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An Initial Evaluation of the Weinberg Center for Elder Justice's Shelter Model for Elder Abuse and Mistreatment



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Preface

Elder abuse or mistreatment (EM)—which includes psychological, physical, and sexual abuse; neglect; and financial exploitation of older adults—is a widespread problem that can have devastating consequences. People subjected to EM are more likely to experience depression, cognitive decline, reduced quality of life, and premature mortality. Individuals experiencing EM often need a variety of interventions to restore health, recover from trauma, resolve or recoup financial losses, separate from their abusers, and relocate to new housing.

This report presents an evaluation of the nation’s first elder-specific shelter—the Harry and Jeanette Weinberg Center for Elder Justice, which is part of the Hebrew Home at Riverdale. Located in the Bronx, New York, the Hebrew Home is a nonprofit residential health care facility with 560 beds, part of a continuum of care community that provides a full spectrum of health care, home care, and housing on a nonsectarian basis.

This initial evaluation seeks to shed light on a model that aims to benefit the growing number of older victims of abuse and also might have wider societal benefits. Specifically, this evaluation describes the Weinberg Center’s shelter model, examines some of the more important outcomes for Weinberg Center clients, and begins to quantify some of the costs and benefits, including potential cost savings, of the model for individuals experiencing EM, public payers, and society.

Social and Behavioral Policy Program

RAND Social and Economic Well-Being is a division of the RAND Corporation that seeks to actively improve the health and social and economic well-being of populations and communities throughout the world. This research was conducted in the Social and Behavioral Policy Program within RAND Social and Economic Well-Being. The program focuses on such topics as risk factors and prevention programs, social safety net programs and other social supports, poverty, aging, disability, child and youth health and well-being, and quality of life, as well as other policy concerns that are influenced by social and behavioral actions and systems that affect well-being. For more information, email sbp@rand.org. The study was funded by the Weinberg Center for Elder Justice with funding provided by the John A. Hartford Foundation.

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Summary

Elder abuse or mistreatment (EM)—which includes psychological, physical, and sexual abuse; neglect; and financial exploitation—is a widespread problem that can have devastating consequences (Yon et al., 2017). People subjected to EM are more likely to experience depression, cognitive decline, reduced quality of life, and premature mortality (Dong et al., 2009; Dong, 2015; Dyer et al., 2000; Lachs et al., 1997a; Lachs et al., 1998). Individuals experiencing EM often need a variety of interventions to restore health, recover from trauma, resolve or recoup financial losses, separate from their abusers, and relocate to new housing. This means they often need a combination of legal assistance, social services, and treatments for mental and physical health. In a small proportion of cases, these vulnerable older adults also need emergency shelter because their homes are not safe and they have nowhere else to live. Providing shelter to these older victims stops the abuse and could be a gateway to a better future.

In this report, we present an initial evaluation of the nation’s first elder-specific shelter—the Harry and Jeanette Weinberg Center for Elder Justice, which is part of the Hebrew Home at Riverdale. Located in the Bronx, New York, the Hebrew Home is a nonprofit residential health care facility (RHCF) with 560 beds, part of a continuum of care community that provides a full spectrum of health care, home care, and housing on a nonsectarian basis for residents who either use Medicare and/or Medicaid or pay privately. The Hebrew Home established the Weinberg Center in 2004 to meet the need for emergency shelter and trauma-informed services in those cases where the victim is not safe at home and has no other place to go.

About the Weinberg Center

The distinctive features of the Weinberg Center are that it focuses on the older population (a group that family violence and homeless shelters cannot always accommodate); combines a shelter model of protection with the counseling, social support, advocacy, health care, and legal assistance that adults who have experienced EM typically need; and is colocated within a RHCF (the Hebrew Home). Because the Weinberg Center model leverages existing Hebrew Home resources, there are no capital costs associated with launching and operating the Center (i.e., no new building to construct and main-

tain), and many core services can be provided more efficiently and possibly at lower cost than if those same services were provided across multiple settings. Also, from the perspective of a large RHCF like the Hebrew Home, the marginal costs of serving a few additional clients annually are likely to be lower than for small facilities and in communities without a RHCF. In addition, there are benefits to clients from having on-site access to medical care and other Hebrew Home services critical for older adults and also from living as part of a community of residents.

Although our evaluation focuses on the Weinberg Center's primary function of temporarily sheltering and supporting older victims of abuse, the Center also works to educate and equip the larger community to recognize, intervene, and report suspected cases of EM; helps to replicate the shelter model in other communities; and advocates for policies and laws that seek to address and prevent EM.

Evaluation Goals

By studying the Weinberg Center, this study seeks to shed light on a model that aims to benefit the growing number of older victims of abuse and also might have wider societal benefits. Specifically, this evaluation describes the Weinberg Center's shelter model, examines some of the more important outcomes for Weinberg Center clients, and begins to quantify some of the costs and benefits, including potential cost savings, of the model for individuals experiencing EM, public payers, and society. However, it is important to note that this is an *initial evaluation* with a scope limited to describing the model and providing illustrative examples of ways the model could lead to cost savings. A full evaluation would employ a rigorous experimental design, including an appropriate comparison group and long-term data collection and analysis.

Data Sources and Methods

To accomplish these goals, we began by interviewing Weinberg Center staff. We also analyzed medical records provided by the Hebrew Home for all Weinberg Center clients admitted over a seven-year period (2013–2019), focusing on assessed changes in four key health indicators (depression, pain severity and duration, cognition, and mobility) during their stays at the Weinberg Center. Separately, we constructed five vignettes, illustrative hypothetical scenarios, in which we attempted to quantify some of the cost savings and other benefits resulting from the provision of Weinberg Center services. We also analyzed financial data provided by the Weinberg Center on the costs of operating the Center from 2013 through 2019.

Staff-Reported Strengths and Limitations of the Weinberg Center

We asked staff interviewees about the strengths and limitations of the Weinberg Center with regard to helping victims of EM. The key strengths reported were as follows:

- The Center uses a multidisciplinary, holistic approach: When someone comes into the Center, they receive a package of coordinated services.
- The Center provides trauma-informed care.
- The Center has built strong partnerships with an array of community-based agencies to ensure that clients have the necessary services and supports in place when they leave the Center.

