Supporting Aging in Place Through IWISH:

First Interim Report from the Supportive Services Demonstration

U.S. Department of Housing and Urban Development | Office of Policy Development and Research

Supporting Aging in Place Through IWISH: First Interim Report from the Supportive Services Demonstration

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About This Report

This is the first of three reports on the Supportive Services Demonstration for Elderly Households in HUD-Assisted Multifamily Housing. The U.S. Department of Housing and Urban Development (HUD) sponsored the Supportive Services Demonstration (also known as the IWISH demonstration) to test the impact of housing-based supportive services on the healthcare utilization and housing stability of low-income adults aged 62 and older living in HUD-assisted multifamily properties.

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Thanks are also due to leadership and staff of the properties in the demonstration who participated in interviews with the study team and provided data and information on their programs to the study team. We look forward to continuing our engagement with property and residents in the next phase of the study.

Foreword

The Supportive Services Demonstration, also known as IWISH (Integrated Wellness in Supportive Housing), was authorized by Congress and launched in 2017. The 3-year demonstration is being implemented in 40 U.S. Department of Housing and Urban Development (HUD)-assisted multifamily properties in California, Illinois, Maryland, Massachusetts, Michigan, New Jersey, and South Carolina.

The demonstration aims to determine whether a well-funded, planned model of supportive services coordination, which is delivered through HUD-assisted properties serving older adults, provides compelling benefits. Through a rigorously designed randomized-controlled evaluation, we expect to determine whether the IWISH model of service delivery and coordination achieves the important outcomes of reducing early transitions to nursing homes and unnecessary or avoidable healthcare utilization. The demonstration funds a full-time Resident Wellness Director and part-time Wellness Nurse to work in HUD-assisted housing developments that either predominantly or exclusively serve households headed by people aged 62 or over. The Resident Wellness Director and Wellness Nurse proactively engage with residents and implement a formal strategy for coordinating services to help meet residents' needs.

This report is the first in a series that will address the implementation and success of the demonstration. It documents the baseline characteristics of the residents of the demonstration properties. It describes the first 18 months of the implementation of IWISH, including the demonstration's successful launch and enrollment, and early work with participants towards meeting their health and wellness goals. The *Second Interim Report* will contain a comprehensive analysis of IWISH implementation using data from interviews with staff from the IWISH and control properties, focus groups with residents, and further analysis of data collected on program participants. Finally, the *Comprehensive Report* will provide a quantitative analysis of the impact of IWISH on residents' healthcare utilization and housing stability by comparing the treatment and control groups along four primary outcomes: unplanned hospitalizations and use of other acute care; use of primary care and other nonacute health care; length of stay in HUD multifamily housing; including frequency of exits from housing; and transitions to long-term care facilities.

Seth D. Appleton
Assistant Secretary for Policy Development and Research
U.S. Department of Housing and Urban Development

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Executive Summary

This is the first of three reports on the Supportive Services Demonstration for Elderly Households in HUD-Assisted Multifamily Housing (the demonstration). The U.S. Department of Housing and Urban Development (HUD) sponsored the demonstration to learn whether structured health and wellness support can help low-income older adults, living in affordable housing, successfully age in place.

The model tested through the demonstration is called *Integrated Wellness in Supportive Housing* (IWISH). IWISH locates health and wellness staff in HUD-assisted multifamily properties to better address the health, housing, and social service needs of older adults as they age. A full-time *Resident Wellness Director* coordinates health and wellness programming for the property and connects residents to supportive services in the community. A part-time *Wellness Nurse* monitors residents' health and wellness and facilitates access to primary and preventative healthcare. Key components of the IWISH design include proactive engagement with residents, structured assessment of residents' health and wellness needs, and supplemental funding to make high-quality programming available to residents.

What is the Goal?

The Supportive Services Demonstration, also known as IWISH, is designed to provide rigorous evidence of whether a structured program of housing-based health and wellness supports can help older adults successfully age in their homes and communities.

The IWISH model is different from the supportive services available at a typical HUD-assisted multifamily property serving older adults. The biggest difference is that a typical HUD-assisted property will not have an onsite Wellness Nurse. The property could have an onsite service coordinator who fills some of the Resident Wellness Diretor role, but not all properties have service coordinators, and typical service coordinators do not have as strong a focus on health and wellness. Finally, a typical property might not conduct a detailed assessment of residents' health and wellness needs and may not have as much funding for health and wellness programming.

HUD contracted with Abt Associates and its partner L&M Consulting to document the implementation of the IWISH model over the 3-year demonstration period and to measure the impact of IWISH on residents' housing stability and healthcare utilization. The evaluation compares outcomes for residents living in 40 properties that implement IWISH (the "treatment" group) to those of residents living in 84 similar properties that do not implement IWISH (the "control" group).

The key hypotheses guiding the demonstration are that the IWISH program will reduce unplanned hospitalizations and use of other types of acute care, increase the use of primary and nonacute care, and increase the length of stay in housing by reducing transitions to long-term care facilities.

This **First Interim Report** serves two main purposes:

- To describe the baseline characteristics of the residents of the demonstration properties.
- To describe the first 18 months of the implementation of IWISH.

The baseline period for this study is the period immediately preceding the official start of the demonstration on October 1, 2017. The analysis of baseline characteristics draws on HUD administrative data, Medicare claims data, and public use data sources.

The description of IWISH implementation covers the period from October 1, 2017, through March 18, 2019. It focuses on the process of hiring and retaining IWISH staff and implementing key IWISH activities, such as enrolling residents and assessing their health and wellness needs. This First Interim Report does not describe in detail the experiences of staff in implementing IWISH or residents' experiences with the program.

The **Second Interim Report**, to be produced after the demonstration ends in September 2020, will provide detailed discussion and analysis of the experience of implementing IWISH over the full 3 years of the demonstration.

The **Comprehensive Report**, planned for 2022, will provide quantitative analysis of the impact of IWISH on residents' healthcare utilization and housing stability. The Comprehensive Report will measure the impact of IWISH on the following resident outcomes:

- Unplanned hospitalizations and use of other acute care.
- Use of primary care and other nonacute health care.
- Length of stay in HUD multifamily housing, including frequency of exits from housing.
- Transitions to long-term-care facilities.[1]

The Comprehensive Report will use information collected for the First and Second Interim Reports to contextualize its quantitative findings. The reason for the large gap in time between the end of the demonstration (2020) and the Comprehensive Report (2022) is that the latter will analyze person-level Medicare and Medicaid claims data for the research sample over the entire demonstration period, and these data will not become available for analysis until 2021.

The Demonstration Timeline

In January 2016, HUD published a Notice of Funding Availability announcing the availability of $15 million in funds for the demonstration, inviting owners of multifamily properties serving older adults to apply. HUD received more than 700 applications. From this pool, HUD identified 131 properties across seven states (California, Illinois, Massachusetts, Maryland, Michigan, New Jersey, and South Carolina) as eligible for random assignment. In January 2017, HUD randomly assigned 40 properties across the states to a treatment group, to implement IWISH, and 84 properties to a control group, to continue business as usual.

The demonstration (and evaluation) formally launched on October 1, 2017.[2] Between October 2017 and March 2018, the IWISH properties focused on hiring and training staff, developing policies and procedures, and conducting outreach to residents. IWISH properties began enrolling residents in IWISH on March 19, 2018. From that date on, the IWISH sites worked on enrolling residents, conducting individual assessments, developing service plans, and coordinating programming. The IWISH staff also entered IWISH residents' information into Population Health Logistics (PHL), the data system adapted for the demonstration.

March 18, 2019, marks 18 months since the start of the demonstration and 12 months since the start of IWISH enrollment, and it is the end of the analysis period for this First Interim Report. The Second Interim Report will cover implementation in the second part of the demonstration (April 2019 through September 2020).

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[1] The study will also analyze the impact of IWISH on total healthcare costs, inpatient costs, outpatient costs, and pharmacy costs, but these are not the primary outcome measures of the study.

[2] Hiring for the IWISH properties and some initial training took place before October 2017, but for purposes of the evaluation, the official start date for the demonstration is October 1, 2017.

Overview of the IWISH Model

IWISH provides funding to pay for hiring one or more full-time Resident Wellness Directors and one or more part-time Wellness Nurses for the 3-year duration of the demonstration; the staffing ratio is one full-time Resident Wellness Director and one part-time Wellness Nurse for every 100 to 115 residents. The Resident Wellness Director and Wellness Nurse work together to support residents in achieving their health and wellness goals. The Resident Wellness Director proactively engages with residents for needs assessment and individual goal setting, coordinates health and wellness programming for the property, and builds partnerships with health and social services partners in the community. The Wellness Nurse provides health education and coaching to residents, offers basic health and vital signs monitoring, helps residents work effectively with their healthcare providers, hosts group activities, and assists with returns from hospitals or nursing homes.

What It Means to Enroll in IWISH

Enrolling in IWISH is voluntary. Enrollment means signing an informed consent form to participate in the demonstration. Once enrolled, the resident can choose the type and level of assistance they would like to receive, the programs and activities in which they would like to participate, and whether to share information with other providers (as documented in the Release of Information form).

Source: IWISH Operations Manual 2019

Key components of the IWISH model include:

- A structured approach to engaging with residents that includes in-depth interviews to learn about residents' needs and goals, health and wellness assessments to collect standardized information across residents to inform individual and community planning, and Individual Healthy Aging Plans to help residents achieve their goals.
- Use of PHL to collect and store information on IWISH participants' health and wellness needs and service engagement.
- Development of a Community Healthy Aging Plan to identify appropriate partnerships and programming for the property.
- Emphasis on developing partnerships with healthcare facilities and other provider types to better coordinate health and wellness services for residents and transitional care following hospitalizations.
- Supplemental funding to support evidence-based programming and other activities that help meet residents' activities of daily living (ADLs), instrumental activities of daily living (IADLs), health, wellness, and prevention needs to support aging in place.
- Training, technical assistance, and monitoring provided by an implementation team under contract to HUD for the demonstration. The implementation team consists of The Lewin Group and its partners LeadingAge and the National Well Home Network.

Baseline Characteristics of IWISH Residents and Properties

The typical HUD-assisted resident of an IWISH property as of September 2017 was a 76-year-old woman, living alone, and residing at the property for about 7 years. The group of residents is racially and ethnically diverse (49 percent White, 26 percent African American, and 18 percent Asian or Pacific Islander; 13 percent Hispanic), although the individual properties are not necessarily diverse. The average household income at baseline was $13,972, about one-third of the median income for the U.S. population aged 65 and older. No statistically significant differences exist between the baseline characteristics of the residents of IWISH properties and the residents of the control properties.

The data available at this stage of the evaluation, to analyze the healthcare utilization of IWISH residents at baseline, is Medicare fee-for-service (FFS) claims data for residents enrolled in Medicare Parts A and B. (Later in the study we plan to obtain data for residents enrolled in Medicare managed care plans and Medicaid records.) One-half of all residents receiving HUD multifamily assistance at IWISH properties could be linked to the Medicare administrative data available at this point in the evaluation and were continuously enrolled in Medicare Parts A and B and not a Medicare managed care plan for at least one quarter prior to baseline. We call this subset of the treatment group the *IWISH Medicare FFS sample*.[3] Three-fourths of the IWISH Medicare FFS sample also qualified to enroll in their state's Medicaid program at some point during their baseline period (that is, they were "dually eligible").

Residents in the IWISH Medicare FFS sample tend to be less healthy than the general Medicare population. For example, the prevalence of many common chronic conditions is much higher among the sample members than among all Medicare beneficiaries with full FFS coverage in 2016. On average, the IWISH Medicare FFS sample had unplanned hospitalization rates equivalent to about one unplanned hospitalization every 3 years, or about 2 days hospitalized per year. They used the emergency department equally as often as medical transportation services, about once every 20 months. Overall, residents in the Medicare sample spent an average of 358 days per year "in the community," meaning without any medical encounter in an inpatient hospital setting, an emergency department, or an outpatient hospital setting for observation. The distribution of healthcare use is highly skewed, however: A small fraction of these residents used a disproportionately large share of all health care used by the sample during the baseline period. A few statistically significant differences exist in the age distribution and baseline prevalence of chronic or potentially disabling conditions of the IWISH Medicare FFS sample, compared to residents of the control properties subject to the same Medicare enrollment specifications; however, no statistically significant differences exist in their baseline healthcare utilization rates.

The main analysis for the evaluation will be at the resident level, comparing outcomes for the treatment group as a whole versus outcomes for the control group as a whole; however, property and community characteristics could affect how IWISH is implemented and how well it works. The IWISH properties are highly varied in the characteristics of their resident populations and their neighborhoods. For example, some properties have lengths of stay averaging 5 years, while in others, residents stay an average of 12 years. Some properties have almost all White residents, including properties with sizable European immigrant populations, others have almost all African-American residents, and others are racially mixed. At some properties, a sizable share of residents is aged 85 or older, whereas at other properties the percentage of "older" older adults is quite small.

The properties do not vary substantially in physical condition, based on HUD inspection data, but the neighborhoods where they are located are highly diverse, ranging in poverty rate (at the census-tract level) from 4 to 53 percent and with different levels of educational attainment and racial and ethnic composition. A fall of 2018 telephone survey with Resident Wellness Directors identified challenges to aging in place in 30 of the 40 communities, with the most common being access to public transportation and access to nutritious food.

The treatment and control groups are well balanced on observable characteristics, show similar diversity at the property level, and are in many of the same neighborhoods. Thus, differences between the residents in the treatment and control groups, or the environments in which they live, are unlikely to bias the future analysis of the impact of IWISH. The few differences between the treatment and control groups can be controlled for through multiple linear regression to ensure that we obtain an unbiased estimate of

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[3] The use of the term "IWISH" in this name refers to the fact that the residents live in IWISH properties (they are treatment group members). The residents in the IWISH Medicare FFS sample are not necessarily enrolled in the IWISH program.

the impact of IWISH on residents' outcomes. Because property-level differences could affect how IWISH is implemented, the impact analysis will include sensitivity analyses to explore potential differential impacts by subgroups of property types.

IWISH Staffing Over the First 18 Months

The IWISH properties received funding for one full-time Resident Wellness Director and one part-time Wellness Nurse for about every 100 units. Thirty of the 40 IWISH properties have funding for one full-time Resident Wellness Director and one part-time nurse. Most of the other properties have funding for two full-time Resident Wellness Directors and one full-time Wellness Nurse. The largest IWISH property, with more than 400 units, has four full-time Resident Wellness Directors and two full-time Wellness Nurses.

Most IWISH properties had the target number of Resident Wellness Directors for most of the analysis period. The average IWISH property had the target number of Resident Wellness Director full-time equivalents (FTEs) for 93 percent of the total demonstration days and at least one Resident Wellness Director for 96 percent of the total demonstration days. (Demonstration days are the number of calendar days between the start of the demonstration and the close of the period of analysis for this First Interim Report.) Ten properties had no Resident Wellness Director at some point during the analysis period, and 14 properties experienced some period of less than target staffing.

Most of the time that properties spent without a Resident Wellness Director, or were at less than target staffing levels, can be attributed to delays in initial hiring during the start-up period. Turnover in the Resident Wellness Director position, however, also contributed to less than target staffing. In the first 18 months of the demonstration, 8 of 54 Resident Wellness Director positions turned over.

Staffing the Wellness Nurse position presented greater challenges. Many IWISH properties experienced challenges with hiring and retaining Wellness Nurses. Of the 40 IWISH properties, 37 experienced some period without a single Wellness Nurse on site, and 38 properties experienced some period of less than target staffing.

Delays in hiring the first Wellness Nurses at IWISH properties played a large part in overall staffing shortages. Factors delaying initial hiring include a lack of experience among property owners in contracting for healthcare services, a lack of urgency on the part of third-party contractors responsible for identifying the nurses, and the nationwide nursing shortage. In addition, Wellness Nurses left their positions at nearly twice the rate as Resident Wellness Directors. In the first 18 months of the demonstration, 10 of 42 Wellness Nurse positions turned over, compared to 8 of 54 Resident Wellness Director positions.

IWISH Implementation Over the First 18 Months

The IWISH properties had expected to begin enrolling residents into IWISH as early as October 2017, but the demonstration did not receive final government approval for the data collection involved in enrolling residents and conducting the health and wellness assessments until March 19, 2018. The delay gave the IWISH properties 6 months to work on filling remaining staff positions, training staff, finalizing policies and procedures, and conducting resident outreach.

Resident enrollment officially launched on March 19, 2018. A year later, as of March 18, 2019, the 40 IWISH properties had enrolled 2,960 residents, a 71 percent enrollment rate overall. A few properties succeeded in enrolling the majority of their residents in the first few months following the launch of enrollment, but most properties started more slowly, in some cases encountering challenges stemming from resident resistance, staff turnover, workload issues, or all of the above. As of March 2019, 13 of the 40 IWISH properties (33 percent) had enrollment rates at or above 80 percent, 17 properties (43

percent) had enrolled 60 to 79 percent of their residents, 6 properties (15 percent) had enrolled 50 to 59 percent, and 4 properties (10 percent) had enrolled less than 50 percent.

Most properties made progress in conducting person-centered interviews, health and wellness assessments, and Individual Healthy Aging Plans to identify the health and wellness needs and goals of residents who enrolled in IWISH. Resident Wellness Directors identified the process of working closely with and getting to know residents as one of the most rewarding parts of the job.

IWISH implementation in the first 18 months focused on enrolling residents and completing resident assessments. In the second part of the demonstration, we anticipate greater emphasis on property-wide planning, developing partnerships, and evidence-based programming.

Next Steps

The next phase of the evaluation entails further qualitative research at the IWISH and control group properties. The evaluation team will conduct site visits and interviews with IWISH Resident Wellness Directors and Wellness Nurses, and other property staff; they will also lead focus groups with residents and conduct further analyses of data collected through PHL. Through the interviews and focus groups, we will learn which aspects of the IWISH model that staff and residents found most impactful and which were most challenging to implement. We also expect to learn more about the role of the implementation team in making IWISH happen, which aspects of the program would properties likely have implemented absent the technical assistance and monitoring provided, and which required this extra attention. Finally, this qualitative research will result in a multifaceted analysis of IWISH implementation and a discussion of how the IWISH model—as implemented—differs from business as usual in HUD multifamily housing for older adults. These topics and analyses will be the focus of the Second Interim Report, which will also document IWISH activities over the second part of the demonstration.

Alongside the qualitative work, the evaluation will continue to track the demographic, socioeconomic, and housing characteristics of the treatment and control group residents and their healthcare utilization patterns, to inform the quantitative analysis of the impact of IWISH coming at the end of the demonstration. The balance between the treatment group and control group based on Medicare claims data at baseline provides an excellent starting point for this analysis, which we will build on by collecting data on health care funded through Medicare managed care plans and Medicaid.

1. Introduction

This is the first of three reports on the Supportive Services Demonstration for Elderly Households in HUD-Assisted Multifamily Housing (the demonstration). The report describes the demonstration model, presents the baseline characteristics of the residents in the demonstration, and describes the first 18 months of the demonstration's implementation.

The U.S. Department of Housing and Urban Development (HUD) sponsored the demonstration to test the impact of housing-based supportive services on the healthcare utilization and housing stability of low-income adults aged 62 and older living in HUD-assisted multifamily properties. The model tested through the demonstration is called *Integrated Wellness in Supportive Housing* (IWISH). IWISH combines housing with supportive services in a model in which staff located on site at a multifamily property for older adults seek to coordinate healthcare, housing, and social services for residents. In IWISH, each property has at least one full-time Resident Wellness Director (RWD) and at least one part-time Wellness Nurse (WN). The Resident Wellness Director and Wellness Nurse work together to support residents to achieve their health and wellness goals. The Resident Wellness Director proactively engages with residents for needs assessment and individual goal setting, coordinates health and wellness programming for the property, and builds partnerships with health and social services partners in the community. The Wellness Nurse provides health education and coaching to residents, offers basic health and vital signs monitoring, helps residents work effectively with their healthcare providers, hosts group activities, and assists with transfers to and from hospitals or nursing homes.

HUD contracted with Abt Associates and its partner, L&M Consulting, to evaluate the demonstration. The purpose of the evaluation study is to document the implementation of IWISH over the 3-year demonstration period and measure the impact of the IWISH model on housing stability and healthcare use. The study is designed to compare outcomes for residents living in 40 properties that implement IWISH to those living in 84 similar properties that do not implement IWISH.

The study focuses on the following outcomes:

- Unplanned hospitalizations and use of other acute care.
- Use of primary care and other nonacute health care.
- Length of stay in HUD multifamily housing, including frequency of exits from housing.
- Transitions to long-term care facilities.[4]

Key hypotheses are that the IWISH program will reduce unplanned hospitalizations and use of acute care, increase the use of primary and nonacute care, increase residents' length of stay in housing, and delay transitions to long-term care facilities.

The remainder of this chapter provides context for the demonstration and evaluation, describing the portfolio of HUD-assisted housing for older adults and the research to date on housing-based supports for older adults. It also introduces the demonstration and evaluation and discusses the role of this First Interim Report in the evaluation. The introduction concludes with a roadmap for the rest of the report.

[4] The study will also analyze the impact of IWISH on total healthcare costs, inpatient costs, outpatient costs, and pharmacy costs, but these are not the primary outcome measures of the study.

1.1. HUD-Assisted Housing for Older Adults

In 2018, HUD provided housing assistance to 4.6 million households in the form of public housing, tenant-based housing vouchers, and various privately owned project-based housing programs. Overall, 36 percent of these households—or nearly 1.7 million households—had a household head, co-head, or spouse who was an older adult (aged 62 or older). Exhibit 1-1 below shows the main HUD programs that provide housing assistance to older adults. In all cases, the assistance is provided in an independent setting, though some programs and properties offer supportive services to help residents to live independently. The Section 202/Project Rental Assistance Contract (PRAC) Supportive Housing for the Elderly program exclusively serves older adults. The other HUD programs, however, serve a mix of older adult households and families—with the percentage of households headed by older adults in these programs ranging from 22 percent (in the Section 811 program) to 49 percent (in the Project-Based Section 8 Rental Assistance program). The older adults served by programs other than Section 202/PRAC may live in elderly-only or elderly-designated buildings or they may live alongside households headed by younger individuals.

Exhibit 1-1. HUD Programs With Highest Numbers of Households Headed by Older Adults, 2018

Program Category	Program Name	Number of Households Overall	Number of Households Headed by Older Adults	Percent of Households Headed by Older Adults
PHA-administered housing (HUD enters into contracts with PHAs)	Housing Choice Voucher	2,276,722	614,715	27
	Public Housing	944,463	311,673	33
	Moderate Rehabilitation	27,042	7,572	28
	Subtotal PHA-administered	**3,248,227**	**933,960**	**29**
Multifamily housing (HUD enters into contracts with private owners)	Project-Based Section 8 Rental Assistance	1,214,021	594,870	49
	Section 202/PRAC	123,134	123,134	100
	Section 811/PRAC	32,294	7,105	22
	Other multifamily programs	10,571	4,491	42
	Subtotal multifamily	**1,380,020**	**729,600**	**53**
	Total	**4,628,247**	**1,663,560**	**36**

PHA = public housing agency. PRAC = Project Rental Assistance Contract.
Note: A "household headed by older adult" is defined as a household in which the older of the household head or spouse is aged 62 or older.
Source: HUD Assisted Housing: National and Local, Picture of Subsidized Households Database Access, 2018

The 124 properties in the demonstration are all buildings that are restricted to or designated for older adults. About 40 percent of the properties participating in the demonstration are funded through the Section 202/PRAC program; the other 60 percent of the properties are funded through the Project-Based Section 8 Rental Assistance program but have a resident population restricted to older adults. Each program is described below:

- The ***Section 202/PRAC program*** provides capital advances and contracts for project rental assistance to private nonprofit organizations to expand the supply of affordable housing with voluntary supportive services for very low-income older adults (aged 62 and older). Recipients of Section 202 capital advances use the funds to finance the development of housing through new construction, rehabilitation, or acquisition. Repayment of the capital advances is not required if occupancy of the housing remains restricted to very low-income older adults for at least 40 years. (*Very low-income* is household income at or below 50 percent of the Area Median Income [AMI].) HUD provides additional project rental assistance funds to Section 202 properties for

operating costs not covered by tenant rent contributions, which are set at 30 percent of adjusted income. Owners may also use the project rental assistance funds to offer supportive services to residents of the property and to hire a service coordinator to assist residents to age in place and live independently (see discussion of supportive services and service coordinators below). In 2018, the Section 202/PRAC program served 123,134 households, all of which had an older adult as the household head, co-head, or spouse. About 20,000 of these households had a head, co-head, or spouse aged 85 or older (HUD, 2018c).

- The ***Project-Based Section 8 Rental Assistance program*** provides rental assistance funding to owners of multifamily rental housing to cover the difference between what a household can afford (typically 30 percent of adjusted income) and the rent for a unit in the property. Unlike Section 202/PRAC funds, Project-Based Section 8 funds are not restricted to households headed by older adults, though the developer may choose to so restrict the property, and it is those properties that are the focus of the IWISH demonstration. Occupancy is restricted to households with low incomes.[5] Households headed by older adults make up nearly one-half of the households served through the Project-Based Section 8 program. The private owners that enter contracts with HUD may be nonprofit, cooperative, or for-profit organizations. In 2018, the Project-Based Section 8 Rental Assistance program served 594,870 households with an older adult as the household head, co-head, or spouse. About 85,000 of these households had a head, co-head, or spouse aged 85 or older (HUD, 2018c).

All the properties in the demonstration provide an independent setting for older adults living alone or as couples. Many of the properties offer access to supportive services that may be accessed by residents on a voluntary basis, facilitated by an onsite service coordinator.

Supportive services is an umbrella term for the broad array of services and programs that low-income older adults may need to continue to live independently as they age. The services may include meal services, case management, transportation assistance, public benefits programs enrollment assistance, fitness and wellness programs, housekeeping assistance, and health services. HUD does not generally pay for these services—with the exception that HUD pays a nominal amount for services under the PRAC program. Instead, supportive services are typically provided by community-based organizations or paid for by other sources such as Medicaid.

Service coordinators help residents gain access to the supportive services they may need. A service coordinator in HUD's multifamily housing programs is a person hired by the property to "foster an environment in which elderly persons and persons with disabilities can live independently and remain in their communities. A service coordinator helps residents to access services available in the community and designs programs and services to meet the needs and desires of the property's residents" (HUD, 2018a). The use of these services by residents is entirely voluntary—neither the service coordinator nor property management can compel residents to use the services. HUD funds service coordinators in multifamily housing in two ways: operating funding (through the property's operating budget or other eligible project resources) and grant funding awarded through notices of funding availability (NOFAs) issued by HUD. Among the 124 properties that are part of the demonstration, 77 percent reported having a service coordinator at the time they applied for the demonstration in April 2016.

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[5] Households must have extremely low-incomes (income does not exceed 30 percent AMI) or very low-incomes (income does not exceed 50 percent AMI). A limited number of available units may be rented to households with low-incomes (income does not exceed 80 percent AMI) (HUD, 2018b).

1.2. Research on Housing-Based Supports for Older Adults

In providing housing assistance to low-income older adults, HUD and its affordable housing partners face the challenge of how best to support residents in an independent setting. As adults age, they often develop impairments that can affect their ability to live independently. For example, as a result of physical or cognitive impairments, many older people need assistance with activities of daily living (ADLs) such as bathing and dressing, or instrumental activities of daily living (IADLs), such as managing medications, doing housework, and buying groceries. The prevalence of disabilities related to ADLs and IADLs increases with age, particularly after age 75 (JCHSHU, 2018). At the same time, most Americans prefer to live independently in their own homes or communities for as long as possible (Binette and Vasold, 2018). Remaining healthy enough to live in independent housing may also be financially critical for the low-income adults receiving HUD assistance, as Medicare does not cover assisted living or long-term care, and not all low-income older adults will qualify for long-term care services under Medicaid.

Americans Strongly Prefer to Remain in Their Homes and Communities as They Age

- Nearly 80 percent of adults aged 50 and older say they want to remain in their communities and homes as they age.
- Nearly one-half of adults aged 50 and older say they will never move.

Sources: Binette and Vasold, 2018

Several studies over the years have addressed the effects of housing-based supports for older adults. More than 20 years ago, HUD sponsored an evaluation of the Congregate Housing Services Program (CHSP). CHSP provided resident service coordination to frail elderly adults and nonelderly persons with disabilities in assisted housing.[6] Most CHSP participants were elderly, with an average age of 75, and had three or more ADL limitations. The study found that most participants were satisfied with the services they received and that both grantees and residents reported that the program helped residents continue living as independently as possible in their own homes. Officially responsible for connecting participants to services, the CHSP service coordinators often served a broader role, helping to give residents a sense of security and greater social integration (Griffith et al., 1996).

In 2007, HUD surveyed property managers in 363 multifamily properties eligible for funding to staff a service coordinator at the property through HUD's service coordinator program (Levine and Robinson Johns, 2008). About one-half of the properties surveyed had service coordinators; in those properties, satisfaction with the service coordinator program was high.[7] Property managers reported that service coordinators enabled residents to access the services they needed and improved residents' quality of life. Property managers also noted that having an onsite service coordinator gave them more time to focus on property management, rather than on residents' health and social service needs, and helped them to maintain occupancy and manage transfers to settings with more intensive supports when needed. Analysis of tenancy data showed that people who lived in properties with service coordinators stayed in those properties an average of 6 months longer than people who lived in similar properties without service coordinators.

More recent studies have used administrative data matching—HUD and other housing data matched to medical records data—to assess the impact of onsite service coordination and service provision on healthcare utilization and costs. Researchers at the University of Pittsburgh conducted a

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6 HUD is no longer making new CHSP grants, but Congress has continued to provide funds to extend expiring grants.

7 Among the properties that did not have service coordinators, the managers interviewed offered the following reasons: service coordination was provided by outside agencies or informally by the property manager; residents do not need service coordination; service coordination is not appropriate in independent housing; and the property is too small to merit a service coordinator or would otherwise not be eligible for HUD funding.

study in the late 2000s analyzing self-reported health outcomes and healthcare utilization data from 11 HUD-assisted high-rise buildings for seniors in the Pittsburgh area (Castle and Resnick, 2016). Of the 11 buildings, 7 had implemented the Staying at Home program and 4 had not. The Staying at Home program consisted of an onsite social worker and an onsite registered nurse who offered all residents of the building enhanced services in the form of care coordination, advance care planning, medication management, and a healthcare diary. The researchers found positive, statistically significant impacts of the Staying at Home program in 7 of the 10 outcome areas identified by the study.[8] They found that the Staying at Home properties had substantially lower rates of transfers to nursing homes and lower rates of emergency room use, inpatient admissions, and unscheduled hospital stays.

In 2015, LeadingAge and The Lewin Group published the results of a pilot study that examined housing data and medical records data for 23,967 residents in 507 HUD-assisted senior housing properties (Sanders et al., 2015). Findings indicated that residents living in housing with onsite service coordinators had significantly lower hospitalization rates than residents without service coordinators.

Another recent study using data matching looked at hospitalization rates for older adults living in affordable housing properties offering the Selfhelp Active Services for Aging Model (SHASAM). At properties with SHASAM, residents have access to onsite social workers who provide health and wellness assessments, counseling, wellness and physical activity programs, and assistance with accessing public benefits. In 2014, researchers collected data on hospitalizations for 1,248 Medicare beneficiaries living in six affordable housing buildings offering SHASAM and a comparison group of 15,947 Medicare beneficiaries living in other buildings in the same ZIP Codes. They found that residents of the SHASAM buildings had lower rates of hospital discharges overall (indicating less hospital use), lower rates of discharges for ambulatory conditions,[9] and shorter lengths of stay in the hospital (Gusmano, Rodwin, and Weisz, 2018).

A final important piece of the evidence base is the ongoing, multi-year evaluation of the Support and Services at Home (SASH) program, launched in Vermont in July 2011. As of December 2016, the program had served 6,064 individuals (Kandilov et al., 2019). The SASH model consists of a full-time service coordinator and a quarter-time wellness nurse assigned to 54 panels of approximately 100 older adults, most of whom are living in affordable housing developments. The SASH evaluation was funded by the U.S. Department of Health and Human Services' Office of the Assistant Secretary for Planning and Evaluation (ASPE) and by HUD, and the evaluation has produced multiple reports.[10]

The 2019 SASH Evaluation Findings report documents several successes of the program in supporting successful aging in place. First, interviews with SASH staff and property managers suggest that those involved in implementing the program daily value the program for its role in helping participants remain functional in their homes as they age and avoid eviction. Further, SASH participants reported less difficulty managing their medications and higher overall functional status than did Medicare beneficiaries not in the program. The impact analysis found that some of the SASH panels—notably those

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8 The areas of positive impact were self-reported use of health services, self-reported health improvements, self-reported use of noninstitutional health services, self-reported engagement in self-care, self-reported satisfaction with services, likelihood of institutionalization, and emergency room visits and unplanned hospitalizations. The study found no impact on self-reported receipt of preventative services, self-reported likelihood of having considered an advance directive, or self-reported high quality of life.

9 *Ambulatory conditions* include a variety of health conditions with the common characteristic of responding well to interventions deliverable in community-based healthcare settings. In other words, if managed well in a community-based setting, ambulatory conditions should not require hospitalization. Researchers use ambulatory conditions to help measure potentially preventable hospital admissions.

10 These reports are available at https://aspe.hhs.gov/.

overseen by the Cathedral Square Corporation, which developed the SASH program—experienced significantly slower growth (per beneficiary, per month) in total Medicare expenditures, in acute hospital care expenditures, in emergency room expenditures, and in specialist physician expenditures than a comparison group of Medicare beneficiaries did in non-SASH HUD-assisted housing (Kandilov et al., 2019).

In addition to the findings on outcomes and impacts, the SASH evaluation reports provide a detailed picture of the complexity of implementing a housing-based service coordination model. One challenge for the program was the limited number of wellness nurse hours, particularly for panels in rural areas where the nurses had to spend more time traveling. Another challenge for some sites was a perception among some partner agencies that SASH activities were duplicating services already being provided in the community; one of the lessons learned was the importance of clear communication with partner agencies about roles and responsibilities (Kandilov et al., 2019).

The Supportive Services Demonstration, also known as the IWISH demonstration, builds on what has been learned from SASH and earlier studies to advance the knowledge base on the impact of housing-based services on healthcare utilization and housing stability.

1.3. Introduction to the Supportive Services/IWISH Demonstration and Evaluation

HUD began planning for the demonstration in the early 2010s in collaboration with ASPE. They engaged in several activities to inform the demonstration design, including studying the implementation and interim outcomes of SASH and contracting with The Lewin Group and LeadingAge to develop a conceptual framework for how housing sites can link health and long-term services and supports and to pilot test matching housing and medical records data.

These efforts culminated in a demonstration design that sought to build on the lessons learned from SASH and its predecessors and produce further quantitative evidence of the impact of housing-based supportive services on the healthcare utilization and housing stability of older adults living in HUD-assisted housing. HUD focused the demonstration on properties assisted through HUD's Office of Multifamily Housing across seven states and designed the demonstration as a cluster randomized-controlled trial, in which successful applicant properties are randomly assigned to treatment or control groups. The treatment group properties implement the IWISH program, and the control group properties continue business as usual. The random assignment design allows HUD to attribute differences in outcomes between residents of the IWISH properties and the control group properties to the impact of IWISH. Another key component of the demonstration is the health and wellness support available to residents of IWISH properties in the form of a full-time Resident Wellness Director and a part-time Wellness Nurse (a higher level of wellness nurse support than was available under SASH).

1.3.1 Notice of Funding Availability for the Demonstration and Random Assignment of Properties

In January 2016, HUD published a NOFA announcing the availability of $15 million in funds for the demonstration, inviting owners of multifamily properties serving older adults to apply.[11] To be eligible for the demonstration, the properties had to have at least 50 HUD-assisted housing units, with no more than 10 percent of units available for residents younger than 62; had to have passed the most recent physical inspection by HUD; and had to have received satisfactory Management and Occupancy Review ratings from HUD. Properties could have an onsite service coordinator at the time of application but could not have an onsite wellness nurse.

[11] The NOFA is available at: https://www.hud.gov/sites/documents/2015SSDEMO-NOFA.PDF.

HUD received more than 700 applications in response to the NOFA. From this pool, HUD identified 131 properties across seven states (California, Illinois, Massachusetts, Maryland, Michigan, New Jersey, and South Carolina) as eligible for random assignment. HUD engaged with Dr. Partha Deb, professor of economics at Hunter College, to assist with the random assignment. Before random assignment, HUD stratified the properties by Core-Based Statistical Area to help ensure that the treatment and control groups would be balanced on characteristics that could affect demonstration outcomes, such as access to and cost of health care and access to social services. HUD assigned weights to each property based on the rate of Medicare fee-for-service (FFS) participation for its county and based on the property's budget request in the response to the NOFA, using these weights to order the properties for random assignment.[12]

HUD conducted random assignment in January 2017 and randomly assigned properties to three groups: treatment, active control, and passive control. The active control properties were part of the overall control group but designated "active" to indicate their role in the evaluation (see the discussion in the following section). HUD randomly assigned 43 properties to the treatment group, 40 properties to the active control group, and 48 properties to the control group. Within the treatment group, HUD assigned three properties to a waiting list in the event that one of the other 40 declined to participate. After random assignment, HUD negotiated cooperative agreements with the owners of properties assigned to the treatment group and the owners of properties assigned to the active control group. Two of the 40 properties assigned to the treatment group and one of the properties assigned to the treatment group waitlist declined to participate after random assignment. HUD replaced the two properties with the other two properties on the treatment group waitlist. In addition, four properties originally assigned to the active control group declined to participate. HUD replaced these properties with four from the passive control group, resulting in 40 properties in the treatment group, 40 properties in the active control group, and 44 properties in the passive control group at the start of the demonstration in October 2017.

Exhibit 1-2 shows the distribution of the 124 demonstration properties by state. The column titled "Control Properties" combines the properties in the active and passive control groups. The largest share of demonstration properties are in California (45 of 124), followed by Michigan (21 of 124) and Massachusetts (18 of 124).

Exhibit 1-2. Distribution of IWISH and Control Properties by State

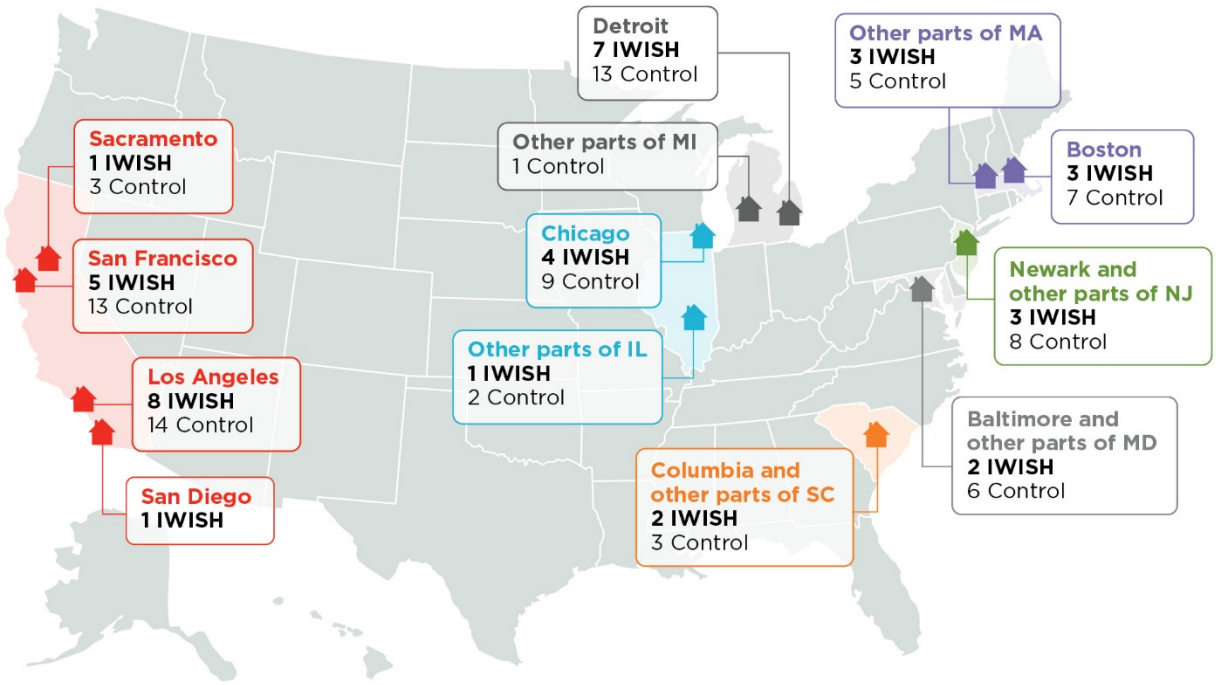
States	IWISH Properties (*N* = 40)		Control Properties (*N* = 84)	
	Number	Percentage	Number	Percentage
California	15	38	30	36
Illinois	5	13	11	13
Maryland	2	5	6	7
Massachusetts	6	15	12	14
Michigan	7	18	14	17
New Jersey	3	8	8	10
South Carolina	2	5	3	4
Total	**40**	**100**	**84**	**100**

Source: HUD Supportive Services Demonstration Site List, December 4, 2017

[12] HUD weighted for the level of FFS participation to ensure that detailed healthcare utilization data would be available for the evaluation. HUD weighted for the budget requested to ensure that it would be able to fund 40 IWISH properties with the available resources.

Reflective of the stratification of the applicant pool by Core-Based Statistical Area and the weighting by FFS penetration, most of the properties are in large urban areas. Exhibit 1-3 provides a map of the properties by state and their approximate locations. Most treatment and control properties within a given state are in the same metropolitan areas, and many are in the same neighborhoods.

Exhibit 1-3. Map of Demonstration Properties



1.3.2 Definition of Treatment, Active Control, and Passive Control Groups

The 124 properties in the demonstration are divided into two main groups: treatment and control. The treatment group properties implement IWISH, and the control properties do not. The control group, however, is further divided into two subgroups for purposes of the evaluation: active control and passive control. Following is a brief summary of the treatment and control groups.

Treatment Group

The 40 treatment group properties receive funding to support a Resident Wellness Director and Wellness Nurse for 3 years, plus additional funding to support health and wellness programs for residents and training and technical assistance for staff.[13] These 40 properties are required to offer IWISH for 3 years. The treatment group properties are called *IWISH properties* for the rest of this report.

[13] The specifics of the funding arrangement vary by property. Properties that had a traditional HUD service coordinator grant at the time of applying for the demonstration received funding for the Wellness Nurse and to supplement the salary for the Resident Wellness Director position that was already funded through the service coordinator grant. PRAC properties that had a service coordinator funded from the property's operating budget had the same type of arrangement, with the demonstration funding supplementing existing monies budgeted for the service coordinator and funding the Wellness Nurse. For properties without a service coordinator, the demonstration funded the Wellness Nurse and Resident Wellness Director positions in their entirety.

Control group

The 84 control group properties do not implement IWISH. They may continue their existing service coordination programs or even expand their supportive service offerings during the term of the Demonstration, but they do not receive additional funding from HUD.

The main purpose of the control group properties is to serve as a counterfactual for the IWISH properties. As described further below, the evaluation will collect person-level administrative data on housing and healthcare utilization outcomes for all HUD-assisted residents of all 124 properties and will compare outcomes from residents of the 40 IWISH properties versus residents of the 84 control group properties.

Another purpose of the control group properties is to provide context to inform the analysis of the impact of IWISH. In assessing the information on impact that the evaluation will ultimately provide, policymakers need to understand how different the IWISH model is from business-as-usual at HUD multifamily properties serving older adults. The bigger the difference between the level of support offered to residents of the IWISH properties versus the level offered to residents of the control properties, the larger the impact expected.

