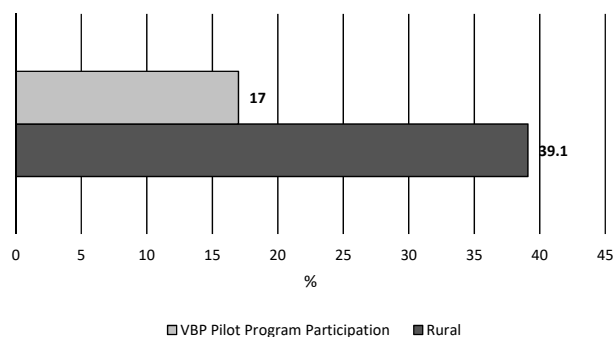
## Preliminary Findings from National Survey of HHC Agencies

Ownership Status of Responding Agencies\*



\*n=399

Geographic Characteristics of Responding Agencies\*

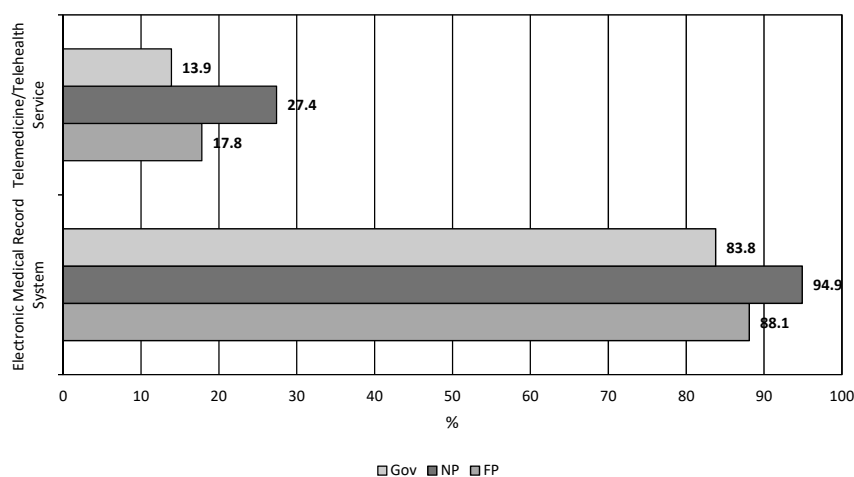


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## Preliminary Findings from National Survey of HHC Agencies

Technology Adoption at Responding Agencies\*

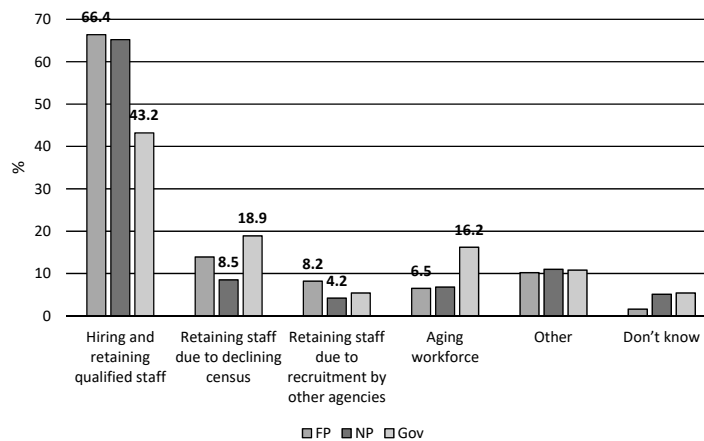


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## Preliminary Findings from National Survey of HHC Agencies