Key limitations as reported by Weinberg Center staff:

- The Center has limited resources to provide ancillary services needed by some people experiencing EM: Resources to fix up housing after eviction of the abuser was a specific cost mentioned in one interview as something staff would like to address but are currently unable to.
- The social stigma associated with nursing homes makes it uncomfortable for some clients to live at the Hebrew Home, even temporarily.
- The Center does not have the resources to assist people with unmanaged severe mental health or substance use issues.

Changes in Health Conditions Among Weinberg Center Clients

Our retrospective analysis of Weinberg Center patient health data for 2013–2019 shows that many clients presented initially with depression (88 percent), cognitive impairment (48 percent), and mobility issues (99 percent). Meanwhile, a quarter of clients presented with pain. The rate of depression is higher than among the general population of older adults, but this is not surprising given the established relationship between EM and depression.

In general, we found that these health conditions remained relatively stable throughout clients' stays at the Weinberg Center, with more patients improving than declining. Although statistical tests of the trajectories of Weinberg Center were not incorporated into the present analysis, the relatively low frequency of deterioration among the client group is noteworthy when considering existing evidence: Older adults typically experience declines in these key areas of health, especially after moving to a RHCF. Future research, with additional years of data and an appropriate comparison group, could more fully assess whether Weinberg Center services stop or reverse declines in these key areas that might otherwise occur.

Cost Savings and Other Benefits of the Weinberg Center's Approach

Working with Weinberg Center staff, we developed five vignettes that feature common services provided by the Weinberg Center that also have a strong literature base as a method of estimating some of the potential cost savings. For each vignette, we first perform an *individual-level analysis*, calculating the savings for the specific case described. We then perform a *population-level analysis*, in which we estimate the portion of Weinberg Center clients likely to benefit from interventions similar to the one described in the vignette to calculate the overall estimated savings associated with this type of Weinberg Center intervention.

This illustrative analysis suggests that Weinberg Center interventions might result in cost savings that exceed the costs of the services that the Center provides. This conclusion builds on assumptions that would ideally be empirically tested in a more robust evaluation design in future work. Our analysis of the vignettes focuses on monetary savings for clients and others. It is important to note that these same interventions and others also might benefit clients in other ways, particularly improving their quality of life. Quantifying and monetizing such benefits are beyond the scope of this initial evaluation but should be among the foci of future evaluation assessments.

Conclusions and Recommendations

Weinberg Center staff provide myriad coordinated services to clients during their stays. A key benefit of the Center's model is the coordination of care from members of a multidisciplinary team. We learned from our interviews with staff about the variety of services the team provides. Although we did not speak with either current or past clients, staff interviewees mentioned what they see as benefits to clients (notably, improved self-worth and confidence). The staff's expertise in client experience stems from their work with clients in several areas, including traditional services, such as medical care, but also education about finances, connections to peers and socializing, and awareness of and connections with social services outside the Center.

Weinberg Center clients have stable health and functioning throughout the duration of their stays in the Hebrew Home. Our analysis of medical data for select health indicators suggests that the health status of Weinberg clients is relatively stable—and, where there is a change, it is more frequently an improvement than a deterioration. The absence of deterioration is noteworthy: Given the health conditions affecting Weinberg clients, their history of abuse, and their abrupt move to a RHCF, some gradual worsening of their health would be expected.

The Weinberg Center might generate savings that exceed its operating costs. Our analysis of savings using five illustrative vignettes demonstrates that even a subset

of Weinberg Center interventions could lead to savings that exceed what it costs to run the Center itself.

However, there are uncertainties on both sides of the equation. On the savings side, estimates of savings depend on the extent to which parameters from existing literature (and thus a different context) are transferrable to the Weinberg Center client population and on how Weinberg Center interventions differ from services individuals might receive in the absence of the Center's intervention. On the cost side, collecting data about the unit costs associated with the provision of particular center services was beyond the scope of this study, precluding a more granular cost-benefit analysis. Finally, limiting the analysis to the expenses of operating just the Center does not account for the costs of lodging and medical care provided by the Hebrew Home and not accounted for in the Center's budget.

Recommendations

Additional data collection and analysis would further illuminate the impact of Weinberg Center services on clients and other stakeholders. As mentioned earlier, this is an initial, small-scale evaluation of the Weinberg Center. Some of the data needed for traditional cost-benefit or cost-effectiveness analyses are not typically collected by most organizations, and collecting such data was not feasible within the project period. Expanded data collection and analysis in the context of subsequent research ideally would include the following:

- *Detailed data collection on clients while they are at the Weinberg Center.* More-detailed information should be collected on clients throughout their stays at the Weinberg Center, including particular services they receive. Such data would include social and legal services provided to the client population, key characteristics of the client population receiving these services, and unit costs associated with the provision of individual services, and outcomes.
- *Additional data collection on services received by clients before they entered the Weinberg Center.* It would be beneficial to collect more-detailed information on the level of support (or lack thereof) available to individuals before they entered the Weinberg Center. These data would help establish the uniqueness of the Weinberg Center interventions over and above services available to Weinberg Center clients elsewhere. These data would also provide insights into the nature of services and interventions (and their associated costs) that might be avoided in the future by the Center's intervention.
- *Follow-up on Weinberg Center clients after they leave the Center.* Surveying former Weinberg Center clients at a certain point in time after their departure from the Center would enable a more precise and accurate evaluation of the impacts of the Weinberg Center.

- *Comparison group considerations.* A key component of evaluation designs is identifying the counterfactual: What would have happened to the client without the Weinberg Center and its intervention? A randomized control group would not be appropriate in this context, but more-rigorous evaluation designs, such as a quasi-experimental evaluation design that incorporated an appropriate comparison group comprising individuals in similar situations who were not referred to the Weinberg Center, have the potential to provide stronger evidence on the Center's outcomes of clients. Constructing such a comparison group could be difficult because it would require identifying a sufficiently large group of individuals and accessing data about their treatment and progress. One option might be to include clients of the state's Adult Protective Services.