Understanding how supportive services are offered at the control properties (as at the IWISH properties) requires direct data collection from property staff. For this purpose, HUD randomly assigned 40 properties to an active control group. Properties in the active control group receive modest funding from HUD to participate actively in the data collection by the evaluation team. Though all control group properties contribute passively through the analysis of administrative data described above, the active control properties participate in direct data collection by the evaluation team in the form of interviews, site visits, and focus groups. The control group properties not in the active group are called the passive control group for the rest of this report. Exhibit 1-4 summarizes these distinctions.

Exhibit 1-4. Key Distinctions Among Treatment, Active Control, and Passive Control Groups

Group	Properties	Description
Treatment	40	• Enter into a cooperative agreement with HUD. • Agree to implement IWISH for 3 years and participate in the evaluation. • Receive funding for one full-time Resident Wellness Director and one part-time Wellness Nurse per 50 to 100 residents. • Receive funding equivalent to $15 per unit per month to support programming. • Receive training and technical assistance.
Active Control	40	• Enter into a cooperative agreement with HUD. • Receive a $5,000 incentive fee to participate actively in the evaluation (interviews, site visits, and focus groups).[a] • Receive quarterly updates from HUD on the evaluation activities.
Passive Control	44	• No cooperative agreement with HUD. • No active involvement in evaluation activities, but part of the control group for the impact evaluation based on administrative data.

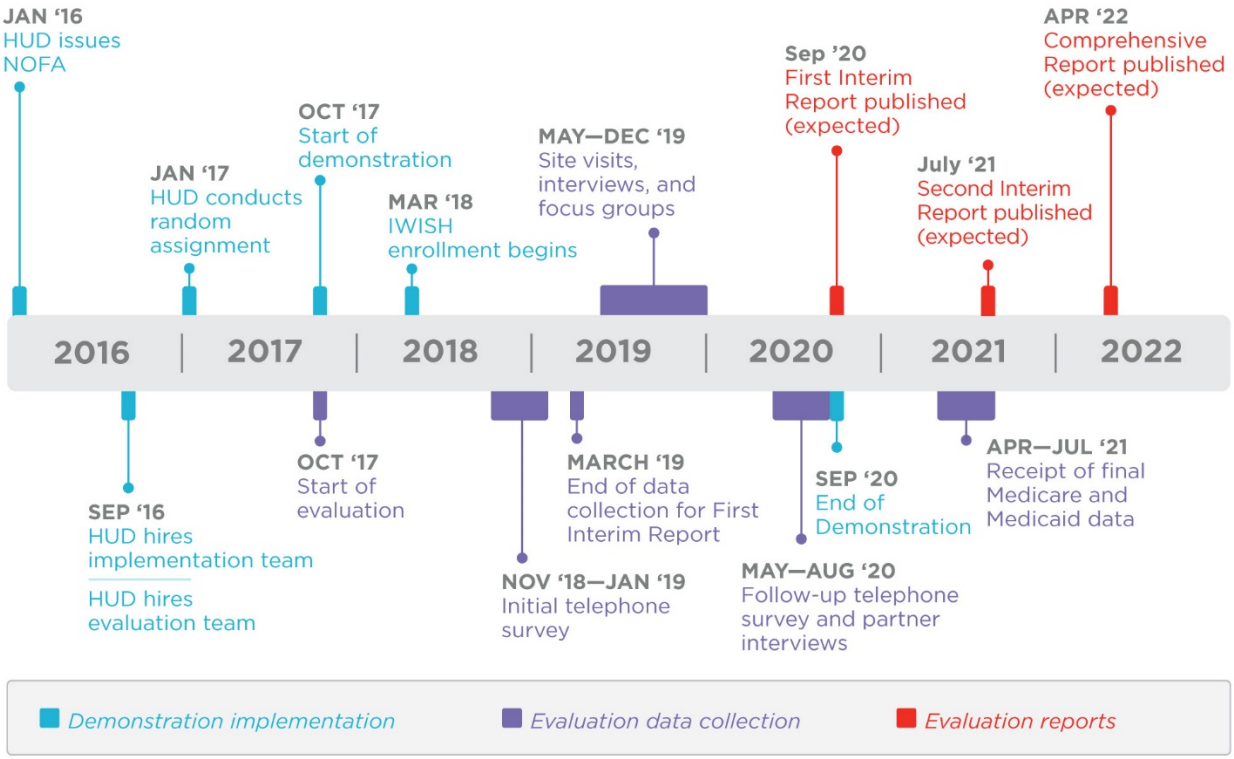
[a] The $5,000 incentive fee for active control properties was available only to properties that entered into a cooperative agreement with HUD before October 1, 2017, and one property declined the funding.

1.3.3 Demonstration and Evaluation Timelines

Exhibit 1-5 below provides an overview of key dates for the demonstration and evaluation to orient readers to the timelines that affect this report.

As noted in the previous section, HUD solicited applications for the demonstration in January 2016 and spent the rest of the year receiving and reviewing applications. In September 2016, during the application review period, HUD contracted with The Lewin Group and its partners, LeadingAge and the National Well Home Network, to be the implementation contractor for IWISH. As the implementation contractor, The Lewin Group and its partners (hereafter called the *implementation team*) were responsible for refining and standardizing the IWISH model; developing implementation steps and guidance; and providing training, technical assistance, and monitoring to the IWISH properties. Chapter 2 discusses further the role of the implementation team in the demonstration.

Exhibit 1-5. Key Dates for Demonstration and Evaluation



HUD conducted random assignment in January 2017, and after notifying the applicant properties of their randomization status, HUD spent several months entering into cooperative agreements with the IWISH and active control properties. The demonstration formally launched on October 1, 2017. The evaluation started in September 2017. HUD contracted with Abt Associates and its partner, L&M Consulting, in late September 2017 to conduct the evaluation, hereafter called the *evaluation team*.

Between October 2017 and March 2018, the IWISH properties focused on hiring and training staff, developing policies and procedures, and conducting outreach to residents. On March 19, 2018, IWISH properties began enrolling residents in IWISH, conducting person-centered interviews and health and wellness assessments, and entering resident-level data into the demonstration's Population Health Logistics (PHL) data system.

March 18, 2019, marks 18 months since the start of the demonstration and 12 months since the start of IWISH enrollment and marks the end of the analysis period for this First Interim Report. As discussed below, the evaluation will produce two more reports—a Second Interim Report, planned for December 2020, and a Comprehensive Report, planned for October 2021.

1.4. Purpose and Focus of the First Interim Report

This First Interim Report is the first of three reports for the evaluation. It serves two main purposes:

- To describe the baseline characteristics of the residents of the properties in the demonstration.
- To describe the first 18 months of the implementation of IWISH.

Description of Baseline Characteristics

The baseline period for this study is the 2 years preceding the official start of the demonstration (and evaluation) on October 1, 2017. The research sample consists of all HUD-assisted residents living in the 40 IWISH properties and the 84 control group properties as of September 2017. The description of baseline characteristics includes demographic, socioeconomic, and housing characteristics of residents as of September 2017 (but based on data reported over the previous 18 months) and their healthcare use between October 2015 and September 2017. The report also describes the physical and community characteristics of the IWISH properties and assesses the balance in resident characteristics between the treatment and control groups at baseline.

Description of IWISH Implementation

The description of IWISH implementation covers the period from October 1, 2017 to March 18, 2019. It focuses on the process of hiring and retaining IWISH staff and implementing key IWISH activities, such as enrolling residents and assessing their health and wellness needs. This First Interim Report only lightly describes the experiences of staff in implementing IWISH and does not include residents' experiences with the program. The evaluation team will collect detailed information on staff and resident experiences for the Second Interim Report.

Data Sources

The report draws on administrative data as well as data provided by the implementation team and data collected directly from the demonstration sites. Exhibit 1-6 presents the main data sources.

Exhibit 1-6. Data Sources for First Interim Report

Source	Timeframe	Description
HUD TRACS	Sep 2017	• HUD's TRACS, the data system HUD uses to store information collected via HUD Form 50059, which property owners complete for all tenants assisted through HUD's multifamily programs. • Dataset has an 18-month lookback period to include any residents with HUD Form 50059 entries since April 2016.
Medicare claims data	Oct 2015–Sep 2017	• Research Identifiable Files, which include FFS claims data, drug event records, and Long Term Care Minimum Data Set data. • Master Beneficiary Summary files, which include data on enrollment in Medicare Parts A, B, and D; chronic conditions; and summary measures of utilization and expenditures.
American Community Survey	2013–2017, 5-year estimates	• Census-tract-level data on demographic and socioeconomic characteristics of the population.
HUD REAC	April 2019 data release with inspection data from 2014–2019	• Inspection scores from physical inspections of multifamily properties conducted by HUD's REAC on an annual or semi-annual basis. • Inspection dates for demonstration properties cover March 2014–January 2019.
IWISH materials	Oct 2017–Mar 2019	• *IWISH Operations Manual*, training presentations, and other resources developed by the implementation team for IWISH property staff.

Source	Timeframe	Description
Telephone survey	Nov 2018–Jan 2019	• Telephone survey fielded by evaluation team with Resident Wellness Directors at each IWISH property. • The team also fielded the telephone survey with service coordinators and property staff at the active control properties, but the active control survey is not a major data source for this report.
Reports from the implementation team	Oct 2017–Mar 2019	• Monthly progress reports provided by the implementation team to HUD. • Bi-monthly reports generated from PHL data. • Start and departure dates for IWISH staff collected by the implementation team.
PHL data	Mar 19, 2018–Mar 18, 2019	• Extract of person-level PHL data provided by the implementation team in April 2019.
Input from the implementation team	Oct 2017–Mar 2019	• Information obtained through discussion with the implementation team and reports provided by the implementation team to HUD.

FFS = fee-for-service. PHL = Population Health Logistics system. REAC = Real Estate Assessment Center. TRACS = Tenant Rental Assistance Certification System.

1.5. Plans for Future Reports

The evaluation team will produce two more reports:

- The ***Second Interim Report*** will provide comprehensive analysis of the experience of implementing IWISH, including staff perceptions of the most beneficial and challenging aspects of the program. It will draw on interviews conducted with staff from the IWISH and control properties, focus groups with residents at those properties, and further analysis of data collected through PHL. The evaluation team will produce the report as soon as possible after the end of the demonstration in September 2020.

- The ***Comprehensive Report*** will provide a quantitative analysis of the impact of IWISH on residents' healthcare utilization and housing stability. It will present healthcare utilization and housing outcomes for the residents in the treatment and control groups as of the end of the demonstration and discuss differences in those outcomes that can be attributed to the IWISH program. The Comprehensive Report will use information collected for the First and Second Interim Reports to contextualize the quantitative findings. The Comprehensive Report will be drafted in late 2021. The reason for the large gap in time between the end of the demonstration and the Comprehensive Report is that the Comprehensive Report will analyze person-level Medicare and Medicaid claims data for the research sample over the entire demonstration period (plus the 2-year baseline period), and these data will not become available for analysis until 2021.

1.6. Report Organization

Including this introductory chapter (Chapter 1), this report consists of six chapters, a conclusion, and three appendixes:

- **Chapter 2: The Integrated Wellness in Supportive Housing (IWISH) Model** presents the key components of IWISH and how those components are expected to lead to positive outcomes for residents.

- **Chapter 3: Baseline Characteristics of Integrated Wellness in Supportive Housing (IWISH) Residents and Properties** presents descriptive data on the demographic, socioeconomic, housing characteristics, and healthcare utilization of the treatment group at baseline. The chapter also

describes the characteristics of the IWISH properties and the neighborhoods in which they are located.

- **Chapter 4: Integrated Wellness in Supportive Housing (IWISH) Staffing** describes Resident Wellness Director and Wellness Nurse staffing from the start of the demonstration through March 2019 and analyzes the extent to which properties were staffed at target levels of staffing over this period.
- **Chapter 5: Integrated Wellness in Supportive Housing (IWISH) Implementation** documents IWISH implementation from the start of the demonstration through March 2019. The chapter discusses pre-enrollment activities, enrolling residents, person-centered interviews and assessments, creating individual healthy aging plans, developing partnerships, evidence-based programming, and the training, technical assistance, and monitoring provided by the implementation team.
- **Chapter 6: Conclusion** summarizes the key findings and previews the next steps for the evaluation.
- **Appendix A** provides a paper version of the IWISH Health and Wellness Assessment.
- **Appendix B** provides supplemental data tables for the analysis of baseline characteristics.
- **Appendix C** provides a copy of the telephone survey fielded with Resident Wellness Directors.

The report concludes with a list of **references** for the research literature cited in the report.

2. The Integrated Wellness in Supportive Housing (IWISH) Model

This chapter describes the IWISH model as designed and refined by HUD and the implementation team (The Lewin Group and its partners). We discuss the key components of the IWISH model and how the IWISH activities are expected to lead to beneficial outcomes for residents. The main sources for the information in this chapter are the *IWISH Operations Manual* (February 2019 edition), training and technical assistance materials developed by the implementation team, and discussions with the implementation team. Chapter 5 covers implementation of the model to date.

2.1. Key Components of IWISH

IWISH has the following key components:

- Funding to support one full-time Resident Wellness Director and one part-time Wellness Nurse for roughly every 100 residents of the property for the 3-year duration of the demonstration (in some cases supplementing existing sources of funding).
- A structured approach to engaging with residents that includes person-centered interviews to learn about residents' needs and goals, health and wellness assessments to collect standardized information across residents to inform individual and community planning, and Individual Healthy Aging Plans to help residents achieve their goals.
- Use of the PHL system to collect and store information on IWISH participants' health and wellness needs and service engagement.
- Development of a Community Healthy Aging Plan using aggregated data from IWISH participants to identify appropriate partnerships and programming for the property.
- Emphasis on partnerships with healthcare facilities and other providers to better coordinate health and wellness services for residents and transitional care following hospitalizations.
- Supplemental funding to support evidence-based programming and other activities that advance residents' health and wellness and support aging in place.
- Training, technical assistance, and monitoring provided by a third party (the implementation team).

Key Components of IWISH

- Resident Wellness Director and Wellness Nurse
- Structured needs assessment and goal setting
- Use of PHL to document, track, and analyze resident data
- Property planning based on aggregated resident data
- Partnerships with healthcare facilities and providers
- Evidence-based health and wellness programming
- Training and technical assistance from third party

Each component is described below.

2.1.1 IWISH Staff: Resident Wellness Director and Wellness Nurse

The Resident Wellness Director and Wellness Nurse (referred to collectively as *IWISH staff*) are the core of the IWISH model, responsible for carrying out all IWISH components, from resident enrollment through partnership development. This section discusses staffing levels, followed by roles.

Staffing Levels

Each IWISH property receives funding for at least one full-time Resident Wellness Director and at least one part-time (20 hours per week) Wellness Nurse, with larger properties funded for additional positions,

as shown in Exhibit 2-1. Most properties have funding for just one full-time Resident Wellness Director and one part-time Wellness Nurse.

Exhibit 2-1. Number of Resident Wellness Director and Wellness Nurse Positions, in Full-Time Equivalents

Number of Units per Property	Resident Wellness Director FTEs	Wellness Nurse FTEs	Number of Properties
Up to 115	1.0	0.5	30
116 to 215	2.0	1.0	7
216 to 315	3.0	1.5	2
More than 315	4.0	2.0	1

FTE = full-time equivalent.
Source: Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019)

The level of IWISH staffing contrasts in two main ways with what is typical at HUD-assisted multifamily properties serving older adults. First, typical HUD-assisted properties do not have an onsite Wellness Nurse. None of the IWISH properties had a regular onsite nurse before IWISH. Second, typical HUD-assisted properties do not have a Resident Wellness Director. When they applied for the demonstration in 2016, about 77 percent of the 131 properties eligible for random assignment had service coordinators. At IWISH properties, the Resident Wellness Director role replaced the service coordinator role, although often the pre-existing service coordinator became the Resident Wellness Director. A Resident Wellness Director is different from typical service coordinator in that the Resident Wellness Director focuses specifically on residents' health and wellness. In addition, the IWISH model has a particular structure for how the Resident Wellness Director engages with residents and develops partnerships and programming.

Resident Wellness Director Role

The Resident Wellness Director is the site lead for IWISH and the primary liaison between each property and the implementation team for the demonstration.

The Resident Wellness Director is typically an employee of the housing development, although the property may contract with a third party for the Resident Wellness Director. The minimum qualification for the Resident Wellness Director is a bachelor's degree in social work, gerontology, psychology, or counseling, but other college degrees or work experience may be substituted as appropriate.[14] The job of the Resident Wellness Director is to help residents address their health and wellness needs, achieve their individual goals, and safely age in place. In collaboration with the Wellness Nurse, the Resident Wellness Director works proactively with residents to identify their health and wellness goals and challenges and develops individualized plans to address those goals. The Resident Wellness Director also identifies programming to address common needs across the resident population and builds partnerships with healthcare providers and social services organizations in the community. Like a traditional service coordinator, the Resident Wellness Director does not provide direct services to residents, duplicate services provided by other agencies, or perform property management tasks. Exhibit 2-2 summarizes the primary responsibilities of the Resident Wellness Director, the responsibilities the Resident Wellness Director typically shares with the Wellness Nurse, and the primary responsibilities of the Wellness Nurse. (How Resident Wellness Directors and Wellness Nurses divide up their responsibilities can vary somewhat in practice.)

[14] Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019).

Exhibit 2-2. Overview of IWISH Staff Responsibilities

Resident Wellness Director's Primary Responsibilities	Shared Responsibilities	Wellness Nurse's Primary Responsibilities
• Coordinate outreach and education efforts with residents about IWISH, with input and involvement from Wellness Nurse and property management staff. • Enroll residents and schedule person-centered interview and resident health and wellness assessment. • Conduct person-centered interview. • Oversee completion of resident needs assessment, with Resident Wellness Director and Wellness Nurse each completing specified parts. • Ensure development of Individual Healthy Aging Plan, with input from the Wellness Nurse and resident. • Ensure development of Community Healthy Aging Plan, with input from Wellness Nurse and community partners. • Oversee implementation of Individual and Community Healthy Aging Plans, with Resident Wellness Director and a Wellness Nurse each fulfilling designated activities. • Oversee followup with residents returning from a hospital or nursing facility, collaborating with the Wellness Nurse as appropriate. • Oversee development and coordination of onsite programming, with input and assistance from Wellness Nurse and community partners. Resident Wellness Director, Wellness Nurse, or community partners may deliver programming. • Serve as liaison to the IWISH implementation team.	• Assist residents with implementing and following through on activities and goals identified in Individual Healthy Aging Plans. • Support residents with addressing ongoing and new health and wellness needs. • Assist residents with addressing any transitional care needs. • Develop partnerships and collaborate with community partners and residents' service providers for greater efficiency in delivery of care and well-being. • Input and maintain information in PHL on resident status and service encounters.	• Educate and coach residents on understanding and managing their chronic health conditions. • If authorized by the resident, communicate with residents' healthcare providers to assist residents with relaying health information to their providers and coordinating their health-related services. • Monitor vital signs, as necessary or requested. • Assist residents with self-management of medications (for example, review medications with the resident or help establish a system for remembering to take medications). A Wellness Nurse may assist a resident with "pouring" medications only on an emergency or short-term basis. • Host health and wellness group activities, such as blood pressure clinics or health education sessions. • Provide nursing expertise around a return from a hospital or nursing facility to promote a safe transition and minimize readmissions.

PHL = Population Health Logistics.
Source: Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019)

Wellness Nurse Role

IWISH properties contract for the Wellness Nurse through a certified provider, such as an assisted living residence, hospital, home health agency, or Federally Qualified Health Center, for the term of the demonstration. The Wellness Nurse must be either a registered nurse or a licensed practical nurse or licensed vocational nurse.

The main role of the Wellness Nurse is to provide health education and coaching, help residents work effectively with their healthcare providers, help residents with medication self-management, conduct basic health and vital signs monitoring as needed, host group activities, and assist with returns

from a hospital or nursing home (see Exhibit 2-2). In addition, the Wellness Nurse works jointly with the Resident Wellness Director to help residents implement their Individual Healthy Aging Plans; support residents in addressing their health and wellness needs; assist with transitions to hospitals, nursing homes, or other housing; develop community partnerships; and document resident needs and service encounters in PHL. The Wellness Nurse is not allowed to procure, dispense, or administer any medication or controlled substance, provide direct clinical care, or direct or supervise care delivered by other healthcare personnel or providers to residents. No services the Wellness Nurse provides to residents are billed to Medicare or Medicaid.

2.1.2 Resident Engagement Activities

One of the hypotheses of IWISH is that resident engagement in the programs and services IWISH offers is critical to the program's ability to affect residents' health and wellness. A hallmark of the IWISH design is a person-centered approach, which includes delivering services and supports in a way that respects the resident's preferences, values, and needs. The person-centered approach means that the IWISH staff do not compel anyone to enroll in IWISH or to participate in any service, program, or activity once enrolled. Instead, residents choose their level of participation. An important part of the Resident Wellness Director's and Wellness Nurse's roles, however, is to engage with residents—learning about what is important and meaningful to them—and to motivate them to want to take advantage of what IWISH has to offer.

IWISH Person-Centered Approach

A person-centered approach ensures an individual is fully engaged in identifying and making decisions about goals and priorities that relate to their life. It also plans and delivers services and supports in a way that respects the person's preferences, values, and needs. A person-centered approach considers both "what is important for" and "what is important to" the individual to live a meaningful, healthy, and safe life.

Source: *IWISH Operations Manual* (February 6, 2019)

IWISH's person-centered approach is an important contextual factor for the evaluation because residents' preferences and decisions can potentially mediate the impact of IWISH. Since enrollment is not a condition for occupancy, Resident Wellness Directors and Wellness Nurses may not compel residents to enroll in the demonstration, and residents can opt out of program elements such as the health and wellness assessment or Individual Healthy Aging Plan. Any resident of an IWISH property has access to the full set of IWISH services, but individual residents likely opt into services at different rates and take advantage of different components of the program.

Engagement Prior to IWISH Enrollment

In the IWISH model, resident engagement begins before residents formally enroll in IWISH. Before enrolling, residents need to feel comfortable with the IWISH staff at their property, understand the purpose of the program, recognize the potential benefits of the program for them, and know how their private information will be protected. IWISH staff conduct this pre-enrollment engagement to residents via activities such as meet-and-greets (where residents are invited to get to know IWISH staff in an informal setting), informational meetings about IWISH, and one-on-one conversations.

Enrollment

The next step is IWISH enrollment. Residents must enroll in IWISH and sign IWISH's informed consent form to work directly with the Resident Wellness Director and Wellness Nurse. Exhibit 3-2 summarizes the forms of support and assistance available to residents of IWISH properties who enroll in IWISH and to those who do not. A key distinction is that residents who do not enroll in IWISH cannot access the annual health and wellness assessment, individualized goal setting through the Individual Healthy Aging Plan, one-on-one assistance from the Wellness Nurse, or at-home monitoring after hospital or nursing home stays. Residents who do not enroll in IWISH, however, have access to group programs and

activities organized by the IWISH staff and can receive general information and referrals from those staff. In addition, if the property had a service coordinator before IWISH, residents of the property may continue to receive the same level of service coordination from the Resident Wellness Director as they received from that service coordinator, even if they do not enroll in IWISH. In these properties, the Resident Wellness Director takes on the role of the service coordinator for residents who do not enroll in IWISH but provides the enhanced IWISH service coordination for IWISH enrollees.

Exhibit 2-3. Assistance Available to Residents Enrolled in IWISH and to Other Residents

Residents Enrolled In IWISH Have Access to:	Residents Not Enrolled in IWISH Have Access to:
• Annual assessment. • Individual Healthy Aging Plan, developed with the resident, to address goals and priorities. • Assistance with identifying, accessing, and coordinating services and resources to address goals and ongoing or new needs. • One-on-one assistance from the Wellness Nurse. • Individualized health and wellness education and coaching. • Monitoring following return home from a hospital or nursing home stay. • Group wellness programs and activities.	• The same level of service coordination they previously received, if the property had a service coordinator. • General information, referral, and assistance from the Resident Wellness Director. • Group wellness programs and activities.

Source: Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019)

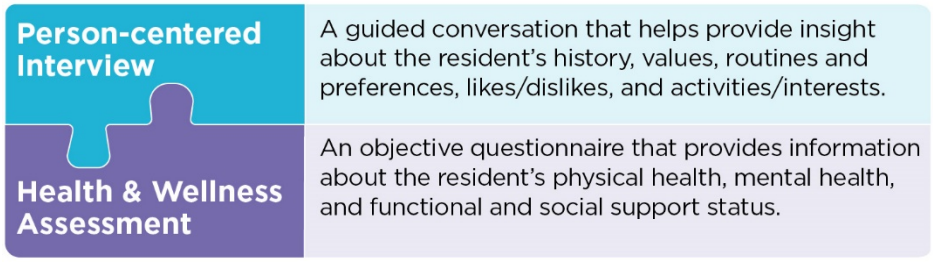
Person-Centered Interview and Health and Wellness Assessment

Once a resident is enrolled in IWISH, he/she participates in an assessment process that includes a person-centered interview and a health and wellness assessment (see Exhibit 2-4).

The person-centered interview is a guided conversation between the Resident Wellness Director and the resident that provides the IWISH staff insight into the resident's history, values, routines and preferences, likes and dislikes, and activities and interests. The interview is expected to take about 1 hour to complete and ideally takes place in the resident's apartment.

The IWISH health and wellness assessment is a structured instrument that the implementation team designed for the demonstration to collect information on a resident's physical health, mental health, and functional and social support status and to identify supportive service needs and gaps in health care. The assessment is a combination of questions that have been previously validated through research and testing and other questions for general information gathering. All information in the assessment is self-reported. A copy of the assessment is provided in Appendix A.

Exhibit 2-4. Components of Resident Assessment



Source: Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019).

The Resident Wellness Director and Wellness Nurse each complete portions of the IWISH health and wellness assessment, with the Wellness Nurse focusing on the health-oriented elements. Like the person-centered interview, the assessment ideally takes place in the resident's apartment. It is expected to take between 1 and 2 hours to complete. The information collected through the assessment is primarily self-reported by the resident, though Wellness Nurses may use their observational skills. For example, the nurse can observe the resident's ease with walking, standing, and sitting. The nurse can also look at the resident's medications in the apartment to begin the conversation about medical conditions.

Residents do not have to complete both assessment components of the assessment, and they may skip questions if they choose. The implementation team, however, encourages the IWISH staff to try to complete both components, as they provide complementary information on the resident's health and well-being. The model is that the IWISH staff complete the person-centered interview and health and wellness assessment within 30 days of the resident enrolling in IWISH and then update aspects of the health and wellness assessment every year.

Individual Healthy Aging Plans

After completing the person-centered interview, the health and wellness assessment, or both, the resident works with the Resident Wellness Director and Wellness Nurse on an Individual Healthy Aging Plan. This step is optional but recommended.

The Individual Healthy Aging Plan provides a plan for addressing the health and well-being needs the resident has chosen to address. The resident develops the plan collaboratively with the IWISH staff. For each need or barrier that the resident has indicated interest in working on, the Individual Healthy Aging Plan provides one or more goals, actions(s) to achieve the goal(s), timeline for achieving the goal(s), and who is responsible for the goal and who will assist (typically the resident is responsible and IWISH staff will assist). Exhibit 2-5 provides an example of how the Individual Healthy Aging Plan can be organized, with one row completed to illustrate the type of information included.

The IWISH model suggests that the Resident Wellness Director and Wellness Nurse follow up with residents and monitor their plan. The form and frequency of the monitoring depends on the specific actions designated for the IWISH staff and the level of support desired or needed by the resident.

Exhibit 2-5. Individual Health Aging Plan Example With Sample Entry

Need/Barrier Category	Goal	Actions to Achieve	Time to Achieve	Who Is Responsible or Will Assist
Medical	Lower blood pressure	1. Cook with less salt. 2. Visit WN weekly to have BP checked. 3. Increase physical activity by walking 20 minutes 2 times/week.	1. Start in 2 weeks, after next grocery trip. 2. Start this Thursday at BP Clinic. 3. Achieve regularly in 2 months. Want to find a friend to walk with.	1. Mrs. Allen adapts cooking habits. 2. Mrs. Allen will come to clinic. RWD will call Thursday at 9:30 to remind her about this week's BP clinic. Flyer is on refrigerator. 3. Mrs. Allen will walk. RWD will let Mrs. Allen know if there is another resident interested in walking. RWD will check in every other week re: walking.

BP = blood pressure. RWD = Resident Wellness Director. WN = Wellness Nurse.
Source: IWISH Individual Healthy Aging Plan Guide and Template, June 2018

Some residents might not be interested in completing an Individual Healthy Aging Plan and mainly want to work with IWISH staff as issues arise. Although addressing health and wellness needs in a systematic way over time using tools such as the Individual Healthy Aging Plan is part of the IWISH model, the person-centered approach means that IWISH staff will meet residents "where they are at" to establish a trusting relationship.

2.1.3 Population Health Logistics

IWISH uses a centralized online data platform, PHL, to collect and store data on IWISH participants and activities. The IWISH version of PHL is a customized pre-existing software designed for use by community-based organizations working with older people and people with disabilities. The Resident Wellness Directors and Wellness Nurses at each IWISH property access PHL through their computers via web-based login with two-factor authentication. IWISH staff are expected to use PHL to document all interactions with IWISH participants and residents' health and wellness assessment data, Individual Healthy Aging Plans, participation in programming, referrals, and key health events such as falls.

IWISH staff may not use PHL to store any data about residents who have not enrolled in IWISH and in so doing provided their consent for data collection by the IWISH staff. Resident Wellness Directors who were formerly service coordinators at the property continue to use their pre-IWISH systems of record for their work with residents who do not enroll in IWISH.

2.1.4 Community Healthy Aging Plan

After completing health and wellness assessments with at least 50 percent of a property's IWISH participants, IWISH staff work on developing the Community Healthy Aging Plan. The Community Healthy Aging Plan is a plan for health-related programming and partnerships to address the common health and well-being needs they observed across the property. The Community Healthy Aging Plan is expected to reflect the goals and steps articulated in the Individual Healthy Aging Plans and the needs documented through the health and wellness assessments.

The Resident Wellness Director is expected to take the lead in completing the Community Healthy Aging Plan, with support from the implementation team. The implementation team tracks each property's completion of health and wellness assessments through PHL and provides a summary of the property's demographics and health and wellness needs once the property has completed 50 percent of the assessments.[15] The implementation team provides charts and tables summarizing these data to the Resident Wellness Director, along with a template for the Community Healthy Aging Plan. The Resident Wellness Director uses the data summary and template to develop the Community Healthy Aging Plan for the property, with input from the Wellness Nurse. Exhibit 2-6 shows the template for the Community Healthy Aging Plan, with one row completed to illustrate the type of information included.

Exhibit 2-6. Community Healthy Aging Plan Template With Sample Entry

Program Name	Brief Program Description	Schedule	Target Group or Need	Organizing and Marketing Information
Tai Chi for Arthritis	Low-impact exercise program that can help improve strength, flexibility, and balance	Begins February 14, 1 time/week for 8 weeks, 1 hour per session	Arthritis, falls risk, pain management, exercise	Provided by Arthritis Foundation. Contact: [name], [email], [phone number]. Foundation will provide information and advertising materials; RWD and WN will recruit participants; RWD will provide participants weekly reminders.

RWD = Resident Wellness Director. WN = Wellness Nurse.
Source: *IWISH Community Healthy Aging Plan Guide* (December 10, 2018, version 2)

[15] In summer of 2019, the implementation team provided summaries to all properties, regardless of the percentage of assessments completed.

2.1.5 Partnerships

IWISH staff are encouraged to develop four types of partnerships to support the health and wellness of residents and ensure access to needed services and programming:

- **Facility-based:** Partnerships with healthcare facilities such as hospitals, nursing homes, and rehabilitation facilities.
- **Ongoing cross-agency support:** Partnerships with local agencies such as Area Agencies on Aging, mental health agencies, home health agencies, and other agencies that potentially serve residents.
- **Primary care provider:** Partnerships with doctor's offices, health clinics, and other providers of primary health care.
- **Resource and referral:** Partnerships with community agencies and organizations to provide resources and programming to residents. Examples include Meals on Wheels, exercise programs offered through the Y, and pharmacies that offer free flu shots.

Resource and referral partnerships are most common for traditional service coordination. IWISH staff receive training and guidance from the implementation team as to how to develop all four types of partnerships, with special attention on how to approach healthcare providers. Partnerships with healthcare providers raise special challenges including how to create a partnership without "steering" a resident to a particular provider (or giving the impression of doing so) and how to discuss residents' needs while maintaining patient confidentiality.

Across all four types of partnerships, the IWISH model defines *partnership* consistent with the program's person-centered approach:

> Intentional relationships between the IWISH site and external agencies and organizations that:
> - Put IWISH participants at the center of the partnership relationship, with partners agreeing together to support the participant.
> - Build on an understanding of and mutual support of IWISH's goals.
> - Understand and respect the value each partner brings to enhancing participant wellness.
> - Entail explicit commitments to support IWISH participants in:
>   - Meeting their Individual Healthy Aging Plan goals.
>   - Assisting IWISH staff in implementing the site's Community Healthy Aging Plan.
>   - Strengthening the supports needed for participants to remain in their home and reducing unnecessary or avoidable use of healthcare services.[16]

2.1.6 Evidence-Based Programming

With the assistance of the implementation team, IWISH staff at each property are expected to identify and implement evidence-based health and wellness programs to address the needs of their residents. *Evidence-based* means the program has been found to be effective based on rigorous evaluation. Evidence-based programs are generally branded programs. The implementation team compiled a catalog of evidence-based programs for IWISH staff to reference. Examples of programs in the catalog include:

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[16] Abt Associates' adaptation from the *IWISH Operations Manual* (February 6, 2019).

- Fit and Strong! (arthritis intervention).
- Chronic Disease Self-Management (chronic disease intervention).
- A Matter of Balance (falls prevention).
- STEADI - Stopping Elderly Accidents, Deaths & Injuries (falls prevention).
- Eat Better & Move More (nutrition intervention).
- Clear Horizons (smoking cessation).

Supportive Services Funds

Each IWISH property receives funding from HUD in the amount of $15 per unit per month to help meet IWISH participants' health and wellness needs and to support the goals of the program. For a 100-unit IWISH property, this funding would equal $18,000 per year, or $54,000 over the 3-year demonstration period. HUD's vision for these funds is that they will be used to deliver evidence-based programming and supports that can benefit multiple IWISH participants. The funds, however, may be used to address individual needs or provide services to individuals, provided they do not duplicate funds or resources available from another program or the participant's own resources. The text box provides examples of how this very flexible source of funds may be used.

Examples of Eligible Uses of Supportive Services Funds

- Hiring an outside trainer to deliver health, wellness, and prevention programming to residents.
- Purchasing equipment or materials for an evidence-based program.

Paying fees on behalf of one or more residents for services that assist with instrumental activities of daily living or activities of daily living, such as housekeeping assistance to help residents remain in their home or transportation assistance to help them get to a health or wellness program off site.

2.1.7 Training, Technical Assistance, and Monitoring

Though not explicitly part of the model, a key component of IWISH in the demonstration is the implementation team. The implementation team consists of The Lewin Group and its partners LeadingAge and the National Well-Home Network. The Lewin Group is a national healthcare and human services consulting firm. LeadingAge is a nonprofit membership organization focused on helping older adults successfully age in place. National Well-Home Network is a nonprofit organization focused on developing housing-based service models across the country. The core implementation team is eight staff from The Lewin Group, four staff from LeadingAge, and one staff from the National Well-Home Network. The Lewin Group also has three partners that assist with IWISH training: Rush University Medical Center's Social Work and Community Health Department; Cathedral Square (creator and administrator of the Support and Services at Home program; and the Bonsai Institute, a training consultancy.

Throughout the term of the demonstration, the implementation team provides the following:

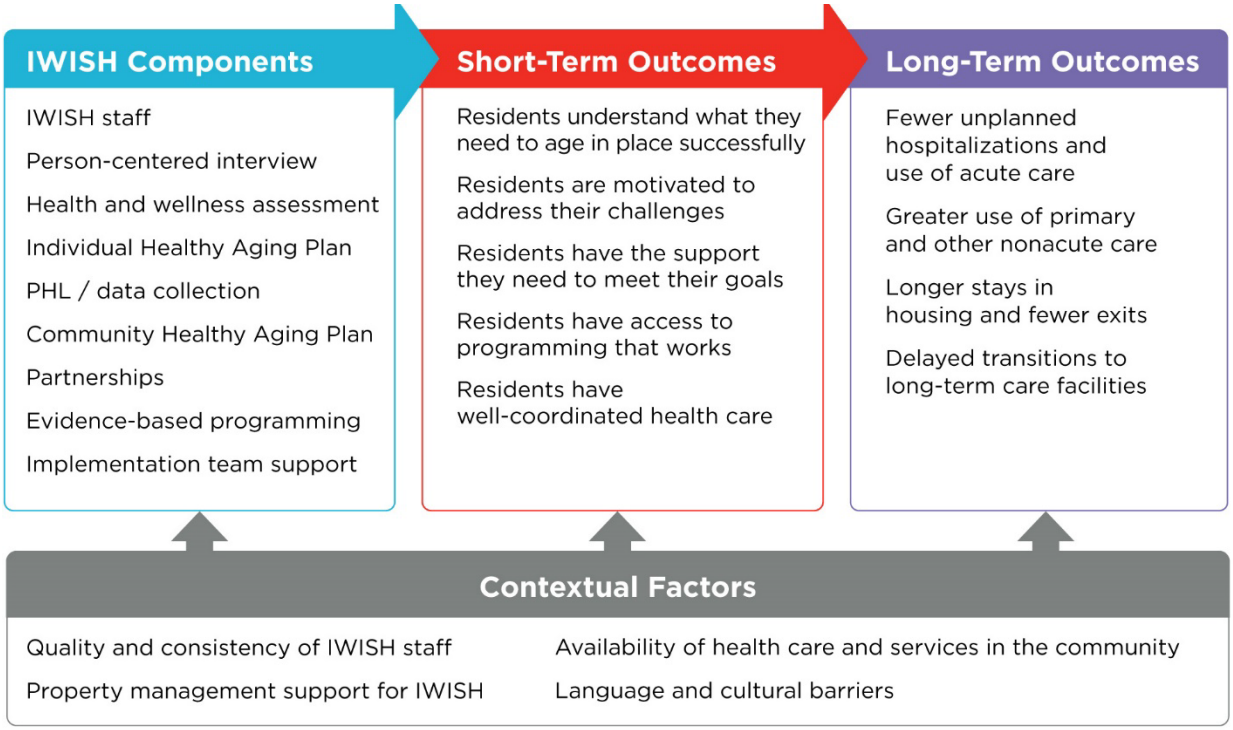
- In-person and virtual (webinar) training to IWISH staff on IWISH procedures, but also on relevant topics such as working with lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) older adults, working with adults with memory conditions, providing trauma-informed care, addressing bullying, and time management.
- Support to IWISH properties in hiring staff and developing policies and procedures.
- Dedicated liaisons assigned to the IWISH properties that provide day-to-day support and monitor properties' performance.

- PHL support and troubleshooting.
- Opportunities for peer-to-peer learning.
- Written guidance, resources, and templates for all aspects of IWISH.

2.2. Goals and Expected Outcomes of IWISH

The goal of IWISH is that the work of the Resident Wellness Director and Wellness Nurse, combined with the evidence-based programming, support of the property manager and community partners, and the PHL infrastructure, will help residents maintain their health (or slow health declines), make more efficient use of costly healthcare resources, and enjoy greater housing stability and quality of life. Exhibit 2-7 below summarizes the IWISH key components described in the previous section, which are inputs to the model, and presents the hypothesized short- and long-term outcomes. If implemented with fidelity, the model hypothesizes that residents will learn what challenges they face in living independently, be empowered to pursue their goals, and have access to the healthcare and supportive services they need to age in place successfully. Over time, as residents better understand their needs, work on their health and wellness, and access effective programs and resources, they will experience fewer unplanned hospitalizations and uses of acute care, greater use of primary and other nonacute care, longer tenure and fewer exits from housing, and delayed or reduced transitions to long-term care facilities.

Exhibit 2-7. IWISH Key Components, Expected Short- and Long-Term Outcomes, and Contextual Factors



PHL = Population Health Logistics.

Several contextual factors could affect whether the model is implemented as intended and whether it has the expected results. These include, among others, the skills and consistent availability of IWISH staff over the duration of the demonstration, the extent to which the property's ownership and management supports and facilitates the IWISH staff's work, the extent to which residents have access to

quality healthcare and supportive services in the community, and the extent to which language or cultural barriers hinder IWISH staff's efforts to communicate and engage with residents.

Through the site visits, interviews, and focus groups to be conducted following this First Interim Report, the evaluation team will collect data on the implementation of the IWISH key components, the short-term outcomes, and the contextual factors. The impact analysis will then test for long-term outcomes using administrative data and (to the extent possible) will analyze the impact of contextual factors. The long-term outcomes in Exhibit 2-7 are not equally likely to happen or equally able to be measured within the demonstration period. We might expect to see some outcomes, such as fewer unplanned hospitalizations and uses of acute care and greater use of primary and other nonacute care within the term of the demonstration. It may be more difficult to detect increases in housing tenure and delayed or reduced transitions to long-term care facilities.

3. Baseline Characteristics of Integrated Wellness in Supportive Housing (IWISH) Residents and Properties

This chapter examines the baseline characteristics of the study's treatment group; that is, the 4,274 HUD-assisted residents living in the 40 IWISH properties as of September 2017. The baseline period for this study is the period immediately preceding the official start of the demonstration (and evaluation) on October 1, 2017. To analyze the demographic, socioeconomic, and housing characteristics of the research sample at baseline, the evaluation uses data from HUD's Tenant Rental Assistance Certification System (TRACS) from September 2017. To analyze the healthcare utilization characteristics of the research sample at baseline, the evaluation uses Medicare FFS claims data from October 1, 2015, through September 30, 2017.

The chapter also examines the characteristics of the IWISH properties and the communities where they are located using inspection data compiled by HUD's Real Estate Assessment Center (REAC), the American Community Survey (ACS), and information obtained through the telephone survey with IWISH Resident Wellness Directors. (See Exhibit 1-6 for more detail on these data sources.)

In describing the characteristics of the research sample, the chapter focuses almost exclusively on the residents of the IWISH properties (the treatment group) and the communities where they live. The purpose of randomly assigning the properties in the demonstration to treatment and control groups was to ensure that any differences in the characteristics of the treatment and control group members are due to chance. The evaluation team conducted detailed comparative analysis of the two groups (supplemental tables are presented in Appendix B) and concluded that there are few statistically significant differences. Thus, this chapter primarily describes the characteristics of the treatment group and only makes comparisons to the control group where there is a difference between the two groups that could affect the evaluation of outcomes and impact.

Main Findings of the Chapter

- The average HUD-assisted resident of an IWISH property as of September 2017 had lived at the property for 7 and a half years and was age 76; 69 percent were women; 82 percent were living alone.
- As a whole, the group of residents was racially (49 percent White, 26 percent African American, 18 percent Asian or Pacific Islander) and ethnically diverse (13 percent Hispanic), although the individual properties were not necessarily diverse.
- Average household income at baseline was $13,972, about one-third of the median income for the U.S. population aged 65 and older.
- No statistically significant differences existed between the baseline demographic, socioeconomic, and housing characteristics of the residents of IWISH properties and those of the control group properties, although the treatment group appeared to be somewhat younger than the control group. The IWISH Medicare FFS sample (the subset of IWISH residents for whom data are available at this time) was also somewhat younger than the Medicare FFS sample of the residents in the control group.
- The data available at this stage of the study to analyze the healthcare utilization of IWISH residents suggests that IWISH residents tended to have worse health or functional status than the general Medicare FFS population.
- Among 59 chronic or potentially disabling conditions examined, the IWISH Medicare FFS sample (the subset of IWISH residents for whom data are available at this time) had a higher baseline prevalence for nearly one-half the conditions compared to all Medicare beneficiaries with full FFS coverage in 2016; the baseline prevalence of only three conditions was lower in the IWISH Medicare FFS sample.