Biggest Challenge with Staffing\*\*

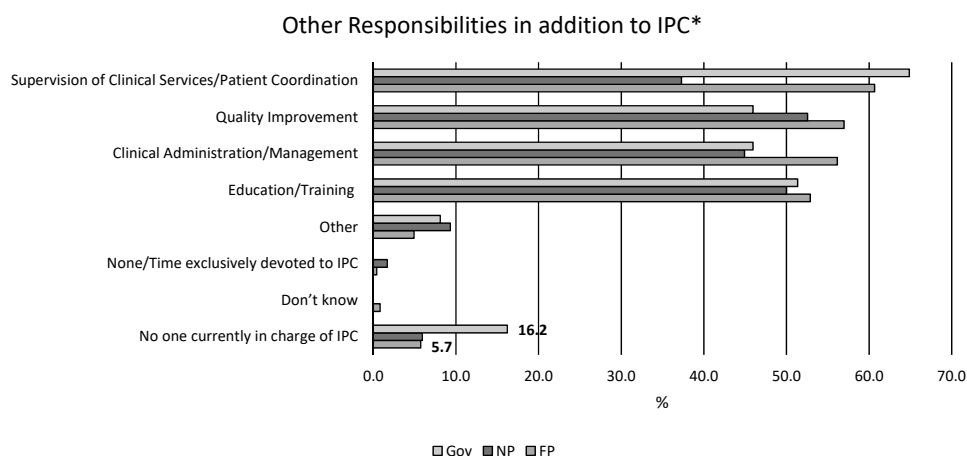


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## Preliminary Findings from National Survey of HHC Agencies

For staff member in charge of IPC...



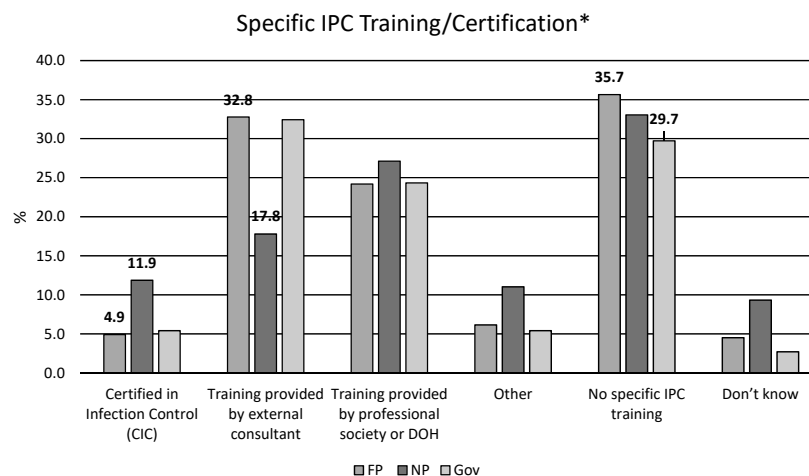
\*Respondents selected all answers that applied

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## Preliminary Findings from National Survey of HHC Agencies

For staff member in charge of IPC...



\*Respondents selected all answers that applied

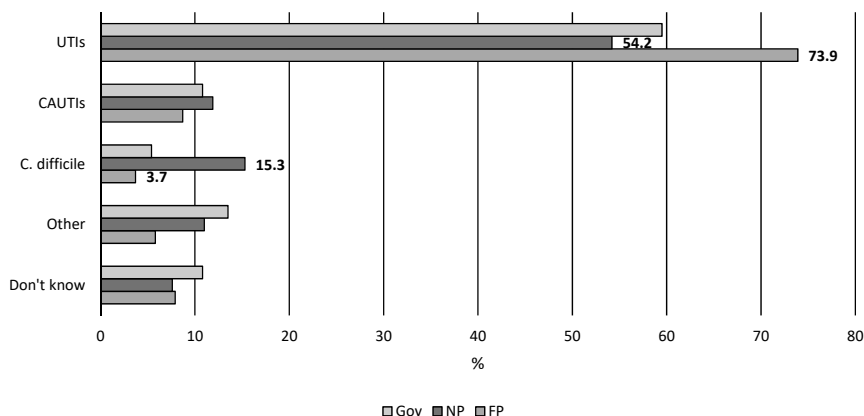
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## Preliminary Findings from National Survey of HHC Agencies