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Abbreviations

BIMS	Brief Interview for Mental Status
CI	confidence interval
DNR	do not resuscitate
EM	elder abuse or mistreatment
ER	emergency room
FJC	NYC Family Justice Centers
GDP	gross domestic product
HCUP	Healthcare Cost and Utilization Project
MDS	Minimum Data Set
PHQ-9	Patient Health Questionnaire-9
PwC	PricewaterhouseCoopers
QALY	quality-adjusted life-year
RHCF	residential health care facility

Introduction

Background

The global population of adults 65 years and older is expected to double to 1.5 billion between 2019 and 2050 (United Nations, 2019). This demographic shift will bring an increase in the number of older adults who experience *elder abuse or mistreatment* (EM), defined as an intentional act or failure to act that causes or creates a risk of harm to an older adult (Hall, Karch, and Crosby, 2016), which includes psychological, physical and sexual abuse; neglect; and financial exploitation. Globally, an estimated 16 percent of community-dwelling adults aged 60 and older reported experiencing some form of EM in the prior year, with 12 percent psychological abuse, 7 percent financial abuse, 4 percent neglect, 3 percent physical abuse, and about 1 percent sexual abuse, and some face multiple forms of abuse (Yon et al., 2017). Rates of EM are likely underestimated because of difficulties in identifying some types of abuse (Institute of Medicine, 2002), a common fear of reporting among the older population, and the fact that many prevalence studies survey only cognitively intact individuals (Ploeg et al., 2009).

EM could have devastating consequences. Those experiencing EM are more likely to experience depression, cognitive decline, worse reported quality of life (Dong, 2015; Dyer et al., 2000; Lachs et al., 1997a), and premature mortality (Dong et al., 2009; Lachs et al., 1998). Repeat abuse is also common (Black et al., 2011; Catalano, 2012; Davis, Maxwell, and Taylor, 2006): Between 14 percent and 42 percent of older adults who have been mistreated continue to be mistreated after an Adult Protective Services intervention (Comijs et al., 1998; Davis, Maxwell, and Taylor, 2006; Jackson and Hafemeister, 2013; Klein et al., 2008).

Despite these concerning rates of EM, there is a lack of rigorously evaluated programs for this community. In 2003, the National Research Council put out a call for rigorous evaluations of EM prevention and intervention programs (National Research Council Panel to Review Risk and Prevalence of Elder Abuse and Neglect, 2003), but, more than 17 years later, little progress has been made toward this goal. The work of the Weinberg Center for Elder Justice, and our evaluation of the Center's work, pre-

sented in this report, seek to help identify effective ways to improve care for older adult patients who have been mistreated and to prevent repeat EM.

Evaluating EM Interventions

Individuals experiencing EM often need a variety of interventions to restore their health, recover from trauma, resolve or recoup financial losses, separate from their abusers, or relocate to new housing. This means they often need a combination of legal assistance, social services, and treatments for mental and physical health (Dong, Simon, and Evans, 2012a; Dong, Simon, and Evans, 2012b; Dong and Simon, 2013a; Dong and Simon, 2013b; Lachs et al., 2002). Therefore, multidimensional and multisystem approaches could be most effective in addressing EM. Multisystem teams comprising social workers, lawyers, medical professionals, law enforcement, and protective services are becoming a common part of many EM programs. Teams provide combined expertise, offer a wider array of services than a single service provider, work together to resolve difficult cases, and provide opportunities for learning about different strategies and resources (Morris, 2010; Schecter and Dougherty, 2009; Teaster and Wangmo, 2010).

Although multisystem team approaches have been increasing, few have been formally evaluated (Alon and Berg-Warman, 2014), and existing evaluations are insufficiently rigorous to draw firm conclusions (Fearing et al., 2017). Rigorous evaluations of EM treatment approaches are rare partly because of inherent challenges in conducting research in the field, similar to the challenges encountered in research on domestic violence and child abuse. Rizzo, Burnes, and Chalfy (2015) identified several challenges for research on EM:

- Lack of reporting makes older adults experiencing EM a hidden and hard-to-reach population.
- Abuse situations are often crises that require quick response and action—leaving little time to worry about research screening, consents, or protocols.
- Ethical rules make random assignment infeasible if it means denying needed assistance to a victim.
- Consent can be difficult to obtain from individuals with cognitive issues or decreased capacity.
- Mandatory reporting rules may limit the number of individuals equipped to gather and maintain the confidentiality of data on abuse.

The Weinberg Center for Elder Justice’s Shelter Model

It is in this challenging context—a significant prevalence of EM and a dearth of rigorous evaluations of existing interventions—that we conducted an evaluation of the

Harry and Jeanette Weinberg Center for Elder Justice, which is part of the Hebrew Home at Riverdale and located in the Bronx, New York. The Hebrew Home is a nonprofit residential health care facility (RHCF) with 560 beds that provides a full spectrum of health care, home care, and housing on a nonprofit, nonsectarian basis for residents, who either use Medicare and/or Medicaid or pay privately. In 2004, the Hebrew Home established the first shelter for victims of EM: the Weinberg Center for Elder Justice. Nested within the Hebrew Home, the Center leverages the resources of the Hebrew Home to provide emergency shelter and trauma-informed services in cases of home-based EM where the victim has no safe place to live.

The Weinberg Center's shelter and multidisciplinary care model incorporates two approaches—age-appropriate emergency housing and multidisciplinary care teams—that have been identified as promising despite the scant evidence for any programs serving older adults experiencing EM in the United States (Pillemer et al., 2016). The Weinberg Center also provides expert guidance and technical assistance to other communities interested in developing elder-specific shelter programs. In 2012, the Center started the SPRiNG Alliance, a collective of organizations providing or planning to provide elder-specific shelters.¹ Members of the SPRiNG Alliance advocate for shelter, offer peer-to-peer support, and gather annually to share best practices.