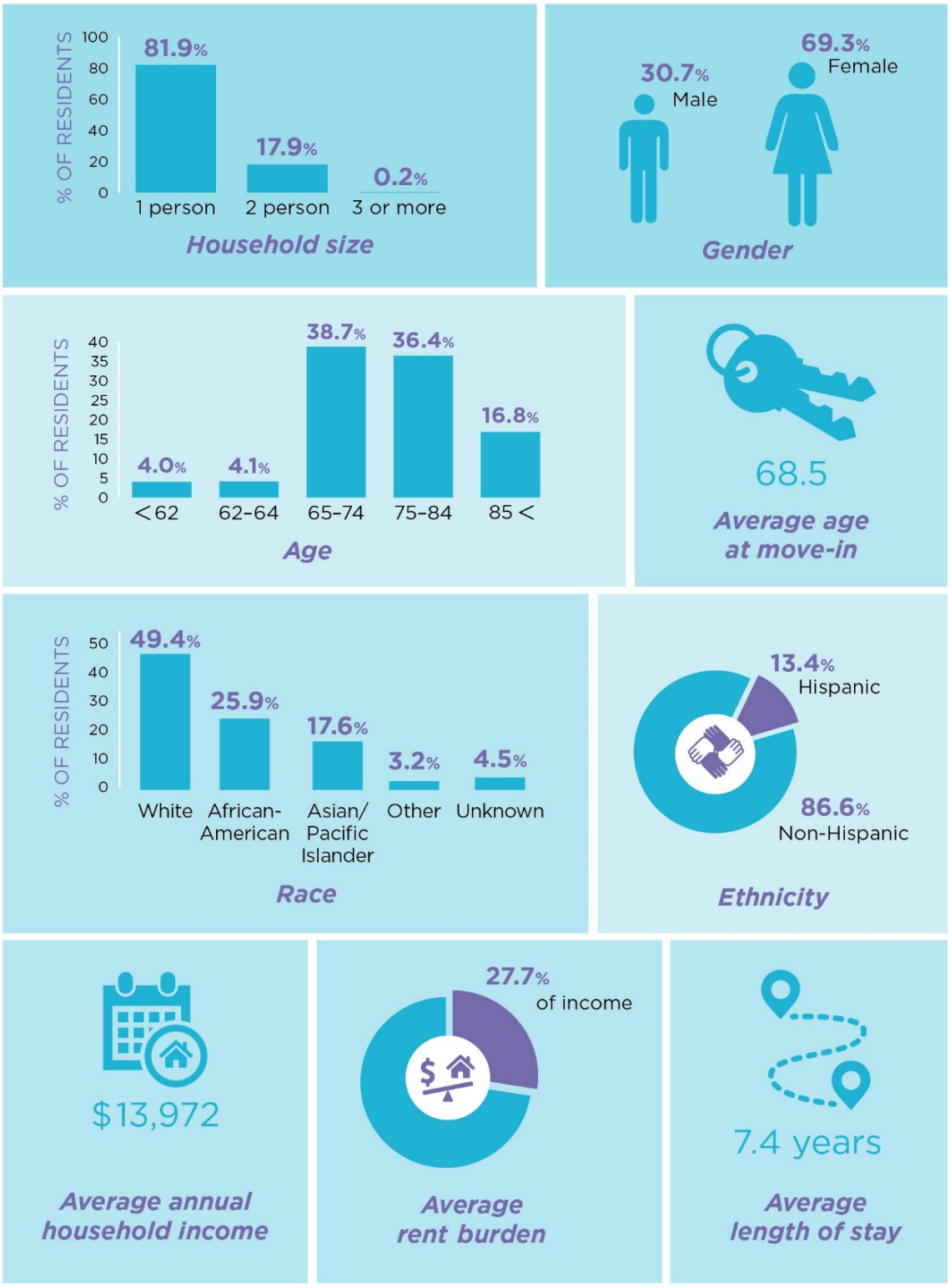
- On average, the IWISH Medicare FFS sample had unplanned hospitalization rates equivalent to about one unplanned hospitalization every 3 years, or about 2 days hospitalized per year. They used an emergency department and medical transportation services about once every 20 months. Overall, residents in the IWISH Medicare FFS sample spent an average 358 days per year "in the community," without any medical encounter in an inpatient or outpatient hospital setting. The distribution of healthcare service use is highly skewed, however, meaning a small fraction of residents used a disproportionately large share of all health care used by the sample during the baseline period.
- Comparing the IWISH Medicare FFS sample with control group residents subject to the same Medicare enrollment specifications, of 60 chronic or potentially disabling conditions examined, five differences in baseline prevalence were statistically significant at the 5-percent level.
- The main analysis for the evaluation will be at the resident level, comparing outcomes for the treatment group as a whole versus outcomes for the control group as a whole; however, characteristics of the properties and the communities where they are located could affect how IWISH is implemented and how well it works. The IWISH properties vary greatly in terms of the characteristics of their resident populations and their neighborhoods. The residents at some properties are almost all White, at other properties they are almost all African American, and at others they are more heterogeneous. At some properties, a sizable share of residents are aged 85 or older, whereas at other properties the percentage of "older" older adults is quite small.
- The properties do not vary substantially in physical condition, based on HUD inspection data, but the neighborhoods where they are located are highly diverse, with census tract poverty rates ranging from 4 to 53 percent and with varying levels of educational attainment and racial and ethnic composition. The telephone survey with Resident Wellness Directors identified access to public transportation and access to nutritious food as the most common challenges to residents aging in place.

3.1. Demographic, Socioeconomic, and Housing Characteristics

As of September 2017, according to HUD's TRACS data, there were 4,274 residents in the 40 IWISH properties and receiving assistance through HUD's multifamily programs. This is the study's *treatment group*, defined at the individual level (not household level) because everyone residing in the IWISH properties was eligible for IWISH. Exhibit 3-1 below presents average values across the members of the treatment group for select characteristics at baseline. (Exhibit B-1 in Appendix B shows average values, standard deviations, and interquartile range for these variables.)

As of September 2017, most HUD-assisted residents of IWISH properties (82 percent) lived in single-person households, with another 18 percent living in two-person households. The average resident was about 76 years old and had lived in the property for about 7 and a half years, meaning that they moved in while in their late 60s. Overall, 96 percent of the HUD-assisted residents of IWISH properties were aged 62 or older in September 2017, including 53 percent aged 75 or older and 17 percent aged 85 or older. This is consistent with the national profile of the Section 202 and PRAC programs, in which 100 percent of residents are aged 62 or older and 16 percent are aged 85 or older (HUD, 2018c).

Exhibit 3-1. Baseline Demographic and Socioeconomic Characteristics of Treatment Sample



Notes: *N* = 4,274 individuals in 40 properties. Age calculated as of October 1, 2017. Average rent burden calculated as rent as a percentage of adjusted income and capped at 100 percent. Average length of stay calculated from move-in date until October 1, 2017.
Source: HUD TRACS data, September 2017 extract

About 69 percent of HUD-assisted residents of IWISH properties were women, which is also consistent with the Section 202/PRAC program (70 percent women). Nationally, 56 percent of people aged 65 and older are women (2013–2017 ACS, 5-year estimates).

About one-half of the residents were identified as White (49 percent), about one-fourth were identified as African American (26 percent), and almost one-fifth (18 percent) were identified as Asian or Pacific Islander. Most residents (87 percent) were identified as non-Hispanic in ethnicity. This distribution by race and ethnicity is similar to that of the Section 202/PRAC program as whole.

The average household income of HUD-assisted residents of IWISH properties in September 2017 was $13,972, about one-third of the median income of $41,125 for the U.S. population aged 65 and older (Fontenot, Semega, and Kollar, 2018). On average, residents spent about 28 percent of their income on rent, consistent with the requirement of most HUD programs that the tenant share of the rent not exceed 30 percent of income.

The control group consists of the 9,934 residents of the 84 control group properties receiving HUD assistance as of September 2017 (as indicated in HUD TRACS data). While no statistically significant differences exist between the treatment and control group on baseline demographic, socioeconomic, and housing characteristics (see Appendix B, Exhibit B-2), the treatment group appears to be somewhat younger than the control group. About 5 percent more residents of IWISH properties are between the ages of 65 and 74, and 4 percent fewer are aged 85 or older. It will be important to understand how any small but systematic differences between the treatment and control groups could influence the estimated impact of IWISH on healthcare utilization and housing exits and control for observed differences through multiple linear regression. Small differences in especially vulnerable groups (for example, aged 85 or older), with historically higher rates of healthcare utilization and mortality, could have an outsized effect on outcomes in the IWISH or control group, which could bias the estimated impact of IWISH and obscure IWISH's potential impact on the broader population of elderly residents receiving HUD assistance.

3.2. Healthcare Utilization

We linked HUD administrative data to administrative data from the Centers for Medicare & Medicaid Services (CMS) to describe the prevalence of chronic or potentially disabling conditions and the average baseline rates of healthcare utilization among all residents at the 40 IWISH properties.

We identified 3,832 residents at IWISH properties in September 2017 who were linked to Medicare enrollment data and FFS claims for the period October 1, 2015 to September 30, 2017. These 3,832 residents were 90 percent of all residents at the 40 IWISH properties and receiving assistance through HUD multifamily programs. We then restricted this sample of IWISH residents further to be able to measure all healthcare utilization completely and accurately across every individual in the sample. Because we did not have access to Medicare managed care encounter data at this point in the study, we restricted the sample to individuals continuously enrolled in Medicare FFS plans for at least 3 months (that is, one quarter); we also required that individuals be continuously enrolled in both Medicare Part A (hospital insurance) and Part B (medical insurance). These restrictions had the effect of cutting the sample size by about 1,700 individuals.

The final sample for analysis of baseline healthcare utilization, referred to as the *IWISH Medicare FFS sample*, consists of 2,123 individuals (Exhibit 3-2 below). The IWISH Medicare FFS sample is only one-half the full treatment group (such as, all residents at the 40 IWISH properties and receiving assistance through HUD multifamily programs). The IWISH Medicare FFS sample differs little from the full treatment group in gender, race, and ethnicity, but it is somewhat younger (see Appendix B, Exhibit B-3). Approximately 8 percent of the full treatment group is younger than age 65 (see Exhibit 3-1) and are therefore not eligible for Medicare unless they have a disability or have end stage renal disease

(permanent kidney failure requiring dialysis or transplant). Medicaid is likely to be the primary payer for low-income individuals under age 65 and not also enrolled in Medicare. We will have obtained Medicaid administrative data by the end of the evaluation. We therefore expect the age distribution of the IWISH sample to be representative of the full treatment group when we assess the impact of the IWISH model on healthcare utilization for the Comprehensive Report.

Exhibit 3-2. Medicare Enrollment Status of Treatment Group at Baseline

Variable	Number	Percentage
Residents at IWISH properties receiving HUD assistance (*treatment group)*	4,274	100.0
Ever enrolled in Medicare since 4Q 2015	3,832	89.7
Enrolled in any Medicare	3,804	89.0
Not enrolled in Medicare managed care	2,394	56.0
Enrolled in Medicare Parts A and B and not in Medicare managed care	2,152	50.4
Enrolled in Medicare Parts A and B and not in Medicare managed care for 3 or more consecutive months prior to September 30, 2017 *(IWISH Medicare FFS sample)*	2,123	49.7

Note: 4Q = fourth quarter.
Sources: HUD TRACS data, September 2017 extract; CMS Medicare enrollment records and fee-for-service claims, October 2015–September 2017

The IWISH Medicare FFS sample could have up to 24 consecutive months of utilization of healthcare in the baseline period. Most sample members (84 percent) had a full 24 months of utilization data. On average, the residents in the IWISH Medicare FFS sample were continuously enrolled in Medicare Parts A and B (and not managed care) for 22.2 months prior to the start of the demonstration (Exhibit 3-3).

At baseline, nearly all the residents in the IWISH Medicare FFS sample were entitled to Medicare coverage due to their age, but about one-fifth (22 percent) originally qualified for Medicare due to disability. Three-quarters (75 percent) of residents in the sample were qualified to enroll in both Medicare and their state's Medicaid program (*dually eligible*) at some point during their baseline period.[17] On average, residents who were ever dually eligible were dually eligible for 20 months (or 94 percent) of the months we followed them during the baseline period.[18]

[17] For dually eligible beneficiaries, Medicare is the primary payer for health care and, based on income, Medicaid covers some portion of the cost of Medicare premiums, deductibles, copays, or coinsurance. Medicaid provides services not covered by Medicare for full-benefit Medicaid enrollees, but these services and the eligibility criteria for the full benefit vary by state.

[18] Due to limitations of our current data, we are uncertain of the proportion of IWISH residents who will receive some form of care coordination or in-home supportive services (for example, waivers for home and community based services or a Medicare Advantage coordinated care or special needs plan) while enrolled in IWISH. Moreover, we do not expect to be able to determine whether or how IWISH administrators coordinated with administrators of these other types of support systems.

Exhibit 3-3. Medicare and Medicaid Eligibility Among the IWISH Medicare FFS Sample

Variable	Percentage / Mean	Standard Deviation[a]	Median[a]	25th, 75th Percentiles[a]
Number of consecutive months enrolled in Parts A and B and not Medicare managed care during the baseline period	22.2	4.8	24	24, 24
Ever dually eligible for Medicaid and Medicare during the baseline period	74.8%			
Number of months that residents who were ever dually eligible for Medicaid and Medicare during the baseline period were dually eligible	20.4	6.6	24	20, 24
Share of months that individuals who were ever dually eligible for Medicaid and Medicare during the baseline period were dually eligible	93.5%	19.8	100	100, 100
Original reason for Medicare entitlement was disability	21.7%			
Current reason for Medicare entitlement was age (65 years or older)	96.5%			

[a] Shown for continuous variables only.
Note: *N* = 2,123 residents.
Source: CMS Medicare enrollment records and fee-for-service claims, October 2015–September 2017

3.2.1 Chronic or Potentially Disabling Conditions

We used Medicare administrative data for 2016–17 to examine the prevalence of 26 chronic conditions common to the overall Medicare population. We found that nearly the entire IWISH Medicare FFS sample had at least one chronic condition, and usually more than one. The Chronic Conditions Warehouse identifies each condition using algorithms that search the CMS administrative claims data for specific diagnosis codes, Medicare Severity Diagnosis Related Groups codes, or procedure codes.[19] We coded each resident in the IWISH Medicare FFS sample as having a condition if he or she was identified in the data as *having ever met the algorithm criteria since they first enrolled in Medicare*.[20] For example, we identified residents as having diabetes even if they successfully treated or managed their condition throughout the baseline period and did not meet the algorithm criteria in 2016 or 2017, but they did meet the algorithm criteria in earlier years, when a Medicare-covered provider initially diagnosed them.

We also examined the prevalence of the chronic conditions in the IWISH Medicare FFS sample when restricting the set of conditions to those that are still "active" during the baseline period. That is, we coded each resident in the sample as having a condition if he or she was identified in the data as *having met the algorithm criteria only during 2016 or 2017*.[21] If a resident is flagged as ever having a chronic condition (based on the former, "historically" defined conditions) but not flagged as having the condition

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[19] The Chronic Conditions Warehouse developed variables for 27 common chronic conditions and 40 other chronic or potentially disabling conditions to facilitate researchers in the identification of cohorts of beneficiaries with specific conditions: https://www.ccwdata.org/web/guest/condition-categories.

[20] The earliest possible date for anyone in the Chronic Conditions Warehouse data is January 1, 1999. If the beneficiary became eligible for Medicare after that, the earliest possible date will be sometime after his/her coverage start date.

[21] We limited the IWISH Medicare sample to those residents with full or near full coverage in calendar years 2016 or 2017 and coded each individual as having a condition if he or she was identified in the data as having ever met the algorithm's diagnoses criteria based on claims in 2016 or 2017. *Full or near full coverage* is defined as 11 or 12 months of Medicare Parts A and B coverage (or coverage until death) in 2016 or 2017, and less than 1 month of managed care coverage.

in 2016 or 2017 (based on the latter, "actively treated" definition), then the resident's condition was probably treated successfully prior to the start of the demonstration and it may not be an important determinant of his or her healthcare utilization under the IWISH model.

Exhibit 3-4 below lists the 26 chronic conditions common in the Medicare population and presents their prevalence among the IWISH Medicare FFS sample members. Historically, nearly every (98 percent) resident in the IWISH Medicare FFS sample had been diagnosed with one or more of these 26 chronic conditions; 94 percent of residents had three or more conditions, and one-half of the residents had nine or more conditions. Most residents (94 percent) were also actively treated for one or more the 26 chronic conditions during the baseline period; 79 percent had three or more active conditions, and one-half of the residents had five or more active conditions.

Historically, more than two-thirds of residents in the sample were diagnosed with a cataract (68 percent), rheumatoid arthritis or osteoarthritis (70 percent), anemia (71 percent), hyperlipidemia (82 percent), or hypertension (88 percent) at or before baseline. More than one-half of residents had ischemic heart disease (61 percent), diabetes (59 percent), or enlarged prostate (57 percent of males). One-fourth (25 percent) were diagnosed with Alzheimer's disease, related disorders, or senile dementia at or before baseline. Between 1 and 4 percent had been diagnosed with colorectal, lung, or endometrial cancer at or before baseline. Although the prevalence of actively treated chronic conditions is less than that of the historically-defined chronic conditions, the conditions most prevalent in the IWISH Medicare FFS sample are generally the same (Exhibit 3-4).

Because about three-fourths of residents in IWISH Medicare FFS sample were dually eligible, we also examine the prevalence of 34 other chronic or potentially disabling conditions more common among the dually eligible population, including mental health and substance abuse conditions, developmental disorder and disability-related conditions, and other chronic physical and behavioral health conditions (see Appendix B, Exhibit B-5). Among these other chronic or potentially disabling conditions, the most prevalent conditions (based on historical diagnoses) were related to fibromyalgia, chronic pain, or fatigue (42 percent), pulmonary vascular disease (42 percent), and obesity (34 percent).

We also compared the 2016 prevalence of chronic or potentially disabling conditions among all Medicare beneficiaries enrolled in Medicare who had full or near full FFS coverage versus the 2017 prevalence of those conditions among the subgroup of the IWISH Medicare FFS sample who met these same criteria.[22] In general, the IWISH Medicare FFS sample with full FFS coverage in 2017 appeared to have comparatively worse health.

For example, 24 out of 59 chronic or potentially disabling conditions[23] were at least 1 percentage point more prevalent in the IWISH Medicare FFS sample than among all Medicare beneficiaries. Of them, 10 conditions were 5 to 9 percentage points more prevalent, and the following 8 conditions were 10 to 17 percentage points more prevalent in the IWISH Medicare FFS sample: hypertension, rheumatoid arthritis/osteoarthritis, diabetes, ischemic heart disease, anemia, chronic kidney disease, benign prostatic

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[22] See Appendix B, exhibit B-6. *Full or near full coverage* is defined as 11 or 12 months of Medicare Parts A and B coverage (or coverage until death) in 2016, and less than 1 month of managed care coverage. National statistics recorded an individual as having a condition if he or she was identified in the data as having ever met the algorithm criteria based on claims in 2016. To match the methodology used to calculate the national statistics, we limited the IWISH Medicare sample to those residents with full or near full coverage in calendar year 2017 and coded each individual as having a condition if he or she was identified in the data as having ever met the algorithm criteria based on claims in 2017.

[23] The national data did not report 2016 opioid use disorders.

hyperplasia, and pulmonary vascular disease. Only one condition was more than 1 percentage points lower in the IWISH Medicare FFS sample than in the overall Medicare FFS population: cataract.

Exhibit 3-4. Percent of Residents with Chronic Conditions Among the IWISH Medicare Sample

Chronic Condition	Historical Diagnoses[a] (%)	Active Diagnoses[b] (%)
Hypertension (high blood pressure)	88.0	80.8
Hyperlipidemia (high cholesterol)	82.1	63.6
Anemia	71.1	44.8
Rheumatoid arthritis / osteoarthritis	70.4	55.3
Cataract	67.7	24.4
Ischemic heart disease (coronary artery disease)	61.3	43.1
Diabetes	59.3	46.7
Benign prostatic hyperplasia (enlarged prostate), males	57.1	36.8
Depression	47.6	30.9
Chronic kidney disease	45.8	38.4
Congestive Heart failure	40.4	25.5
Chronic obstructive pulmonary disease (COPD)	39.5	23.8
Acquired hypothyroidism (underactive thyroid gland)	35.9	21.9
Osteoporosis	33.2	15.6
Glaucoma	32.9	15.9
Alzheimer's disease and related disorders or senile dementia	25.3	20.4
Asthma	25.2	12.0
Stroke / transient ischemic attack	19.1	6.8
Atrial fibrillation (irregular heartbeat)	15.8	11.7
Prostate cancer, males	13.5	9.6
Breast cancer, females	8.4	6.6
Acute myocardial infarction (heart attack)	5.5	1.8
Hip fracture	4.8	2.1
Colorectal cancer	3.9	2.1
Lung cancer	2.0	1.8
Endometrial cancer, females	1.6	1.0

[a] Each individual was coded as having a condition if he or she was identified in the data as having ever met the algorithm criteria since they first enrolled in Medicare. The earliest possible date for first meeting the algorithm criteria is January 1, 1999. If the beneficiary became eligible for Medicare after that, the earliest possible date is after the start of his or her coverage.
[b] The IWISH Medicare FFS sample was restricted to residents with full or near full coverage in calendar years 2016 or 2017. Full or near full coverage is defined as 11 or 12 months of Medicare Parts A and B coverage (or coverage until death) in 2016 or 2017, and less than 1 month of managed care coverage. Each individual was coded as having a condition if he or she was identified in the data as having ever met the algorithm's criteria based on claims in 2016 or 2017.
Notes: Only women are included in the denominator for endometrial and female breast cancer; only males are included for prostate cancer and enlarged prostate. Beneficiaries may be counted in more than one chronic condition category. N = 2,123 residents (623 men, 1,500 women) for the analysis of historical diagnoses. The denominator varies across active diagnoses, depending if the algorithm criteria requires a 1-year or 2-year lookback in claims: N=2,036 residents (582 men, 1,454 women) for one-year lookbacks, N=1,844 residents for 2-year lookbacks. The algorithms used to assign the flags are available from the https://www.ccwdata.org/web/guest/condition-categories.
Source: CMS Medicare Beneficiary Summary Files: Chronic Conditions Segment, 2016–2017

3.2.2 Utilization of Healthcare

Exhibit 3-5 presents the baseline healthcare utilization rates among the IWISH Medicare FFS sample. Residents in the sample were admitted to the hospital for an unplanned procedure 0.08 times per quarter, on average, and were hospitalized for about one-half day (0.47 days) per quarter. These rates are

equivalent to about one unplanned hospitalization every 3 years, and just less than 2 days hospitalized per year. About one of every eight unplanned hospitalizations was an unplanned readmission to a hospital less than 30 days after the patient was discharged from a prior hospitalization. There were 0.01 unplanned 30-day readmissions per quarter, which, by definition, is a subset of the 0.08 unplanned hospital admissions per quarter.

There was high individual-level correlation (65.4 percent) between the number of days that residents had at least one emergency or nonemergency ambulance event and the number of days that residents had at least one emergency department visit that did not lead to a hospitalization. Residents in the IWISH Medicare FFS sample used both services 0.15 days per quarter, on average, or once every 20 months.

In addition to the utilization of multiple different types of acute care, we examined the total number of days over the baseline period that residents were *in the community*. That is, the number of days that they did not spend time in a short-term institutional setting (for example, hospitals or skilled nursing facilities) or in an outpatient setting (for example, for an emergency department visit or observation stay). The average number of days spent in the community for residents in the IWISH Medicare FFS sample was 89.44 days per quarter, equal to 358 days per year (98 percent of the year). Furthermore, we measured the number of days per quarter that residents in the sample had a primary care visit, an outcome that may increase after properties implement the IWISH model, which would signal that the model potentially improved residents' access to preventive care. More than one-half of the residents in the sample had 0.5 primary care visits per quarter, or about two visits per year. On average, they had 1.5 primary care visits per quarter, or six visits per year.

More than 50 percent of the residents in the IWISH Medicare FFS sample never had an unplanned hospitalization during the baseline period, and the same was true for emergency department visits and ambulance events. Comparing the sample mean to the interquartile range (that is, 25th, 50th, and 75th percentiles) of each outcome shows that the distributions are highly skewed, meaning that even among a relatively homogenous group of low-income elderly residents at IWISH properties, a certain group of them account for a disproportionately large share of the health care used during the baseline period. At the end of the demonstration, it will be important to understand whether there was a disproportionate impact of the IWISH model on the rates of healthcare utilization among this particular group of residents with relatively high baseline utilization rates.

Exhibit 3-5. Baseline Healthcare Utilization Rates Among the IWISH Medicare FFS Sample

Variable[a]	Mean	Standard Deviation	Median	25th Percentile	75th Percentile
Number of unplanned hospital admissions, per quarter	0.08	0.19	0	0	0.13
Number of days of unplanned hospitalization, per quarter	0.47	1.38	0	0	0.38
Number of unplanned 30-day hospital readmissions, per quarter	0.01	0.07	0	0	0
Number of all-cause emergency department visits not resulting in hospitalization, per quarter	0.15	0.30	0	0	0.25
Number of days with one or more ambulance events for emergency or nonemergency medical transportation, per quarter	0.15	0.44	0	0	0.13
Number of days with at least one primary care visit, per quarter	1.50	1.65	0.5	0.14	2.10
Number of days in the community, per quarter	89.44	5.84	91.1	90.43	91.29

[a] Utilization rates are measured as the number of events or days per quarter—calculated as the ratio of the total number of events during the baseline period divided by the number of months the resident was continuously enrolled in Medicare Parts A and B and not in managed care prior to September 30, 2017, all multiplied by three.
Note: *N* = 2,123 residents.
Source: CMS Medicare enrollment records and fee-for-service claims, October 2015–September 2017

3.2.3 Chronic conditions and healthcare utilization between the IWISH and control groups

Few statistically significant differences existed in demographic characteristics, chronic conditions, or healthcare utilization rates when we compared the IWISH Medicare FFS sample to a similarly restricted control group Medicare FFS sample (5,060 residents of the control group who were continuously enrolled in Medicare Parts A and B and not a managed care plan for at least one quarter prior to the baseline; see Appendix B, Exhibits B-4 to B-7). This finding underscores the effectiveness of the demonstration's cluster-randomized, experimental design. Residents appear to be randomized sufficiently across the IWISH and control groups, even after restricting the sample based on Medicare enrollment at baseline. Unobservable differences between the two groups are not likely to influence our estimates for the impact of IWISH on healthcare utilization. Any systematic differences in observable baseline characteristics between the two groups that may or may not influence the average outcomes at the end of the demonstration can and will be controlled for through multiple linear regression.

We compared the means of the demographic characteristics, chronic and potentially disabling conditions, and healthcare utilization rates described above for residents in the IWISH Medicare FFS sample and control Medicare sample and then adjusted the *p*-values to correct for multiple hypothesis tests to decrease the likelihood of observing statistically significant differences between the two groups due only to chance.[24] The statistically significant differences between the two groups (based on a 5-percent threshold for statistical significance) are:

[24] We adjusted *p*-values using the Benjamini-Hochberg Procedure (Glickman, Rao, and Schultz, 2014). For the set of 18 demographic and Medicare enrollment variables, *p*-values <0.005 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison. For the 60 chronic or potentially disabling conditions, *p*-values <0.003 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison. For the seven healthcare utilization variables, none of the *p*-values met the threshold for statistical significance, with or without adjusting for multiple comparisons.

- **Demographic characteristics:** A lower percentage of IWISH residents than control group residents was of "Other" race/ethnicity (2.1 versus 3.2 percent), and a lower percentage was aged 85 or older (2.0 versus 2.6 percent). A higher percentage of IWISH residents was aged 65 to 74 (37.0 versus 31.2 percent).
- **Medicare enrollment:** On average, IWISH residents were continuously enrolled in Parts A and B for slightly fewer months than were residents in the control group (22.2 versus 22.6 months), and IWISH residents who were ever dually eligible during the baseline period were dually eligible for slightly fewer months (20.4 versus 21.2 months).
- **Chronic or potentially disabling conditions:** Out of 60 conditions, diagnosed during or before the baseline period, there were only five statistically significant differences. Each of those five conditions was more prevalent in the control group than in the IWISH group: glaucoma (32.9 versus 36.5 percent), osteoporosis (33.2 versus 37.2 percent), cataracts (67.7 versus 72.2 percent), hearing impairment (18.6 versus 22.7 percent), and hyperlipidemia (82.1 versus 86.7 percent). There were no statistically significant differences between the IWISH and control groups when we restricted the comparisons to conditions that were actively treated in 2016 or 2017.

We will have obtained Medicaid administrative data by the end of the evaluation, and we hope to have also obtained Medicare managed care encounter data. With the addition of these data, there may ultimately be no differences in resident characteristics between the samples of the IWISH and control groups analyzed in the Comprehensive Report. Furthermore, no statistical differences existed in the baseline utilization rates of health care among residents in the IWISH Medicare FFS sample and the control group Medicare FFS sample. This means that despite a few differences in resident characteristics noted above, we can confidently assume that, in the absence of IWISH, there would be no difference in healthcare utilization rates between the treatment and control groups after baseline. Therefore, we will be able to attribute any differences in health care utilization rates that we do observe during the demonstration to IWISH.

It will be important, however, to understand how any differences between two groups that might persist, no matter how small, might influence the estimated impact of IWISH on healthcare utilization. Small differences in groups with historically higher rates of healthcare utilization (for example, people who are aged 85 or older, have mental health or substance abuse issues, or have multiple chronic conditions) could have an outsized effect on the average rates of healthcare utilization in the IWISH or control group, which could bias the estimated impact of IWISH. We will identify potentially important differences between the two groups based on advice from the technical expert panel and conduct sensitivity analyses to test how they influence the results. We can control for bias attributed to observable differences through multiple linear regression.

3.3. Property and Neighborhood Characteristics

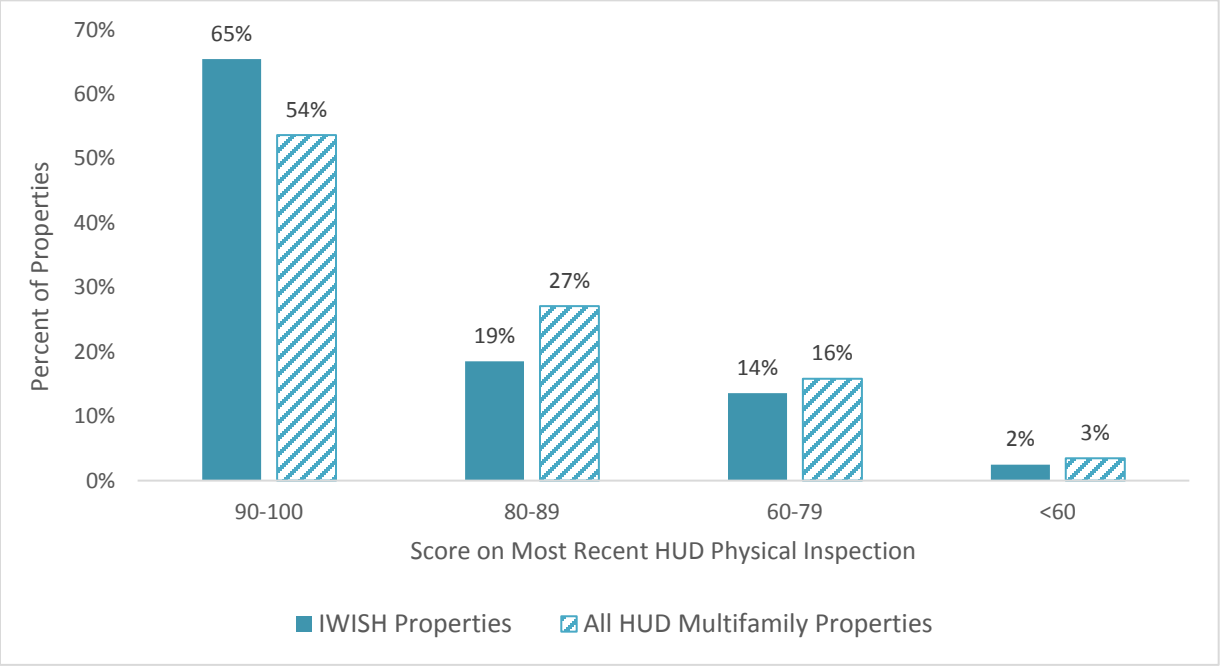
The exhibits in the previous two sections presented average characteristics for the residents in the study's treatment group. Section 3.1 presented data on all treatment group members and Section 3.2 on those treatment group members who could be matched to the available Medicare data. This resident-level analysis in Sections 3.1 and 3.2 is the most appropriate way to present the baseline data for the coming impact evaluation, which will compare outcomes at the end of the demonstration for residents in the treatment group versus outcomes for residents in the control group. Looking at averages across residents in the two groups, however, masks property-level characteristics that could affect how IWISH is implemented and how well it works. In fact, the 40 IWISH properties and the communities in which they are located are highly varied. We anticipate that the final analysis of IWISH impacts will explore how property and neighborhood characteristics affect resident outcomes. This section provides information on the characteristics of the IWISH properties and neighborhoods, drawing on HUD inspection data, information collected through the telephone survey, and ACS data.

3.3.1 Physical Characteristics of the IWISH Properties

Beginning with the IWISH properties, the 40 properties range in size from 51 to 420 units, with an average size of 108 units. About one-half (21 of 40) are low-rise buildings (one to three floors), and the other half are high-rise (four or more floors). The mix of building types varies somewhat by state: California and New Jersey have a higher share of low-rise buildings; Illinois, where three of the five IWISH properties are in Chicago, have a greater share of high-rise buildings.

Most of the IWISH properties are in good physical condition based on the scores from their most recent inspection from HUD. HUD's REAC inspects all of HUD's multifamily properties on a regular basis to ensure these properties provide decent, safe, and sanitary housing for residents.[25] Ninety-five percent of the IWISH properties (38 of 40) scored in the top two categories on their most recent inspection, compared to 81 percent of all HUD multifamily properties (Exhibit 3-6).[26]

Exhibit 3-6. Distribution of HUD Physical Inspection Scores of IWISH Properties and All Properties in HUD's Multifamily Housing Stock



Notes: *N* = 40 IWISH properties; 26,856 multifamily properties.
Source: Multifamily Housing–Physical Inspection Scores by State, accessed April 14, 2019, from https://www.hud.gov/program_offices/housing/mfh/rems/remsinspecscores/remsphysinspscores

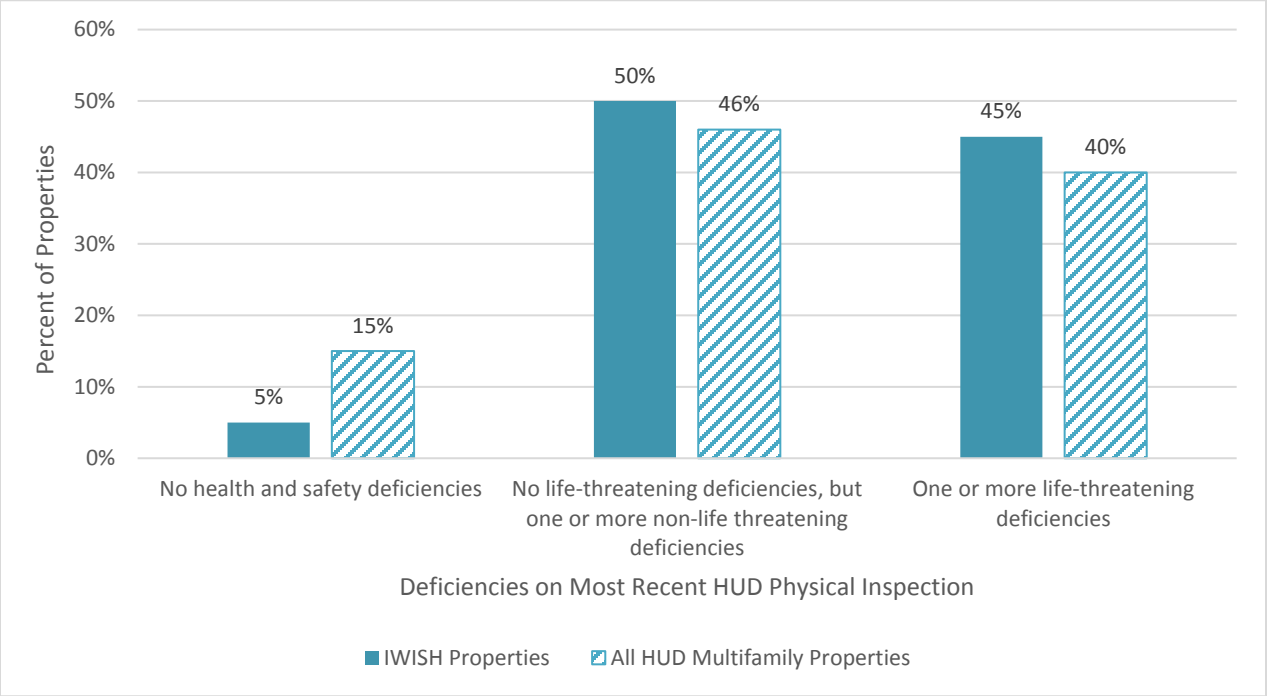
Despite scoring slightly higher than average overall, IWISH properties had similar or slightly higher rates of non-life-threatening and life-threatening deficiencies than multifamily properties overall. *Life-threatening* deficiencies include electrical hazards, inadequate ventilation of heating or cooling equipment, blocked exit doors or fire escapes, or missing or inoperable fire extinguishers. As shown in

[25] The frequency of inspection depends on the results of the most recent inspection. In the Section 202/PRAC program, HUD inspects properties that score 90 or above every third year, properties scoring 80 to 89 every second year, and properties scoring less than 80 every year.

[26] Scoring in the top two categories was not a criterion for eligibility for the Demonstration. In order to be eligible, a property had to have passed its most recent inspection (that is, scored 60 or above).

Exhibit 3-7, 45 percent of IWISH properties had at least one life-threatening deficiency on the last inspection, compared to 40 percent of multifamily properties overall. Fifty percent of IWISH properties had one or more non-life-threatening deficiencies but no life-threatening deficiencies, and five percent had no health and safety deficiencies of any kind.

Exhibit 3-7. Prevalence of Health and Safety Deficiencies Among IWISH Properties and All Properties in HUD's Multifamily Housing Stock



Notes: *N* = 40 IWISH properties; 26,856 multifamily properties.
Source: Multifamily Housing–Physical Inspection Scores by State, accessed April 14, 2019, from https://www.hud.gov/program_offices/housing/mfh/rems/remsinspecscores/remsphysinspscores

The inspection data suggest that IWISH properties were in similar or slightly better condition than other multifamily properties but that almost one-half had a serious health and safety deficiency at the time of the inspection. To provide another perspective on property conditions, the evaluation team asked rResident Wellness Directors, as part of the telephone survey fielded in fall of 2018, about property features or conditions that could present a challenge to residents aging in place. First, the interviewers read a list of property features (related to the units, building, or grounds) that could present a challenge to residents aging in place. Resident Wellness Directors interviewed identified those features that were issues at their properties and also noted other features they viewed as challenging.[27] Exhibit 3-8 below presents the survey responses.

Altogether, Resident Wellness Directors at 28 of the 40 IWISH properties (70 percent) identified at least one property feature as a challenge to aging in place, but there were no clear patterns. The common issues were the lack of peepholes or closed-circuit video (nine properties), followed by inaccessible or inadequate elevators (eight properties), and accessibility issues in the bathroom in the resident's unit (seven properties). Several Resident Wellness Directors mentioned the lack of parking as a

[27] The team fielded the telephone survey with just one Resident Wellness Director per property, even if the property had more than one.

problem. Concerns about parking included the overall size of the parking lot, the number of handicapped spots, and the distance of parking from the property. One Resident Wellness Director commented that without adequate parking it was difficult for residents to keep their cars, even if they were able to drive and enjoyed driving. At another property, the Resident Wellness Director noted that the lack of parking was particularly challenging because the community also lacked good public transportation options; limited parking meant that family and friends were less likely to visit residents.

These property issues are not ones that IWISH was designed to address. They speak, however, to some of the physical modifications that could potentially benefit older adults as they age in HUD multifamily properties and make it easier for them to age in place. The telephone survey responses from service coordinators and property staff at the active control properties indicate that the control properties have similar features presenting a challenge to aging in place.

Exhibit 3-8. Property or Unit Features Presenting a Challenge to Aging in Place at IWISH Properties

Property or Unit Feature	Number of Properties	Percentage of Properties
Challenges the interviewer asked about:		
No peepholes or closed circuit video for identifying visitors, or peepholes not at the right height for people in wheelchairs	9	23
Inaccessible or inadequate elevators	8	20
Accessibility issues in the bathroom	7	18
Living spaces too small to navigate with walker or wheelchair	6	15
Inaccessible or inadequate laundry facilities	6	15
Inaccessible kitchen cabinets or appliances	5	13
Not enough inside common spaces or recreational spaces	5	13
Not enough outside common spaces	5	13
Inadequate exterior lighting	3	8
Uneven flooring in the units, halls, or common spaces	2	5
Entryways or halls too small to navigate with walker or wheelchair	2	5
Inadequate lighting in hallways or common spaces	0	0
Inadequate or poorly placed electrical outlets in unit	0	0
Challenges volunteered by the respondent:		
Inadequate parking	5	13
Doors too heavy for residents to open	4	10
Too few wheelchair accessible units	2	5

Notes: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

3.3.2 Resident Characteristics of the IWISH Properties

The IWISH properties had diverse resident populations, in large part reflecting the different communities where they are located. One difference across the properties was the extent to which residents lived alone or with spouses or partners. For example, at least one property had as many as 50 percent of its residents living in two-person households whereas another property had no residents at all in two-person households. The other properties were somewhere in between. Residents who live on their own may have somewhat different needs for supportive services as they age in place than those who live with a spouse or partner.

The age distribution of residents also varied from property to property. At one property, more than one-third of residents (36 percent) at the start of the demonstration were aged 85 or older. At the other end of the spectrum, one property had a much younger older adult population, with only 5 percent of residents aged 85 or older. Many people experience substantial declines in physical and mental health after the age of 85. Thus, the IWISH staff at the property with more than one-third of residents in their mid-80s or older likely face a different set of challenges related to supporting health and wellness than IWISH staff at the property where relatively few residents are in this age bracket.

Properties also differed by gender, race, and ethnicity. The treatment group on average was 69 percent women, but the property with the highest percentage of women housed 87 percent women and the property with the lowest percentage had 46 percent women. Properties might have no residents of a given race. For example, there was at least one property with no White residents at baseline and at least one property where 96 percent of the residents were White. Similarly, there is at least one property with no African-American residents at baseline and another where 99 percent of residents were African American. One property had 95 percent Asian residents at baseline, even though only 18 percent of the treatment group were Asian. Regarding ethnicity, one property had 64 percent Hispanic residents, compared to 13 percent across the whole treatment group.

Properties also varied in how long residents have lived there. The average length of stay by property ranged from 2.1 years (at a relatively new property) to 13.3 years, with most properties in the 5 to 10 year range.

The diversity in characteristics among the IWISH properties is striking and may have implications for the implementation and impact of IWISH. The evaluation team will learn more about the interplay between property demographics and IWISH implementation through the qualitative research planned for later in 2019. We will also conduct exploratory subgroup analyses to test the sensitivity of the impact results to key property-level characteristics: for example, the percentage of residents aged 85 or older, the percentage of non-White residents, or (if data permits) the congruence between the languages spoken by the IWISH staff and those spoken by residents.