### IPC at Participating Agencies...

Greatest Infection Control Challenge at this Time\*



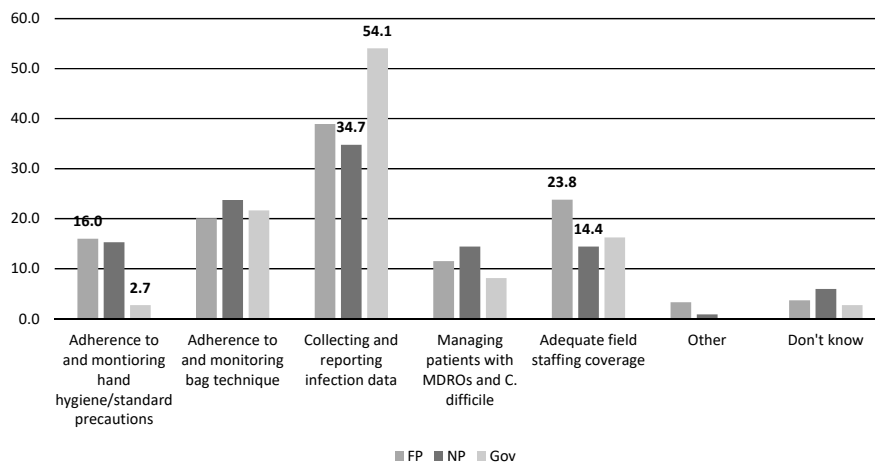
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## Preliminary Findings from National Survey of HHC Agencies

### IPC at Participating Agencies...

Most Challenging Aspect of Infection Control\*

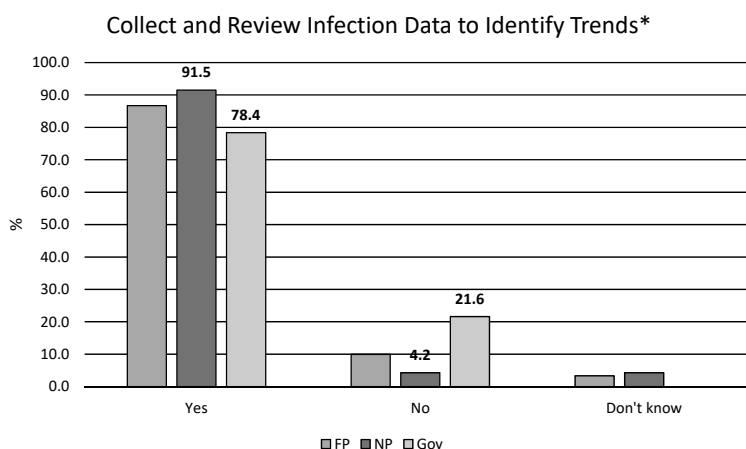


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### IPC at Participating Agencies...

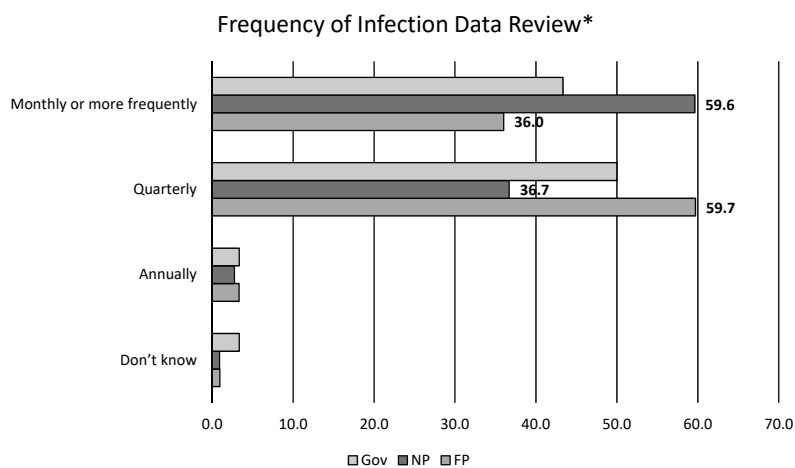


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## Preliminary Findings from National Survey of HHC Agencies