The distinctive features of the Weinberg Center compared with family violence and homeless shelters are that it combines a shelter model of protection with team-based counseling, social support, advocacy, health care, and legal assistance—both geared specifically to meet the needs of older victims of abuse. By creating a shelter within an existing RHCF, this model provides older adults experiencing EM with on-site health care, instant community, and access to social activities, in addition to the multidisciplinary trauma-informed services the Center itself provides. Although the goal of the Center is to help clients return to the community, shelter clients who need long-term residential care could choose to become residents of the Hebrew Home. Having the shelter and long-term care housed within one institutional framework facilitates such a transfer, creating a continuum of care from shelter to residential care. In addition, this shelter program capitalizes on the long-term care facility's existing community partners and resources.

Because this model builds on existing resources from the Hebrew Home, services could be provided more efficiently and possibly even at lower cost than if the same services were provided across multiple settings. For a large RHCF like the Hebrew Home, the marginal costs of serving one additional client—providing lodging, medical care, and related services—are likely to be lower than for small facilities or in communities without an RHCF. Older adults sheltered in apartments, for example, would likely need to meet with multiple service providers in a variety of care settings, reducing efficiency on a number of fronts (e.g., administrative costs, provider coordination). Clients also could be more easily referred to appropriate services and be more likely to

¹ SPRiNG is an acronym for Shelter Partners: Regional. National. Global.

follow through on obtaining those services when referrals are facilitated by the Weinberg Center and Hebrew Home, where they are currently residing, than if they sought services on their own.

The Weinberg Center developed a comprehensive logic model (provided in Appendix D) to demonstrate how its activities are expected to create improved outcomes for clients and help victims of EM on a larger scale. In addition to the primary activity of serving clients who are referred to the Center, the Weinberg Center focuses on improving the ability of the larger community—social workers and staff at the Weinberg Center and at the Hebrew Home, relevant professional organizations, multidisciplinary teams in the metro area, and families of older adults—to recognize, intervene, and report when EM is suspected. The Weinberg Center also works to help replicate the shelter model in other communities and to advocate for policies and laws that seek to address and prevent EM. Expected impacts of the Weinberg Center’s direct services to clients and its wider education, training, and advocacy activities include reduced personal and societal costs, improved quality of life for older adults, fewer hospitalizations and reduced reliance on emergency rooms (ERs) to address EM, increased life expectancies, and improved mental health outcomes for older adults. In this report, we focus on the first of these impacts—the impacts on costs for individuals and society—but we do recognize that direct client services are just one element of the Weinberg Center’s wide-ranging work on EM.

Objectives of the Evaluation

The goals of this evaluation are threefold:²

1. Describe the Weinberg Center shelter model.
2. Examine the potential benefits of residing at the Weinberg Center to clients, using information on perceived client benefits from staff interviews and medical data on clients collected over the course of their stays.
3. Quantify the costs and potential cost savings of the Weinberg Center model for individuals experiencing EM, public payers, and society.

² It is important to note that the scope of this analysis was designed to produce a first glance at the potential of the Weinberg Center model to create cost savings. As the goals of the evaluation suggest, we did not endeavor to produce a comprehensive cost evaluation with rigorous analytical methods. Instead, we narrowly focused on understanding the model, analyzing available data, and producing possible examples of places where cost savings might occur.

Structure of This Report

This report proceeds as follows. First, we outline the methods we used to achieve the three goals of the evaluation outlined earlier in this chapter. Next, we discuss the unique elements of the Weinberg Center shelter model, drawing on data from our interviews with Center staff members. We then turn to an analysis of clients' health data on arrival at Weinberg Center and over the first year of their stays. Next, we provide an analysis of the Weinberg Center's operating costs over time and how the Center has allocated those resources across client services. Finally, we present a cost analysis that aims to quantify the cost savings—to individuals experiencing EM, public payers, and society as a whole—generated by the services provided by the Weinberg Center. We conclude with a summary of our findings and recommendations for next steps.

Methods

We used three strategies to assess the benefits of the Weinberg Center for its clients. To identify the benefits of the Center on its own clients, we interviewed Weinberg Center staff and analyzed medical data collected on clients during their stays. We also conducted a cost-benefit analysis involving vignettes to identify the cost saving of the Weinberg Center to key stakeholders: public payers, private insurance, and the public.

Interviews with Weinberg Center Staff

To learn more about the Weinberg Center and its clients, we conducted a site visit at the Hebrew Home in early March 2020 and held in-person interviews with Weinberg Center staff. Staff were selected to represent Weinberg senior leadership and at least one member of each professional discipline (i.e., type of service provided at the Weinberg Center). We met with ten Weinberg Center and Hebrew Home staff representing lawyers, social workers, accountants, and data analysts. When more than one person occupied a role, the more senior person was interviewed. However, in many cases, all individuals from the respective roles were interviewed. In-person interviews were conducted by a RAND Corporation interviewer using a semistructured discussion guide with a notetaker present. The interview guide covered several topics: (1) client needs, (2) Weinberg Center services, (3) perceived benefits to clients and expected outcomes, and (4) Weinberg Center and the Hebrew Home data holdings to be used for the cost analysis. Interviews were also audio-recorded.

We report on the seven interviews with interdisciplinary team members working with Weinberg Center clients, whom we spoke with about client needs and services and benefits to clients of the Weinberg Center. (We also conducted other interviews focusing on Weinberg Center processes, data, and financials to inform our cost-benefit analyses, but we do not report on these separately in this report.) One RAND researcher analyzed the notes to identify themes around strengths and weaknesses of the Weinberg Center and perceived benefits to clients. A second researcher further reviewed the notes to confirm the themes that had been identified. The researchers planned to discuss any disagreements in theme generation and classification, though none arose during this process.

Analysis of Minimum Data Set Data

To describe the health trajectories of Weinberg Center clients after entering the Hebrew Home, we analyzed Minimum Data Set (MDS) data provided by the Weinberg Center. The MDS is part of a federally mandated process for clinical assessment of all residents in Medicare- or Medicaid-certified nursing homes. This process entails a comprehensive, standardized assessment of each resident's functional capabilities and health needs. Assessments are conducted by trained nursing home clinicians on all patients at admission and discharge, in addition to other time intervals.