3.3.3 Neighborhood Characteristics

Like the resident populations, the neighborhoods where IWISH properties are located were also highly diverse. As shown in the map in Chapter 1, the properties span seven states and more than 10 metropolitan areas; within those metropolitan areas, they are found in a range of neighborhood types. Data from the ACS and other public use datasets highlight the diversity of neighborhoods where properties are located. Exhibit 3-9 presents select ACS data for the census tracts in which the IWISH properties are located and for all census tracts in the United States as a whole. (Census tracts approximate the neighborhoods where IWISH properties are located.)

Exhibit 3-9. Select Census-Tract-Level Measures for IWISH Properties

	Tracts Containing IWISH Properties				All Tracts in U.S.
	Minimum	Maximum	Median	Mean	Mean
Percentage of population below 100 percent of poverty level	4%	53%	19%	21%	15%
Median income of residents in 2017 dollars	$11,846	$91,250	$24,630	$29,659	$28,776
Percentage of population aged 25 and older with a bachelor's degree or higher	8%	83%	28%	34%	31%
Percentage of population White, non-Hispanic	1%	99%	44%	45%	62%
Percentage of population aged 5 and older speaking English "less than very well"	0%	66%	10%	14%	8.5%

Source: Table S0601 Selected Characteristics of the Total and Native Population in the United States, 2013–2017 American Community Survey 5-year estimates, accessed from American Fact Finder July 2019

The percentage of residents living below the poverty line in IWISH neighborhoods, ranges from 4 to 53 percent, with an average of 21 percent. The comparable national average poverty rate is 15 percent. Researchers often refer to neighborhoods with poverty rates above 20 percent as *high-poverty* and neighborhoods with poverty rates above 40 percent as *extremely high poverty* or *concentrated poverty* (Jargowsky, 2013). Of the 40 IWISH properties, 19 are in neighborhoods with poverty rates of 20 percent or higher, and three are in neighborhoods with poverty rates above 40 percent.

Other measures in Exhibit 3-9 are often correlated with poverty. Median individual income in the IWISH neighborhoods ranges from about $12,000 to more than $90,000. The neighborhood with a median income of more than $91,250 is an outlier; the next highest median income is $59,541. The majority of IWISH neighborhoods have median incomes between about $18,000 and $35,000, and the average is in line with the national average of $28,776.

Educational attainment in the IWISH neighborhoods varies substantially, with the percentage of adults with a bachelor's degree or higher ranging from 8 percent to 83 percent (in the tract with median income of $91,250). Three properties are in neighborhoods where only 8 percent of adults have a bachelor's degree or higher. The average percentage with a bachelor's degree or higher across the neighborhoods is similar to the national average (34 versus 31 percent).

The IWISH neighborhoods (like the properties) range in racial and ethnic composition. A rough measure of the racial diversity of the neighborhoods is the percentage of the population in the neighborhood that identifies as White, non-Hispanic. The neighborhoods run the full gamut, from 1 percent White to 99 percent White. Of the 40 IWISH neighborhoods, 16 have a higher share of White residents than the national average of 62 percent, whereas the other 24 neighborhoods are more diverse, including 9 where less than 10 percent of the population identifies as White, non-Hispanic.

Limited English proficiency among residents is a challenge for IWISH staff, particularly when it comes to having person-centered interviews and collecting medical information. Chapter 5 discusses the steps the IWISH staff have taken to address language barriers with their resident populations. The ACS data show that the percentage of the population speaking a language other than English at home and speaking English "less than very well" ranges from 0 percent to 66 percent across the IWISH neighborhoods, with an average of 14 percent, higher than the national average.

In addition to ACS data, the evaluation team explored other measures of neighborhood quality that could be relevant for characterizing the communities where treatment and control group residents

live. One of these measures is AARP's Livability Index.[28] The Index draws on more than 50 unique data sources, the majority of which are available at the neighborhood level, to characterize community livability, taking into consideration the needs of seniors. It allows the user to type in an address and see an overall community livability score for that address as well as scores for seven components of livability. The component scores and overall score range from 0 to 100, with a score of 50 representing the average community.

Compared with ACS, the Livability Index places less emphasis on income (and indicators correlated with income) as indicators of neighborhood quality and does not include race or ethnicity. Not surprisingly, the Livability Index scores for the IWISH properties are not strongly correlated with the ACS measures. Unlike the ACS measures, particular properties can have very different scores on different components of the Livability Index. At the same time, similar to the ACS measures, the average scores of IWISH properties on the Livability Index are not very different from the national averages; like the ACS measures, Livability Index scores vary greatly across the IWISH properties.

Exhibit 3-10 presents the Livability Index scores for the IWISH properties. The overall scores range from 39 to 73, with an average score of 54, close to the national average of 50. Scores for individual components also range widely. On most components, the IWISH properties score around or above the national average. The three areas where the IWISH properties score below average are environment (air and water quality), engagement (includes things like broadband access and voting rates), and opportunity (includes income inequality, educational attainment, and age diversity).

Exhibit 3-10. Select Scores for IWISH Properties from AARP Livability Index

	Minimum	Maximum	Mean
Overall Livability score	39	73	54
Component scores:			
Housing (affordability and access)	26	94	62
Neighborhood (access to life, work, and play)	30	86	65
Transportation (safe and convenient options)	35	94	60
Environment (clean air and water)	1	74	43
Health (prevention, access, and quality)	31	89	58
Engagement (civic and social involvement)	15	71	45
Opportunity (inclusion and possibilities)	19	74	42

Notes: *N* = 40 IWISH properties.
Source: AARP address lookup, https://livabilityindex.aarp.org/, accessed April 2018

Neighborhood characteristics are not something IWISH was designed to address, but they can affect residents' length of stay in the property, their access to services they want and need in the community as they age, and their overall quality of life. Neighborhood quality issues are also something that can affect staffing at the properties; for example, if people are reluctant to work at a property because of neighborhood conditions.

We expect to learn more about the interaction of neighborhood characteristics, IWISH implementation, and resident experiences through the site visits and interviews to be conducted in 2019. The telephone survey fielded in fall of 2018 provided some indication of challenges presented by neighborhood conditions. First, the interviewers read a list of neighborhood features that could present a challenge to residents aging in place. The Resident Wellness Directors interviewed identified those features that were issues at their properties and noted other features they viewed as challenging.

[28] The Livability Index is available at https://livabilityindex.aarp.org.

Altogether, Resident Wellness Directors at 30 of the 40 IWISH properties (75 percent) identified at least one neighborhood feature as a challenge to aging in place. Resident Wellness Directors at 12 properties identified only a single concern, but the other 18 identified multiple concerns. Exhibit 3-11 presents the interview responses.

Exhibit 3-11. Community Features Presenting a Challenge to Aging in Place at IWISH Properties

Community Feature	Number of Properties	Percentage of Properties
Challenges the Interviewer Asked About:		
Lack of public transportation options	14	35
Lack of access to nutritious food	13	33
Lack of safe walking routes	10	25
Area is isolated (for example, not close to churches, shopping, etc.)	8	20
Area is difficult for family and friends to get to for visits	8	20
Lack of social services in the community	8	20
No sidewalks or poorly maintained sidewalks	6	15
Lack of quality medical facilities in the community	6	15
Other Challenges:		
Lack of parking	6	15
Crime or drugs in the community	5	13
Other challenges	3	8

Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

The most identified challenge was the lack of public transportation. Resident Wellness Directors at 14 properties said transportation was a challenge, and the average AARP score for the transportation component at these 14 properties was lower than for the other 26 properties (an average score of 53 compared to 64; not shown). Resident Wellness Directors reported that, although some residents qualified for transportation assistance to particular destinations, many of the properties lacked access to public transportation that would allow residents to travel freely to destinations of their choosing. Some Resident Wellness Directors commented that the ride services available to residents could sometimes be too expensive for their limited incomes.

The lack of public transportation likely exacerbated the lack of access to nutritious food in the community, which 13 Resident Wellness Directors identified as a challenge for their residents. Resident Wellness Directors commented on the distance to the nearest grocery store (three to four blocks being too far) and on the cost of food available locally. Access to grocery stores is one part of the neighborhood component of the AARP Livability Index. The average AARP neighborhood score was slightly higher for the 13 properties where Resident Wellness Directors identified access to nutritious food as a challenge than for the other 27 properties (67 versus 64; not shown).

Resident Wellness Directors identified lack of safe walking routes as a problem in 10 of the 40 communities. Some Resident Wellness Director said that general concerns about safety deterred residents from walking in the neighborhood. Others described missing, uneven, or obstructed sidewalks, busy streets, and inadequate street lighting.

The issue of parking came up again in the telephone survey in the context of community features that presented challenges to aging in place. In certain communities, parking seems to be a problem for both staff and residents, discouraging visitors and restricting residents' mobility. Another concern for Resident Wellness Directors at five properties was crime or drug use in the community.

The 12 properties where Resident Wellness Directors identified either lack of safe walking routes or crime as a problem did not score lower on the neighborhood component of the AARP Livability Index than other properties did. These 12 properties, however, were in census tracts where poverty rates were higher than the others. The average census-tract poverty rate for properties where lack of safe walking routes or crime was a problem was 30 percent, compared to 17 percent for the other tracts.[29]

These interview responses highlight the challenges of some of the neighborhoods for older adults. It is encouraging that 10 of 40 IWISH properties are in neighborhoods without any of these issues, and another 12 are in neighborhoods with only one issue. The other 28 properties, however, are in communities with multiple challenges to aging in place. The responses to the telephone survey from service coordinators and property staff at the active control properties indicate that those properties face a similar range and prevalence of neighborhood challenges.

The information provided from the telephone survey previews richer information anticipated from future planned activities. Through the site visits, interviews, and focus groups planned for fall of 2019, the evaluation team expects to learn more about property and community features that could influence the implementation of IWISH and affect residents' ability to age in place. In addition, as discussed in Section 3.3.3 in the context of property characteristics, the team plans to conduct exploratory subgroup analyses as part of the Comprehensive Report to understand whether and how community characteristics could affect the impact of IWISH on residents' healthcare utilization and housing stability.

[29] The differences between the AARP Livability Index scores, ACS measures, and Resident Wellness Directors' perceptions of neighborhood conditions warrant further study and may be related to differences in the geographies used to define neighborhood. The ACS measures are at the census tract level, but the Resident Wellness Directors may have a smaller geography in mind when describing neighborhood conditions, something like the blocks immediately adjacent to the property.

4. Integrated Wellness in Supportive Housing (IWISH) Staffing

The Resident Wellness Directors and Wellness Nurses are the linchpin of the IWISH model, responsible for carrying out all IWISH components, from enrolling residents in IWISH through developing partnerships. When a property is understaffed in either of these positions, it can have important implications for program implementation. Staff turnover, even if positions are quickly filled, can also disrupt program implementation because of the time required for training, orientation, and relationship-building with residents and partners.

This chapter analyzes the extent to which properties had full staffing in their Resident Wellness Director and Wellness Nurse positions during the first 18 months of the demonstration and how much staff turnover properties experienced. Overall, the IWISH properties—with the support of the implementation team—were successful in filling their IWISH positions in the first 18 months of the demonstration and in retaining those staff. We use the term *target staffing* to convey that a property is fully staffed; that is, that the IWISH property has filled all the full-time equivalents (FTEs) for which it was funded. For most properties, the target staffing is 1 FTE for the Resident Wellness Director and 0.5 FTEs for the Wellness Nurse, but a few properties have higher targets. Another concept in this section is *demonstration days* at or below target staffing. Demonstration days are calculated as the number of calendar days between October 1, 2017 (the start of the demonstration) and March 18, 2019. Each property thus has 533 demonstration days.

How This Report Analyzes IWISH Staffing

- **Target staffing** is when a property is fully staffed, in FTEs, according to the extent it was funded.
- **Demonstration days** are the number of calendar days between the start of the Demonstration and the close of the period of analysis for this First Interim Report.

The main data source for the chapter is the IWISH staffing data supplied by the implementation team. These data provide the start and end dates of staff at each of the IWISH sites from October 2017 through March 2019. The chapter reviews these data separately for the Resident Wellness Director and Wellness Nurse positions and then discusses how the data will be used to inform the analysis of IWISH impact once the demonstration is complete.

Main Findings of the Chapter

- Most IWISH properties had the target number of Resident Wellness Directors for most of the analysis period. The average IWISH property had at least one Resident Wellness Director for 96 percent of the total demonstration days and at least one Wellness Nurse for 86 percent of the total demonstration days.
- Of the 40 IWISH properties, 26 were fully staffed in the Resident Wellness Director position for the entire analysis period. Ten properties had no Resident Wellness Director at some point during the analysis period, and 14 properties experienced some time with less than target Resident Wellness Director staffing.
- Most of the time that properties spent without any Resident Wellness Director or at less than target staffing resulted from delays in initial hiring. Eight properties experienced turnover in the Resident Wellness Director position.
- Staffing the Wellness Nurse position presented greater challenges. Many IWISH property experienced challenges with hiring or retaining Wellness Nurses. Of the 40 IWISH properties, 37 spent some period of time without any Wellness Nurse on site, and 38 properties spent some time with less than target Wellness Nurse staffing.

- Delays in hiring the first Wellness Nurses at IWISH properties played a large part in staffing shortages. Factors delaying initial hiring include a lack of experience among property owners in contracting for healthcare services, a reported lack of urgency on the part of third-party contractors responsible for identifying the nurses, and the nationwide nursing shortage.
- Nearly twice as many Wellness Nurses left as did Resident Wellness Directors. In the first 18 months of the demonstration, 10 of 42 Wellness Nurse positions turned over, affecting 15 properties. This compares to 8 of 54 Resident Wellness Director positions.

4.1. Resident Wellness Director Staffing

Resident Wellness Directors provide enhanced service coordination to residents at the property where they live. In the IWISH model, Resident Wellness Directors are full-time positions, and each property receives funding to hire at least one full-time Resident Wellness Director based on the number of units at the property. Of the 40 IWISH properties, 30 were funded for one Resident Wellness Director FTE, 7 properties were funded for two Resident Wellness Director FTEs, and 3 properties were funded for more than two FTEs. The total number of Resident Wellness Director FTEs across the 40 properties is 53.5 (54 positions).[30]

At most properties, the Resident Wellness Director is an employee of the housing development. Hiring for IWISH staff began in spring of 2017 before the October 1, 2017 official start of the demonstration. The implementation team offered a webinar on hiring for the demonstration in May 2017 and provided technical assistance to each property over summer and fall of 2017. By October 1, 2017, 34 IWISH properties had at least one Resident Wellness Director. By March 2018, when resident enrollment in IWISH began, all 40 properties had an Resident Wellness Director.

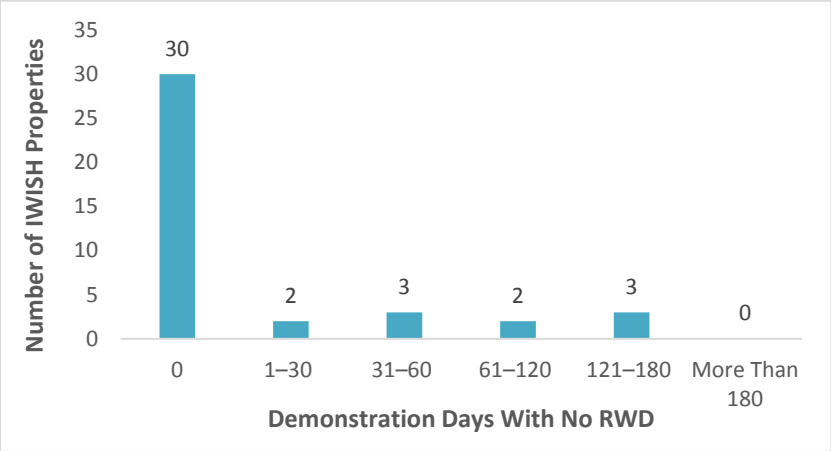
Over the first 18 months of the demonstration (October 2017 through March 2019), Resident Wellness Director staffing at IWISH properties has largely aligned with program targets. The average IWISH property had target staffing for 93 percent of the total demonstration days and at least one Resident Wellness Director for 96 percent of the total demonstration days. Twenty-six of the 40 IWISH properties were fully staffed in the Resident Wellness Director position for the entire analysis period. Ten properties, however, had no Resident Wellness Director at some point during the analysis period, and 14 properties experienced less than target Resident Wellness Director staffing.

Time With No Resident Wellness Director

Among the 10 properties that experienced some time without *any* Resident Wellness Director, the number of days without any Resident Wellness Director ranged from 15 days to 172 days, for an average of 81 days. Exhibit 4-1 shows the distribution of IWISH properties by demonstration days without any Resident Wellness Director.

[30] The reason there is not an even number of RWD FTEs is that one property is funded for three FTEs but has maintained 2.5 FTEs for most of the demonstration; according to the implementation team, the property is satisfied with this level of staffing.

Exhibit 4-1. IWISH Properties and Demonstration Days With No Resident Wellness Director

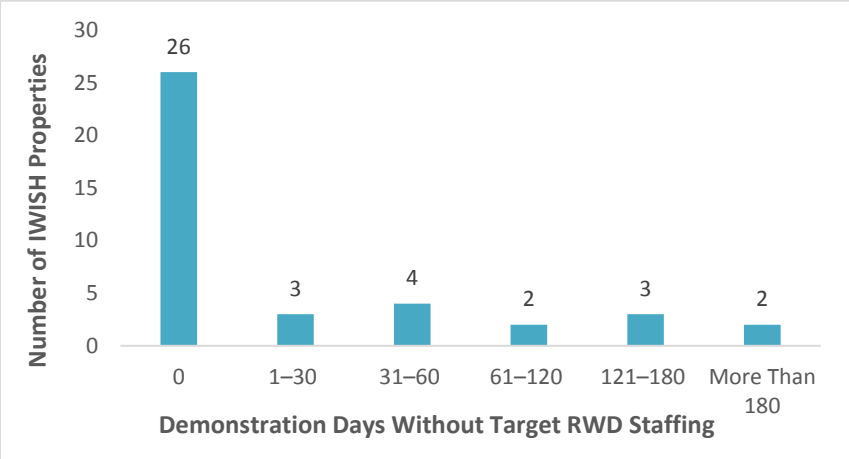


RWD = Resident Wellness Director.
Note: *N*=40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

Time With Less Than Target Resident Wellness Director Staffing

Fourteen IWISH properties fell short of their target Resident Wellness Director staffing at some point during the analysis period; this includes the 10 properties that had no Resident Wellness Director for some period. The number of days a given property went without its target Resident Wellness Director staffing ranged from 3 to 480 days, for an average of 110 days per property, or about 4 months.[31] Exhibit 4-2 shows the distribution of properties by demonstration days without the target number of Resident Wellness Directors.

Exhibit 4-2. IWISH Properties and Demonstration Days Without Target Resident Wellness Director Staffing



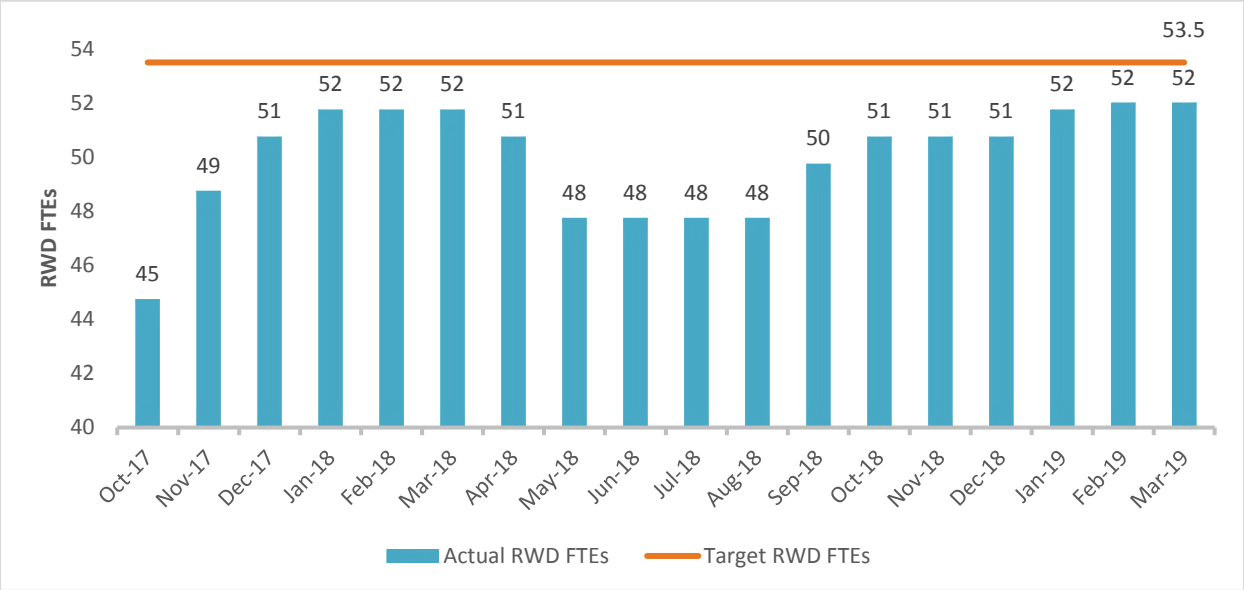
RWD = Resident Wellness Director.
Note: *N* = 40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

[31] The property that operated for 480 days without target RWD staffing had a target of 2.0 RWD FTEs, but employed 1.75 FTEs for most of the analysis period, before recruiting and hiring an additional RWD at 0.25 FTE who had bilingual language skills matching residents' needs.

Trends Over Time

Exhibit 4-3 shows the number of Resident Wellness Director FTEs across the 40 IWISH properties over time. There was a strong hiring push between October and December 2017, during the study's ramp-up period. As of January 2018, a total of 52.75 of the targeted 53.5 FTEs across the 40 properties were filled. Between March and May 2018, the properties lost 4 FTEs, and it took some time for them to rehire. As of March 2019, however, most properties had Resident Wellness Directors in place. Overall, the properties had staffed 52 of the 53.5 target Resident Wellness Director positions, or 97 percent.

Exhibit 4-3. Trends in Staffing Resident Wellness Director Position Over Time



FTE = full-time equivalent. RWD = Resident Wellness Director.
Note: *N* = 40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

Challenges in Meeting Resident Wellness Director Staffing Targets

Overall, most properties met their Resident Wellness Director staffing targets for most of the demonstration period. To the extent that properties fell short of their targets, it was mainly due to delays in initial hiring during the start-up period. There was also some staff turnover, however. In the first 18 months of the demonstration, 8 of 54 Resident Wellness Director positions turned over. All eight of the Resident Wellness Directors left their position after March 2018 (that is, after enrollment had started). Data from the implementation team provide explanations for five of these eight departures: three left for personal reasons, one for poor communication with the owner organization, and one was terminated. These reasons do not appear related to the IWISH program per se.

The staffing gaps resulting from this turnover totaled 521 demonstration days (65 days per departure on average). The gaps in hiring replacement staff seem to largely be a function of typical recruiting and hiring practices at properties, as no anomalies were reported in this area. In places where we have data, it is not uncommon for the property to report a staff departure sometime in Month 1, recruit sometime in Month 2, and have the new hire start work sometime in Month 3.

4.2. Wellness Nurse Staffing

Wellness Nurses provide health and wellness education and support to residents on site. In the IWISH model, Wellness Nurses are half-time positions, and each property receives funding to hire at least one half-time Wellness Nurse based on the number of units at the property. Of the 40 IWISH properties, 30

were funded for 0.5 Wellness Nurse FTEs. Another 8 properties were funded for 1.0 FTEs. The remaining 2 properties were funded for 1.5 FTEs and 2 FTEs. Some Wellness Nurses worked at two different properties to create a full-time role for themselves. The target number of Wellness Nurse FTEs across the 40 IWISH properties is 26.5, which translates into 42 Wellness Nurse positions, most part-time.

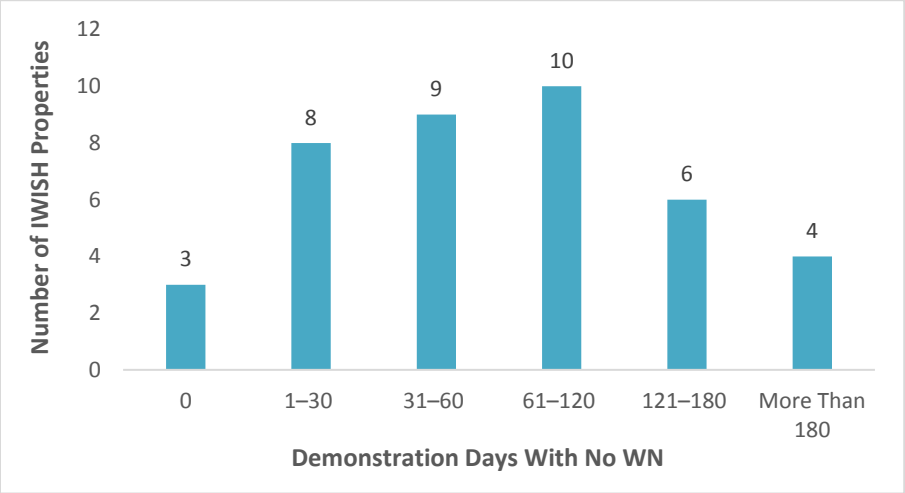
The Wellness Nurse is not an employee of the property. Recognizing that property owners would not have experience hiring and overseeing nurses and might not have the level of insurance needed to have a healthcare provider on site, HUD required IWISH properties to contract for the Wellness Nurse through a certified provider. These certified providers included assisted living residences, hospitals, home health agencies, and Federally Qualified Health Centers.

Having a nurse on the property was an entirely new experience for most housing providers, and many IWISH properties experienced challenges maintaining the target level of Wellness Nurse staffing. Compared to Resident Wellness Director staffing, Wellness Nurse hiring was more often delayed. Furthermore, Wellness Nurses left their positions at a higher rate than the Resident Wellness Directors. Of the 40 IWISH properties, 37 experienced some period without a single Wellness Nurse on site, and 38 of the 40 properties experienced some period without target Wellness Nurse staffing. Despite these gaps, the average IWISH property had at least a 0.5 FTE Wellness Nurse for 85 percent of the total demonstration days during the analysis period. The average IWISH property was at target Wellness Nurse staffing for about two-thirds of the demonstration days (66 percent).

Time With No Wellness Nurse

Thirty-seven of 40 IWISH properties operated without a Wellness Nurse on staff at some point during the first 18 months of implementation. There was, however, a big range in the amount of time individual properties spent without a Wellness Nurse. Four properties had only 1 day without a nurse, whereas one property was without a Wellness Nurse for 359 days, almost 1 year. Exhibit 4-4 below shows the distribution of the properties by length of time without any Wellness Nurse.

Exhibit 4-4. IWISH Properties and Demonstration Days With No Wellness Nurse



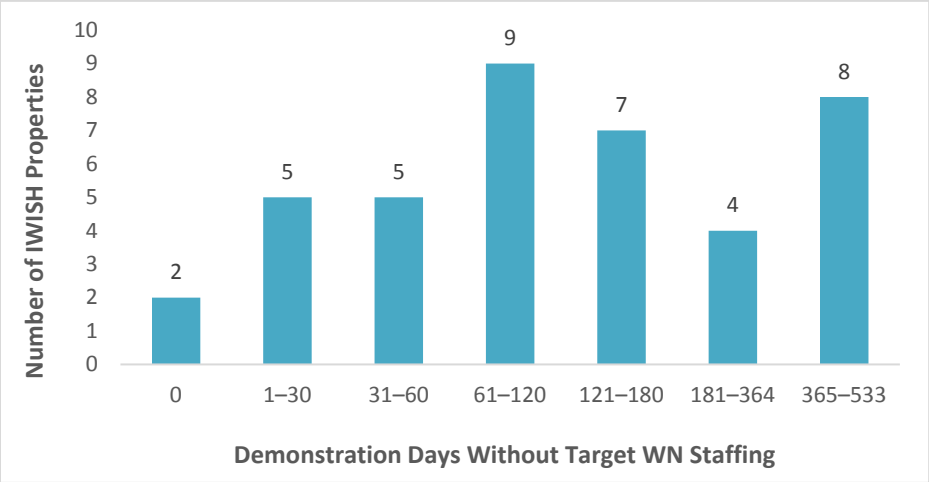
WN = Wellness Nurse.
Note: *N* = 40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

Time With Less Than Target Wellness Nurse Staffing

Between October 2017 and March 2019, 38 of 40 IWISH properties fell short of their target Wellness Nurse staffing for some period. This includes the 37 properties that had no Wellness Nurse for some

period. The number of days a given property went without its target Wellness Nurse staffing ranged from 1 to 533 days, with a median of 121 days, or about 4 months, per property. Exhibit 4-5 below shows the distribution of properties by demonstration days without the target number of Wellness Nurses.

Exhibit 4-5. IWISH Properties and Demonstration Days Without Target Wellness Nurse Staffing

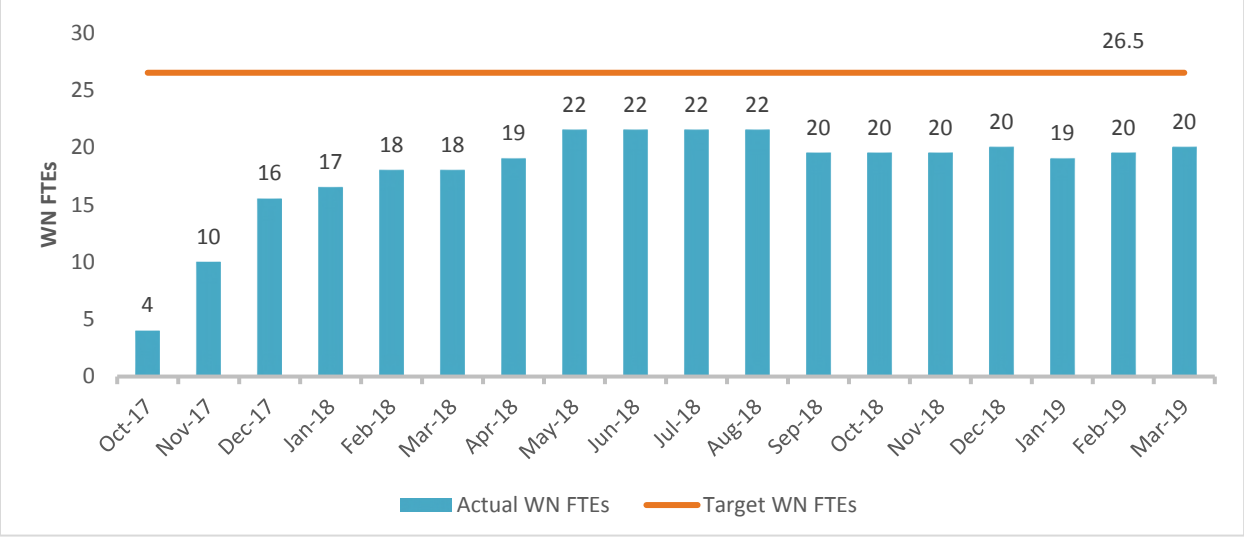


WN = Wellness Nurse.
Note: *N* = 40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

Trends Over Time

As shown in Exhibit 4-6 below, hiring the initial Wellness Nurses took somewhat longer than hiring Resident Wellness Directors did. Nevertheless, within 6 months of the start of the demonstration, most properties had hired their Wellness Nurse(s). Staffing levels plateaued around May 2018, with 21.5 of the 26.5 target Wellness Nurse FTEs filled. This level of staffing was sustained through August 2018, then decreased somewhat. As of March 2019, 12 of 40 IWISH properties remained short of their Wellness Nurse staffing target. Collectively, IWISH properties had staffed 20.0 FTEs, approximately 75 percent of the target.

Exhibit 4-6. Trends in Staffing Wellness Nurse Position Over Time, October 2017–March 2019



FTE = full-time equivalent. WN = Wellness Nurse.
Note: *N* = 40 IWISH properties.
Source: IWISH staffing data provided by the implementation team

Challenges in Meeting Wellness Nurse Staffing Targets

As with the Resident Wellness Directors, understaffing among Wellness Nurses resulted both from delays in initial hiring and from delays in replacing subsequent vacancies. It is perhaps not surprising that hiring and retaining Wellness Nurses was more challenging than hiring and retaining Resident Wellness Directors. The Wellness Nurse is a part-time position, which may have been less desirable to applicants. Also, properties did not have experience having a nurse as part of the staffing model and faced a steep learning curve with this aspect of IWISH.

IWISH Staff Turnover

Departures in the first 18 months of the demonstration:

- 8 of 54 Resident Wellness Director positions
- 10 of 42 Wellness Nurse positions

Delays in Initial Hiring

Delays in hiring the first Wellness Nurses at IWISH properties played a large part in Wellness Nurse staffing shortages overall. Delays in initial hiring accounted for 65 percent of demonstration days with no Wellness Nurse on the property and for 29 percent of demonstration days below target Wellness Nurse staffing.

According to discussions with HUD staff and the implementation team, three factors contributed to delays in hiring Wellness Nurses. First, contracting for a nurse was new to the IWISH property owners and they needed substantial support in that process. Second, the nationwide nursing shortage makes it harder to attract nurses than Resident Wellness Directors, perhaps particularly for part-time positions. Finally, at some properties, there was reportedly a lack of urgency on the part of the third-party providers responsible for hiring Wellness Nurses. As noted above, IWISH properties contracted for the Wellness Nurse through a certified provider, and these providers did not in all cases act quickly to fill the roles.

Some properties had particular reasons for not filling their Wellness Nurse positions quickly. For example, one property wanted a Wellness Nurse who was bilingual, in order to be able to communicate better with its resident population. After finding, and then not securing, a bilingual candidate, the property began to work with HUD on whether IWISH funds could be used for translation services to support a nonbilingual Wellness Nurse, and ultimately received that approval. The time spent trying to hire a bilingual nurse and then identifying a workaround significantly delayed the initial hire at this property.

Delays in Hiring Replacement Staff

Subsequent vacancies due to staff turnover accounted for 35 percent of days with no Wellness Nurse on the property and 14 percent of days with below target staffing. Between October 2017 and March 2019, 10 of 42 Wellness Nurse positions turned over, affecting 15 IWISH properties.[32] This compares to 8 of 54 Resident Wellness Director positions turning over during the same period. According to the implementation team, at least one Wellness Nurse left the position because of the stress of holding multiple part-time positions. (This challenge did not apply to Resident Wellness Directors, who all held full-time positions.) Other Wellness Nurses left to pursue opportunities that represented career advancements. A member of the implementation team who is in close contact with the Wellness Nurses noted that generally, Wellness Nurses love working in this role because of the continuity of working with the same people over time, especially as compared to hospital or rehab facility environments.

Notably, the three properties with the lowest resident enrollment rates all had turnover in both the Resident Wellness Director and Wellness Nurse positions, indicating the extent of the disruptive effect of turnover on enrollment at those properties. Each of these three properties was funded for only one full-time Resident Wellness Director and one half-time Wellness Nurse. These properties had enrollment rates

[32] Five of the Wellness Nurses who left their positions worked at two IWISH properties each, and of the 10 Wellness Nurses who left their positions between October 2017 and March 2019, 2 left before the start of IWISH enrollment in March 2018 and 8 left after.

of 16 percent, 32 percent, and 32 percent. (The average enrollment rate across was properties was 71 percent, as discussed in Section 5.2 below).

The only other IWISH property to experience turnover in both the Resident Wellness Director and Wellness Nurse positions was funded for and employed two Resident Wellness Directors and two Wellness Nurses, so turnover likely had less of an effect on this property's IWISH operations. This property was able to achieve 96 percent resident enrollment by March 2019.

5. Integrated Wellness in Supportive Housing (IWISH) Implementation

This chapter documents IWISH implementation over the first 18 months, from the start of the demonstration on October 1, 2017, through March 18, 2019 (12 months after the start of IWISH enrollment). The chapter begins by discussing pre-enrollment activities; that is, what the IWISH staff and the implementation team did before the Office of Management and Budget authorized data collection to start. It then discusses progress through March 2019 in implementing the key components of IWISH: enrolling residents, person-centered interviews and assessments, creating Individual Healthy Aging Plans, and developing partnerships.

Because the evaluation team has not yet conducted site visits and interviews with staff at the IWISH properties, the chapter mainly relies on analysis of IWISH enrollment reports and staffing data provided by the implementation team, verbal input from the implementation team, and data collected through the PHLs data system. Where relevant, we draw on information on the implementation experiences of Resident Wellness Directors collected through the telephone survey. The Second Interim Report, however, will provide more extensive information from interviews with all IWISH property staff (not just Resident Wellness Directors), as well as with staff at the active control properties and with residents.

Main Findings of the Chapter

- The IWISH properties had expected to begin enrolling residents into IWISH as early as October 2017, but the data collection protocols to be used for enrolling residents and conducting the health and wellness assessments did not receive final government approval until March 19, 2018. The delay gave the IWISH properties 6 months to work on filling remaining staff positions, training staff, finalizing policies and procedures, and conducting outreach to residents before they could enroll residents.
- Resident enrollment officially launched on March 19, 2018. A year later, the 40 IWISH properties had enrolled 2,960 residents, a 71 percent enrollment rate overall. A few properties succeeded in enrolling the majority of their residents in the first few months following the launch of enrollment, but most properties started more slowly, in some cases encountering challenges stemming from resident resistance, staff turnover, workload issues, or all of the above. As of March 2019, 13 of the 40 IWISH properties (33 percent) had enrollment rates at or above 80 percent, 17 properties (43 percent) had enrolled 60 to 79 percent of their residents, 6 properties (15 percent) had enrolled 50 to 59 percent, and 4 properties (10 percent) had enrolled less than 50 percent.
- As of March 18, 2019, some 74 percent of enrollees had participated in a person-centered interview, and 69 percent of enrollees had participated in a health and wellness assessment. Most residents who participated in an interview or assessment participated in both. In addition, 45 percent of IWISH enrollees had at least one goal in PHL, evidence that those residents and IWISH staff had taken steps toward developing Individual Healthy Aging Plans.
- Across the 40 properties, IWISH staff logged more than 25,000 "visits" with residents enrolled in IWISH, defined as a meaningful interaction with a resident or participation of a resident in an IWISH event. On average, based on the visits recorded in PHL as of March 2019, residents enrolled in IWISH had met with the Resident Wellness Director and/or Wellness Nurse 8.7 times since enrolling in the program (about 1.4 visits per month of enrollment). The most common reason identified in PHL for these visits was "general wellness support," but residents also met with the IWISH staff to complete person-centered interviews, health and wellness assessments, and Individual Healthy Aging Plans and in response to "sentinel" events and transitions to and from hospitals. Staff also met with residents' family members and caregivers.
- Resident Wellness Directors found working directly with residents and getting to know them one of the most rewarding parts of their job. At many properties, however, language barriers were a challenge, with some or

even most residents having limited English proficiency. Many IWISH staff also struggled with using PHL, especially in the first 6 months after the start of enrollment. Of the 40 Resident Wellness Directors interviewed, 20 reported using another data system (in addition to PHL) to record information on service coordination.

- Once enrollment began, the focus of IWISH staff was on enrolling residents and completing the assessment process to get an accurate picture of resident needs and interests. Property-wide planning and developing partnerships and programming were less of a priority but will likely accelerate in the second part of the demonstration, now that a majority ofmost enrollees have had assessments.
- Throughout the first 18 months of the demonstration, the implementation team provided training, technical assistance, and monitoring. The team offered more than 80 training sessions of different types, as well as technical assistance and written resources. The implementation team responded to challenges observed on the ground and tailored its training, technical assistance, and monitoring to address those challenges in real time.

5.1. Pre-Enrollment Activities

The IWISH properties had expected to begin enrolling residents into IWISH as early as October 2017, but the demonstration did not receive final government approval for the data collection instruments involved in enrolling residents and conducting the health and wellness assessments until March 18, 2018. The delay gave the IWISH properties 6 months to work on filling remaining staff positions, training staff, finalizing policies and procedures, and conducting outreach to residents.

5.1.1 Staff Hiring and Initial Training

As discussed in Chapter 4, hiring for the IWISH properties began before the start of the demonstration in October 2017, but it also continued intensively through March 2018 (the start of enrollment), by which time most properties had staff in place. In May 2017, the implementation team had offered a webinar on hiring for the demonstration, followed by technical assistance on hiring provided to each property over summer and fall of 2017.

In September and October 2017, the implementation team began providing training to the IWISH staff in the form of live webinars (recorded for viewing by those unable to attend). These early webinars included introductory sessions on the demonstration as a whole, as well as staff roles and responsibilities, and other sessions on engaging with residents, privacy rules, and teamwork.

In mid-November 2017, the implementation team held a 2-day, in-person training for all Resident Wellness Directors and Wellness Nurses hired by that time point. Fifty-one of 54 Resident Wellness Directors and 27 of 35 Wellness Nurses attended the training. The training covered all IWISH components and activities but also spent time discussing what it means to implement a person-centered approach and how the Resident Wellness Director and Wellness Nurse could work effectively as a team.

After the in-person training the implementation team continued to provide training to IWISH staff via webinar. These training sessions, as well as the technical assistance and monitoring the implementation team provided, are discussed in SSection 5.7.

5.1.2 Policy and Procedure Development

During the start-up period, the IWISH properties worked on local policies and procedures to accommodate the IWISH program. The two main items required of all IWISH properties were the emergency protocol and the procedures to accommodate IWISH's privacy and confidentiality requirements and standards.

Emergency Protocol

The emergency protocol establishes the procedures property staff follow when a resident has a medical emergency. Many properties had emergency protocols before IWISH, but having a licensed nurse on site raised new questions, for example:

- When is it appropriate to perform CPR, the Heimlich maneuver, or use a defibrillator?
- What steps should staff take in the event of an attempted suicide?
- Can the nurse administer epinephrine in the event of an allergic reaction or give aspirin to minimize stroke damage?

The implementation team supported properties in developing their emergency protocol via a webinar, a written "Frequently Asked Questions" document, and one-on-one technical assistance. Developing the protocol was challenging for many properties, as it first required a review of the state's Nurse Practice Act and other statutes to determine the degree to which state law dictates emergency response duties and what legal protections nurses have when they provide emergency care. Developing the protocol also required coordination between the property owner and the nurse's employer and their respective legal teams. Properties typically had a protocol requiring staff to call 911 as a first step upon witnessing or hearing about an adverse event. They differed, however, as to whether CPR and other interventions could be administered while awaiting emergency services and how staff would determine whether the resident had a do-not-resuscitate, or DNR, order. Each property covered these types of scenarios in its emergency protocol.

Developing the emergency protocols and other policies raised questions about the Wellness Nurse's role and what type of care the nurse could provide to residents. At most IWISH properties, the nurse is on site only 20 hours a week and works the other 20 hours either at another property or in another nursing role. The roles and responsibilities of the nurses in their IWISH capacity could be different from their prior work or other job, notably in the extent to which the Wellness Nurse could provide clinical care. To alleviate this confusion, the implementation team developed a webinar on what it means to be a Wellness Nurse and a detailed Wellness Nurse "do's and don'ts" document providing guidelines for how the nurse can work with residents under IWISH. This document clarified that Wellness Nurses cannot provide clinical care such as giving medications, dressing wounds, or drawing blood.

Nevertheless, the role of the nurse was an ongoing topic of discussion in the start-up phase, requiring the implementation team to make further clarifications—for example, that the nurse may listen to a resident's lungs. The evaluation team will examine the extent to which the restrictions on the Wellness Nurse role in IWISH caused confusion or frustration for nurses beyond the start-up period.

Privacy and Confidentiality

IWISH has privacy and confidentiality procedures consistent with the Health Insurance Portability and Accountability Act (HIPAA). Even though the properties are not HIPAA covered entities, the demonstration has strict standards and requirements to protect residents' personally identifying information and personal health information. The implementation team trained all IWISH staff on these standards and requirement and required property management to ensure that IWISH staff had access to locking offices and locking file cabinets.