### IPC at Participating Agencies...



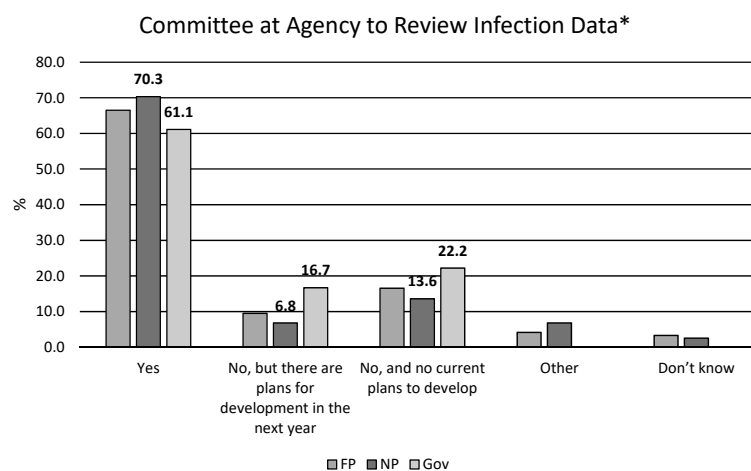
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## Preliminary Findings from National Survey of HHC Agencies

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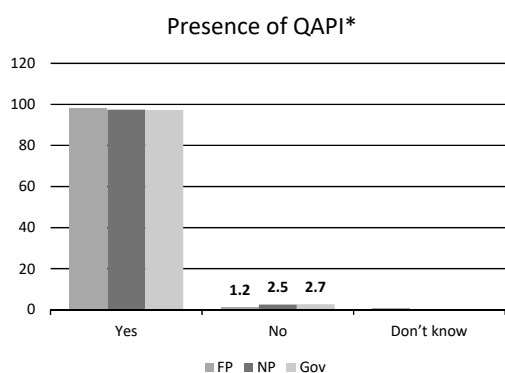


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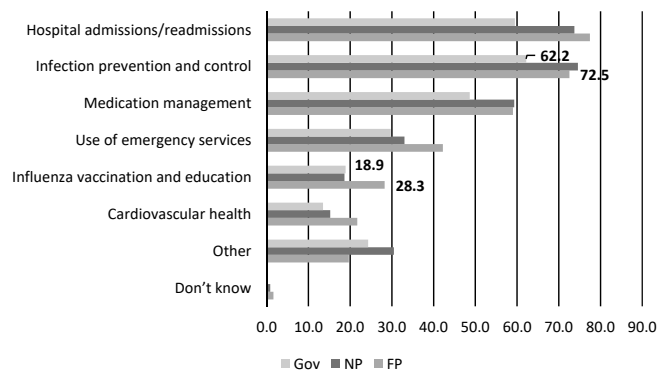
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## Preliminary Findings from National Survey of HHC Agencies

### Quality Improvement at Participating Agencies...



### Focus of QAPI\*\*



\*n=398; \*\*Respondents selected all answers that applied

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## Preliminary Findings from National Survey of HHC Agencies

### At Participating Agencies...

- Over 16% of government-owned agencies do not currently have a staff member in charge of IPC, compared to almost 6% of FP/NP agencies
- Staff members in charge of IPC have multiple responsibilities in addition to IPC
- Approximately 30% of staff in charge of IPC have no specific training in IPC; however 12% of those at NP agencies have completed CIC training
- Collecting and reporting infection data is cited as the most challenging aspect of IPC
- Over 20% of government-owned agencies do not collect infection data to identify trends
- Approximately 2/3 of NP agencies review their infection data monthly or more frequently compared to 1/3 of FP agencies
- QAPIs are in place at almost all agencies and have a range of topics that they focus on

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## Preliminary Findings from National Survey of HHC Agencies

### Question:

What are your thoughts on the differences between for-profit, non-profit and government-owned agencies?

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## Next Steps

### Ongoing Research

- Complete nationwide survey of home health agencies in late October 2019
- Quantitative Analyses (merging OASIS, Medicare claims, InHome Survey and other public files)

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## Acknowledgments



Patricia Stone  
 Elaine Larson  
 Monika Pogorzelska-Maziarz  
 Gayani Perera  
 Sabrina Mangal



Andrew Dick  
 Mark Sorbero

#### Our Advisory Board:

Mary McGoldrick  
 Andrea Devoti  
 Maureen Dailey  
 Irena Kenneley

**And, thank you to our InHOME Study participants!!**

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## Funding



NINR/OD: R01NR016865



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## Discussion and Questions



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