The MDS data provided by the Weinberg Center contain information on the health status of all Weinberg Center clients entering between 2013 and 2019 ($n = 100$); this date range was chosen to ensure that at least 100 clients were represented in the data for our analysis. The first assessment takes place at intake, with subsequent assessments done on a quarterly basis until the client leaves the facility. We examined changes in clients' successive assessments over the duration of their stays at the Weinberg Center in the following domains: (1) depression, (2) pain severity and duration, (3) cognition, and (4) mobility (measured by self-locomotion on unit, with analyses of self-locomotion off unit, bed mobility, and transfer provided in Appendix A). We limited our analysis to established measures provided by the MDS assessment data, which include a variety of measures that have demonstrated validity and reliability (Frederiksen et al., 1996; Hartmaier et al., 1994; Burrows et al., 2000; Fries et al., 2001).

Financial Analysis

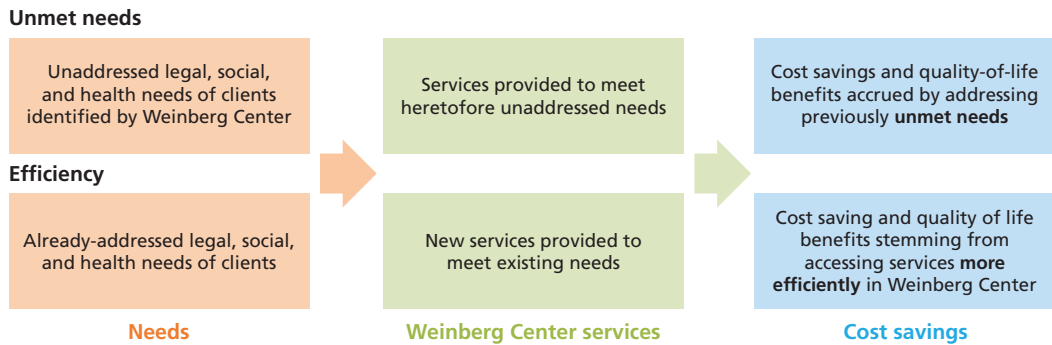
We undertook an analysis of financial data provided by the Weinberg Center. The data set contained information on various categories of costs incurred by the Center in the 2013–2019 period. This analysis is limited to the Weinberg Center and does not include any costs of the Hebrew Home. We also performed a descriptive analysis of charges listed in the Hebrew Home patient ledgers to provide additional contextual insights on those costs. The results of this analysis are presented in Appendix B.

Analysis of Cost Savings and Other Benefits Using a Vignette Framework

Conceptual Framework

Our analysis of cost savings and other benefits builds on a conceptual framework outlining potential mechanisms through which Weinberg Center interventions could lead to benefits or savings (see Figure 2.1). This framework identifies the two principal pathways that Weinberg Center services could lead to cost savings. The first pathway is addressing clients' unmet needs. These are legal, social, or health needs that would,

Figure 2.1
Conceptual Framework for Analysis of Cost Savings and Other Benefits



in the absence of Weinberg Center service provision, go unaddressed. This could be either because clients had not been able to access relevant services prior to coming to the Center (e.g., they were prevented from obtaining health care by their abusers) or clients were not aware of the issue before coming to the Center. This pathway could lead to a host of positive effects, such as improvements in quality of life and reductions in the likelihood of needing costly remedial services in the future because of delayed health care.

The second pathway is providing services at the Weinberg Center more efficiently (i.e., using fewer inputs for similar or better outputs) than other settings. For example, many chronic conditions can be treated easily by a primary physician. However, if a person does not have access to primary care (e.g., because of neglect), he or she might resort to using ERs or hospitals. Efficient care could also play a role in creating savings when treating previously unmet needs (the first pathway). Thus, these two pathways are not mutually exclusive, but viewing them separately provides a useful framework for identifying which services are likely to lead to cost savings compared with a counterfactual scenario in which those services are not available (for a detailed logic model of the Weinberg Center, developed by the Center's staff, see Appendix D).

General Approach

To calculate the potential benefits and savings potentially achieved through Weinberg Center intervention, we use individual vignettes (i.e., short narratives describing exemplar pathways that some Weinberg Center clients follow) to demonstrate the breadth of experiences the Center's clients have. In each vignette, we provide an overview of existing evidence on benefits and savings that could be realized in the life situation or pathway described in the vignette, along with a discussion of who these savings and benefits could accrue to. Therefore, we set out to explore savings and benefits from a broad societal perspective, as potential benefits might accrue to a wide variety of stakeholders, including entities other than the Weinberg Center (such as the Centers for

Medicare and Medicaid Services or Center clients). This evidence is drawn primarily from existing academic literature and other publicly available sources. The narratives draw on stories of real Weinberg Center clients but are not meant to describe any specific client.

A formal analysis of cost-savings and benefits would produce a comparison of resources *used* by the intervention or program to resources *created or saved* by the same intervention or program (Ling and Villalba van Dijk, 2009). The range of stakeholders to whom these costs or savings accrue could be broad, as could the types of costs and benefits included in such an analysis—ranging from direct (such as medical expenditures) to indirect (such as productivity gains/losses) to intangible (such as improvements in well-being) (Drummond et al., 2005). In the context of the Weinberg Center, this would ideally take the form of a full accounting of the value of all inputs to the Center’s intervention (“costs”) and comparing this value with the benefits achieved through the Center’s intervention (“benefits”). These benefits, ideally determined through an outcome evaluation (i.e., an evaluation that measures program effects by assessing the attainment of outcome that the program hopes to achieve), would be attributable to the Center and would be expressed in the same unit of measurement or currency as the costs of the intervention.¹

We chose this vignette approach rather than a traditional quantification and monetization of the overall benefits and savings attributable to the Weinberg Center for three principal reasons. First, traditional approaches would require more-detailed data than are available as part of standard Weinberg Center operations (or any typical shelter operations) and would necessitate a dedicated data collection effort that was not feasible given study resources. For example, although the Center collects some individual-level data about its clients, limited data are collected on how much time staff spend on specific tasks. Thus, although we know many clients at the Weinberg Center benefit from legal services, we do not know how much time staff spent on specific legal issues, making it difficult to calculate the difference between costs and benefits. Furthermore, Weinberg Center staff provide some valuable client services, such as the creation of advance directives, for which information on the number of people who were provided this service is not readily available. This currently limits our ability to calculate the value of some services across Weinberg Center clients.