One of the key aspects of the demonstration's privacy and confidentiality standards is that only the Resident Wellness Director and Wellness Nurse have direct access to PHL. With the resident's consent, IWISH staff may discuss a resident's needs or concerns with other property staff, but these other staff may not view or use PHL. This provision required some attention during the start-up period. Prior to IWISH, the supervisors at some properties routinely reviewed the information entered by the service coordinator into their data management system as a way of monitoring the service coordinator's

performance. The implementation team had to work with these supervisors to develop new procedures for monitoring the work of the Resident Wellness Director.

5.1.3 Resident Outreach Before Start of Enrollment

Alongside training and the development of policies and procedures, a third major activity during the start-up period was getting the word out to residents about IWISH and building support for the program in anticipation of the start of enrollment. Between November 2017 and March 2018, Resident Wellness Directors and Wellness Nurses organized a variety of activities to raise awareness of the IWISH program among residents, introduce residents to IWISH staff, and share information about programming and services available through IWISH.

The IWISH properties had discretion over how to conduct resident outreach, but the implementation team provided support via webinar trainings, a best practices document, and property-specific technical assistance. The telephone survey with Resident Wellness Directors in fall of 2018 asked about which activities staff had undertaken before the start of enrollment to make residents aware of IWISH. First, the interviewers read a list of activities consistent with the activities recommended by the implementation team, then they asked respondents whether they had used those or other strategies.

Of the 40 Resident Wellness Directors interviewed, 4 had been hired after the start of enrollment and so were not asked about pre-enrollment outreach, and 1 said she did not know which outreach activities were used. Of the remaining 35 Resident Wellness Directors, most tried three or four different activities to increase awareness of IWISH and generate interest in the program.

As shown in Exhibit 5-1, the most common outreach activities were group meetings with residents (60 percent of respondents), talking about IWISH at other resident meetings or gatherings (55 percent), and one-on-one meetings with residents (48 percent). Other common activities included coffee hours or informal "meet-and-greets" and printed materials such as flyers, posters, and mailers. A few properties introduced new programming—for example, vital signs clinics and walking clubs—that gave the Resident Wellness Director and Wellness Nurse a chance to talk about IWISH with residents. Finally, a few properties undertook other activities, including creating "Ask Me About IWISH" buttons, distributing small household items such as tea bags and sponges with information about the IWISH program enclosed, and building relationships with community partners in the area to build interest in the program.

Exhibit 5-1. Pre-Enrollment Resident Outreach Activities

Activity	Number of Resident Wellness Directors	Percentage of Resident Wellness Directors
Activities the interviewer asked about:		
Group meetings with residents	24	60
Talking about IWISH at other resident meetings or gatherings	22	55
One-on-one meetings with residents	19	48
Coffee hours or informal meet-and-greets	18	45
Flyers or posters	16	40
Letters, mailers, or welcome packet	10	25
Meetings with resident advisory group or resident "champions"	6	15
Resident survey	4	10
Raffles, incentives, prizes	3	8
Other activities:		
New programming that discussed IWISH	4	10
Other activities	3	8

Notes: *N* = 35 Resident Wellness Directors at 35 IWISH properties. Since we interviewed one Resident Wellness Director per property, the number of Resident Wellness Directors doing a given activity is also the number of properties where that activity took place.
Source: Telephone survey (November 2018–January 2019)

5.2. Resident Enrollment

Resident enrollment officially launched on March 19, 2018, after an unanticipated delay of 6 months in receiving government approval for the demonstration's data collection instruments. For residents, enrolling in IWISH only required signing an informed consent form to participate in the demonstration. By enrolling in the demonstration, participants agreed that information they provide to IWISH staff could be shared with the implementation and evaluation teams. There was no other required paperwork or any requirement to complete other components of IWISH such as the health and wellness assessment. Residents did not have to change health care providers or anything about their living arrangements.

What It Means to Enroll in IWISH

Enrollment in IWISH is voluntary. Enrolling simply requires signing an informed consent form to participate in the demonstration. Once enrolled, the resident can choose the type and level of assistance they would like to receive, the programs and activities in which they would like to participate, and whether to share information with healthcare and service providers.

Source: IWISH Operations Manual 2019

As of March 18, 2019, the 40 IWISH properties had enrolled 2,960 residents, a 71 percent enrollment rate overall. A few properties succeeded in enrolling the majority of their residents in the first few months following the launch of enrollment, but most properties started more slowly, in some cases encountering challenges stemming from resident resistance, staff turnover, workload issues, or all of the above. This section begins by providing an overview of enrollment measurement and targets, then presents data on enrollment rates over time, and concludes with a discussion of enrollment approaches and challenges.

5.2.1 Enrollment Measurement and Targets

The number of residents at a property is constantly changing, as residents move in and out or pass away. To provide a consistent measure of enrollment rates over time, the demonstration tracks enrollment based on the number of housing units. A property's enrollment rate is the number of individual residents enrolled in IWISH at the property divided by the number of units at the property. The average IWISH property has 1.1 people per unit, so the enrollment rate can exceed 100 percent. Although we calculate the enrollment rate in terms of units, we refer to the percentage of "residents" enrolled because that is how IWISH staff think about it.

IWISH Enrollment Rate = Number of residents enrolled in IWISH / Number of units at the property

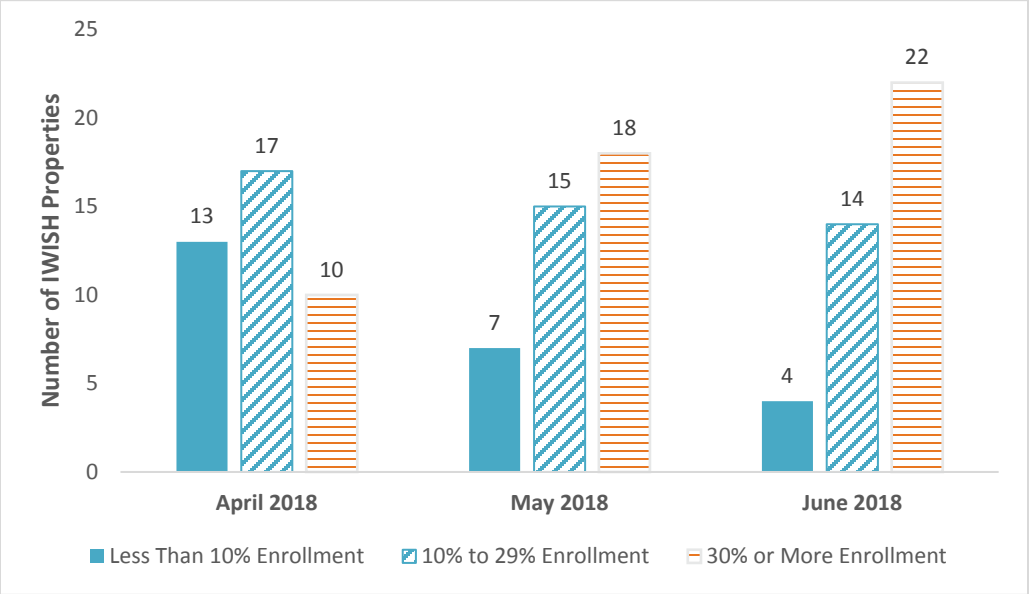
Early in the demonstration, the implementation team set an ambitious goal of 80 percent enrollment within a year. The implementation team considered 80 percent to be the highest likely enrollment and did not expect that all IWISH properties would achieve this goal.

5.2.2 Enrollment Rates Over Time

Enrollment began unevenly, with some properties rapidly enrolling residents and others beginning more slowly. At the end of April 2018, after approximately 1 month of enrollment, 10 properties had enrolled 30 percent or more of their residents, including 4 properties with enrollment of at least 50 percent (Exhibit 5-2). These latter four properties successfully conducted large IWISH launch events at which they were able to enroll many residents at once. Another 17 properties had enrolled at least 10 percent but fewer than 30 percent of their residents. Thirteen properties had enrolled fewer than 10 percent of their residents, including seven properties that had not enrolled any residents.

By the end of June 2018, some 3 months into the enrollment period, 22 of the 40 properties had enrolled 30 percent or more of their residents, and 14 properties had enrolled at least 10 percent but fewer than 30 percent of their residents. Four properties had enrolled fewer than 10 percent of their residents, including two properties with no enrollment.

Exhibit 5-2. Distribution of IWISH Enrollment Rates by Property, April–June 2018



Notes: *N* = 40 IWISH properties. The enrollment rate for each property is calculated as the total number of residents enrolled in IWISH divided by the number of units at the property.
Source: Abt analysis of IWISH enrollment reports created by the implementation team

The implementation team initiated several steps in early summer 2018 to boost enrollment among the properties at less than 30 percent enrollment. One step was to communicate monthly enrollment targets to all IWISH property staff, with the goal of reaching 80 percent enrollment by December 2018 (Exhibit 5-3). The implementation team also established weekly enrollment goals that they hoped would be perceived as more attainable.

Exhibit 5-3. IWISH Enrollment Targets Set by Implementation Team

Source: Implementation team monthly progress report for June 2018

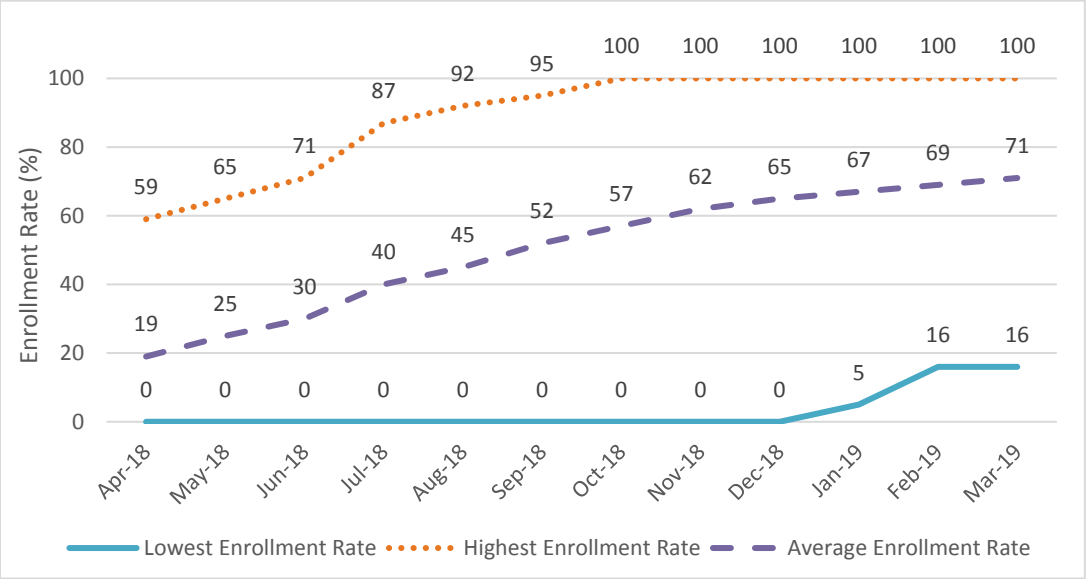
Around this time, the implementation team also established a protocol for regular check-in calls with properties, during which the IWISH staff reported on various metrics such as the number of residents enrolled in IWISH and number entered in PHL. The purpose was to foster continued enrollment and accountability to IWISH goals and timelines.

The implementation team took several other actions in July and August 2018 to support enrollment, including these:

- Creating flyers that IWISH staff could use to address common misperceptions about IWISH, including that IWISH benefits only the oldest or frailest residents, and that IWISH participation could compromise the privacy of residents' health data or receipt of public benefits.
- Developing individual, property-specific enrollment plans and tailored technical assistance for properties not meeting their targets.
- Holding small group discussions with IWISH staff on enrollment and time management challenges and producing accompanying written materials.

After June 2018, enrollment rates continued to vary across properties, but most properties grew their enrollment month-over-month by about 5 percent. Exhibit 5-4 shows, for each month, the highest enrollment rate across the properties, the lowest enrollment rate, and the average enrollment rate.

Exhibit 5-4. IWISH Enrollment Rates by Month, April 2018–March 2019



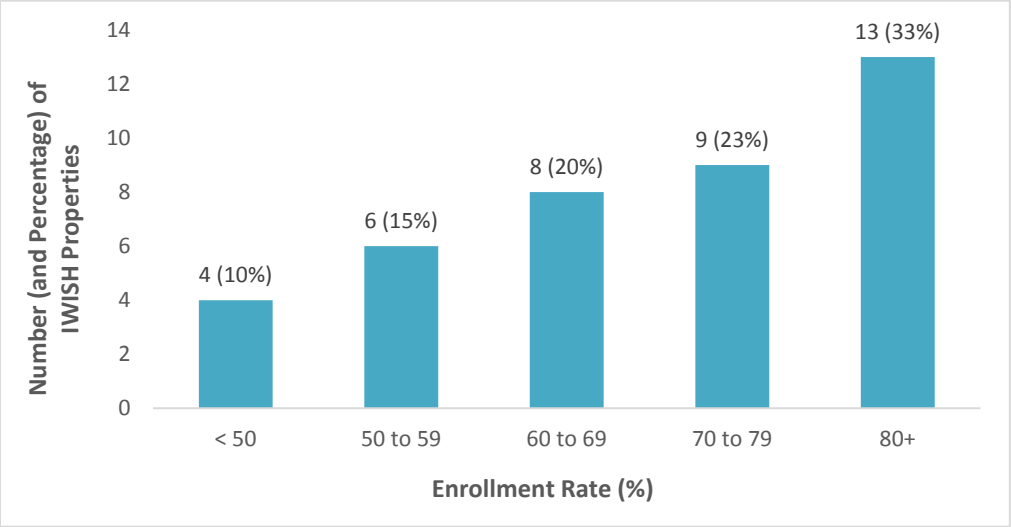
Notes: *N* = 40 IWISH properties. Some properties have enrollment in excess of 100 percent because the number of residents exceeds the number of units at the property, but enrollment is capped at 100 percent for the purposes of this chart.
Source: Abt analysis of IWISH enrollment reports created by the implementation team.

Most properties followed a steady upward trajectory until fall of 2018 when growth in enrollment began to taper off. A few properties reached 100 percent enrollment very quickly, however, and others started very late. Notably, two properties did not begin enrolling residents until December 2018 and January 2019, respectively. Analysis of staff vacancies and input from the implementation team suggest that enrollment delays at these properties were caused (at least in part) by IWISH staff turnover and delays in hiring replacement staff. These two properties experienced turnover of both the Resident Wellness Director and Wellness Nurse positions in the first 18 months of the demonstration.

Across all properties, the average enrollment exceeded the implementation's targets in July (40 versus 30 percent), August (45 versus 40 percent), and September (52 versus 50 percent), but then fell below the target in October (57 versus 60 percent) and in subsequent months. In December 2018, the average enrollment across all sites was 65 percent, 15 percentage points below the target of 80 percent. The implementation team worked closely with individual properties to help them meet the 80 percent enrollment goal, but most properties were not able to do so by March 2019.

Exhibit 5-5 shows the distribution of IWISH properties as of March 2019 by enrollment rate. As of March 2019, 13 of the 40 IWISH properties (33 percent) had enrollment rates at or above 80 percent, including 3 properties at 100 percent enrollment. Nine properties (23 percent) had enrolled 70 to 79 percent of their residents, eight properties (20 percent) had enrolled 60 to 69 percent, six properties (15 percent) had enrolled 50 to 59 percent, and four properties (10 percent) had enrolled less than 50 percent. All properties not already at 100 percent enrollment will continue to enroll residents throughout the demonstration.

Exhibit 5-5. Distribution of IWISH Properties by Enrollment Rate, March 2019



Note: *N* = 40 IWISH properties.
Source: Abt analysis of IWISH enrollment reports created by the implementation team.

5.2.3 Enrollment Methods and Challenges

After the start of enrollment, the IWISH properties continued many of the same outreach activities begun in the start-up phase, albeit at a somewhat lower intensity because they were also working on the task of enrolling residents and completing health and wellness assessments, which takes 1 to 2 hours per resident. In the fall of 2018 telephone survey, Resident Wellness Directors reported meeting with residents individually and in groups as well as producing flyers, posters, and printed materials (Exhibit 5-6). A few sites hosted large "launch parties" at which they sought to enroll large numbers of residents at one point in time. Others incorporated discussion of IWISH into their other programming with residents such as vital signs clinics and flu shot clinics. Some properties reported knocking on doors to talk to residents individually and talking about IWISH at every possible occasion in order to encourage enrollment.

Exhibit 5-6. Outreach and Enrollment Activities After Launch of Enrollment

	Number of Resident Wellness Directors	Percentage of Resident Wellness Directors
One-on-one meetings with residents	17	43
Coffee hours or informal meet-and-greets	17	40
Group meetings with residents	16	40
Talking about IWISH at other resident meetings or gatherings	16	40
Flyers or posters	16	40
Letters, mailers, or welcome packet	13	33
Meetings with resident advisory group or resident "champions"	8	20
Raffles/incentives/prizes	5	13
IWISH enrollment parties	4	10
Incorporating IWISH into programming	3	8
Resident survey	2	5

Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

Of the 40 Resident Wellness Directors, 13 reported in the telephone survey that enrolling residents was a challenge. Of them, nine Resident Wellness Directors identified enrolling residents as their biggest challenge, and another four identified it as a secondary challenge. Survey responses and input from the implementation team suggest that enrollment challenges include:

- Delays in hiring and/or subsequent staff vacancies.
- Challenges with communication, teamwork, and workload.
- Lack of resident buy-in.

Each challenge is described briefly below. We will explore challenges to enrollment further through the site visits to be conducted in 2019.

Delays in Hiring and/or Subsequent Staff Vacancies

As shown in Exhibit 5-7, the three properties with the lowest enrollment as of March 2019 all experienced lengthy vacancies in both the Resident Wellness Director and the Wellness Nurse positions during the first 12 months after enrollment began. The two "days without target staffing" columns refer to the number of demonstration days between October 1, 2017 and March 18, 2019, that the property did not have the number of Resident Wellness Directors or Wellness Nurses in FTEs for which it was funded, which in most cases was 1 FTE Resident Wellness Director and 0.5 FTE Wellness Nurse. The total number of demonstration days over this period was 533.

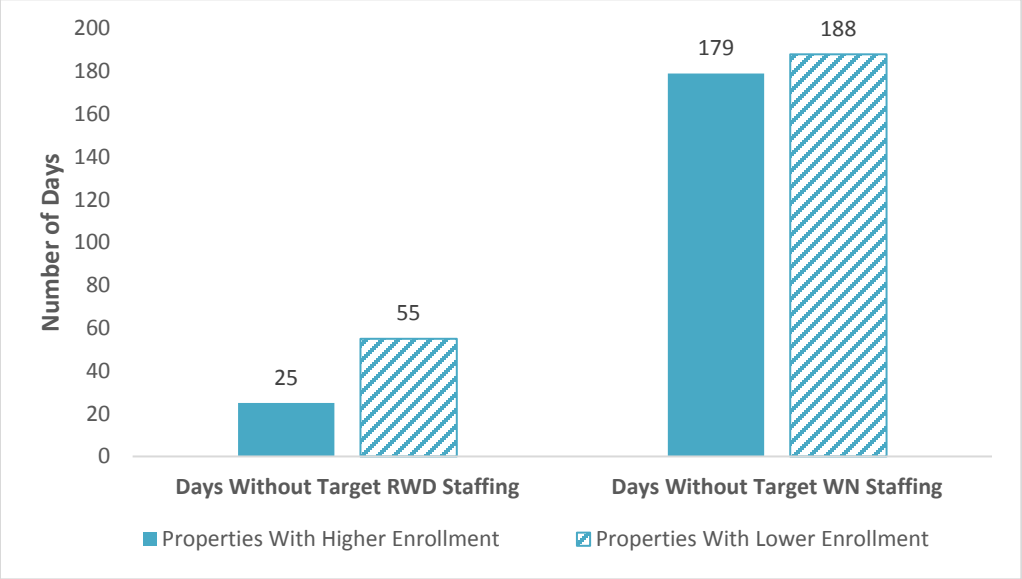
Exhibit 5-7. Staff Shortages at the IWISH Properties With the Lowest Enrollment

Property	Enrollment as of March 2019 (%)	Days Without Target RWD Staffing	Days Without Target WN Staffing
Property A	16	157	68
Property B	32	59	68
Property C	32	172	31

RWD = Resident Wellness Director. WN = Wellness Nurse.
Source: Abt analysis of IWISH enrollment reports and staffing data provided by the implementation team

On average, properties with lower enrollment had longer periods with IWISH staff shortages than did properties with higher enrollment. Exhibit 5-8 below compares the number of days that properties with higher enrollment (70 percent or higher) did not have the number of IWISH staff for which they were funded (target staffing) versus the number of days that properties with lower enrollment (less than 70 percent) had without target staffing. On average, the 22 properties that enrolled 70 percent or more of their residents experienced 25 days with below target Resident Wellness Director staffing. This compares to 55 days with below target Resident Wellness Director staffing for properties that enrolled fewer than 70 percent of their residents.

Exhibit 5-8. Average Days Without Resident Wellness Director or Wellness Nurse for IWISH Properties With Higher and Lower Enrollment



RWD = Resident Wellness Director. WN = Wellness Nurse.
Notes: *N* = 40 IWISH properties. "Properties with higher enrollment" are properties with 70 percent or more enrollment (n = 22). "Properties with lower enrollment" are those properties with less than 70 percent enrollment (n= 18).
Source: Abt analysis of IWISH enrollment and staffing reports created by the implementation team

Some properties managed to achieve high enrollment even with staff shortages. For example, one property achieved 100 percent enrollment by March 2019, despite taking about 7 months to hire the second of its two Resident Wellness Directors and missing one of its two part-time Wellness Nurse positions for the entire period. In this property, the staff in place were able to carry the burden of enrollment.

Input from the implementation team suggests that a key factor influencing enrollment rates among properties that experienced staff turnover and vacancies was whether the site had a "strong supportive atmosphere" across IWISH and property staff. The implementation team observed that properties where the IWISH staff and property management staff work closely together and where the property owner or manager supports IWISH were able to keep enrolling residents even with staff turnover. The implementation team identified four properties in particular where the strong support of management had helped the properties achieve high enrollment despite staffing shortages. At three of these properties, the Resident Wellness Directors were working on the property as service coordinators before IWISH, which might have facilitated the supportive relationships. It might also be that staff and residents at these properties already had trusting relationships that made residents more receptive to the IWISH program when it started.

Challenges With Communication, Teamwork, and Workload

At least three properties experienced communication and teamwork challenges that affected IWISH enrollment. In some cases, a lack of trust between residents and the IWISH staff resulted from poor communication regarding staff departures; in other cases, trust and communication issues developed between the Resident Wellness Director and Wellness Nurse or between the IWISH staff and property management staff.

Resident Wellness Directors also experienced other types of challenges in managing their workload over this period, which could have affected enrollment. In the telephone survey, a number of

Resident Wellness Directors pointed to workload issues as a challenge for implementing IWISH—either simply having a heavier workload (nine respondents), having new responsibilities (six respondents), or integrating IWISH into their existing work (six respondents). The implementation team also identified workload as a challenge to enrollment at some properties during their site visits in summer 2018. In response, the team organized a webinar in late August 2018 in which staff from the SASH program offered guidance on goal setting, working as a team, and leveraging community partnerships to ease workloads.

Lack of Resident Buy-In

Lack of resident support for the IWISH program was a challenge to enrollment at a few properties. In responses to the telephone survey conducted in fall of 2018, several Resident Wellness Directors commented (at that time) that some residents at their properties saw little need for the IWISH program. Two Resident Wellness Directors noted that their properties had many younger and healthier residents, though the evaluation team did not find a correlation between enrollments rates as of March 2019 and the share of residents under the age of 70 or under the age of 80. One Resident Wellness Director noted that her property already had a strong healthcare program on its campus, including a clinic and a full-time director of activities, which could reduce the appeal of IWISH. At another property, the Resident Wellness Director commented that the team had enrolled all the people who they thought would be receptive to the program but were still short of the enrollment target. The team was finding it difficult to recruit additional residents: "We are trying to sell it and it isn't natural." Another Resident Wellness Director described a similar challenge:

> *It is hard to get people onboard when they feel like they don't need help, and they wait until something happens. Some residents don't see the value in the program, and now it is especially hard because we have enrolled most of the residents who were excited about it and now we are getting the people who are more resistant.*

Three Resident Wellness Directors commented in the telephone survey that their residents had expressed concerns about sharing their private information during the IWISH enrollment process. Some residents reportedly were concerned about disclosing their immigration status (permanent residency rather than citizenship) to the government via the research study.[33] Others had more general concerns about disclosing personal information.

The implementation team also noted that general opposition to the program gained steam in several properties where one resident or a group of residents were a source of misinformation about the program.

Another challenge noted in the telephone survey relates to the 6-month delay in beginning enrollment (resulting from the time needed to obtain final government approval for data collection from residents). One of the Resident Wellness Directors interviewed noted that as soon as the Wellness Nurse was hired, which happened during the start-up period, residents immediately wanted to start working one-on-one with the nurse. Because enrollment had not started yet and the nurse was not able to go through the consent process, however, the nurse could not work with those residents as individually as they wanted. Residents found it confusing and frustrating to have a Wellness Nurse on site for the first time but be limited as to how they could work with her.

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[33] HUD multifamily housing assistance is restricted to U.S. citizens and legal residents. Undocumented individuals who are part of a household that includes members who are citizens or legal residents may receive prorated assistance, continued assistance, or a temporary deferral of termination of assistance (Chapter 3 of HUD Handbook 4350.3, Occupancy Requirements of Subsidized Multifamily Housing Programs, accessed August 17, 2019, at: https://www.hud.gov/program_offices/administration/hudclips/handbooks/hsgh/4350.3).

5.2.4 Exits From the IWISH Program

As of March 18, 2019, of 2,960 IWISH residents enrolled, 51 residents (2 percent) had exited the program, leaving 2,909 residents enrolled at the end of the analysis period for this report. These 51 program-exits came from 10 properties, with 2 larger properties experiencing more than 10 exits each.

IWISH staff are instructed to enter into PHL the main reason for disenrollment from the program. Exhibit 5-9 presents the reasons for the 51 exits as of March 18, 2019. Only one person is known to have left the program for not wanting to be part of it. The most common reason for exiting IWISH was moving out of the property (n = 30). Nearly one-half of these people (13 of 30) moved to other HUD-assisted housing, but 9 of the 30 moved to a setting with a higher level of care (that is, not independent housing) and 6 people were evicted. Other than leaving the property, the second most common reason for disenrollment was death (14 of 51).

Exhibit 5-9. Reasons for Exiting IWISH

Reason	Number of People	Percent of People
Moved from the property	30	59
Moved to other independent housing with HUD assistance	13	25
Moved to a higher level care setting	9	18
Evicted from IWISH property	6	12
Moved to other independent housing without HUD assistance	2	4
Died	14	27
Chose to stop participating in IWISH	1	2
Other reason	2	4
No reason given	4	8
Total	**51**	**100**

Notes: N = 2,960 residents enrolled in IWISH, across 40 IWISH properties.
Source: PHL "MIT" Report, March 19, 2018, to March 18, 2019, produced by implementation team

The Second Interim Report will include analysis of exits from IWISH over the entire demonstration period. Preliminary analysis of HUD Tenant Rental Characteristics System data from 2017 and 2018 suggests that the two main reasons that residents leave HUD-assisted multifamily housing are voluntary move-outs and death, similarly to what we see for IWISH thus far.

5.3. Resident Engagement Activities

As soon as residents enrolled in IWISH, IWISH staff could begin directly engaging with them and completing the IWISH activities. During the first 12 months after enrollment began, the main focus of the IWISH staff was on enrolling residents and conducting person-centered interviews and health and wellness assessments. Some properties also made substantial progress in producing Individual Healthy Aging Plans with residents. At all properties, IWISH staff met with residents to provide ongoing wellness and service coordination. This section describes the IWISH properties' progress on each of these activities.

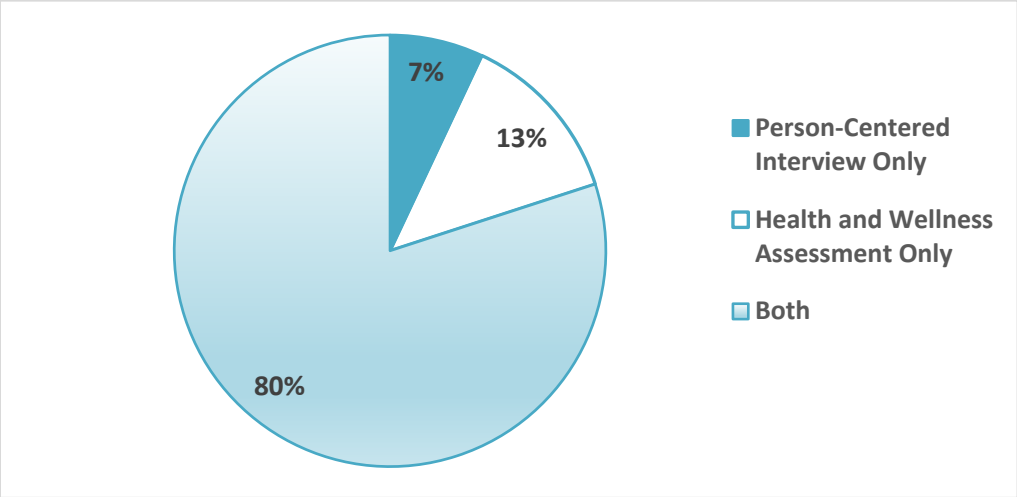
5.3.1 Person-Centered Interview and Health and Wellness Assessment

The IWISH model is for the Resident Wellness Director to schedule both the person-centered interview and the health and wellness assessment within 30 days of the resident enrolling in IWISH. The guidance is that the Resident Wellness Director conducts the person-centered interview, documents highlights from

the interview in PHL, and shares those highlights with the Wellness Nurse.[34] Next, the Resident Wellness Director and Wellness Nurse together complete the health and wellness assessment with the resident. The Resident Wellness Director completes the parts of the assessment that collect demographic information and information on benefits and services the participant is currently receiving. The Wellness Nurse completes the parts of the assessment that relate to physical, mental, and behavioral health.[35] The Resident Wellness Director and Wellness Nurse enter their assessment information into PHL.

As of March 18, 2019, a year after the start of enrollment, 74 percent of residents enrolled in IWISH (2,183 of 2,960) had participated in a person-centered interview, and 69 percent (2,047 of 2,960) had participated in a health and wellness assessment. Most residents who participated in a person-centered interview or health and wellness assessment participated in both, as shown in Exhibit 5-10.

Exhibit 5-10. IWISH Enrollees With a Person-Centered Interview, Health and Wellness Assessment, or Both



Note: *N* = 2,350 unique records of person-centered interviews and health and wellness assessments, across 40 IWISH properties.
Source: PHL data extract dated March 18, 2019

Progress across properties in conducting person-centered interviews and health and wellness assessments was somewhat uneven. As shown in Exhibit 5-11, of 40 IWISH properties, 12 had conducted these activities with more than 90 percent of their IWISH-enrolled residents as of March 18, 2019. One property had conducted these activities with fewer than 25 percent of enrollees, however; and another six properties had conducted these activities with fewer than 50 percent of enrollees.

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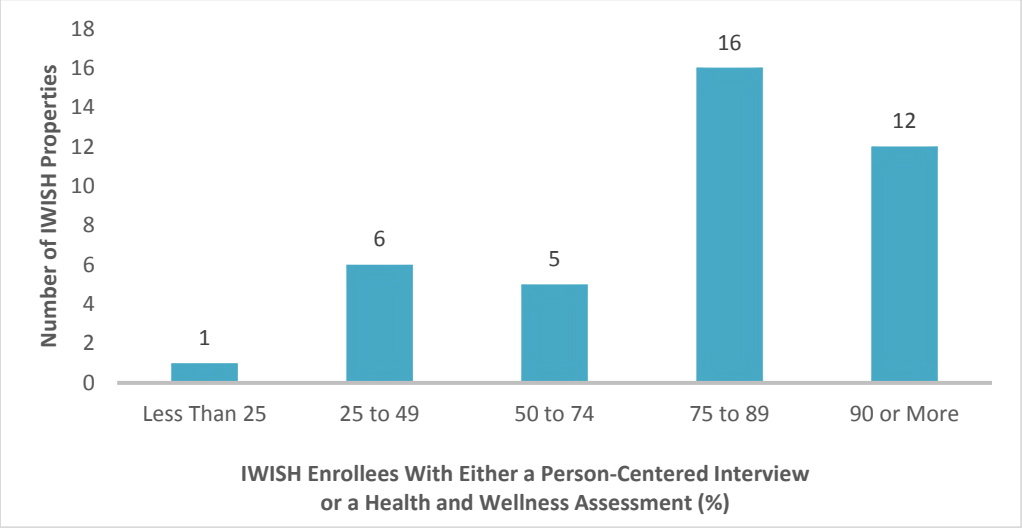
[34] The model allows flexibility in this division of labor, however. The Wellness Nurse may conduct the person-centered interview themselves or the Wellness Nurse and Resident Wellness Director could do it together.

[35] Again, there is flexibility as to how the work is divided up. The suggested division of labor described in this paragraph is based on the Resident Wellness Director having more hours on site and each role's skill set. The guidance provided by the implementation team, however, gave the IWISH staff the option to divide the work up as they determined appropriate as a team.

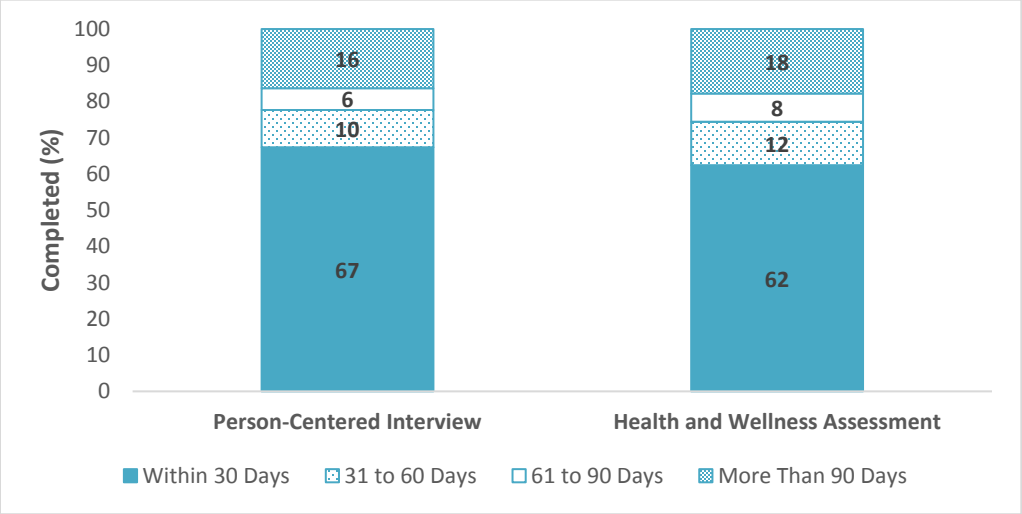
Exhibit 5-11. Distribution of IWISH Properties by Percentage of Enrollees With a Person-Centered Interview or Health and Wellness Assessment



Note: *N* = 2,350 unique records of person-centered interviews and health and wellness assessments, across 40 IWISH properties.
Source: PHL data extract dated March 18, 2019

For most residents enrolled in IWISH, the person-centered interview and health and wellness assessment occurred within 30 days of enrollment, consistent with the guidance provided by the implementation team. Exhibit 5-12 below shows the breakdown of the timing of these activities relative to resident enrollment. Sixty-seven percent of person-centered interviews and 69 percent of health and wellness assessments took place within 30 days of enrollment, and just over 80 percent took place within 90 days. Sixteen percent of person-centered interviews and 18 percent of health and wellness assessments took place more than 90 days after enrollment.

Exhibit 5-12. Timing of Person-Centered Interviews and Health and Wellness Assessments



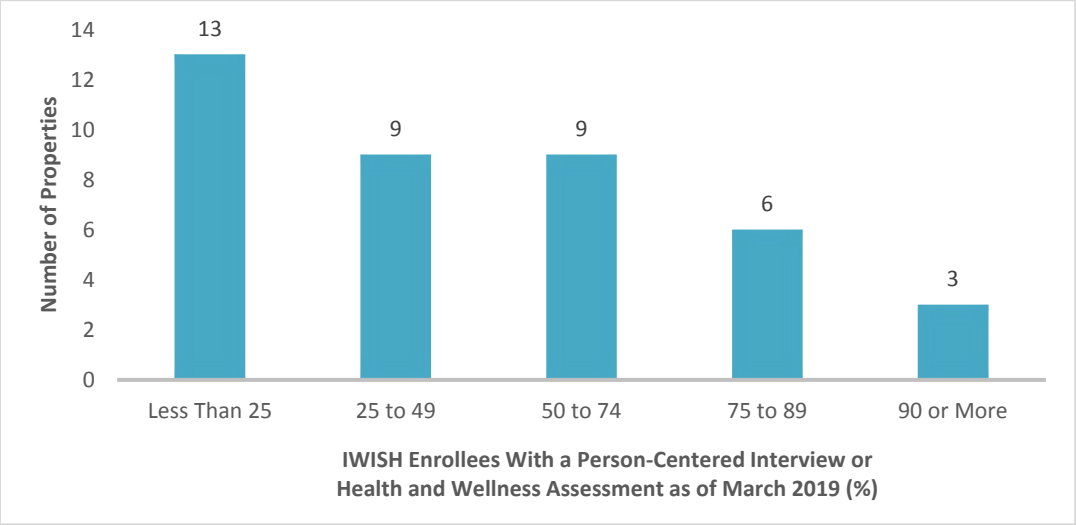
Note: *N* = 2,180 unique records with a date available for IWISH enrollment and person-centered interview, and 1,996 unique records with a date available for client enrollment and the health and wellness assessment, across 40 IWISH properties.
Source: PHL data extract dated March 18, 2019

5.3.2 Individual Healthy Aging Plan

Residents enrolled in IWISH are not required to complete Individual Healthy Aging Plans, but the IWISH guidance instructs the Resident Wellness Director and Wellness Nurse to encourage them to do so. In the IWISH model, completing the Individual Healthy Aging Plan typically follows (and builds on) the person-centered interview and health and wellness assessment. Given this sequencing, one would expect the properties to have conducted fewer Individual Healthy Aging Plans than interviews or assessments. As of March 18, 2019, some 45 percent of residents enrolled in IWISH had at least one Individual Healthy Aging Plan goal entered into PHL (compared to 74 percent of residents with a person-centered interview and 69 percent with an assessment). No minimum number of goals is required for the Individual Healthy Aging Plan, so having one goal entered is evidence that an Individual Healthy Aging Plan conversation between IWISH staff and the resident has taken place.

The percentage of participants with Individual Healthy Aging Plan goals has increased steadily over time, from 11 percent in September 2018 (6 months after the start of enrollment), to 35 percent in December 2018, and 45 percent in March 2019. As was the case with the person-centered interviews and health and wellness assessments, however, progress on this component was uneven across the 40 IWISH properties. As shown in Exhibit 5-13 below, 13 of the 40 IWISH properties had conducted Individual Healthy Aging Plans with fewer than 25 percent of their IWISH enrollees, including 3 properties that had conducted no Individual Healthy Aging Plans. At the other end of the spectrum, three properties had established Individual Healthy Aging Plan goals with 90 percent or more of their enrollees.

Exhibit 5-13. Distribution of IWISH Properties by Percentage of Enrollees With at Least One Individual Healthy Aging Plan Goal as of March 2019



Note: *N* = 1,344 unique records with at least one Individual Healthy Aging Plan goal out of 2,960 IWISH enrollees, across 40 IWISH properties. **Source:** PHL MIT Report, March 19, 2018, to March 18, 2019, produced by implementation team

In the telephone survey, 14 Resident Wellness Directors (35 percent) said that motivating residents was a challenge, including 7 who said it was their biggest challenge. Four Resident Wellness Directors commented that the main challenge was getting residents to form goals, follow up on those goals, and participate in programs (particularly health-related programs). Another said that it was a challenge to form the types of deeper relationships with residents that she believed were needed to motivate them effectively.

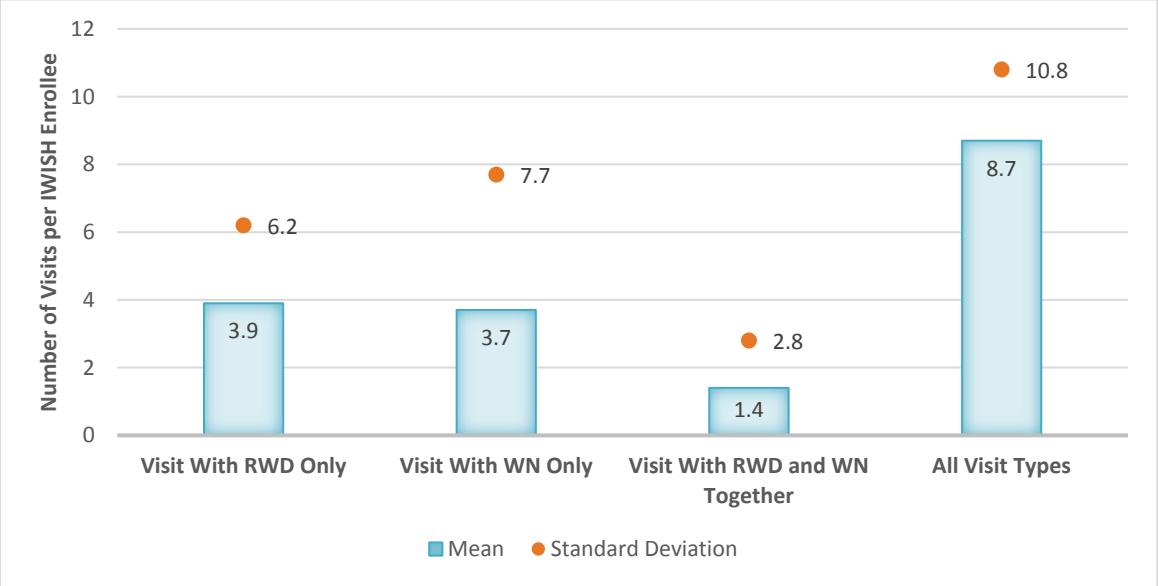
5.3.3 Ongoing Wellness and Service Coordination

Once the enrollment period began, the person-centered interviews, health and wellness assessments, and Individual Healthy Aging Plans were among the main IWISH activities during those first 12 months, but Resident Wellness Directors and Wellness Nurses also provided ongoing wellness and service coordination during this period. Across the 40 properties, IWISH staff logged more than 25,000 visits with residents enrolled in IWISH, defined as a meaningful interaction with a resident or participation of a resident in an IWISH event.

On average, as of March 2019, residents enrolled in IWISH had met with one or both IWISH staff 8.7 times since enrolling in the program (about 1.4 visits per month of enrollment). (See the "all visit types" bar in Exhibit 5-14.) The total number of visits includes an average of 3.9 visits with the Resident Wellness Director alone, 3.7 visits with the Wellness Nurse alone, and 1.4 visits with the Resident Wellness Director and Wellness Nurse together.

It is important to note the substantial variation around the average number of visits per IWISH enrollee, as indicated by the high standard deviations (shown as orange dots in Exhibit 5-14). PHL does not record information on the length of the visits, which might help to explain some of the observed variation in the number of visits per enrollee. Another source of variation is inconsistency in data entry across IWISH staff. Input from the implementation team suggests IWISH that staff vary in the extent to which they document visits in PHL, having different interpretations of what constitutes a "meaningful" interaction with a resident warranting entry into PHL.