Second, no data are available on Weinberg Center clients once they are discharged from the Center. This means that there is no information on any long-term benefits and savings that materialize once clients leave the Weinberg Center. Therefore, it is not possible to confirm to what extent the long-term benefits and savings hypothesized in the vignettes are realized.

¹ For additional issues to consider and methodological standards pertaining to cost-benefit analyses, see, for example, National Research Council, 2014.

Third, little systematic data are available on the counterfactual—that is, what would happen to Weinberg Center clients in the absence of the Center’s intervention. Data are available on the settings from where clients come (e.g., home, ER, hospital) but not necessarily what services were available to them and at what cost.²

Vignettes are a unique alternative to a formal cost analysis; they use a narrative approach to pinpoint the benefits that might come from Weinberg Center intervention (see Box 2.1). Specifically, there are two key benefits to the vignette approach. First, illustrative stories of real-world situations experienced by victims of abuse highlight the core features and added value of the Weinberg Center model over alternative situations. Second, identifying the needs and Weinberg Center interventions for exemplar individuals allows us to provide an initial assessment of whether these elements could be expected to create cost savings and benefits, using data from existing literature instead of needing data on specific clients. In crude terms, the values and parameters in each vignette could be considered “unit savings” that are realized every time an individual follows the pathway outlined in each vignette. With more information, these unit costs could be multiplied by their frequency to arrive at the total potential savings and benefits achieved by clients’ interaction with the Weinberg Center.

Our team, in concert with the Weinberg Center staff, selected the vignettes through an iterative process. First, we identified key services provided by the Weinberg Center through interview data, documents provided by the Center, and consultations with the Center. We then assessed which services were likely to produce cost savings from a cost-benefit perspective (i.e., cost less than they save). Finally, because our analysis would rely heavily on existing estimates, we consulted the literature. We developed five vignettes that feature services provided by Weinberg Center that also have a strong literature base that estimates potential cost savings.

Box 2.1 **Examples of Vignette Use in Economic Assessments**

Vignettes that present illustrative hypothetical scenarios have been used in several studies, including those incorporating various forms of economic analysis. For example, Schwendicke, Brouwer, and Stolpe (2015) developed a hypothetical clinical scenario to undertake a cost-effectiveness analysis of alternative dental interventions in the German health care system. Vignettes have also been used in comparative cross-national studies. Epstein, Mason, and Manca (2008) used a vignette-based methodology to compare hospital costs of care for stroke in nine European Union countries. Similarly, Tan, Redekop, and Rutten (2008) developed a patient vignette to compare the costs of dental fillings in nine European countries.

² Addressing these data gaps would represent a major data collection effort, extending well beyond typical ongoing data recording and beyond the scope of this project. We point them out as an explanation for our analytic approach (e.g., vignettes), not as a criticism of the Center.

Operationalization of the Vignette Approach

To calculate the value of savings and benefits in each vignette, we employ the following equation:

$$S_i = A_i \times R_i \times P_i - C_i$$

where

- S_i = savings stemming from the Weinberg Center intervention
- A_i = costs of an adverse event Weinberg Center intervention aims to avoid (e.g., future hospitalization, costlier service elsewhere)
- R_i = reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention
- P_i = population of Weinberg Center clients receiving the intervention
- C_i = costs of delivering the Weinberg Center intervention.

Parameters

To populate this equation with parameters appropriate for each vignette, we drew on existing literature and Weinberg Center data. For parameters pertaining to costs of adverse events (A_i) and reductions in risk (R_i), we conducted a targeted review of existing evidence published in the academic literature and/or official government reports. In searching for the most applicable parameters, we prioritized, to the extent possible, sources that build on a large body of evidence, such as systematic reviews and meta-analyses and documents produced in contexts that were similar to that of the Weinberg Center (e.g., literature on older adults and those experiencing EM from New York state). For parameters on the applicable population of Weinberg Center clients (P_i), we drew on MDS and other data provided by the Weinberg Center.

Unfortunately, we are currently unable to calculate a service-specific cost per client (C_i) in the equation because the Weinberg Center does not maintain data on the costs to the Center of delivering individual interventions. Instead, we focus on a broad financial analysis of the Weinberg Center to provide a general estimate of the operating cost of the Center. Future cost analyses would ideally include more specific cost figures.

Caveats and Limitations

Although there are many benefits to this approach, as with every approach, there are some limitations. First, the vignettes capture only a selection of possible pathways experienced by Weinberg Center clients. Although we took care to capture what we believe, based on consultations with Weinberg Center representatives and the literature, to be the most illustrative and common issues clients present with, we cannot cover all scenarios in these vignettes.

Second, the cost and benefit parameters offered in the vignettes are drawn from existing academic literature and based on interventions provided in other settings to populations that are likely not fully comparable to that of the Weinberg Center. It is possible that these lessons are not perfectly transferrable to the context of the Weinberg Center—for instance, if the Center’s client population differs substantially from that in prior studies or if the service delivery in prior studies is not broadly comparable to the context of the Weinberg Center. Therefore, the magnitude of the effects reported in existing literature and employed in the vignettes might either underestimate or overestimate the potential Weinberg achievements. In this regard, we are mindful that the Weinberg Center represents a new model, limiting the transferability of evidence from other contexts. And third, in many instances, the net benefits of Weinberg Center interventions are dependent on what support its clients would be able to access elsewhere. In our discussion of the vignettes, presented later in this report, we make a series of informed assumptions about the counterfactual, but there are uncertainties around whether these assumptions are appropriate.

In sum, although there are important limitations to our analysis (outlined earlier in this section), we believe these are the best estimates based on available data. Specifically, we made every effort to ensure that our analyses reflected likely experiences of Weinberg Center clients and incorporated the most relevant peer-reviewed research. Future analyses with a broader scope, an experimental design, and more complete data on the trajectories of Weinberg Center clients after intervention and a sample of non-Weinberg Center clients with similar needs will be able to build on this initial work and provide a more precise impact of the Weinberg Center model.

Description of the Weinberg Center Shelter Model

The site visit and interviews with staff were opportunities to learn about the unique approach to providing shelter at the Weinberg Center, as well as typical client needs, services, and perceived benefits to clients of the Weinberg Center during their stays. We learned from our conversations with staff that Center clients are middle-aged and older adults, mostly older than age 60, although some younger clients are accepted if they have medical needs. People are generally placed at the Weinberg Center when they have medical needs other shelters cannot accommodate. Clients arrive via referrals, typically from hospitals, Adult Protective Services, or police. The Weinberg Center will not accept clients who are not referred through these agencies, which minimizes the possibility that individuals who are not currently experiencing EM become clients. Upon arrival at the Center, clients' capacity and need for guardianship and medical services are assessed. Over the first two weeks, other needs of clients are assessed by physicians, nurses, and other trained staff, and Weinberg Center staff identify the preferred setting for the client after discharge. The first two weeks are a time of "no contact" for the client. During this period, clients do not have visitors, and the time provides space for clients to figure out their own needs and wishes, without influence. The Center also uses this time to help with financial issues, check a client's credit to see what housing options could be available, determine whether it is safe for him or her to return home to get belongings, and contact family members.

Key staff interviewees said they felt that the Center was providing a unique service because there is currently no alternative care or housing setting for older adults with medical needs who have experienced EM in the region. New York City shelters are not equipped to support the health and cognitive needs of older adults experiencing EM. Many clients spend time in the hospital as a social admit until they feel home is safe, but hospital stays are not a long-term option and do not provide the services needed by this population. Lack of access to a facility like the Weinberg Center could result in permanent admittance to a skilled nursing facility, even if someone wants to remain in the community. One staff member mentioned NYC Family Justice Centers (FJC) as a resource for addressing EM; FJC support individuals experiencing domestic or gender-based violence, by providing access to colocated victim services and the police, which makes it easier for families to more efficiently access needed services and

work with the police if desired. However, such centers typically do not provide shelter, and they are most experienced with providing services for individuals experiencing intimate partner violence, human trafficking, stalking, and sexual violence. FJC are not typically experts in the unique challenges that EM clients present with, and they do not advertise as specialists in EM (FJC, undated). Consequently, few older clients present there.

Because the Weinberg Center is housed at the Hebrew Home, clients have access to the full set of medical, social work, therapy, and other services available to all residents. Some medical needs are referred out (e.g., surgeries, dialysis). Social needs—the needs for social interaction and support—also can be filled in this setting. The Hebrew Home provides opportunities for social engagement and interaction with other residents, not just the few clients who may be at the Weinberg Center at any given time. The Weinberg Center directly addresses the needs of clients by providing financial, social work, case management, and legal services tailored to the specific needs of older adults experiencing EM. To encourage client independence, the Weinberg Center provides clients with clothes and \$50 per month in spending money, and furniture upon discharge if needed.

Specific services we learned about from staff interviewees included

- immediate removal from an abusive situation, which gives clients a respite from trauma
- medical services, including medical supplies (e.g., dentures)
- case manager services
- support from social workers and psychotherapy to deal with trauma and to help restore relationships, if requested by the client
- access to and awareness of social services that clients are eligible for but might not have been aware of (e.g., Medicaid), including educating clients about people who are available to them to provide care and support
- advocacy with a variety of agencies (e.g., banks, housing, Adult Protective Services, police)
- assistance with financial awareness (e.g., the Center runs credit reports and helps provide sense of financial standing)
- legal services, including representation in court, prepping clients for court dates, testimonies, facilitating clients' meeting with police to file orders of protection, civil actions, divorce, housing court, trauma-informed advance directives, health care proxies, and wills
- assistance with criminal proceedings on occasion; much of the legal action is geared toward trying to get clients back to their homes safely or to separate them from someone who will not stay away

- guardianship issues (e.g., clients who do not have the capacity to make decisions on their own are appointed a guardian; one of the first things that the Weinberg Center assesses is a client's capacity and whether he or she needs a guardian)
- physical resources and transportation (e.g., Weinberg Center supplies clients with blankets and other basic necessities, a cell phone, payment for a smartphone app to store advance planning and legal docs, and transportation to court hearings)
- training for Hebrew Home professionals on best practices in providing medical care for people who have experienced EM
- housing (e.g., the Weinberg Center has access to Section 202 affordable housing for seniors through the Hebrew Home and can obtain priority for Center residents)
- social opportunities, which improve clients' ability to engage socially with peers.

One staff member noted that securing housing outside the Center was the hardest service to provide because it is hard to obtain affordable housing in New York City. One staff member mentioned that, because there are so many different issues that older adults experiencing EM present with on admission, the primary service provided by the Weinberg Center is coordination of issues in a holistic way through its multidisciplinary team.

Strengths and Limitations of the Center's Approach

We asked staff interviewees about the strengths and weaknesses of the Center's approach to helping victims of EM. The key strengths reported were as follows:

- The Center uses a multidisciplinary, holistic approach: When someone comes into the Center, they receive a package of coordinated services.
- The Center provides trauma-informed care.
- The Center has built strong partnerships in the community to help integrate clients back into the community.
- The Center's approach is well integrated into the overall city's response to EM.
- The Center employs established instruments to conduct regular assessments of clients to monitor changes in client mental and physical health.

Staff interviewees reported the following limitations of the Weinberg Center's approach:

- The Center has limited resources to provide all the services needed by people experiencing EM: Resources to fix up housing after eviction of the abuser was a specific cost mentioned in one interview as something staff would like to address but are currently unable to do.

- The Center faces challenges with resource allocation: It is difficult to get the right balance of time and resources for each person within the funding and staffing constraints of a small nonprofit.
- The social stigma associated with nursing homes could make it uncomfortable for some clients to live at the Hebrew Home, even temporarily.
- Staff sometimes have difficulty communicating with people who have cognitive impairment.
- The Center is unable to take in people with severe mental health issues or substance use problems.