Exhibit 5-14. Average Number of Visits per IWISH Enrollee, by Visit Type



RWD = Resident Wellness Director. WN = Wellness Nurse.
Notes: *N* = 25,495 visits across 2,680 unique records of IWISH enrollees, across 40 IWISH properties. "All visit types" includes visits with the RWD only, visits with the WN only, and visits with the RWD and WN together.
Source: Abt analysis of PHL extract dated March 18, 2019

PHL provides data on the reasons that residents in IWISH met with the IWISH staff. The data are not fully reliable, however, because IWISH staff have not used the PHL "visit reason" field consistently and because IWISH staff typically identify multiple reasons for each visit, making the data hard to interpret. Among the more than 30,000 entries in the visit reason field, the most common reasons were "general wellness and support" (41 percent), "programming" (15 percent), and "coordination with external entities" (10 percent). Another 29 percent of the reasons entered related to activities discussed in earlier sections of this chapter: person-centered interviews, health and wellness assessments, and Individual Healthy Aging Plans. The remaining 5 percent of reasons were visits related to *sentinel events* (see text box), care transitions (residents going to and returning from hospital), and support for caregivers or family members.

How IWISH Defines Sentinel Events

A *sentinel event* is any of the following:

- Hospitalization
- Skilled nursing or rehab facility stay
- Any re-admission within 30 days of discharge from a hospital
- Emergency department visit
- Ambulance or emergency medical technician visit
- Permanent move to assisted living or nursing home
- Permanent move to other location (new apartment, family, etc.)
- Eviction
- Fall
- Attempted suicide
- Death

IWISH staff use PHL to document the sentinel events that residents in IWISH experience over the course of the demonstration. Between March 19, 2018 and March 18, 2019, staff recorded 1,334 sentinel events across 402 residents. This translates to 14 percent of 2,960 IWISH enrolled residents experiencing a sentinel event in 12 months, with an average of 3.3 occurrences among those residents who experienced sentinel events.

Exhibit 5-15 below presents the number of sentinel event occurrences by type of event. Thirty-one percent of the occurrences were emergency department visits, 25 percent were ambulance or emergency medical technician visits, and 25 percent were hospitalizations. Another 12 percent of the occurrences were falls. There was one attempted suicide.

Exhibit 5-15. Incidence of Sentinel Event Occurrences Among IWISH Enrollees, March 2018–March 2019

Type of Event	Number of Event Occurrences	Percentage of Event Occurrences
Emergency department visit	420	31
Ambulance / emergency medical technician visit	340	25
Hospitalization	328	25
Fall	166	12
Skilled nursing or rehab facility stay	51	4
Any re-admission within 30 days of discharge from a hospital	28	2
Attempted suicide	1	0
Total	**1,334**	**100**

Note: *N* = 2,960 IWISH enrollees, across 40 IWISH properties.
Source: PHL MIT Report, March 19, 2018, to March 18, 2019, produced by implementation team

5.3.4 Perspectives From Resident Wellness Directors on the Rewards of Working With Residents in IWISH

The telephone survey conducted in fall of 2018 provided an opportunity to gather a small amount of information on what Resident Wellness Directors viewed as the main rewards and challenges of their

work. Resident Wellness Directors most commonly identified activities related to working with residents as the most rewarding parts of their job. This included 28 of the 40 Resident Wellness Directors who said that working with residents generally or empowering residents was most rewarding and 22 who said conducting person-centered interviews or getting to know residents was most rewarding (Exhibit 5-16). Other rewarding parts of the job cited less frequently were bringing in programming to support residents (8), working with the Wellness Nurse (7), and forming community partnerships (6).

Exhibit 5-16. Resident Wellness Director Observations on Most Rewarding Aspects of Their Job

	Number of Resident Wellness Directors	Percentage of Resident Wellness Directors
Working with / empowering residents	28	70
Conducting person-centered interviews / getting to know residents	22	55
Bringing in programming to support residents	8	20
Working with the Wellness Nurse	7	18
Forming community partnerships	6	15
Conducting individual assessments	3	8

Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey, fall of 2018

The Resident Wellness Directors offered several comments illustrating what they find rewarding about working with residents. The following comments, each from a different Resident Wellness Director, speak to the staff's experiences providing supportive services and programming:

> *I enjoy helping residents transition back from hospital and working with them to help with bills, [and] advocating for additional hours with the caregiver.*
>
> *The most rewarding part is encouraging residents to go to the doctor. I helped two people discover they were diabetic and now they are able to get their health under control. I can recognize now that if they're having a bad day it's likely due to their blood sugar, and I can remind them of their medications.*
>
> *I like the stress relief that matching residents to the services they need brings to residents.*
>
> *IWISH is already making a tremendous difference. Now that I can be a full-time service coordinator, I really have the time to fully invest in resolving residents' problems and refer to the Wellness Nurse when they need it.*
>
> *I feel like I am helping my residents every day.*

Other staff noted that they find it rewarding to see, hear, and empower residents. One bilingual Resident Wellness Director who was able to speak with residents in their native language said that these residents "had not felt seen before and now they are seen," commenting that it was rewarding to "build trusting relationships and see these residents open up." Another Resident Wellness Director spoke of the rewards of "giving people the care they would want to receive." Another noted that most rewarding was "helping residents realize they matter and helping them take control of their own lives." One Resident Wellness Director said that she found it rewarding "when residents come to me with their goals, after being resistant, for example, to a weight loss goal, and update me [on their progress]." Finally, a Resident Wellness Director wanted the evaluation team to know how important the person-centered interview and assessment process is for getting to know residents. This person said that she only really knew the residents in the IWISH program, whereas she could not really speak to the needs of other residents of the property.

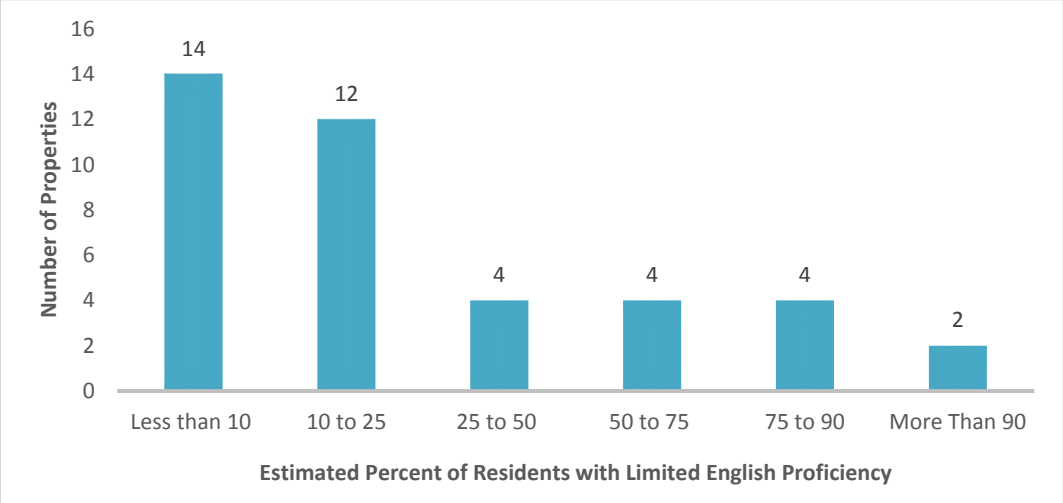
Though working with residents was generally rewarding, a few Resident Wellness Directors commented in the telephone survey about aspects of working with residents that they found stressful or emotionally difficult. Resident Wellness Directors found it difficult to learn that a resident had passed away or ended up in hospital. It was also challenging to listen to residents recount extremely difficult life experiences and not know how to respond or help them. Hearing of experiences like these led the implementation team to develop a webinar on trauma-informed care, an example of the implementation team shaping their training and technical assistance to meet the evolving needs of IWISH staff.

5.4. Working With Residents with Limited English Proficiency

For all IWISH activities, IWISH staff need to be able to communicate effectively with residents. One major communication challenge for IWISH is that the residents of IWISH properties are highly diverse in languages spoken and in comfort level with the English language. As part of the telephone survey, Resident Wellness Directors provided estimates of the percentage of the residents at their property who had limited English proficiency and they reported on the most commonly spoken languages other than English. The telephone survey defined *limited English proficiency* as meaning that the resident would benefit from having an interpreter for a visit to a doctor who only speaks English or that the resident would need written materials translated into English.

As shown in Exhibit 5-17 below, Resident Wellness Directors at 26 of the 40 IWISH properties (65 percent) estimated that at least 10 percent of their residents had limited English proficiency. At 10 properties, staff reported that at least 50 percent of their residents had limited English proficiency. Across the IWISH properties, staff reported about 40 different languages spoken other than English. The most commonly spoken languages reported were Spanish, Korean, Chinese, Russian, Vietnamese, Arabic, and Albanian.

Exhibit 5-17. Estimates of the Proportion of Residents With Limited English Proficiency at IWISH Properties

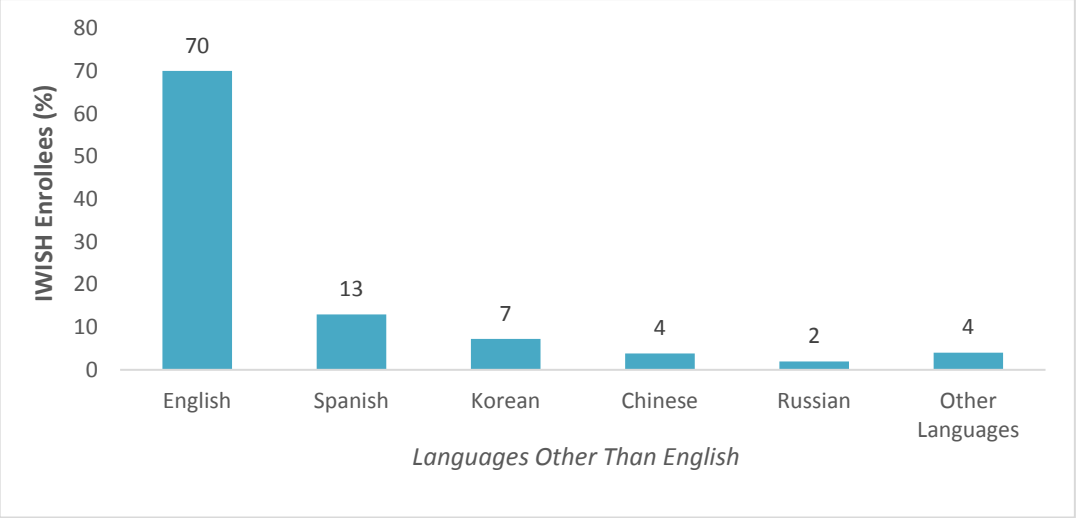


Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

The information collected through the telephone survey is consistent with data collected during the IWISH enrollment process. The PHL system (through March 18, 2019) contains information on the language preferences of 2,461 IWISH enrollees, about 83 percent of those enrolled over this period. On average, 70 percent of the IWISH enrollees providing this information expressed a preference for English, and 30 percent expressed a preference for another language. At the property level, the percentage of IWISH enrollees who preferred a language other than English ranged from 97 to 2 percent. Other than

English, the most commonly preferred languages were Spanish (13 percent of all enrollees), Korean (7 percent), Chinese (4 percent), and Russian (2 percent) (Exhibit 5-18).

Exhibit 5-18. Language Preferences of IWISH Enrollees



Notes: *N* = 2,461 IWISH enrollees with a language preference recorded in PHL. "Chinese" includes Mandarin and Cantonese.
Source: Analysis of PHL data provided by the implementation team, through March 18, 2019

IWISH staff used several strategies to communicate with residents with limited English proficiency. As shown in Exhibit 5-19, more than one-half the properties reported having bilingual or multilingual staff on site (typically either the Resident Wellness Director or Wellness Nurse but sometimes one of the property staff). Although some staff were multilingual, they did not always speak every language the residents spoke, and there were instances of residents who were not able to speak the same language with any of the property staff. Thus, another common approach (21 of the 40 properties) was to have family or caregivers translate on behalf of residents, sometimes beyond their immediate relatives or people they cared for.

Exhibit 5-19. Methods Used to Accommodate Residents With Limited English Proficiency

Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

When asked what other methods property staff used to facilitate exchange of information with residents with limited English proficiency, slightly less than one-half of the Resident Wellness Directors said they produced written materials including programming announcements, leases, memos, and activity notices in multiple languages. The use of professional interpreters or a paid language line was less common, presumably because of the expense. Some staff reported using the Google Translate conversation platform to interact with residents with limited English proficiency in real time, more so than using formal translators or interpreters. A few Resident Wellness Directors said it was important to be careful when using the platform "because it doesn't always say what you want it to say." Some mentioned they sometimes relied on multilingual staff from nearby properties or senior centers to provide interpretation and translation services.

In spring of 2018, recognizing that language barriers presented a challenge to IWISH enrollment and implementation, the implementation team worked with HUD to translate and distribute key IWISH documents (health and wellness assessment, release of information, and informed consent forms) into 12 languages (Albanian, Arabic, Armenian, Farsi, French, Haitian Creole, Korean, Russian, Spanish, Tagalog, Chinese, and Vietnamese).

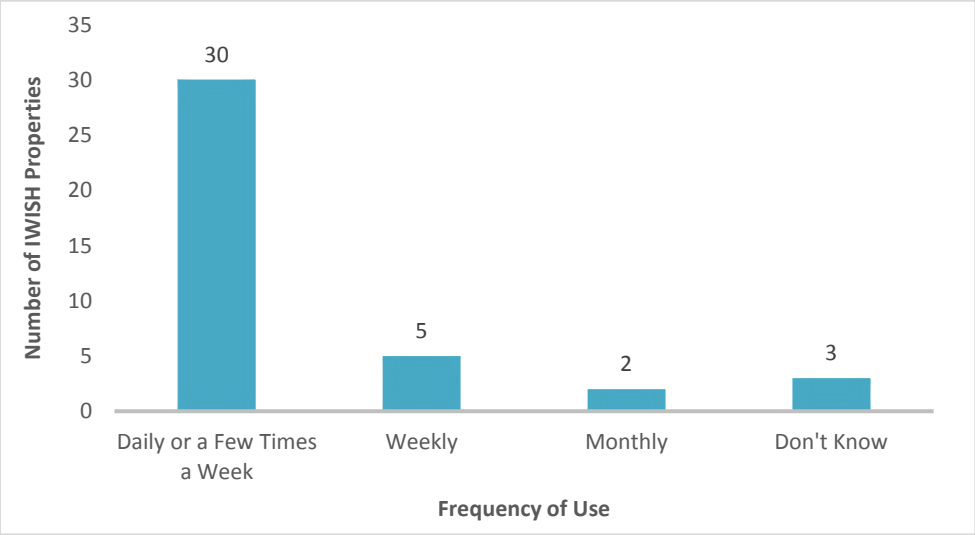
In spite of the variety of language accommodations offered, several Resident Wellness Directors reported struggling to communicate with some residents at times—particularly residents who were the only speakers of a particular language in a building. Five respondents to the telephone survey identified language barriers as a challenge they faced in their role, including two respondents who said it was their biggest challenge. A few Resident Wellness Directors said they translated for the Wellness Nurse but felt uncomfortable translating, fearing they would mistranslate something related to a resident's health or medical care. The evaluation team will probe further during site visits on gaps in communication between staff and residents with limited English proficiency that could affect IWISH implementation or outcomes. We will also probe for other issues—for example, different cultural perspectives around medical care, family, and aging—that might make residents reluctant to enroll in IWISH or participate in various aspects of the intervention.

5.5. Use of Population Health Logistics

The PHL system plays a critical role in IWISH. It is the system through which IWISH staff collect and store information on the residents enrolled in IWISH and the wellness and service coordination provided. It is part of the IWISH model that IWISH staff use the information stored in PHL to make data-informed decisions, and it is a critical tool for the implementation team to monitor properties' progress in implementing IWISH activities.

The information collected to date suggests that PHL is being used by IWISH staff but has been a major challenge—perhaps the biggest challenge—in the implementation of IWISH to date. In the fall of 2018 telephone survey, 30 of the 40 Resident Wellness Directors, representing 75 percent of IWISH properties, reported using PHL every day or several times a week. Another five reported using it weekly, and two reported using it monthly (Exhibit 5-20). Three respondents said they did not know how often they used PHL because only the Wellness Nurse had access to PHL (two respondents) or because they were new to the position (one respondent).

Exhibit 5-20. Frequency of Population Health Logistics Use

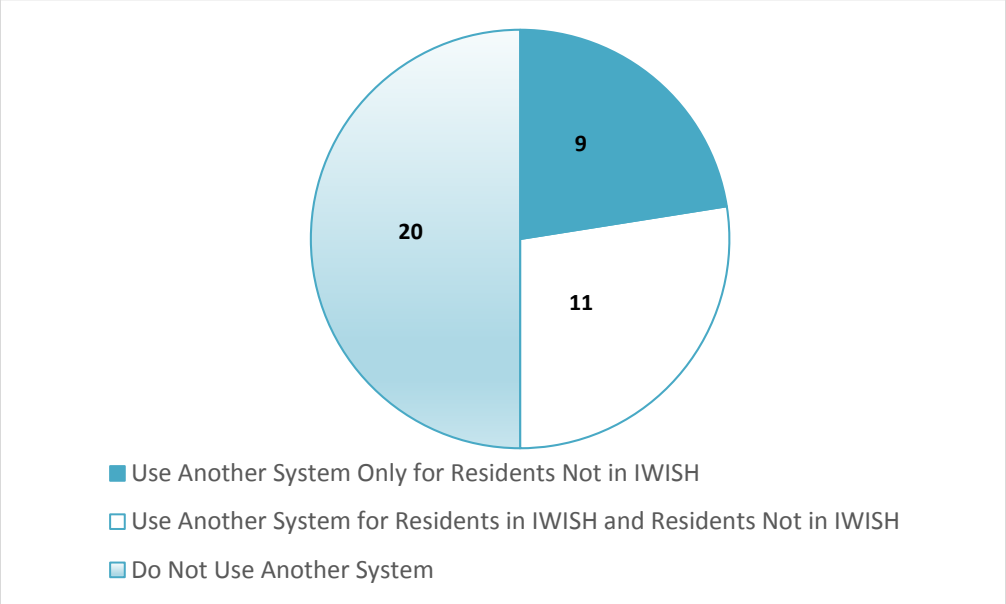


Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

Given that all interactions with residents enrolled in IWISH are supposed to be entered into PHL, one would expect 100 percent of the Resident Wellness Directors to be accessing the system several times a week if not daily. That this was not the case (as of the fall of 2018) reflects several persistent challenges with the system. In the telephone survey, nine Resident Wellness Directors identified using PHL as the most challenging part of their job, with another seven identifying it as a challenge but not the biggest challenge. The most common concerns identified were problems logging in, problems with the system timing out, and problems with the system being slow to respond during data entry (which could have to do with slow internet connections). A few Resident Wellness Directors said they do not trust the system not to lose their data, so they write everything down on paper first and then enter it into PHL in batches. Three Resident Wellness Directors mentioned that they preferred the system they had been using before IWISH and therefore continued to use that system (in combination with PHL) for IWISH enrollees as well as other residents.

Of the 40 Resident Wellness Directors, 20 reported only using PHL to record information on service coordination (Exhibit 5-21). Of the other 20, 11 reported using another system for residents not enrolled in IWISH and both IWISH and the other system for IWISH enrollees (dual data entry). The remaining nine Resident Wellness Directors also used another system, but only for residents not enrolled in IWISH. The most common alternative data system was AASC Online, a proprietary system developed in collaboration with the American Association of Service Coordinators (AASC). Other Resident Wellness Directors used software developed by the housing owner organization or Excel tracking sheets.

Exhibit 5-21. Resident Wellness Directors Reporting Using Other Data System in Addition to Population Health Logistics



Note: *N* = 40 Resident Wellness Directors at 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

The findings from the telephone survey raise issues to be explored further through the interviews to come. In addition to learning about whether the problems with PHL persisted into the second year after enrollment, we will explore further why IWISH staff do not use the system in real time (in lieu of transferring paper forms to the system) and why they continue to use an alternative systems for residents enrolled in IWISH (resulting in dual entry).

It will also be important to document any fields within PHL that IWISH staff are not completing consistently and learn why that is. Analysis of PHL entries by the implementation team suggests that, as of March 2019, most properties are using the system fairly comprehensively. PHL consists of 30 different tabs, which represent different types of data collection and reporting. Of the 40 IWISH properties, 31 had entered data into all 30 tabs or into all but 1 or 2 tabs. This statistic on the use of the tabs, however, does not speak to the completeness of the data being entered—that is, whether some activities or information is not being reported. During the site visits, the evaluation team will explore both completeness of data entry and the broader issue of IWISH staff's comfort level with electronic data entry.

5.6. Community Healthy Aging Plan, Programming, and Partnerships

IWISH properties were not as systematic in working on their Community Healthy Aging Plan, partnerships, and evidence-based programming in the first 18 months of the demonstration. This is not surprising given the 6-month delay in beginning enrollment and health and wellness assessments, activities that in the IWISH model design were intended to precede the development of the Community Healthy Aging Plan, partnerships, and programming. Nonetheless, the properties made some progress along each of these fronts, as described in this section. Subsequent evaluation reports will have more detail on these activities.

5.6.1 Community Healthy Aging Plan

The IWISH model is that the IWISH staff begin working on the Community Healthy Aging Plan once they have completed health and wellness assessments with at least 50 percent of enrolled residents and

thus have a good sense of the needs and goals of the resident population as a whole. The purpose of the Community Healthy Aging Plan is for the IWISH staff to develop an approach to programming and partnerships for the property that is specific to the health and well-being needs of that property's residents.

As of March 18, 2019, of the 40 IWISH properties, 27 had passed the 50 percent threshold for health and wellness assessments. The implementation team developed community profiles for each property summarizing the health and wellness characteristics of the property's IWISH residents and distributed them to the properties. From there the intent was for the IWISH staff to develop the Community Healthy Aging Plan for their property.

5.6.2 Partnerships

Developing partnerships with healthcare facilities, primary care providers, local agencies serving seniors, and community agencies is an important part of the IWISH model. The goal is for IWISH staff to develop new types of partnerships in addition to the resource and referral partnerships typical for traditional service coordination. These new types of partnerships are cross-agency partnerships, facilities-based partnerships, and primary care partnerships (see text box).

IWISH Partnership Types

- **Resource and referral partnerships:** Partnerships with community agencies and organizations to provide resources and programming to residents.
- **Cross-agency partnerships:** Partnerships with Area Agencies on Aging, mental health agencies, home health agencies, other agencies serving older adults.
- **Facilities-based partnerships:** Partnerships with hospitals, nursing homes, and rehabilitation facilities.
- **Primary care partnerships:** Partnerships with doctor's offices, health clinics, other providers of primary health care.

To support the IWISH staff in partnership development, the implementation team provided webinars in February and March 2018, created a partnership guide and sample partnership agreement, and shared materials from properties that had been successful in developing partnerships with healthcare providers. The implementation team also developed a checklist on partnerships to prompt IWISH staff about their next steps in forming partnerships. Despite these efforts, some properties have continued to find partnership development challenging, according to the implementation team. The implementation team reported that partnerships were the most frequent technical assistance topic during its site visits in summer and early fall of 2018.

The telephone survey conducted with Resident Wellness Directors in fall of 2018 collected basic information on each property's partners. Because the purpose was to collect complete information on which organizations the Resident Wellness Directors viewed as partners, the interviewers did not impose any definition of *partnerships*. As a result, the information from the survey on this topic should be treated with caution. Resident Wellness Directors likely had different interpretations as to what constitutes a partnership, with some counting every organization that provides programming as a partner and others counting only more formal partnership arrangements.

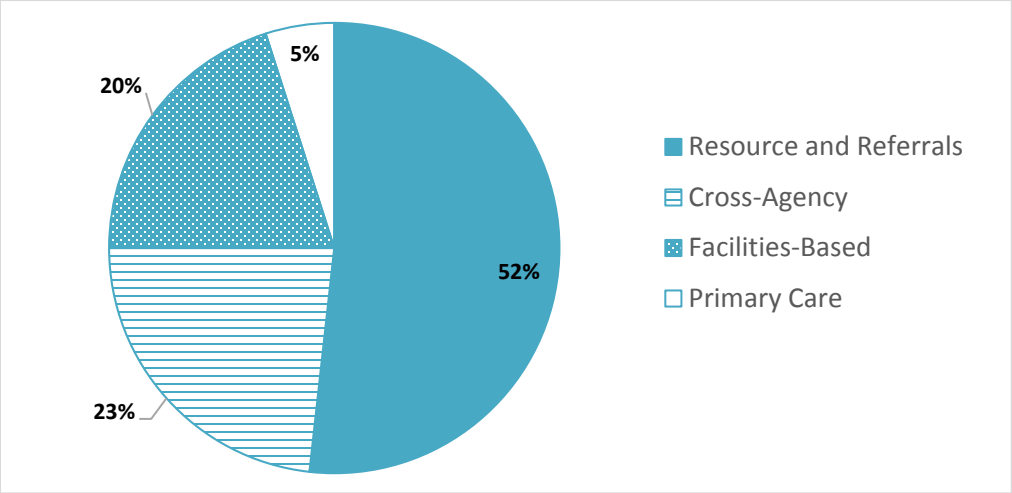
Through the telephone survey, the Resident Wellness Directors collectively identified 284 partners across the 40 properties, an average of about 7 partners per property. Using the information provided on the type of organization, the evaluation team categorized the partners into IWISH's four partnership types (see text box).

Exhibit 5-22 shows the distribution of the 284 partnerships by partnership type. As might be expected, most of the partnerships (147, or 52 percent) are resource and referral partnerships. Resource and referral partners include organizations such as food pantries and meal delivery services, volunteer organizations to help transport residents to doctor's appointments, organizations that send social workers

to the property to meet with residents, and partners that provide medical supplies or equipment such as telephones for people with hearing impairments.

The next most common partnership type (23 percent) is cross-agency partnerships. Facilities-based partnerships (20 percent) are important for improving transitional care as residents move back home from a temporary stay in an institutional setting. Partnerships with primary care providers are far less common than the others, representing just 5 percent of the partnerships identified.

Exhibit 5-22. Distribution of Partnerships, by Partnership Type



Note: *N* = 284 partnerships identified by 40 Resident Wellness Directors, across 40 IWISH properties.
Source: Telephone survey (November 2018–January 2019)

The IWISH properties had all different combinations of partnership types. The most common combination (11 properties) was cross-agency plus resource and referral. The next most common combination (eight properties) was facilities-based, cross-agency support, plus resource and referral. Of the 40 properties, 5 had one or more partnerships in all four categories.

Partnership development was not a major focus for most IWISH staff during the first 18 months of the demonstration, but we expect this work to pick up in the second half. Through the site visits and interviews to be conducted in 2019, the evaluation team will ask the IWISH staff to identify the partnerships they view as most important for supporting residents as they age in place. We will collect detailed information on the nature of those partnerships. For example, we will ask whether there is a formal agreement in place, how often the partners meet, and what they work on together. We will also explore further the barriers and challenges to partnership development; for example, exploring the extent to which IWISH staff find it hard to identify and connect with facilities or primary care providers, whether those providers are resistant or nonresponsive, or both.

5.6.3 Programming

Documenting *programming*—that is, activities and resources associated with the property other than IWISH—has been a challenge for the implementation team and evaluation team alike. Properties offer a myriad of programs and resources for residents, ranging from highly structured ongoing programs that residents attend every week or every month, to one-off events such as flu shot clinics, to regular forms of individual assistance such as Meals on Wheels. All these activities fall under the broad umbrella of programming. As part of the qualitative data collection planned for 2019, the evaluation team will ask IWISH staff at treatment group properties and service coordinators at active control properties for their

perspectives on which activities have the biggest impact on residents' health and wellness and successful aging in place.

The IWISH model emphasizes the use of evidence-based programming to meet residents' health and wellness needs. In December 2018, the implementation team provided the IWISH properties with an *Evidence Based Program Catalog* to help IWISH staff identify evidence-based programs for their residents. The catalog defines evidence-based programs as "including initiatives that have been rigorously evaluated and found effective in improving health and wellbeing or reducing disease, disability, or injury among older adults."[36] The catalog lists more than 30 evidence-based programs addressing arthritis, chronic conditions, diabetes, falls management, mental health, nutrition, physical activity, medication management, sleep, and smoking cessation. These programs are examples, as IWISH does not require the use of specific evidence-based programs. The catalog also provides guidance on how IWISH staff should go about identifying and selecting programs to offer.

As of March 2019, robust data were not available on the extent to which the IWISH properties were offering evidence-based programs. The implementation team found that PHL was not a very effective way to collect data on programming offered, so in early 2019 invited IWISH staff to provide information on the programming offered at their properties via spreadsheets. As of March 18, 2019, the implementation team had collected information on 142 programs across the 40 properties. The most common types of programs (offered by more than 10 properties) were programs related to brain fitness, nutrition, and exercise.

Of the 40 properties, 8 offered one or more of the following evidence-based programs:

- **DEEP™**, a diabetes self-management program (three properties).
- **Diabetes Self-Management (DSMP),** aka Diabetes Personal Action Toward Health (PATH), a diabetes self-management program (two properties).
- **Wellness Recovery Action Plan® (WRAP®)**, a self-directed wellness program (one property).
- **Tai Chi for Arthritis for Fall Prevention**, a Tai-Chi program (two properties).
- **Eat Smart, Live Strong**, nutrition education for older adults (1 property).

In addition, four properties reported having residents participating in the Program of All-Inclusive Care for the Elderly (PACE) program, a comprehensive medical and social services for frail elderly. Through the site visits and interviews to be conducted in 2019, the evaluation team will ask the IWISH staff to identify which programs they view as most important for supporting residents as they age in place and which of the programs offered are evidence based.

5.7. Training, Technical Assistance, and Monitoring

Since the start of the demonstration, IWISH properties have received a substantial amount of training, technical assistance, and monitoring from the implementation team. To implement the IWISH model as designed provided the overall framework for the team's work with properties, but the team was also highly responsive to challenges observed on the ground, and so tailored its training, technical assistance, and monitoring to address those challenges in real time. IWISH staff from each property met with members of the implementation team at least once a month between the start of enrollment in March 2018 and March 2019. In addition, the implementation team conducted site visits to every property in late

[36] IWISH *Evidence Based Program Catalog*, page 1.

summer and early fall of 2018 to learn about and solve challenges properties were facing with enrolling residents and using PHL and to hear from residents and staff what was working successfully.

Collectively, the implementation team used their experience in working with older adults, their knowledge of the IWISH model and objectives, and their insight into best practices across the IWISH properties to develop and deliver regular training and technical assistance to IWISH staff. The team held webinars on topics that either were relevant to an IWISH component (for example, partnerships) or provided deeper insight into an aspect of working with residents (for example, providing trauma-informed care). In addition, the team hosted virtual "office hours"—group sessions where IWISH staff could ask questions and discuss topics of interest in an open-ended format, contributing to peer learning.

Altogether, the implementation team offered more than 80 training sessions (including in-person training, webinars, office hours, and small group discussions) across more than 20 topics during the first 18 months of IWISH implementation. The implementation team added new training topics over time as well as providing numerous sessions on PHL and repeating the introductory sessions for new staff.

Exhibit 5-23 below summarizes the training topics covered. The training topics advanced over time from the essentials of IWISH program components, staff roles and responsibilities, and program startup activities, to professional development opportunities on specialized healthcare and wellness topics. These specialized topics included engaging and supporting residents with mental health concerns, risk prevention for falls, bullying and conflict resolution among older adults, and connecting with residents from different cultural backgrounds.

A large share of training sessions focused on PHL, to ensure that IWISH staff were entering data consistently and in response to the questions and challenges that came up over time. Between October 2017 and December 2018, the implementation team offered numerous introductory trainings and office hours on how to use PHL. Although not shown in Exhibit 5-23, which focuses on group training activities, the team also provided one-on-one support to IWISH staff encountering issues with PHL and produced written resources. Although the team did not provide group trainings on PHL between January and March 2019, technical assistance to individual staff and properties continued.

As noted earlier in Section 5.5, many IWISH staff found it very challenging to use PHL. Staff found it difficult to enter into data into PHL on participant needs, goals and plans, and service engagements. In response, the implementation team maintained an updated user guide, convened regular office hours to troubleshoot specific issues, and promptly responded to inquiries from IWISH staff. As PHL continued to experience unexpected issues—for example, the system being slow to respond or logging staff out unexpectedly without saving work—the team developed a "PHL Issues" form, where IWISH staff could document issues in a detailed and standardized format, helping to streamline reporting and troubleshooting. The team created and distributed resources around known areas of confusion, such as how to establish new participants in PHL, document participant encounters, and record sentinel events.

Exhibit 5-23. Topics Covered via In-Person Training, Webinar, Office Hours, and Small Group Discussion, October 2017–March 2019

Topic	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	Apr 2018	May 2018	Jun 2018	Jul 2018	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019
Overview of IWISH	●	●	●		●													
Staff roles and responsibilities	●	●				●												
Engaging and enrolling residents	●	●			●	●	●				●							
Teamwork	●	●			●													
A comprehensive view on health and well-being	●	●																
Education and outreach for program participation	●	●																
Getting to know your community	●	●																
HIPAA and privacy	●	●																
Office hours			●	●														
PHL (various topics)				●	●	●	●	●	●	●	●	●	●	●	●			
Emergency protocols				●														
What it means to be a Wellness Nurse				●														
Health and wellness assessment				●														
Partnership development					●	●												
Ongoing care supports						●												
Wellness and service coordination planning						●												
Medication reconciliation								●										
HUD grant management									●									
Trauma-informed care									●									
Effective time management											●							
Working with residents with mental health challenges												●	●	●				
Office hours with national organizations serving older adults[a]													●	●	●	●		
Falls risk														●				
Engaging with residents from different cultural backgrounds																	●	
Conflict resolution and bullying																		●

HIPAA = Health Insurance Portability and Accountability Act. PHL = Population Housing Logistics.
[a] Participating organizations included National Council on Aging; National Asian Pacific Center on Aging; National Indian Council on Aging; SAGE (Advocacy and Services for LGBT Elders); Alzheimer's Disease Resource Center; National Resource Center on Nutrition & Aging; U.S. Department of Transportation; National Caucus & Center on Black Aging, Inc.; and Center for Advancing Holocaust Survivor Care.
Note: A bullet indicates one or more session offered in that month.
Source: Documentation of training in monthly reports provided by the implementation team to HUD

In addition to providing training and technical assistance, the implementation team served in a monitoring role, particularly to provide support on program enrollment. The team communicated the overall enrollment target of 80 percent and set interim goals for properties to reach. As the properties worked to reach their enrollment targets, the implementation team provided technical assistance and monitoring.

Throughout the demonstration, the implementation team identified best practices from properties, during regular check-in calls and site visits, and communicate those best practices more broadly. In effect, they are facilitating a community of practice by sharing best practices on team calls, via a monthly

newsletter, and through an online resource library. The library, curated and managed by the implementation team, includes sample materials created by IWISH properties; new staff training webinars; PHL resources, IWISH-specific guidelines, and tools; and an archive of IWISH newsletters, webinar recordings, and other training materials.

Materials developed during the first 18 months of the demonstration include:

- *IWISH Operations Manual* provided during the in-person training and updated periodically.
- Marketing materials to assist staff with residents who are reluctant to join IWISH.
- Translations of IWISH paper assessments and release of information, and informed consent forms.
- Synthesis of promising practices related to enrollment, collected from IWISH staff, as well as recommendations from similar non-IWISH programs.
- IWISH *Evidence Based Program Catalog* documenting examples of health and wellness programs for older adults that h shown to be successful.
- Partnerships Checklist used to support IWISH staff in implementing next steps in forming partnerships.
- Individual Healthy Aging Plan and Community Healthy Aging Plan instructions and templates.
- Guidelines on the use of supportive services funds.

The implementation team houses all the resources developed for the demonstration, including recordings of webinars as well as written materials, on a shared online drive that is accessible to all IWISH staff. HUD's intent is for these materials to be publicly accessible at the end of the demonstration for other housing providers interested in implementing health and wellness supports.

6. Conclusion

The main findings from the analysis of baseline characteristics are that the residents of IWISH properties are a racially and ethnically diverse group of individuals in their 60s, 70s, and 80s, all with very low-incomes with most living in the properties for several years. The properties are in average condition relative to other HUD-assisted multifamily properties and are in a wide variety of neighborhoods, most of which are reported to present one or more challenges to aging in place. Variation across the properties is substantial in terms of their resident characteristics, with properties having different racial and ethnic compositions and different age distributions. The types of neighborhoods where the properties are located also vary, including differences in the census-tract poverty rates and other indicators of neighborhood health.

About 90 percent of residents of IWISH properties were enrolled in Medicare at the beginning of the demonstration, and slightly more than one-half were fully enrolled in Medicare with no managed care coverage. The prevalence of many common chronic conditions is much higher among residents of IWISH properties than among the overall Medicare FFS population. Despite high rates of morbidity, more than 50 percent of IWISH residents enrolled in Medicare with no managed care coverage never had an unplanned hospitalization during their baseline period, and the same was true regarding emergency department visits and ambulance use. Moreover, the distribution of healthcare use among IWISH residents is highly skewed, meaning that a certain group of residents is responsible for a disproportionately large share of baseline utilization. If the IWISH model is effective, it is likely that it will disproportionately affect this group of residents. Exploring how the impact of the IWISH model varies with baseline rates of healthcare utilization could provide some insight into the efficient use of limited program resources.

The treatment and control groups are well balanced on observable characteristics, show similar diversity at the property level, and are in many of the same neighborhoods[37]. Thus, differences between the residents in the treatment and control groups or the environments in which they live are unlikely to bias the future analysis of the impact of IWISH. The few differences between the treatment and control groups can be controlled for through multiple linear regression to ensure that we obtain an unbiased estimate of the impact of IWISH on residents' outcomes. Because property-level differences could affect how IWISH is implemented, the impact analysis will include sensitivity analyses to explore potential differential impacts by subgroups of property types.

Resident enrollment in IWISH began later than expected, because of the time needed to obtain government approval for data collection protocols and instruments. Enrollment is largely on target, however, with 71 percent of residents across the properties enrolled in IWISH as of March 2019. Some properties experienced challenges to enrollment, including staffing shortages, workload issues, and reluctance on the part of residents to sign up for a program that involves sharing sensitive personal information with the IWISH staff. More than one-half the properties had achieved at least 70 percent enrollment by March 2019.

Most properties made progress in conducting person-centered interviews, health and wellness assessments, and Individual Healthy Aging Plans to identify the health and wellness needs and goals of residents who enrolled in IWISH. Resident Wellness Directors identified the process of getting to know residents and working closely with them as one of the most rewarding parts of the job. Other aspects of the IWISH model—such as providing evidence-based programming and developing partnerships—have lagged the enrollment and assessment activities. This is consistent with the model in which residents'

[37] It is important to note that the study cannot control for, or assess the balance of, unobservable characteristics of residents.

needs and goals are expected to drive (in large part) properties' decisions on programming and partnerships. We expect programming and partnership development to be an important focus of the second half of the demonstration, alongside continued enrollment, assessment, and ongoing wellness support activities.

Some IWISH properties experienced delays in the initial hiring of IWISH staff as well as staff turnover, particularly in the Wellness Nurse position. It will be important to track staffing at the IWISH properties over time and compare the level of turnover to that experienced by properties in the demonstration's control group that have service coordinators.

The next phase of the evaluation entails further qualitative research at the IWISH properties and the properties in the control group. The evaluation team will conduct site visits and interviews with IWISH Resident Wellness Directors and Wellness Nurses and other property staff, focus groups with residents, and further analysis of data collected through PHL. Through the interviews and focus groups, we will learn about which aspects of the IWISH model staff and residents find most impactful and which are most challenging the implement. We also expect to learn more about the role of the implementation team in making IWISH happen. Finally, this qualitative research will result in a multifaceted analysis of IWISH implementation and an assessment of how the IWISH model—as implemented—differs from "business as usual" in HUD multifamily housing for older adults. These topics and analyses will be the focus of the Second Interim Report, which will also document IWISH activities over the second half of the demonstration.

Alongside the qualitative work, the evaluation will also continue to track the demographic, socioeconomic, and housing characteristics of the treatment and control groups and their healthcare utilization patterns to inform the quantitative analysis of the impact of IWISH at the end of the demonstration. The balance at baseline in the treatment and control groups based on Medicare FFS claims data provides an excellent starting point for this analysis, which we will build on by collecting data on health care funded through Medicare managed care plans and Medicaid.

Appendix A: Health and Wellness Assessment

HUD's Integrated Wellness in Supportive Housing (IWISH)

Resident and Wellness Assessment – Paper Version

2528-0315; expiring 12-31-2020

PAPERWORK REDUCTION ACT STATEMENT OF PUBLIC BURDEN:

The public reporting burden for this information collection is estimated to be 80 minutes. This burden estimate includes time for reviewing instructions, researching existing data sources, gathering and maintaining the needed data, and completing and submitting the information. Send comments regarding the accuracy of this burden estimate and any suggestions for reducing the burden to: U.S. Office of Personnel Management, Federal Investigative Services, Attn: OMB Number (3206-0246), 1900 E Street NW, Washington, DC 20415-7900.

The information requested under this collection is protected and held confidential in accordance with 42 U.S.C. 1306, 20 CFR 401 and 402, 5 U.S.C.552 (Freedom of Information Act), 5 U.S.C. 552a (Privacy Act of 1974) and OMB Circular No. A-130.

Please use this paper version of the health and wellness assessment for times when you cannot enter information directly into the demonstration's online platform, hosted by Population Health Logistics (PHL). After completing the paper assessment, please follow the IWISH PHL User Guide for instructions on how to enter the data into PHL.

Participant Information	
1. First Name	
2. Middle Name	
3. Last Name	
4. Date of Birth	
5. Gender (select one)	☐ Male ☐ Female ☐ Transgender ☐ Does Not Declare ☐ Other
6. Preferred Language (select one)	☐ English ☐ Spanish ☐ Albanian ☐ Arabic ☐ Cambodian ☐ Chinese-Cantonese ☐ Chinese-Mandarin ☐ Farsi ☐ French Creole ☐ German ☐ Greek ☐ Hindi ☐ Italian ☐ Korean ☐ Persian ☐ Portuguese ☐ Russian ☐ Tagalog ☐ Twi ☐ Ukrainian ☐ Vietnamese ☐ Other _____
7. Date(s) of Assessment	
8. Marital Status (select one)	☐ Married ☐ Never Married ☐ Divorced ☐ Single ☐ Widowed ☐ Separated ☐ Other _____
9. Race/Ethnicity (select one)	☐ American Indian or Alaska Native-Hispanic ☐ American Indian or Alaska Native-Non-Hispanic ☐ Asian-Hispanic ☐ Asian-Non-Hispanic ☐ African-American or African American-Hispanic ☐ African-American or African American-Non-Hispanic ☐ Native Hawaiian or Other Pacific Islander-Hispanic ☐ Native Hawaiian or Other Pacific Islander-Non-Hispanic ☐ White-Hispanic ☐ White-Non-Hispanic ☐ Other _____
10. Social Security Number	_____ - _____- _____
11. Veteran	☐ Yes ☐ No
12. Was the Participant Information section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Participant Contact Information			
Add Address			
1. Address Type	☐ Home ☐ Mailing ☐ Other		
2. Address 1			
3. Address 2			
4. City, State, Zip			
5. Primary Address	☐ Yes ☐ No		
Add Phone			
6. Phone Number Type	☐ Home ☐ Mobile ☐ Work ☐ Other		
7. Phone Number	_____-_____-_____	8. Primary Phone	☐ Yes ☐ No
Add Email			
9. Email Type (select one)	☐ Personal ☐ Family Member Email Address ☐ Other		
10. Email Address		11. Primary Email	☐ Yes ☐ No
12. Was the Participant Contact Information section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions		

Insurance		
1. Insurance Name		
2. Insurance Number		
3. Insurance Type (select one)	☐ Medicare Part A (Hospital Coverage) ☐ Medicare Part B ☐ Medicare Part C (Medicare Advantage) ☐ Medicare Part D (Prescription Drug Coverage) ☐ Medicare Supplemental (Medigap) ☐ Medicaid ☐ PACE ☐ Tricare ☐ Veteran's Affairs ☐ Commercial Insurance ☐ Uninsured ☐ Other	
4. Insurance Name		
5. Insurance Number		
6. Insurance Type (select one)	☐ Medicare Part A (Hospital Coverage) ☐ Medicare Part B ☐ Medicare Part C (Medicare Advantage) ☐ Medicare Part D (Prescription Drug Coverage) ☐ Medicare Supplemental (Medigap) ☐ Medicaid ☐ PACE ☐ Tricare ☐ Veteran's Affairs ☐ Commercial Insurance ☐ Uninsured ☐ Other	
7. Insurance Name		

Insurance		
8. Insurance Number		
9. Insurance Type (select one)	☐ Medicare Part A (Hospital Coverage) ☐ Medicare Part C (Medicare Advantage) Coverage) ☐ Medicare Supplemental (Medigap) ☐ PACE ☐ Veteran's Affairs ☐ Uninsured	☐ Medicare Part B ☐ Medicare Part D (Prescription Drug ☐ Medicaid ☐ Tricare ☐ Commercial Insurance ☐ Other
10. Was the Insurance section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions	

Contacts ***Ability to add multiple contacts. Space for three contacts is included below.**					
Contact Details – Contact #1					
1. Full Name (of contact)					
2. Relationship to Participant (select one)	☐ Spouse ☐ Son ☐ Daughter ☐ Daughter-in-law ☐ Son-in-law ☐ Sister ☐ Brother ☐ Spouse Equivalent ☐ Friend ☐ Neighbor ☐ Granddaughter ☐ Grandson ☐ Nephew ☐ Niece ☐ Other				
3. Power of Attorney (POA) (select one)	☐ Health Care ☐ Financial ☐ Health Care and Financial ☐ Not Applicable				
4. Guardian (select one)	☐ Yes ☐ No ☐ Pending	5. Contact Method Preference (select one)	☐ Phone ☐ Email ☐ Phone or Email ☐ Fax ☐ Mail ☐ Other		
6. Frequency of participant meeting with this contact (select one)	☐ Daily ☐ 2-3 times weekly ☐ Weekly ☐ 2-3 times/month ☐ Several times/year ☐ As-needed ☐ Other				
7. Primary Contact	☐ Yes ☐ No	8. Emergency Contact	☐ Yes ☐ No		
9. Caregiver	☐ Yes ☐ No	10. Household (i.e., does this contact live in participant's home?)	☐ Yes ☐ No		
11. Address Type	☐ Home ☐ Other	12. Primary Address	☐ Yes ☐ No		
13. Address					
14. City, State, Zip					
15. Phone Number Type	☐ Home ☐ Mobile ☐ Work ☐ Other	16. Phone Number	_____-_____-_____ Ext: (_____)		
17. Primary Phone	☐ Yes ☐ No				
18. Email Type (select one)	☐ Personal ☐ Family Member ☐ Office ☐ Other	19. Primary Email	☐ Yes ☐ No		
20. Email Address					

Contact Details – Contact #2 (if applicable)			
1. Full Name (of contact)			
2. Relationship to Participant (select one)	☐ Spouse ☐ Son ☐ Daughter ☐ Daughter-in-law ☐ Son-in-law ☐ Sister ☐ Brother ☐ Spouse Equivalent ☐ Friend ☐ Neighbor ☐ Granddaughter ☐ Grandson ☐ Nephew ☐ Niece ☐ Other		
3. Power of Attorney (POA) (select one)	☐ Health Care ☐ Financial ☐ Health Care and Financial ☐ Not Applicable		
4. Guardian (select one)	☐ Yes ☐ No ☐ Pending	5. Contact Method Preference (select one)	☐ Phone ☐ Email ☐ Phone or Email ☐ Fax ☐ Mail ☐ Other
6. Frequency of participant meeting with this contact (select one)	☐ Daily ☐ 2-3 times weekly ☐ Weekly ☐ 2-3 times/month ☐ Several times/year ☐ As-needed ☐ Other		
7. Primary Contact	☐ Yes ☐ No	8. Emergency Contact	☐ Yes ☐ No
9. Caregiver	☐ Yes ☐ No	10. Household (i.e., does this contact live in participant's home?)	☐ Yes ☐ No
11. Address Type	☐ Home ☐ Other	12. Primary Address	☐ Yes ☐ No
13. Address			
14. City, State, Zip			
15. Phone Number Type	☐ Home ☐ Mobile ☐ Work ☐ Other	16. Phone Number	_____-_____-_____ Ext: (_____)
17. Primary Phone	☐ Yes ☐ No		
18. Email Type (select one)	☐ Personal ☐ Family Member ☐ Office ☐ Other	19. Primary Email	☐ Yes ☐ No
20. Email Address			

Contact Details – Contact #3 (if applicable)			
1. Full Name (of contact)			
2. Relationship to Participant (select one)	☐ Spouse ☐ Son ☐ Daughter ☐ Daughter-in-law ☐ Son-in-law ☐ Sister ☐ Brother ☐ Spouse Equivalent ☐ Friend ☐ Neighbor ☐ Granddaughter ☐ Grandson ☐ Nephew ☐ Niece ☐ Other		
3. Power of Attorney (POA) (select one)	☐ Health Care ☐ Financial ☐ Health Care and Financial ☐ Not Applicable		
4. Guardian (select one)	☐ Yes ☐ No ☐ Pending	5. Contact Method Preference (select one)	☐ Phone ☐ Email ☐ Phone or Email ☐ Fax ☐ Mail ☐ Other
6. Frequency of participant meeting with this contact (select one)	☐ Daily ☐ 2-3 times weekly ☐ Weekly ☐ 2-3 times/month ☐ Several times/year ☐ As-needed ☐ Other		
7. Primary Contact	☐ Yes ☐ No	8. Emergency Contact	☐ Yes ☐ No
9. Caregiver	☐ Yes ☐ No	10. Household (i.e., does this contact live in participant's home?)	☐ Yes ☐ No
11. Address Type	☐ Home ☐ Other	12. Primary Address	☐ Yes ☐ No
13. Address			
14. City, State, Zip			
15. Phone Number Type	☐ Home ☐ Mobile ☐ Work ☐ Other	16. Phone Number	_____-_____-_____ Ext: (_____)
17. Primary Phone	☐ Yes ☐ No		
18. Email Type (select one)	☐ Personal ☐ Family Member ☐ Office ☐ Other	19. Primary Email	☐ Yes ☐ No
20. Email Address			
21. Was the Contacts section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions		

Participant Resources					
Specify which resources/services the participant currently receives in this section. **Please use one row for each service and specify the Agency Type, the Category of Service Provided, the Type of Service, Date Service Began, and Current Service Status.** **A table listing the different types of services for each category is available following this section.**					
Service Number	**13. Agency Type**	**Service Category**	**Service Type**	**Date Service Began**	**Service Status**
	Indicate one: • Your own IWISH site • Adult Day Care • Area Agency on Aging • Home Health Agency • Mental Health Agency • Primary Care • Specialty Care • Transportation Agency • Other	***Indicate one:*** • Case Management Services • Food • Housing • Home Modification • Utility Assistance • Transportation • Medical • Financial • Legal • Employment • Education • Other	***See choices following this table***	***If known***	***Indicate one:*** • Currently Receiving • Denied • Pending • Waitlisted • Other
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11. Was the Resources section completed in full?		☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions			

Participant Resources: Category of Services and Associated Type of Service

Please use this table as a reference when completing the *Participant Resource* portion that precedes this section. This table defines the types of services within each service category.

Category of Service	Type of Service	
Case Management Services	☐ Case management ☐ Level of care assessment ☐ Personal care services	☐ Homemaker services ☐ Options/benefits counseling ☐ Other case management services
Food	☐ Home delivered meals ☐ SNAP (food stamps) ☐ Nutrition education	☐ Congregate meals ☐ Pantry/food bank ☐ Other food/nutrition
Housing	☐ Hoarding ☐ Other housing services	☐ Lease compliance
Home Modification	☐ Home safety assessment ☐ Other home modification	☐ Accessibility modifications
Utility Assistance	☐ Low Income Home Energy Assistance Program (LIHEAP) ☐ Other utility assistance	
Transportation	☐ Transportation voucher/ride program ☐ Driver Safety	☐ Medical transportation ☐ Other transportation
Medical	☐ Alcohol/drug use ☐ Cognitive health ☐ Emergency room use ☐ Falls ☐ Hearing ☐ Immunizations/ screenings ☐ Medical supplies/ equipment ☐ Pain Management ☐ Therapy (occupational, physical, speech) ☐ Visual ☐ Other medical	☐ Chronic condition management ☐ Dental ☐ Exercise/ physical activity ☐ Financial assistance ☐ Hospice/ palliative care ☐ Medications ☐ Mental health ☐ Provider/pharmacy access and relationships ☐ Tobacco cessation support ☐ Weight management
Financial	☐ Budgeting/financial planning ☐ Insurance	☐ Income/benefits ☐ Other financial
Legal	☐ Adult protective services ☐ End of life planning (will, advance directive, DNR, etc.) ☐ Guardian ☐ Other legal	☐ Power of attorney (financial, medical)
Employment	☐ Full/part-time employment ☐ Other employment services	☐ Senior employment program
Education	☐ Language ☐ Lifelong learning	☐ Literacy ☐ Other education
Other	☐ Caregiver support ☐ Pets (care, support/needs) ☐ Spirituality/ religious participation ☐ Volunteering/ community service	☐ Interpersonal relationships (family, friends) ☐ Recreation/ social activities ☐ Support groups ☐ Other social support or engagement

Immunizations			
Immunization	**Status (select one)**	**Approximate Immunization Date**	**Notes**
1. Influenza	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
2. Pneumovax	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
3. Prevnar	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
4. Shingles	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
5. Other:_____	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
6. Other:_____	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
7. Other:_____	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
8. Other:_____	☐ Yes ☐ No ☐ Unknown ☐ No - Medical Reason		
9. Was the Immunization section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions		

General Information			
Advance Directive, DNR, and POAs			
1. Does participant have a documented Advance Directive?	☐ Yes	☐ No	☐ Unknown
2. If no, would the participant like assistance creating an Advance Directive?	☐ Yes	☐ No	☐ Not Now
3. Advance Directive Agent's Name and Contact Information			
4. Where is Advance Directive stored? (select all that apply)	☐ Family Member ☐ Home ☐ MD Office ☐ Preferred Hospital ☐ Other		
5. Does the participant have a Do Not Resuscitate (DNR) order?	☐ Yes	☐ No	☐ Unknown

6. Who, if anyone, has a copy of the participant's DNR?	☐ Family Member ☐ MD Office ☐ Healthcare Power of Attorney ☐ Preferred Hospital ☐ Other ☐ N/A
7. Contact information for who, if anyone, has a copy of the participant's Health Care Power of Attorney	
8. Contact information for who, if anyone, has a copy of the participant's Financial Power of Attorney?	
Household, Assistive Devices, and Transportation	
9. Does the participant have a Personal Emergency Response System (PERS) such as Lifeline or Link to Life?	☐ Yes ☐ No
10. Mode(s) of Transportation (select all that apply)	☐ Own Car ☐ Bus ☐ Support Person ☐ Transportation Agency ☐ Other
11. Notes for the General Information Section:	
12. Was the General Information section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Clinicians **Please include the participant's Primary Care Provider and key specialists the participant regularly visits.**	
Primary Care Provider	
1. Primary Care Provider's Full Name	
2. Phone	_____-_____-_____
3. Fax	_____-_____-_____
4. Email	
5. Practice Name and Address	
Specialist #1	
1. Specialist Full Name	
2. Specialty (select one)	☐ Oncologist ☐ Neurologist ☐ Psychologist ☐ Psychiatrist ☐ Cardiologist ☐ Ophthalmologist/Optometrist ☐ OBGYN ☐ Other _____
3. Phone	_____-_____-_____

4. Fax	_____-_____-_____
5. Email	
6. Practice Name and Address	
Specialist #2	
1. Specialist Full Name	
2. Specialty (select one)	☐ Oncologist ☐ Neurologist ☐ Psychologist ☐ Psychiatrist ☐ Cardiologist ☐ Ophthalmologist/Optometrist ☐ OBGYN ☐ Other _____
3. Phone	_____-_____-_____
4. Fax	_____-_____-_____
5. Email	
6. Practice Name and Address	
Specialist #3	
1. Specialist Full Name	
2. Specialty (select one)	☐ Oncologist ☐ Neurologist ☐ Psychologist ☐ Psychiatrist ☐ Cardiologist ☐ Ophthalmologist/Optometrist ☐ OBGYN ☐ Other _____
3. Phone	_____-_____-_____
4. Fax	_____-_____-_____
5. Email	
6. Practice Name and Address	
7. Clinician and Specialist **Notes:**	

8. Was the Clinician section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

General Health Assessment	
Annual Exams, Hospitals, and Surgery	
1. How do you rate your health?	☐ Excellent ☐ Very Good ☐ Good ☐ Fair ☐ Poor ☐ Unknown
2. Do you have routine annual exams?	☐ Yes ☐ No ☐ Unknown
3. When was your last annual exam, if known?	
4. Have you had surgery in the past 10 years?	☐ Yes ☐ No ☐ Unknown
5. List all surgical procedures in the past 10 years	
Specific Health Questions	
6. Do you use an assistive device to help you move?	☐ Yes ☐ No
7. Select all assistive device(s) that apply	☐ Cane ☐ Motorized Scooter ☐ Walker ☐ Wheelchair
8. Do you need assistance obtaining any of the following (select all that apply)?	☐ Eyeglasses ☐ Hearing aids ☐ Dentures ☐ None ☐ Other
9. Does you take care of your own feet/toenails?	☐ Yes ☐ No
10. If you do not take care of your own feet/toenails, who does?	
11. Do you have any foot conditions (select all that apply)?	☐ Calluses ☐ Corns ☐ Cuts ☐ Bruises ☐ Fungus ☐ Overgrown Toenails ☐ Ingrown Toenails ☐ Dry Skin ☐ N/A ☐ Other
12. How many days a week do you get a total of 30 minutes or more of physical activity? (enough to raise breathing rate) (select one)	☐ Zero ☐ One ☐ Two ☐ Three ☐ Four ☐ Five ☐ Six ☐ Seven
13. Was the General Health Assessment section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Diagnosis		
Diagnosis (select all that apply)		**Notes**
1. Heart/ Circulation	☐ Cancer ☐ Anemia ☐ Atrial Fibrillation or other Dysrhythmias (bradycardias and tachycardia) ☐ Coronary Artery Disease (angina, myocardial infarction, atherosclerotic heart disease) ☐ Deep Vein Thrombosis ☐ Pulmonary Embolus ☐ Pulmonary Edema ☐ Peripheral Vascular Disease ☐ Heart Disease ☐ Pre-Hypertension ☐ Hypertension ☐ Pacemaker/ Implantable Cardiac Defibrillator	
2. Gastrointestinal	☐ Cirrhosis ☐ Ulcer (esophageal, gastric, and peptic ulcers) ☐ GERD or Acid Reflux ☐ Diverticulitis ☐ Liver Disease ☐ Crohn's Disease ☐ Irritable Bowel Syndrome	
3. Genitourinary	☐ Benign Prostatic Hyperplasia ☐ Renal Insufficiency ☐ Renal Failure ☐ End Stage Renal Disease ☐ Neurological Bladder ☐ Obstructive Uropathy ☐ Incontinence	
4. Infections	☐ Multi-drug resistant organisms ☐ Pneumonia ☐ Septicemia ☐ Tuberculosis ☐ Urinary Tract Infection ☐ Viral Hepatitis ☐ Wound Infection (other than foot)	
5. Metabolic and Endocrine	☐ Diabetes Mellitus ☐ Pre-Diabetes ☐ Hyponatremia ☐ Hyperkalemia ☐ Hyperlipidemia ☐ Thyroid Disease	

Diagnosis		
Diagnosis (select all that apply)		**Notes**
6. Musculoskeletal	☐ Arthritis ☐ Osteoporosis ☐ Hip Fracture ☐ Other Fracture	
7. Neurological	☐ Alzheimer's Disease ☐ Aphasia ☐ Cerebral Palsy ☐ Cerebrovascular Accident ☐ Transient Ischemic Attack ☐ Stroke ☐ Non-Alzheimer's Dementia ☐ Hemiplegia ☐ Hemiparesis ☐ Paraplegia ☐ Quadriplegia ☐ Multiple Sclerosis ☐ Huntington's Disease ☐ Parkinson's Disease ☐ Tourette's Syndrome ☐ Seizure Disorder ☐ Epilepsy ☐ Traumatic Brain Injury	
8. Nutritional	☐ Malnutrition ☐ Risk for Malnutrition	
9. Psychiatric Mood Disorders	☐ Anxiety Disorder ☐ Depression ☐ Manic Depression (bipolar) ☐ Psychotic Disorder ☐ Schizophrenia ☐ Post-Traumatic Stress Disorder	
10. Addiction	☐ Nicotine ☐ Alcohol Abuse	
11. Sleep Disorder	☐ Insomnia ☐ Sleep Apnea	
12. Pulmonary	☐ Asthma ☐ Chronic Obstructive Pulmonary Disorder ☐ Chronic Lung Disease (chronic bronchitis and restrictive lung diseases such as asbestosis) ☐ Respiratory Failure	
13. Hearing	☐ Hearing Impairment	
14. Vision	☐ Cataracts ☐ Glaucoma ☐ Macular Degeneration ☐ General Visual Decline	

Diagnosis		
Diagnosis (select all that apply)		**Notes**
15. Other	☐ Chronic Pain ☐ Obesity ☐ Other	
16. Was the Diagnosis section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions	

Medication						
Medication Name	**Strength (i.e. dosage)**	**Units**	**Dosage Frequency**	**Dosage Number**	**Dosage Method**	**Special Instructions**

1. Was the Medication section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Morisky 8-Item Medication Adherence Questionnaire	
Question	**Answer**
1. Do you sometimes forget to take your medicine?	☐ Yes ☐ No
2. People sometimes miss taking their medicines for reasons other than forgetting. Thinking over the past two weeks, were there any days when you did not take your medicine?	☐ Yes ☐ No
3. Have you ever cut back or stopped taking your medicine without telling your doctor because you felt worse when you took it?	☐ Yes ☐ No
4. When you travel or leave home, do you sometimes forget to bring along your medicine?	☐ Yes ☐ No
5. Did you take all your medicines yesterday?	☐ Yes ☐ No
6. When you feel like your symptoms are under control, do you sometimes stop taking your medicine?	☐ Yes ☐ No
7. Taking medicine every day is a real inconvenience for some people. Do you ever feel hassled about sticking to your treatment plan?	☐ Yes ☐ No
8. How often do you have difficulty remembering to take all your medicine?	☐ Never/rarely ☐ Once in a while ☐ Sometimes ☐ Usually ☐ All the time
9. Was the Morisky Medication Adherence section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Allergies
1. Allergy Name(s) (specify all allergies):
2. Allergy Notes (specify for all allergies):
3. Intolerance Name (specify for all allergies):

4. Intolerance Notes (specify for all allergies):	
5. Was the Allergies section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Vitals	
1. Blood Pressure Sitting (systolic/diastolic)	
2. Heart Rate	
3. Weight (lbs.)	
4. Height (inches)	
5. BMI (calculated automatically)	
6. Temperature	
7. Pain (indicate zero to 10, with zero being no pain and 10 being the most intense pain)	
8. A1C Number	
9. Oxygen Saturation %	
10. Home Blood Glucose	
11. Edema (select one)	☐ Absent ☐ +1 ☐ +2 ☐ +3 ☐ +4
12. Respiratory rate	
13. Vitals **Notes:**	
14. Was the Vitals section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Physical Self-Maintenance Scale (PSMS): Activities of Daily Living (ADLs)	
1. Toileting Hygiene	☐ Independent ☐ Needs Assistance
2. Feeding or Eating	☐ Independent ☐ Needs Assistance
3. Dressing Upper Body	☐ Independent ☐ Needs Assistance
4. Dressing Lower Body	☐ Independent ☐ Needs Assistance
5. Grooming	☐ Independent ☐ Needs Assistance
6. Bathing	☐ Independent ☐ Needs Assistance
7. Toilet Transferring	☐ Independent ☐ Needs Assistance
8. Transferring	☐ Independent ☐ Needs Assistance
9. Ambulation/Locomotion	☐ Independent ☐ Needs Assistance
10. Was the PSMS/ADLs section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Instrumental Activities of Daily Living (IADLs)	
1. Telephone	☐ Independent ☐ Needs Assistance
2. Traveling	☐ Independent ☐ Needs Assistance
3. Shopping	☐ Independent ☐ Needs Assistance
4. Preparing Meals	☐ Independent ☐ Needs Assistance
5. Housework	☐ Independent ☐ Needs Assistance
6. Medications	☐ Independent ☐ Needs Assistance
7. Money	☐ Independent ☐ Needs Assistance
8. Was the IADLs section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Nutrition Screen (DETERMINE)	
These questions identify older persons at risk for low nutrient intake and subsequent health problems. Communicate to participant: "*What you eat does affect your health. These questions help us determine if you are at nutritional risk.*" **Summing the scores associated with each "Yes" answer indicates:** • **Low nutritional risk = score 0-2** • **Moderate nutritional risk = score 3-5** • **High nutritional risk = score 6 or more**	
1. Have you made any changes in lifelong eating habits because of health problems?	☐ Yes (2) ☐ No (0)
2. Do you eat fewer than two meals a day?	☐ Yes (3) ☐ No (0)
3. Do you eat fewer than five servings (1/2 cup each) of fruits and vegetables every day?	☐ Yes (1) ☐ No (0)
4. Do you eat fewer than two servings of dairy products (such as milk, yogurt, or cheese) every day?	☐ Yes (1) ☐ No (0)
5. Do you sometimes not have enough money to buy food?	☐ Yes (4) ☐ No (0)
6. Do you have trouble eating due to problems with biting, chewing, or swallowing?	☐ Yes (2) ☐ No (0)
7. Do you eat alone most of the time?	☐ Yes (1) ☐ No (0)
8. Without wanting to, have you lost or gained ten pounds in the last six months?	☐ Yes (2) ☐ No (0)
9. Are you not always physically able to shop, cook, and/or feed yourself (or get someone to do it for you?)	☐ Yes (2) ☐ No (0)
10. Do you have three or more drinks of beer, liquor, or wine almost every day?	☐ Yes (2) ☐ No (0)
11. Do you take three or more prescriptions or over-the-counter drugs per day?	☐ Yes (1) ☐ No (0)
Total Score:	
12. Was the Nutrition Assessment section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Falls Risk Assessment (STEADI) **These questions identify persons at risk for falling.**		
Question	**Why it matters**	**Answer**
1. I have fallen in the past year.	People who have fallen once are likely to fall again.	☐ Yes (2) ☐ No (0)
2. I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.	☐ Yes (2) ☐ No (0)
3. Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.	☐ Yes (1) ☐ No (0)
4. I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.	☐ Yes (1) ☐ No (0)
5. I am worried about falling.	People who are worried about falling are more likely to fall.	☐ Yes (1) ☐ No (0)
6. I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.	☐ Yes (1) ☐ No (0)
7. I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.	☐ Yes (1) ☐ No (0)
8. I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.	☐ Yes (1) ☐ No (0)
9. I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.	☐ Yes (1) ☐ No (0)
10. I take medicine that sometimes make some feel lightheaded or more tired than usual.	Side effects from medicines can sometimes increase you a chance of falling.	☐ Yes (1) ☐ No (0)
11. I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.	☐ Yes (1) ☐ No (0)
12. I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are liked to falls.	☐ Yes (1) ☐ No (0)
Total Score:		
Scoring: Sum the scores associated with each "Yes" answer. **Scores of 4 points or more indicate the participant may be at risk for falling.**		
13. Was the Falls Risk Assessment section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions	

Mini Cog

***You will need a piece of a paper with a circle for the clock drawn or printed on it.**

Step 1: Three Word Registration

Look directly at person and say, "Please listen carefully. I am going to say three words that I want you to repeat back to me now and try to remember. The words are [select a list of words from the versions below]. Please say them for me now." If the person is unable to repeat the words after three attempts, move on to Step 2 (clock drawing).

The following and other word lists have been used in one or more clinical studies. For repeated administrations, use of an alternative word list is recommended.

Version 1	Version 2	Version 3	Version 4	Version 5	Version 6
Banana	Leader	Village	River	Captain	Daughter
Sunrise	Season	Kitchen	Nation	Garden	Heaven
Chair	Table	Baby	Finger	Picture	Mountain

Step 2: Clock Drawing

Say: "Next, I want you to draw a clock for me. First, put in all of the numbers where they go." When that is completed, say: "Now, set the hands to 10 past 11." Use paper with the predrawn or preprinted circle for this exercise. Repeat instructions as needed as this is not a memory test. Move to Step 3 if the clock is not complete within three minutes.

Step 3: Three Word Recall

Ask the person to recall the three words you stated in Step 1. Say: "What were the three words I asked you to remember?" Record the word list version number and the person's answers below.

Word List Version: _____ Person's Answers: _____ _____ _____

1. Clock Drawing _____ (0-2 points)	Normal clock = 2 points. A normal clock has all numbers placed in the correct sequence and approximately correct position (e.g., 12, 3, 6 and 9 are in anchor positions) with no missing or duplicate numbers. Hands are pointing to the 11 and 2 (11:10). Hand length is not scored. Inability or refusal to draw a clock (abnormal) = 0 points.
2. Three Word Recall ____ (0-3 points)	1 point for each word spontaneously recalled without cueing.
3. Total Score _____ (0-5 points)	Total score = Word Recall score + Clock Draw score. A cut point of <3 on the Mini-Cog has been validated for dementia screening, but may individuals with clinically meaningful cognitive impairment will score higher. When greater sensitivity is desired, a cut point of <4 is recommended as it may indicate a need for further evaluation of cognitive status.
4. Additional information about cognitive assessment:	
5. Was the Mini Cog section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Loneliness Scale	
The scores of each individual question can be added together to give range of scores from 3 to 9. Researchers have grouped people who score 3-5 as "not lonely" and people with a score of 6-9 as "lonely."	
1. How often do you feel that you lack companionship?	☐ Hardly ever (1) ☐ Some of the time (2) ☐ Often (3)
2. How often do you feel left out?	☐ Hardly ever (1) ☐ Some of the time (2) ☐ Often (3)
3. How often do you feel isolated from others?	☐ Hardly ever (1) ☐ Some of the time (2) ☐ Often (3)
Total Score:	
4. Was the Social Connectedness section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Behavioral Health		
1. How many times in the past year have you had four or more alcoholic drinks in a day? (select one)	☐ Zero ☐ One ☐ Two ☐ Three or more times	
If answer above is "Two" or "Three or more times," complete the S-MAST-G below.		
2. What is your current relationship with tobacco (select one)?	☐ Never ☐ Former ☐ Current tobacco user ☐ Currently exposed to second hand smoke ☐ No for medical reasons	
3. Would you like assistance with tobacco cessation?	☐ Yes ☐ No ☐ Not now ☐ N/A	
4. **Notes:**		
5. Was the Behavioral Health section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions	

S-MAST-G	
Two or more "Yes" answers below indicate the need for a brief intervention and possibly a referral for assessment and treatment.	
1. When talking to others, do you ever understate how much you actually drink?	☐ Yes ☐ No
2. When drinking, have you sometimes skipped a meal because you did not feel hungry?	☐ Yes ☐ No
3. Does having a few drinks help reduce shakiness or tremors?	☐ Yes ☐ No
4. Does alcohol sometimes make it hard for you to remember parts of a day or night?	☐ Yes ☐ No
5. Do you usually take a drink to relax or calm your nerves?	☐ Yes ☐ No
6. Do you drink to take your mind off problems like feeling alone or being in physical or emotional pain?	☐ Yes ☐ No
7. Have you increased your drinking after experiencing a loss in your life?	☐ Yes ☐ No
8. Has a doctor, nurse, or other health care provider ever said that they were concerned about your drinking?	☐ Yes ☐ No
9. Have you tried to reduce your drinking from your own concern or to try and manage the amount of your drinking?	☐ Yes ☐ No
10. When you feel lonely does having a drink help you feel better?	☐ Yes ☐ No
11. Do you drink alcohol and at the same time use mood or mind altering drugs, including prescription, tranquilizers, prescription sleeping pills, prescription pain pills, or illicit drugs?	☐ Yes ☐ No
12. **Notes:**	
13. Was the S-MAST-G section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions ☐ Not applicable

General Anxiety Disorder Scale (GAD-2)	
1. Over the past two weeks, how often have you been bothered by feeling nervous, anxious, or on edge (circle one)?	☐ 0 – Not at all ☐ 1 – Several days ☐ 2 – more than half the days ☐ 3 – Nearly every day
2. Over the past two weeks how often have you been bothered not being able to stop or control worrying (circle one)?	☐ 0 – Not at all ☐ 1 – Several days ☐ 2 – more than half the days ☐ 3 – Nearly every day
Total Score:	
If the total score from two GAD-2 questions above is 3 or higher, complete GAD-7 below.	
3. Was the GAD-2 section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

General Anxiety Disorder Scale (GAD-7)	
1. Over the last two weeks, how often have you been bothered by feeling nervous, anxious, or on edge?	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
2. Over the last two weeks, how often have you been bothered by not being able to stop or control worrying	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
3. Over the last two weeks, how often have you been worrying too much about different things	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
4. Over the last two weeks, how often have you had trouble relaxing	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
5. Being so restless that it is hard to sit still	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
6. Becoming easily annoyed or irritable	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day

7. Feeling afraid as if something awful might happen	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
Total Score:	
Scoring: Sum points from all GAD-7 answers. 5-9 Mild Anxiety, 10-14 Moderate Anxiety, 15 + Severe Anxiety	
8. Was the GAD-7 section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions ☐ Not applicable

Patient Health Question-2 (PHQ-2): Depression Screen	
Ask the participant: "*Over the past two weeks, how often have you been bothered by any of the following problems?*"	
1. Little interest or pleasure in doing things	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
2. Feeling down, depressed, or hopeless	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
Total Score:	
If the total PHQ-2 score is 3 or greater, complete the PHQ-9.	
3. Was the PHQ-2 section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions

Patient Health Question-9 (PHQ-9) **For participants who scored 3 or greater total points on the PHQ-2 complete this section.**	
Ask the participant: "*Over the past two weeks, how often have you been bothered by any of the following problems?*"	
1. Trouble falling asleep, staying asleep, or sleeping too much	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
2. Feeling tired or having little energy	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
3. Poor appetite or overeating	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
4. Feeling bad about yourself, feeling that you are a failure, or feeling that you have let yourself or your family down	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
5. Trouble concentrating on things, such as reading the newspaper or watching television	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
6. Moving or speaking so slowly that other people could have noticed. Or, the opposite - being so fidgety or restless that you have been moving around a lot more than usual.	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
7. Thoughts that you would be better off dead or of hurting yourself in some way	☐ 0-Not at all ☐ 1-Several Days ☐ 2-Over Half of the Days ☐ 3-Nearly Every Day
Total Score:	
Scoring: Take the total score from PHQ-2 and add to the sum of the additional questions in the PHQ-9. **0-4 = minimal depression, 5-9 = mild, 10-14 = moderate, 15-19 = moderately severe, 20-27 = severe**	
8. Was the PHQ-9 section completed in full?	☐ Yes – section completed in full ☐ No – not yet completed ☐ No – participant refused to answer one or more questions ☐ Not applicable

Assessment Status	
1. If the IWISH health and wellness assessment was not completed in full, please indicate the reason(s) why. (select all that apply)	☐ Participant declined to complete one or more sections ☐ Participant did not respond to at least three attempts to contact ☐ Participant declined to complete because has completed an assessment with another program ☐ Other reason

Appendix B: Supplemental Tables

The tables in this appendix provide detailed descriptions and comparison of the baseline characteristics of the demonstration's treatment and control groups and analysis of statistically significant differences between the two groups. In assessing statistical significance, we use two-sample *t*-tests and calculated adjusted *p*-values that correct for multiple hypothesis tests and thus decrease the likelihood of observing statistically significant differences between the treatment and control groups only to chance. We use the Benjamini-Hochberg Procedure (Glickman, Rao, and Schultz, 2014) to calculate the adjusted *p*-values. The *p*-values presented in the table are unadjusted. We use an asterisk to designate those *p*-values that meet the threshold equivalent to a 5-percent level of statistical significance after adjustment to correct for multiple hypothesis tests, however. A *p*-value that is less than 0.05 but does not have an asterisk indicates that the difference was statistically significant before adjustment but not after adjustment.

Supplemental Tables for Section 3.1

Exhibit B-1 describes the average baseline demographic, socioeconomic, and housing characteristics of the treatment group in September 2017 based on HUD Tenant Rental Assistance Certification System (TRACS) data, including standard deviations and percentile values range for continuous variables.

Exhibit B-1. Baseline Demographic, Socioeconomic, and Housing Characteristics of Treatment Sample

Variable	Percentage / Mean	Standard Deviation[a]	25th Percentile[a]	50th Percentile[a]	75th Percentile[a]
Households by size category					
One-person households	81.9%				
Two-person households	17.9%				
Three- or more person households	0.2%				
Age at baseline (years)[b]	75.9	9.6	69.7	75.8	82.3
Age at move-in (years)	68.5	8.9	64.3	67.9	73.5
Length of stay (years)[c]	7.4	6.2	2.6	5.7	10.9
Residents by age category[b]					
Less than 62	4.0%				
Age 62–64	4.1%				
Age 65–74	38.7%				
Age 75–84	36.4%				
Age 85+	16.8%				
Residents by gender					
Male	30.7%				
Female	69.3%				
Residents by race					
White	49.4%				
African American	25.9%				
Asian or Pacific Islander	17.6%				
Other race	3.2%				
Unknown race	4.5%				
Residents by ethnicity					
Hispanic	13.4%				
Non-Hispanic	86.6%				
Annual household income	$13,972	$5,732	$10,524	$12,179	$17,328
Tenant rent as a percentage of income[d]	27.7%	4.5	26.6%	28.2%	30.0%

[a] Standard deviations and percentiles are shown for continuous variables only.
[b] Age calculated as of October 1, 2017.
[c] Duration of stay from move-in date until October 1, 2017.
[d] Calculated as tenant rent as a percentage of adjusted income and capped at 100 percent.
Note: *N* = 4,274 individuals in 40 IWISH properties.
Sources: HUD TRACS data, September 2017 extract

Exhibit B-2 uses information available in HUD TRACS data from September 2017 and two-sample *t*-tests to compare demographic, socioeconomic, and housing characteristics of the treatment and control groups. The differences in the proportions of residents in treatment and control properties aged 65 to 74 and aged 85 and older were statistically significant at the 5-percent level before correcting for multiple comparisons. No significant differences existed between the treatment and control groups after making the adjustments.

Exhibit B-2. Demographic, Socioeconomic, and Housing Characteristics

	Treatment Group (*n* = 4,274)		Control Group (*n* = 9,970)			
Variable	Percentage / Mean	Standard Deviation[a]	Percentage / Mean	Standard Deviation[a]	Difference	*p*-Value[e,f]
Households by size category						
One-person households	81.9%		77.1%		0.048	0.116
Two-person households	17.9%		22.7%		−0.049	0.114
Three- or more person households	0.2%		0.2%		0.000	0.840
Residents by age category[b]						
Less than 62	4.0%		4.4%		−0.004	0.691
Age 62–64	4.1%		4.2%		−0.001	0.875
Age 65–74	38.7%		33.9%		0.048	0.049
Age 75–84	36.4%		36.4%		0.001	0.980
Age 85+	16.8%		21.2%		−0.044	0.019
Age at baseline (years)[b]	75.9	9.6	77.0	9.8	−1.033	0.129
Age at move-in (years)	68.5	8.9	69.1	9.2	−0.573	0.254
Length of stay (years)[c]	7.4	6.2	7.9	6.5	−0.460	0.366
Annual household income	$13,972	$5,732	$14,591	$6,832	$618.491	0.228
Residents by gender						
Male	30.7%		30.9%		−0.004	0.828
Female	69.3%		69.1%		0.002	0.919
Residents by race						
White	49.4%		50.4%		−0.010	0.884
African American	25.9%		22.0%		0.039	0.540
Asian or Pacific Islander	17.6%		20.8%		−0.032	0.611
Other race	3.2%		3.9%		−0.007	0.497
Unknown race	4.5%		3.7%		0.009	0.463
Residents by ethnicity						
Hispanic	13.4%		12.1%		0.013	0.772
Non-Hispanic	86.6%		87.9%		−0.013	0.772
Rent burden[d]	27.7	4.5	27.3	5.5	0.486	0.418

[a] Standard deviations are shown for continuous variables only.
[b] Age calculated as of October 1, 2017.
[c] Duration of stay from move-in date until October 1, 2017.
[d] Rent burden is calculated as tenant rent as a percentage of adjusted income and capped at 100 percent.
[e] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and cluster-robust standard errors.
[f] Using the Benjamini-Hochberg correction for multiple testing, *p*-values < 0.002 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison. None of the comparisons met these thresholds for statistical significance.
Notes: The treatment group is 4,274 residents in 40 properties. The control group is 9,970 residents in 84 properties.
Sources: HUD TRACS data, September 2017 extract

Supplemental Tables for Section 3.2

Exhibit B-3 compares the demographic, socioeconomic, and housing characteristics of the 2,123 residents in the IWISH Medicare fee-for-service (FFS) sample to those of the remainder of the 4,274 residents in the treatment group (that is, the 2,151 treatment group members not in the IWISH Medicare FFS sample).

Although by the end of the study we will have obtained Medicare managed care data and Medicaid data for all residents at IWISH and control properties, the IWISH Medicare FFS sample described in this report is only one-half of the overall sample of HUD-assisted residents of treatment group properties. If we observed any substantial differences between these two treatment group subgroups, then our descriptions of the IWISH residents in Section 3.2 may not generalize to the overall treatment group that we will analyze at the end of the study (after we obtain Medicare managed care data and Medicaid data for all individuals at IWISH and control properties). In general, the IWISH Medicare FFS sample is likely to be a good representation of the overall treatment group.

On average, the IWISH Medicare FFS sample is somewhat younger than the remainder of the treatment group at baseline, and therefore the sample were somewhat younger when they moved in. They also had somewhat longer tenure at their property. There were no other differences, however, between the two subgroups statistically significant at the 5-percent level after we adjusted the *p*-values for multiple comparisons.

Exhibit B-3. Characteristics of IWISH Medicare FFS Sample Compared to Treatment Group Members Not in IWISH Medicare FFS sample

	IWISH Medicare FFS Sample (*n* = 2,123)		Treatment Group Not in IWISH Medicare FFS Sample (*n* = 2,151)			
Variable	Percentage / Mean	Standard Deviation[a]	Percentage / Mean	Standard Deviation[a]	Difference	*p*-Value[e,f]
Households by size category						
One-person households	84.27%		79.59%		0.05	0.031
Two-person households	15.64%		20.08%		−0.04	0.040
Three- or more person households	0.09%		0.33%		0.00	0.251
Residents by age category[b]						
Less than 62	1.98%		6.00%		−0.04	<0.001*
Age 62–64	1.88%		6.28%		−0.04	<0.001*
Age 65–74	37.97%		39.38%		−0.01	0.596
Age 75–84	39.00%		33.89%		0.05	0.009
Age 85+	19.17%		14.46%		0.05	0.009
Age at baseline (years)[b]	77.16	8.57	74.74	10.46	2.42	<0.001*
Age at move-in (years)	69.14	7.75	67.92	9.90	1.23	0.001*
Length of stay (years)[c]	8.02	6.39	6.82	5.99	1.20	0.001*
Annual household income	$14,404	$5,514	$13,547	$5,909	$856.46	0.018
Residents by gender						
Male	29.44%		31.99%		−0.03	0.103
Female	70.56%		68.01%		0.03	0.135
Residents by race						
White	52.38%		46.40%		0.06	0.177
African American	23.13%		28.54%		−0.05	0.071
Asian or Pacific Islander	18.28%		17.02%		0.01	0.750
Other race	2.73%		3.63%		−0.01	0.205
Unknown race	4.10%		4.97%		−0.01	0.327
Residents by ethnicity						
Hispanic	10.44%		16.32%		−0.06	0.024
Non-Hispanic	89.56%		83.68%		0.06	0.024
Rent burden[d]	27.72	3.68	27.75	5.14	−0.03	0.919

[a] Standard deviations are shown for continuous variables only.
[b] Age calculated as of October 1, 2017.
[c] Duration of stay from move-in date until October 1, 2017.
[d] Rent burden is calculated as tenant rent as a percentage of adjusted income and capped at 100 percent.
[e] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and cluster-robust standard errors.
[f] Using the Benjamini-Hochberg correction for multiple testing, *p*-values < 0.002 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison.
* Met threshold for statistical significance.
Sources: HUD TRACS data, September 2017 extract

Exhibit B-4 compares the demographic characteristics and Medicare and Medicaid eligibility of the treatment and control groups in September 2017 using two-sample *t*-tests and information available in the Medicare administrative data. The 5,060 residents in the "control group Medicare FFS sample" are the residents of the 84 properties in the demonstration subjected to the same inclusion criteria for the IWISH Medicare FFS sample (see chapter 3, Section 3.2). After we adjusted the *p*-values to correct for multiple hypothesis tests, the differences in the proportions of residents age 65 to 74 and age 85 and older were statistically significant at the 5-percent level, as was the proportion of residents who identified as other race.

The average number of consecutive months enrolled in Medicare Parts A and B and not in Medicare managed care (the length of residents' baseline periods) was statistically different across the treatment and control groups, but the difference in the average number of months was negligible (22.2 versus 22.6 months). Again, by the end of the study we will have obtained Medicare managed care data for all individuals in the treatment and control groups and restricting the sample based on managed care coverage will not be necessary. The average number of baseline months that residents were dually eligible for both Medicare and Medicaid were also statistically different across the treatment and control groups (20.4 versus 21.2 months). This difference is not concerning, however, as (1) Medicare is the primary payer for health care for dually eligible and Medicare-only beneficiaries; (2) by the end of the study we will have obtained Medicaid data on all Medicaid-only and dually eligible residents; and (3) the treatment and control groups are otherwise homogenous.

Exhibit B-4. Baseline Demographic Characteristics and Medicare Eligibility for IWISH Medicare FFS Sample and Control Group Medicare FFS Sample

	IWISH Medicare FFS Sample (*n* = 2,123)		Control Medicare FFS Sample (*n* = 5,060)			
Variable	Percentage / Mean	Standard Deviation[a]	Percentage/ Mean	Standard Deviation[a]	Difference	*p*-Value[b,c]
Age category						
Less than 62	1.8%		2.6%		−0.8%	0.028
Age 62–64	1.7%		1.8%		−0.1%	0.675
Age 65–74	37.0%		31.2%		5.8%	<0.001*
Age 75–84	39.2%		38.0%		1.2%	0.325
Age 85+	20.3%		26.3%		−6.1%	<0.001*
Gender						
Male	29.3%		28.2%		1.2%	0.319
Residents by race and ethnicity						
White	51.8%		52.3%		−0.6%	0.667
African American	24.1%		21.6%		2.5%	0.022
Hispanic	3.7%		3.0%		0.7%	0.145
Asian and Pacific Islander	16.3%		17.2%		−0.9%	0.349
Other race	2.1%		3.2%		−1.1%	0.005*
Unknown race	2.2%		2.8%		−0.6%	0.103
Number of months continuously enrolled in Parts A and B and not Medicare managed care during the baseline period	22.2	4.8	22.6	4.4	−0.36	0.003*
Ever dually eligible for Medicaid and Medicare during the baseline period	74.8%		72.6%		2.2%	0.052
Number of months that residents who were ever dually eligible for Medicaid and Medicare during the baseline period were dually eligible	20.4	6.6	21.2	6.0	−0.73	<0.001*
Proportion of months that residents who were ever dually eligible for Medicaid and Medicare during the baseline period were dually eligible	93.5%	19.8	94.8%	17.3	−1.34%	0.020
Original reason for Medicare entitlement was disability	21.7%		21.3%		0.4%	0.716
Current reason for Medicare entitlement is age (65 or older)	96.5%		95.6%		0.9%	0.065

FFS = fee-for-service.
[a] Standard deviations are shown for continuous variables only.
[b] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and robust standard errors.
[c] Using the Benjamini-Hochberg correction for multiple testing, *p*-values < 0.005 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison.
* Met threshold for statistical significance.
Sources: Centers for Medicare & Medicaid Services Medicare enrollment records and fee-for-service claims, October 2015–September 2017

Exhibit B-5 compares the prevalence of 60 common chronic conditions or potentially disabling conditions in the treatment and control groups, identified using Medicare administrative data for 2016–17 and algorithms defined by the Chronic Conditions Warehouse (www.ccwdata.org). We coded each resident as having a condition if he or she was identified in the data as *having ever met the algorithm criteria since they first enrolled in Medicare* (call these "historically" diagnosed conditions). After we adjusted the *p*-values to correct for multiple hypothesis tests, there were differences in the prevalence of five conditions that were statistically significant at the 5-percent level: hyperlipidemia (that is, high cholesterol), cataracts, osteoporosis, glaucoma, and deafness and other hearing impairments. The prevalence of each condition was 4 to 5 percentage points lower in the IWISH Medicare FFS sample than in the control group.

Exhibit B-5. Chronic or Potentially Disabling Conditions for IWISH Medicare FFS Sample and Control Group Medicare FFS Sample at Baseline, Diagnosed at Any Time During or Before the Baseline Period

	IWISH Medicare FFS Sample (*n* = 2,123)	Control Medicare FFS Sample (*n* = 5,060)		
Condition	Percentage	Percentage	Difference	*p*-Value[a,b]
Hypertension (high blood pressure)	88.0	89.7	– 1.7	0.042
Hyperlipidemia (high cholesterol)	82.1	86.7	– 4.6	<0.001*
Anemia	71.1	71.7	– 0.7	0.572
Rheumatoid arthritis / osteoarthritis	70.4	73.0	– 2.5	0.030
Cataract	67.7	72.2	– 4.4	<0.001*
Ischemic heart disease (coronary artery disease)	61.3	60.9	0.3	0.792
Diabetes	59.3	57.3	2.0	0.119
Benign prostatic hyperplasia (enlarged prostate), males	57.1	58.6	– 1.4	0.552
Depression	47.6	48.4	– 0.8	0.523
Chronic kidney disease	45.8	47.2	– 1.3	0.305
Fibromyalgia, chronic pain and fatigue	42.0	43.2	– 1.2	0.362
Pulmonary vascular disease	41.7	42.9	– 1.3	0.324
Congestive heart failure	40.4	41.2	– 0.8	0.513
Chronic obstructive pulmonary disease (COPD)	39.5	38.1	1.4	0.268
Acquired hypothyroidism (underactive thyroid gland)	35.9	34.7	1.2	0.329
Anxiety	34.7	34.8	– 0.1	0.918
Obesity	34.0	34.3	– 0.3	0.807
Osteoporosis	33.2	37.2	– 4.0	0.001*
Glaucoma	32.9	36.5	– 3.6	0.003*
Alzheimer's disease and related disorders or senile dementia	25.3	26.7	– 1.4	0.227
Asthma	25.2	23.6	1.6	0.152
Stroke / transient ischemic attack	19.1	21.0	– 2.0	0.058
Deafness and hearing impairment	18.6	22.7	– 4.2	<0.001*
Tobacco use	17.9	16.4	1.5	0.129
Liver diseases, cirrhosis, and other liver conditions	16.6	16.5	0.1	0.880
Atrial fibrillation (irregular heartbeat)	15.8	16.9	– 1.1	0.252
Prostate cancer, males	13.5	14.7	– 1.2	0.454
Pressure and chronic ulcers	12.0	13.5	– 1.5	0.076
Mobility impairments	8.9	9.0	0.0	0.954
Breast cancer, females	8.4	9.9	– 1.5	0.078
Migraine and chronic headache	8.3	8.2	0.1	0.901
Bipolar disorder	7.5	6.7	0.8	0.251
Schizophrenia and other psychotic disorders	7.5	6.7	0.8	0.239
Drug use disorder	6.6	6.9	– 0.3	0.671
Alcohol use disorder	5.7	5.9	– 0.2	0.763
Viral hepatitis	5.6	5.7	0.0	0.937

Condition	IWISH Medicare FFS Sample (*n* = 2,123) Percentage	Control Medicare FFS Sample (*n* = 5,060) Percentage	Difference	*p*-Value[a,b]
Acute myocardial infarction (heart attack)	5.5	5.8	– 0.4	0.537
Hip fracture	4.8	5.4	– 0.6	0.294
Epilepsy	4.1	4.8	– 0.6	0.226
Colorectal cancer	3.9	3.9	0.0	0.982
Visual impairment	3.9	3.9	0.0	0.982
Opioid use disorder	3.8	4.0	– 0.2	0.723
Personality disorders	2.7	2.9	– 0.2	0.571
Cystic fibrosis and other metabolic developmental disorders	2.2	2.4	– 0.1	0.719
Lung cancer	2.0	2.3	– 0.3	0.440
Spinal cord injury	2.0	1.9	0.1	0.735
Leukemias and lymphoma	1.8	2.3	– 0.5	0.170
Post-traumatic stress disorder	1.7	2.2	– 0.5	0.164
Endometrial cancer, females	1.6	1.8	– 0.2	0.630
Traumatic brain injury and nonpsychotic mental disorders due to brain damage	1.5	1.6	– 0.2	0.568
Multiple sclerosis and transverse myelitis	0.9	0.9	0.1	0.769
ADHD, conduct disorders, and hyperkinetic syndrome	0.8	1.1	– 0.3	0.262
Human immunodeficiency virus and/or acquired immunodeficiency syndrome (HIV/AIDS)	0.8	0.6	0.2	0.398
Intellectual disabilities and related conditions	0.6	0.7	– 0.1	0.699
Cerebral palsy	0.6	0.5	0.1	0.631
Learning disabilities	0.3	0.3	0.0	0.966
Other developmental delays	0.3	0.2	0.1	0.623
Spina bifida, other congenital anomalies of the nervous system	0.3	0.6	– 0.3	0.064
Muscular dystrophy	0.2	0.2	0.0	0.782
Autism spectrum disorders	0.0	0.1	0.0	0.834

FFS = fee-for-service.

[a] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and robust standard errors.

[b] Using the Benjamini-Hochberg correction for multiple testing, *p*-values <0.003 are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison.

* Met threshold for statistical significance.

Notes: A resident was coded as having a condition if he or she was identified in the data as having ever met the algorithm criteria since they first enrolled in Medicare. The earliest possible date for first meeting the algorithm criteria is January 1, 1999. If the beneficiary became eligible for Medicare after that, the earliest possible date will be sometime after his/her coverage start date. *N*=4,274 residents (623 men, 1,500 women).

The algorithms used to assign the flags are available from the https://www.ccwdata.org/web/guest/condition-categories.

Sources: Centers for Medicare & Medicaid Services (CMS) Medicare Beneficiary Summary Files: Chronic Conditions Segment, 2016–2017; CMS Medicare Beneficiary Summary Files: Other Chronic or Potentially Disabling Conditions Segment, 2016–2017

Exhibit B-6 compares the prevalence of the same common chronic conditions or potentially disabling conditions in the treatment and control groups, but each resident is coded as having a condition if he or she was identified in the data as *having met the algorithm criteria only during 2016 or 2017* (call these "actively treated" conditions).[38] If a resident is flagged as ever having a chronic condition (contributing to its prevalence in Exhibit B-5) but not flagged as having the chronic condition in 2016 or 2017 then the resident's condition was probably treated successfully prior to the start of the demonstration and it may not be an important determinant of his or her healthcare utilization under the IWISH model. After we adjusted the *p*-values to correct for multiple hypothesis tests, there were no statistically significant differences (at the 5-percent level) in the prevalence of actively treated conditions.

Such small differences between the two groups in the prevalence of few specific chronic or disabling conditions, diagnosed during or before the baseline period and thus not necessarily being actively treated, will likely have a negligible effect on the estimated impact of healthcare utilization rates should these differences persist after we obtain additional data and expand the sample to include all residents in the IWISH and control groups. In either case, however, we can control for the presence of any conditions that could affect rates of healthcare utilization using multiple linear regression to estimate the difference in mean utilization rates between the treatment and control groups.

Exhibit B-6. Chronic or Potentially Disabling Conditions for IWISH Medicare FFS Sample and Control Group Medicare FFS Sample at Baseline, Based on Diagnoses on Medicare Claims in 2016 or 2017

	IWISH Medicare FFS Sample	Control Medicare FFS Sample		
Condition	Percentage	Percentage	Difference	*p*-Value[a,b]
Hypertension (high blood pressure)	80.8	82.2	– 1.4	0.171
Hyperlipidemia (high cholesterol)	63.6	68.0	– 4.4	0.001
Rheumatoid arthritis / osteoarthritis	55.3	55.0	0.3	0.805
Diabetes	46.7	44.8	1.8	0.181
Anemia	44.8	44.9	– 0.1	0.938
Ischemic heart disease (coronary artery disease)	43.1	42.5	0.6	0.682
Chronic kidney disease	38.4	40.3	– 1.8	0.174
Benign prostatic hyperplasia (enlarged prostate), males	36.8	37.9	– 1.2	0.630
Pulmonary vascular disease	31.1	31.6	– 0.6	0.653
Fibromyalgia, chronic pain and fatigue	31.0	30.6	0.4	0.772
Depression	30.9	30.0	0.9	0.444
Obesity	27.2	26.2	1.0	0.425
Congestive heart failure	25.5	27.8	– 2.3	0.062
Anxiety	24.8	24.3	0.5	0.693
Cataract	24.4	27.1	– 2.7	0.018
Chronic obstructive pulmonary disease (COPD)	23.8	22.0	1.8	0.110
Acquired hypothyroidism (underactive thyroid gland)	21.9	22.0	– 0.1	0.898
Alzheimer's disease and related disorders or senile dementia	20.4	21.4	– 0.9	0.429
Glaucoma	15.9	18.2	– 2.3	0.021
Osteoporosis	15.6	17.4	– 1.8	0.060
Deafness and hearing impairment	12.0	12.7	– 0.7	0.454
Asthma	12.0	11.6	0.5	0.581
Atrial fibrillation (irregular heartbeat)	11.7	12.5	– 0.7	0.384

[38] We also limited the IWISH Medicare sample to those residents with full or near full coverage in calendar years 2016 or 2017 and coded each individual as having a condition if he or she was identified in the data as having ever met the algorithm's diagnoses criteria based on claims in 2016 or 2017. *Full or near full coverage* is defined as 11 or 12 months of Medicare Parts A and B coverage (or coverage until death) in 2016 or 2017, and less than 1 month of managed care coverage.

Condition	IWISH Medicare FFS Sample Percentage	Control Medicare FFS Sample Percentage	Difference	*p*-Value[a,b]
Tobacco use	10.6	10.1	0.5	0.534
Prostate cancer, males	9.6	9.6	0.0	0.973
Liver diseases, cirrhosis, and other liver conditions	7.5	7.4	0.2	0.828
Pressure and chronic ulcers	7.2	8.3	– 1.1	0.130
Stroke / transient ischemic attack	6.8	8.2	– 1.3	0.051
Breast cancer, females	6.6	7.3	– 0.7	0.393
Bipolar disorder	5.5	4.3	1.1	0.064
Mobility impairments	5.4	5.4	0.0	0.969
Schizophrenia and other psychotic disorders	4.3	3.8	0.5	0.401
Migraine and chronic headache	4.3	3.8	0.4	0.424
Drug use disorder	4.1	4.1	0.0	0.942
Viral hepatitis	3.3	3.7	– 0.4	0.382
Alcohol use disorder	3.1	3.1	0.0	0.956
Opioid use disorder	2.7	2.9	– 0.2	0.659
Epilepsy	2.5	3.0	– 0.5	0.245
Visual impairment	2.3	2.2	0.1	0.784
Hip fracture	2.1	2.3	– 0.2	0.541
Colorectal cancer	2.1	2.2	0.0	0.915
Lung cancer	1.8	1.8	0.1	0.877
Acute myocardial infarction (heart attack)	1.8	1.8	0.0	0.965
Leukemias and lymphoma	1.7	1.9	– 0.2	0.674
Personality disorders	1.5	2.0	– 0.5	0.155
Spinal cord injury	1.4	1.2	0.2	0.526
Cystic fibrosis and other metabolic developmental disorders	1.2	1.1	0.1	0.728
Endometrial cancer, females	1.0	0.9	0.1	0.762
Post-traumatic stress disorder	0.9	1.5	– 0.6	0.046
Multiple sclerosis and transverse myelitis	0.9	0.5	0.3	0.158
Cerebral palsy	0.5	0.3	0.2	0.262
ADHD, conduct disorders, and hyperkinetic syndrome	0.5	0.7	– 0.2	0.293
Human immunodeficiency virus and/or acquired immunodeficiency syndrome (HIV/AIDS)	0.5	0.4	0.1	0.450
Traumatic brain injury and nonpsychotic mental disorders due to brain damage	0.4	0.8	– 0.5	0.021
Intellectual disabilities and related conditions	0.3	0.4	– 0.1	0.574
Learning disabilities	0.3	0.3	0.0	0.804
Other developmental delays	0.1	0.0	0.1	0.278
Spina bifida, other congenital anomalies of the nervous system	0.1	0.2	– 0.1	0.282
Autism spectrum disorders	0.1	0.0	0.0	0.581
Muscular dystrophy	0.1	0.0	0.0	0.869

ADHD = attention deficit hyperactivity disorder. FFS = fee-for-service.

[a] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and robust standard errors.

[b] Using the Benjamini-Hochberg correction for multiple testing, none of the comparisons are statistically significant based on a 5-percent threshold for the statistical significance of a single comparison.

Notes: The IWISH Medicare FFS sample was restricted to residents with full or near full coverage in calendar years 2016 or 2017. Full or near full coverage is defined as 11 or 12 months of Medicare Parts A and B coverage (or coverage until death) in 2016 or 2017, and less than 1 month of managed care coverage. Each individual was coded as having a condition if he or she was identified in the data as having ever met the algorithm's criteria based on claims in 2016 or 2017.

Only women are included in the denominator for endometrial and female breast cancer; only males are included for prostate cancer and enlarged prostate. Beneficiaries may be counted in more than one chronic condition category. The denominator varies across conditions, depending if the algorithm criteria requires a 1-year or 2-year lookback in claims: N=2,036 residents (582 men, 1,454 women) for 1-year lookbacks, N=1,844 residents for 2-year lookbacks.

The algorithms used to assign the flags are available from the https://www.ccwdata.org/web/guest/condition-categories.

Sources: Centers for Medicare & Medicaid Services (CMS) Medicare Beneficiary Summary Files: Chronic Conditions Segment, 2016–2017; CMS Medicare Beneficiary Summary Files: Other Chronic or Potentially Disabling Conditions Segment, 2016–2017

Exhibit B-7 examines whether the 60 chronic and potentially disabling conditions are more or less prevalent in the IWISH Medicare FFS sample, among whom approximately three-fourths are dually eligible for both Medicare and Medicaid, than in a nationally representative sample of FFS Medicare beneficiaries in 2016, among whom approximately one-fifth were dually eligible (CMS Medicare-Medicaid Coordination Office, 2018). The denominator for the national sample includes all Medicare beneficiaries enrolled in Medicare who had full or near full FFS coverage (that is, 11 or 12 months of Medicare Parts A and B coverage [or coverage until death] in 2016, and less than 1 month of managed care coverage). The numerator includes all residents identified in the data as having met the criteria of the Chronic Condition Warehouse's algorithm based on Medicare claims in 2016. The 2016 prevalence in the national sample was compared to the prevalence of each condition among the subgroup of residents in the IWISH sample that met these same criteria in 2017 (Chronic Conditions Data Warehouse, 2016).[39]

In general, the IWISH Medicare FFS sample with full FFS coverage in 2017 appears to have somewhat worse health or functional status than all Medicare beneficiaries with full FFS coverage in 2016. At baseline, the prevalence of 24 out of 59 chronic or potentially disabling conditions was 1 or more percentage points higher in the IWISH Medicare FFS sample than it was among all Medicare beneficiaries (opioid use disorders were not reported in the national data for 2016). Of those, the prevalence of the following eight conditions was more than 10 percentage points higher in the IWISH sample: hypertension, rheumatoid arthritis/osteoarthritis, diabetes, ischemic heart disease, anemia, chronic kidney disease, benign prostatic hyperplasia, and pulmonary vascular disease. The prevalence of 10 conditions was 5 to 9 percentage points higher among the IWISH sample: hyperlipidemia, fibromyalgia/chronic pain/fatigue, depression, obesity, heart failure, anxiety, chronic obstructive pulmonary disease, Alzheimer's disease/related disorders/senile dementia, glaucoma, and osteoporosis.

The prevalence of only 1 of 59 chronic or potentially disabling conditions was more than 1 percentage points *lower* in the IWISH Medicare FFS sample than in the overall Medicare FFS population: cataract.

[39] We compared to 2017 because that is the most recent year for which we have a full year of data at this point in the study.

Exhibit B-7. Comparison of Chronic or Potentially Disabling Conditions Among Individuals in the IWISH Medicare FFS Sample with Full or Near Full FFS Medicare Coverage in 2017 and the National Medicare Population with Full or Near Full FFS Medicare Coverage in 2016

Condition	Percentage of IWISH Medicare FFS Sample, 2017[a]	Percentage of All FFS Medicare Beneficiaries in U.S., 2016[a]
Hypertension (high blood pressure)	75	59
Hyperlipidemia (high cholesterol)	55	46
Rheumatoid arthritis / osteoarthritis	50	33
Diabetes	44	28
Ischemic heart disease (coronary artery disease)	38	28
Anemia	36	22
Chronic kidney disease	36	23
Benign prostatic hyperplasia (enlarged prostate), males	29	16
Pulmonary vascular disease	29	13
Fibromyalgia, chronic pain and fatigue	28	19
Depression	26	18
Obesity	24	15
Congestive heart failure	23	14
Anxiety	22	16
Chronic obstructive pulmonary disease (COPD)	20	12
Alzheimer's disease and related disorders or senile dementia	19	11
Acquired hypothyroidism (underactive thyroid gland)	18	16
Cataract	16	18
Glaucoma	13	7
Osteoporosis	12	6
Atrial fibrillation (irregular heartbeat)	10	9
Deafness and hearing impairment	9	5
Tobacco use	9	9
Asthma	9	5
Prostate cancer, males	8	7
Pressure and chronic ulcers	6	5
Liver diseases, cirrhosis, and other liver conditions	6	4
Breast cancer, females	6	6
Bipolar disorder	5	4
Stroke / transient ischemic attack	5	4
Mobility impairments	4	3
Schizophrenia and other psychotic disorders	4	2
Migraine and chronic headache	4	3
Drug use disorder	3	3
Viral hepatitis	3	1
Alcohol use disorder	3	2
Opioid use disorder	2	not calculated
Epilepsy	2	3
Colorectal cancer	2	1
Visual impairment	2	1
Lung cancer	2	1
Leukemias and lymphoma	2	2
Post-traumatic stress disorder	1	1

Condition	Percentage of IWISH Medicare FFS Sample, 2017[a]	Percentage of All FFS Medicare Beneficiaries in U.S., 2016[a]
Spinal cord injury	1	1
Hip fracture	1	1
Endometrial cancer, females	1	<0.5
Personality disorders	1	1
Cystic fibrosis and other metabolic developmental disorders	1	1
Acute myocardial infarction (heart attack)	1	1
Multiple sclerosis and transverse myelitis	1	1
Human immunodeficiency virus and/or acquired immunodeficiency syndrome (HIV/AIDS)	1	<0.5
ADHD, conduct disorders, and hyperkinetic syndrome	<0.5	1
Cerebral palsy	<0.5	<0.5
Learning disabilities	<0.5	<0.5
Traumatic brain injury and nonpsychotic mental disorders due to brain damage	<0.5	<0.5
Intellectual disabilities and related conditions	<0.5	1
Other developmental delays	<0.5	<0.5
Spina bifida, other congenital anomalies of the nervous system	<0.5	<0.5
Muscular dystrophy	<0.5	<0.5
Autism spectrum disorders	<0.5	<0.5

ADHD = attention deficit hyperactivity disorder. FFS = fee-for-service.

[a] The denominator varies across the conditions. For most measures the denominator is all residents enrolled in Medicare during 2016 (national sample) or 2017 (IWISH Medicare FFS sample) and had full or near full FFS coverage (that is, 11 or 12 months of Medicare Parts A and B [or coverage until time of death] and 1 month or less of managed care coverage). Only women are included in the denominator for endometrial and female breast cancer; only men are included for prostate cancer and enlarged prostate. Beneficiaries may be counted in more than one chronic condition category. The algorithms used to assign the flags are available from the https://www.ccwdata.org/web/guest/condition-categories. The prevalence of chronic conditions in the national Medicare population in 2016 were accessed August 12, 2019, at https://www.ccwdata.org/web/guest/medicare-charts/medicare-chronic-condition-charts and https://www.ccwdata.org/web/guest/medicare-charts/medicare-other-chronic-and-disabling-conditions.

Note: *N*=2,123 residents (623 men, 1,500 women).

Sources: Centers for Medicare & Medicaid Services, Medicare Beneficiary Summary Files: Chronic Conditions Segment, 2016–2017

Exhibit B-8 uses Medicare administrative data from the fourth quarter of 2015 through the third quarter of 2017 to compare the rates that residents in the treatment and control groups used health care during the baseline period, per calendar quarter. No statistically significant differences existed between the two groups before or after we adjusted the *p*-values to correct for multiple hypothesis tests. Thus, the experimental conditions of the demonstration appear to hold and the estimated differences in average healthcare utilization rates between the treatment and control groups at the end of the demonstration will be attributed to the IWISH model.

Exhibit B-8. Healthcare Utilization Rates for IWISH Medicare FFS Sample and Control Medicare FFS Sample at Baseline

	IWISH Medicare FFS Sample (*n* = 2,123)		Control Medicare FFS Sample (*n* = 5,060)			
Variable	Percentage / Mean	Standard Deviation[a]	Percentage / Mean	Standard Deviation	Difference	*p*-Value[b,c]
Number of unplanned hospital admissions, per quarter	0.08	0.19	0.08	0.19	−0.01	0.212
Number of days of unplanned hospitalization, per quarter	0.47	1.38	0.51	1.48	−0.04	0.302
Number of unplanned 30-day hospital readmissions	0.01	0.07	0.02	0.09	0.00	0.129
Number of all-cause emergency department visits not resulting in hospitalization, per quarter	0.15	0.30	0.16	0.32	−0.01	0.188
Number of days with one or more ambulance events for emergency or nonemergency medical transportation, per quarter	0.15	0.44	0.16	0.70	−0.02	0.201
Number of days with at least one primary care visit, per quarter	1.50	1.65	1.44	1.46	0.06	0.136
Number of days in the community, per quarter	89.44	5.84	89.41	5.56	0.03	0.845

FFS = fee-for-service.
[a] Residents' utilization rates are measured as the number of events or days per quarter—calculated as the ratio of the total number of events during the baseline period divided by the number of months the resident was continuously enrolled in Medicare Parts A and B and not in managed care prior to September 30, 2017, all multiplied by three.
[b] *p*-Values were calculated using estimates from regression of each variable on a treatment or control group indicator using individual-level data and robust standard errors.
[c] Based on the Benjamini-Hochberg correction for multiple testing, none of the *p*-values met the threshold for statistical significance at the 5-percent level.
Sources: Centers for Medicare & Medicaid Services, Medicare enrollment records and FFS claims, October 2015–September 2017

Appendix C: Telephone Survey

Introduction

Thank you very much for taking the time to speak with me. Abt Associates has been contracted by HUD to conduct an evaluation of the IWISH program. The evaluation will help HUD improve programs that provide housing and services for elderly people. We are speaking with Resident Wellness Directors at all the properties implementing the IWISH program.

Your participation in this interview is voluntary and you are free to skip any questions you do not wish to answer. The questions in the interview have been reviewed by the Office of Management and Budget (OMB) under the Paperwork Reduction Act of 1995. Public reporting burden for this information collection is estimated at up to 90 minutes per response, including preparation and followup. The OMB control number is 2528-0321, expiring 11/30/2021.

Today's call is the first of several conversations we'll have over the next two years. We expect today's call to take 45 minutes to an hour. The purpose of this call is to gather basic information about your property and the implementation of IWISH at your property. In subsequent interviews we will have an opportunity to delve more deeply into some of the challenges that you face in trying to support residents and your opinions on what is working well and what could be improved.

We will make every effort to protect your privacy in this study. The information we collect will be used for research purposes only, not for any audit or compliance purposes. We will be taking notes but will not be recording this call. Only members of the evaluation team will see your individual responses. Our reports to HUD will summarize all the results from the interviews and will not name individuals or properties.

There may be some questions you may not be able to answer or that are more appropriate for other staff. If you are unable to answer a question or would prefer not to answer, just let me know. You are free to skip any question you do not wish to answer.

Do you have any questions about the evaluation or today's discussion before we begin?

Respondent Background

I'd like to start by learning a little bit about your background with this property.

1. When did you start working at this property, either as the Resident Wellness Director or as a service coordinator?
   - ❑ MONTH/YEAR:_____
   - ❑ DON'T KNOW
   - ❑ REFUSED

2. Did you work as a service coordinator at another property before this one?
   - ❑ YES
   - ❑ NO → SKIP TO Q4
   - ❑ DON'T KNOW → SKIP TO Q4
   - ❑ REFUSED → SKIP TO Q4

3. For how many years did you work as a service coordinator at that property?
   - ❑ LESS THAN 1 YEAR
   - ❑ 1 YEAR TO UP TO 3 YEARS
   - ❑ 3 YEARS TO UP TO 5 YEARS
   - ❑ 5 YEARS OR MORE
   - ❑ DON'T KNOW
   - ❑ REFUSED

Property Characteristics

Next I'd like to learn about the residents of this property, starting with the languages spoken at the property and the level of English proficiency. We plan to conduct focus groups with residents later in the study and we want to plan for whether we will need to hold focus groups in languages other than English.

4. Can you estimate what percent of your residents have limited English proficiency? By limited English proficiency I mean, for example, that they would benefit from having an interpreter for a visit to a doctor who only speaks English or would need written materials translated into English. Would you say . . . (*Check one.*)

❑ Less than 10% have LEP	❑ 75% to 90% have LEP
❑ 10% to 25% have LEP	❑ More than 90% have LEP
❑ 25% to 50% have LEP	❑ DON'T KNOW
❑ 50% to 75% have LEP	❑ REFUSED

5. What languages do the residents with limited English proficiency speak? (*Check all that apply.*)

❑ SPANISH	❑ TAGALOG
❑ RUSSIAN	❑ VIETNAMESE
❑ CHINESE	❑ OTHER:_____
❑ KOREAN	❑ DON'T KNOW
❑ FRENCH CREOLE	❑ REFUSED

6. What is the most common language among the residents with limited English proficiency? (*Check one.*)

❑ SPANISH	❑ TAGALOG
❑ RUSSIAN	❑ VIETNAMESE
❑ CHINESE	❑ OTHER:_____
❑ KOREAN	❑ DON'T KNOW
❑ FRENCH CREOLE	❑ REFUSED

7. How do you accommodate residents with limited English proficiency? Do you… (*Check all that apply*.)
   - ❑ Have staff on the property who are proficient in the language(s)? If so, which staff and which languages:_____
   - ❑ Use professional interpreters
   - ❑ Use family or caregivers to help translate
   - ❑ Use other residents to help translate
   - ❑ Translate written materials. If so, which materials and which languages:_____
   - ❑ Some other method:_____
   - ❑ DON'T KNOW
   - ❑ REFUSED

Now I'd like to talk a little bit about the features of the property that may present a challenge to residents' ability to age in place. By aging in place I mean: "The ability to live in one's own home and community safely, independently, and comfortably, regardless of age, income, or ability level."

8. I'm going to read a list of features of the units, building, and grounds that could present a challenge for aging in place. For each one, I'd like you to tell me if it is an issue at this property.

	YES	NO	DK	REF
Living spaces too small to navigate with walker or wheelchair				
Inaccessible kitchen cabinets or appliances				
Inadequate or poorly placed electrical outlets in unit				
Accessibility issues in the bathroom				
No peepholes or closed circuit video for identifying visitors, or peepholes not at the right height for people in wheelchairs				
Uneven flooring in the units, halls, or common spaces				
Entryways or halls too small to navigate with walker or wheelchair				
Inadequate lighting in hallways or common spaces				
Not enough inside common spaces or recreational spaces				
Inaccessible or inadequate laundry facilities				
Inaccessible or inadequate elevators				
Inadequate exterior lighting				
Not enough outside common spaces				

9. Are there other features of the units, building, or ground that, in your view, present a challenge to aging in place?

	YES	NO	DK	REF
OTHER:_____				
OTHER:_____				
OTHER:_____				
OTHER:_____				

10. Thinking about the neighborhood or community where this property is located, I'd like to talk about possible features that present a challenge for aging in place. Again, I am going to read a list and you can tell me if you see this as an issue in this community.

	YES	NO	DK	REF
Lack of public transportation options				
No sidewalks or poorly maintained sidewalks				
Lack of safe walking routes				
Lack of access to nutritious food				
Area is isolated (e.g., not close to churches, shopping, etc.)				
Area is difficult for family and friends to get to for visits				
Lack of quality medical facilities in the community				
Lack of social services in the community				

11. Are there other features of the neighborhood or community that, in your view, present a challenge to your residents' aging in place?

	YES	NO	DK	REF
OTHER:_____				
OTHER:_____				
OTHER:_____				
OTHER:_____				

12. I'd like to understand a little bit more about how this property is staffed, other than the Resident Wellness Director(s) and Wellness Nurse(s). Can you walk me through the other people who work at the property, including who they work for, what they do, how often they are on site, and how often you meet with them, including informal meetings? (*Complete table with the respondent by walking through each person with them. One row for each person. Add rows as needed. Interviewer will provide table to respondents in advance.)*

Name	Title	Organization	Roles/Responsibilities	Hours per week on site	How often meet with
			❑ LEASING ❑ RENT COLLECTION ❑ JANITORIAL ❑ MAINTENANCE ❑ SUPERVISOR ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ _____HRS/WK ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ DAILY ❑ WEEKLY ❑ SEVERAL TIMES A MONTH ❑ MONTHLY ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED
			❑ LEASING ❑ RENT COLLECTION ❑ JANITORIAL ❑ MAINTENANCE ❑ SUPERVISOR ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ _____HRS/WK ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ DAILY ❑ WEEKLY ❑ SEVERAL TIMES A MONTH ❑ MONTHLY ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED

Name	Title	Organization	Roles/Responsibilities	Hours per week on site	How often meet with
			❑ LEASING ❑ RENT COLLECTION ❑ JANITORIAL ❑ MAINTENANCE ❑ SUPERVISOR ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ _____HRS/WK ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED	❑ DAILY ❑ WEEKLY ❑ SEVERAL TIMES A MONTH ❑ MONTHLY ❑ OTHER:_____ ❑ DON'T KNOW ❑ REFUSED

13. (*If not mentioned above*) Do you work with a service coordinator supervisor or quality assurance person, either on site or off-site?
    - ❑ YES
    - ❑ NO → SKIP TO Q15
    - ❑ DON'T KNOW → SKIP TO Q15
    - ❑ REFUSED → SKIP TO Q15

14. What organization does that person work for?
    - ❑ THE PROPERTY MANAGEMENT OR OWNER ORGANIZATION. NAME:_____
    - ❑ OTHER ORGANIZATION:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

Property's History with Service Coordination and Wellness Nurse

15. [IF RWD STARTED AT THE PROPERTY SEPTEMBER 2017 OR LATER] Did this property have a service coordinator before the IWISH program (that is, before September 2017)?
    - ❑ YES
    - ❑ NO → SKIP TO Q17
    - ❑ DON'T KNOW → SKIP TO Q17
    - ❑ REFUSED → SKIP TO Q17

16. How long had the service coordinator been working at the property?
    - ❑ LESS THAN 1 YEAR
    - ❑ 1 TO 3 YEARS
    - ❑ 3 TO 5 YEARS
    - ❑ 5 YEARS OR MORE
    - ❑ DON'T KNOW
    - ❑ REFUSED

17. Before the start of IWISH, did the property have a nurse or other healthcare practitioner who visited the property?
    - ❑ YES
    - ❑ NO → SKIP TO Q20
    - ❑ DON'T KNOW → SKIP TO Q20
    - ❑ REFUSED → SKIP TO Q20

18. Can you tell me what type of healthcare professional this person was, who employed them, how often they came on site, and for what purposes?

19. Did this person become the wellness nurse under IWISH?
    - ❑ YES
    - ❑ NO
    - ❑ DON'T KNOW
    - ❑ REFUSED

Resident Engagement and Assessment

Let's turn to your experiences with the IWISH program.

20. *[Ask only if RWD started before March 2018. Else start with Q22.]* First I'd like to learn more about the period before you were able to enroll residents, that is, from the time you were hired through late March 2018. What activities did you undertake during this period, before the start of enrollment, to make residents aware of the program? (*Allow respondent to answer. Do not read response categories. Only prompt if needed. Check all that apply*.)

	YES	NO	DK	REF
ONE ON ONE MEETINGS WITH RESIDENTS				
GROUP MEETINGS WITH RESIDENTS ABOUT IWISH				
COFFEE HOURS OR INFORMAL MEET AND GREETS				
TALKING ABOUT IWISH AT OTHER RESIDENT MEETINGS OR GATHERINGS				
LETTERS, MAILERS, OR WELCOME PACKET				
FLYERS OR POSTERS				
MEETINGS WITH RESIDENT ADVISORY GROUP OR RESIDENT "CHAMPIONS"				
RESIDENT SURVEY				
RAFFLES/INCENTIVES/PRIZES				
OTHER: _____				
OTHER: _____				
OTHER: _____				

- ❑ DON'T KNOW
- ❑ REFUSED

21. Have you tried any other types of outreach activities since enrollment started?
    - ❑ YES
    - ❑ NO → SKIP TO Q23
    - ❑ DON'T KNOW → SKIP TO Q23
    - ❑ REFUSED → SKIP TO Q23

22. What types of outreach activities did you do once enrollment was underway? *[Or, if RWD was not in place until after March 2018: What activities have you undertaken to encourage residents to*

participate in the IWISH program?] (*Allow respondent to answer. Do not read response categories. Only prompt if needed. Check all that apply.)*

	YES	NO	DK	REF
ONE ON ONE MEETINGS WITH RESIDENTS				
GROUP MEETINGS WITH RESIDENTS ABOUT IWISH				
COFFEE HOURS OR INFORMAL MEET AND GREETS				
TALKING ABOUT IWISH AT OTHER RESIDENT MEETINGS OR GATHERINGS				
LETTERS, MAILERS, OR WELCOME PACKET				
FLYERS OR POSTERS				
MEETINGS WITH RESIDENT ADVISORY GROUP OR RESIDENT "CHAMPIONS"				
RESIDENT SURVEY				
RAFFLES/INCENTIVES/PRIZES				
OTHER:_____				
OTHER: _____				
OTHER: _____				

- ❑ DON'T KNOW
- ❑ REFUSED

23. Can you estimate what percentage of all residents at the property you provide service coordination or other assistance to? This could include people enrolled in IWISH and other residents of the property who have not enrolled. (*If necessary, read response categories*.)

- ❑ 90% or more
- ❑ 75% to 89%
- ❑ 50% to 74%
- ❑ 25% to 49%
- ❑ 10% to 24%
- ❑ Fewer than 10%
- ❑ DON'T KNOW
- ❑ REFUSED

24. What percentage of the residents you assist are <u>not</u> enrolled in IWISH? (*If necessary, read response categories*.)

- ❑ 90% or more
- ❑ 75% to 89%
- ❑ 50% to 74%
- ❑ 25% to 49%
- ❑ 10% to 24%
- ❑ Fewer than 10%
- ❑ DON'T KNOW
- ❑ REFUSED

Programs for Residents

25. I'd like to develop a list of the programs or services offered to residents at the property to support the health and wellness of residents aged 62 and older. Please tell me about the different programs offered to residents, including programs and services that may be offered by outside partners. Please include programs that are paid for through IWISH funds as well as other programs. I'd like to know the program's name, generally what it does, who provides the program, whether it is provided on the property or in the community, and when you started offering the program. (*Interviewer will provide the table to respondents in advance of the interview.)*

    Note to interviewer: *Allow the interviewee to list programs first then probe for programs in the following areas (if not mentioned): vital signs clinics, nutrition, fitness, fall risk, medication management, mental health, cognitive health, support groups, transportation. Add more rows as needed.*

Program Name	Brief Description	Who Provides	Where Provided	When Started

- ❑ DON'T KNOW
- ❑ REFUSED

Partnerships

Now I'd like to get a list of the organizations that you partner with to help address residents' needs. Some of them might be the same organizations we just discussed who provide the programming and services. My goal today is just to get a list of the organizations that you see as partners. We'll spend more time talking about these partnerships when we meet with you again next year.

26. Please tell me about your partners, including the name of the partner, a very brief description of what the partner does, and when the partnership started. (*Interviewer will provide the table to respondents in advance of the interview.)*

    Note to interviewer: *Allow the interviewee to list partners first then probe for the following types of partners (if not mentioned):*

    - *Do you have any partnerships with hospitals, nursing homes, inpatient rehab facilities, or other healthcare facilities?*
    - *Do you have any partnerships with independent physicians or group practices or other community-based care providers?*

Partner Name	Brief description of what partner does	When did the partnership start?(MONTH/YEAR)

- ❑ DON'T KNOW
- ❑ REFUSED

27. Do individual volunteers play any role in delivering programming or services to residents? (*If asked: This can include resident volunteers as well as volunteers from the community.)*
    - ❑ YES
    - ❑ NO → SKIP TO Q30
    - ❑ DON'T KNOW → SKIP TO Q30
    - ❑ REFUSED → SKIP TO Q30

28. What role do the volunteers play in programming or services?
    - ❑ ROLE 1:_____
    - ❑ ROLE 2:_____
    - ❑ ROLE 3:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

29. Where do the individual volunteers come from? From a partner organization, a local church or synagogue, or something else?
    - ❑ PARTNER ORGANIZATION (NAME;_____)
    - ❑ CHURCH/SYNAGOGUE/FAITH COMMUNITY
    - ❑ RESIDENTS
    - ❑ OTHER: _____
    - ❑ DON'T KNOW
    - ❑ REFUSED

Population Health Logistics (PHL) System

Let's talk a little bit about the Population Health Logistics (or PHL) system.

30. How often do you go into the PHL system, either to enter data into the system or to look up information on a resident? (*Read response categories if needed.)*
    - ❑ DAILY → SKIP TO Q32
    - ❑ A FEW TIMES A WEEK → SKIP TO Q32
    - ❑ WEEKLY → SKIP TO Q32
    - ❑ A FEW TIMES A MONTH
    - ❑ MONTHLY
    - ❑ OTHER:_____
    - ❑ DON'T KNOW
    - ❑ REFUSE

31. [*If respondent uses PHL less often than weekly*] What are the reasons that you do not go into PHL more often? (*Check all that apply.)*
    - ❑ HARD TO LOG IN
    - ❑ CONNECTION IS SLOW / COMPUTER ISSUES
    - ❑ NOT AT MY COMPUTER VERY OFTEN
    - ❑ TOO BUSY WITH OTHER WORK
    - ❑ PREFER TO WORK ON PAPER FIRST THEN ENTER DATA
    - ❑ DON'T TRUST THE SYSTEM / PREFER PAPER FILES
    - ❑ USE ANOTHER SYSTEM THEN TRANSFER TO PHL
    - ❑ PHL IS NOT HELPFUL / DOESN'T CAPTURE INFORMATION THAT IS USEFUL TO ME
    - ❑ OTHER:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

32. Do you enter data into another system other than PHL? If yes, what is the name of the system?
    - ❑ YES (NAME OF SYSTEM:_____)
    - ❑ NO → SKIP TO Q34
    - ❑ DON'T KNOW → SKIP TO Q34
    - ❑ REFUSED → SKIP TO Q34

33. Which residents do you use this other system for? Do you use it for…?
    - ❑ IWISH participants
    - ❑ Residents not participating in IWISH
    - ❑ Both IWISH participants and residents not participating in IWISH
    - ❑ Some other group:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

IWISH Implementation Challenges

34. Which part(s) of your job as RWD have you found most rewarding? (*Do not read list. Check all that apply*.)
    - ❑ PERSON-CENTERED INTERVIEWS / GETTING TO KNOW RESIDENTS
    - ❑ INDIVIDUAL ASSESSMENTS
    - ❑ OTHER WORK WITH RESIDENTS
    - ❑ WORKING WITH THE WELLNESS NURSE
    - ❑ BRINGING IN PROGRAMMING
    - ❑ FORMING COMMUNITY PARTNERSHIPS
    - ❑ WORKING WITH PROPERTY MGT.
    - ❑ WORKING WITH THE SITE LIAISON
    - ❑ RECEIVING TRAINING AND TA
    - ❑ OTHER:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

35. What would you say has been your <u>biggest</u> challenge in your role as Resident Wellness Director? (*Do not read list. Check one*.)
    - ❑ HEAVIER WORKLOAD
    - ❑ NEW RESPONSIBILITIES
    - ❑ INTEGRATING IWISH INTO EXISTING WORK
    - ❑ WORKING WITH NEW STAFF
    - ❑ USING THE PHL
    - ❑ ENROLLING RESIDENTS
    - ❑ MOTIVATING RESIDENTS
    - ❑ DEVELOPING PARTNERSHIPS
    - ❑ IHAP
    - ❑ CHAP
    - ❑ WORKING WITH PROPERTY MGT.
    - ❑ OTHER:_____
    - ❑ DON'T KNOW
    - ❑ REFUSED

- ❑ COMPLETING INDIVIDUAL ASSESSMENTS

36. What <u>other</u> challenges have you experienced as Resident Wellness Director? (*Do not read list. Check all that apply*.)

- ❑ HEAVIER WORKLOAD
- ❑ NEW RESPONSIBILITIES
- ❑ INTEGRATING IWISH INTO EXISTING WORK
- ❑ WORKING WITH NEW STAFF
- ❑ USING THE PHL
- ❑ ENROLLING RESIDENTS
- ❑ COMPLETING INDIVIDUAL ASSESSMENTS
- ❑ MOTIVATING RESIDENTS
- ❑ DEVELOPING PARTNERSHIPS
- ❑ IHAP
- ❑ CHAP
- ❑ WORKING WITH PROPERTY MGT.
- ❑ OTHER:_____
- ❑ DON'T KNOW
- ❑ REFUSED

Thank you very much for your time today. We look forward to coming on site to meet with you and the other staff next year. We will be back in touch with you in early 2019. Before we end, do you have any final comments or questions for me?

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[40] These statistics have been updated by the CCW since the original draft of this report was submitted, and previous charts have not been archived online. However, analogous statistics for 2018, accessed July 30, 2020, can be found at https://www2.ccwdata.org/web/guest/medicare-charts/medicare-chronic-condition-charts and https://www2.ccwdata.org/web/guest/medicare-charts/medicare-other-chronic-and-disabling-conditions.

[41] This brief has been updated by CMS since the original draft of this report was submitted, and the prior version has not been archived online. However, an analogous brief for 2006-2018, accessed July 30, 2020, can be found at https://www.cms.gov/Medicare-Medicaid-Coordination/Medicare-and-Medicaid-Coordination/Medicare-Medicaid-Coordination-Office/DataStatisticalResources/Downloads/MedicareMedicaidDualEnrollmentEverEnrolledTrendsDataBrief2006-2018.pdf.

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