Perceived Benefits to Clients

Finally, we asked staff interviewees to describe some of the benefits to clients that they have observed over the clients' stay at the Weinberg Center. Although we did not speak with clients or family members of clients due to resource limitations, staff we spoke with were passionate about what they saw as the benefits to clients from the Center. The most significant benefit, according to staff, was establishing clients' sense of self-worth and feelings of meaningfulness and giving them the confidence to start over. Although staff mentioned that most clients saw significant benefits during their stays, they also described groups of clients who might not reap the full benefits of the Center. This included clients with dementia, for whom transitioning settings could be difficult and who might not identify how they are benefiting; people who are unable to separate from an abuser; and those who struggle with being in a nursing home and the restrictions imposed by this setting (e.g., limited ability to leave the setting at night).

Changes in Health Conditions Among Weinberg Center Clients

In this chapter, we describe the health conditions that Weinberg Center clients present with upon admission, and changes that occur during their stays. Because the Weinberg Center is housed in an RHCF, one of the key services that the Center provides is treatment of existing physical and mental health needs of clients. Thus, as part of our analysis, we looked at clients' health conditions when they enter the Center and over the course of their stays. We used data from the MDS, which, as previously noted, is part of a federally mandated process for clinical assessment of all residents in Medicare or Medicaid certified nursing homes. This process entails a comprehensive, standardized assessment of each resident's functional capabilities and health needs. Assessments are conducted by trained nursing home clinicians on all patients at admission and discharge, and at other time intervals. In the case of Weinberg Center, these assessments take place quarterly. We did not look at other outcomes, such as housing, social functioning, or resolution of legal issues, because data on those outcomes are not available for Weinberg Center clients.

In this chapter, we evaluate four indicators of Weinberg Center client health and well-being: depression, cognition, pain (intensity and duration), and mobility on site. We selected these indicators because they represent common health concerns among older adults and, in the case of depression and cognition, are correlated with EM (Lachs et al., 1997a; Steffens et al., 2009; Dyer et al., 2000). For each indicator, we perform two analyses using our sample of 100 Weinberg Center clients who entered the Center between 2013 and 2019. The first analysis looks at the composition of the client sample by condition severity (e.g., severe depression, moderate depression, mild depression) across the first four assessments. The second analysis focuses on improvements and declines in client's health between the first and second assessment.

It is important to note that not all clients received four assessments. This could be because a client returned to the community before their second, third, and fourth assessment or because they entered the Center shortly before the end of 2019, the last year of data in our analysis. Consequently, the results of the analysis below do not always include the trajectory of each client. However, it is unclear how these miss-

ing assessments affect the analysis. Individuals whose condition improved could feel empowered to leave the Center, which would mean our analysis misses improvements among clients. However, clients whose condition significantly declined might feel that they are not being served by the Weinberg Center and decide to depart before their next assessment, biasing the results in a positive way. With these caveats in mind, we report the change in each health condition over time, and note how many clients from the analytic sample exited (e.g., no MDS data) between MDS assessments.

Furthermore, it is important to reiterate that the following discussion is a descriptive analysis and no conclusions about causal effects of the Weinberg Center model could be drawn from the analysis. We complement the analysis by a discussion of how, if at all, the results observed among the Weinberg Center population compare with trajectories reported in other contexts and thus which areas may be indicative of potential positive effects of the Weinberg Center intervention; however, no causal interpretation should be implied.

Depression

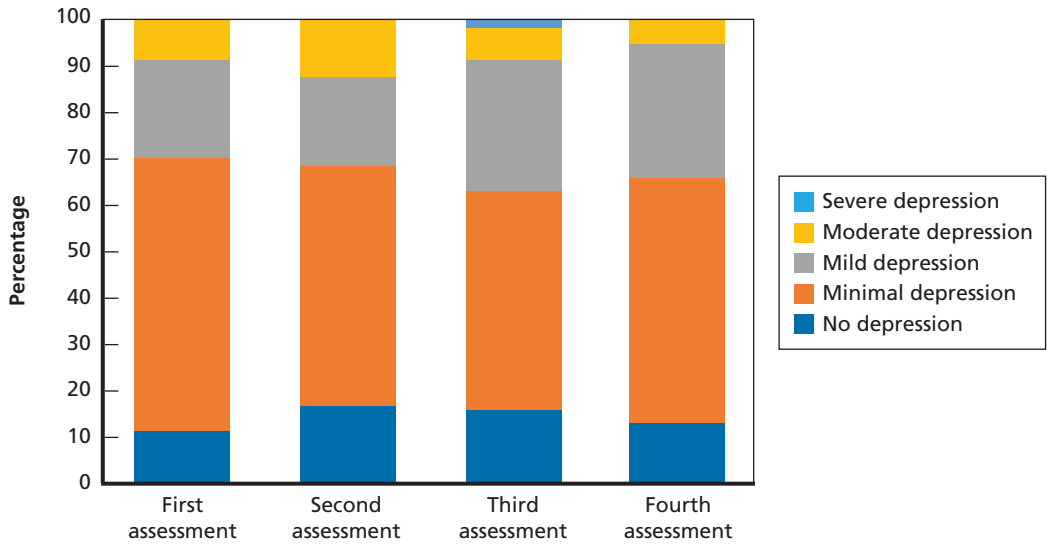
Our analysis of depression levels among Weinberg Center clients revealed that a high percentage of clients who entered the Center between 2013 and 2019 presented with some degree of depression. As shown in Figure 4.1, 8 percent of clients enter the Center with moderate depression, 21 percent with mild depression, and 59 percent with minimal depression. Over the course of four assessments, there was little change in the composition of the cohort in terms of depression severity.

This stability is evident in looking at individual clients over time. As Figure 4.2 illustrates, for most clients (54 percent), their level of depression severity remained stable between the first and the second assessments. However, some clients experienced a decline in depression severity, and an equal number saw an increase. As Figure 4.2 illustrates, 16 clients who entered the Center with some level of depression saw a decrease in depression levels by their second assessment. However, 19 clients experienced an increase in depression severity by the second assessment.

Cognition

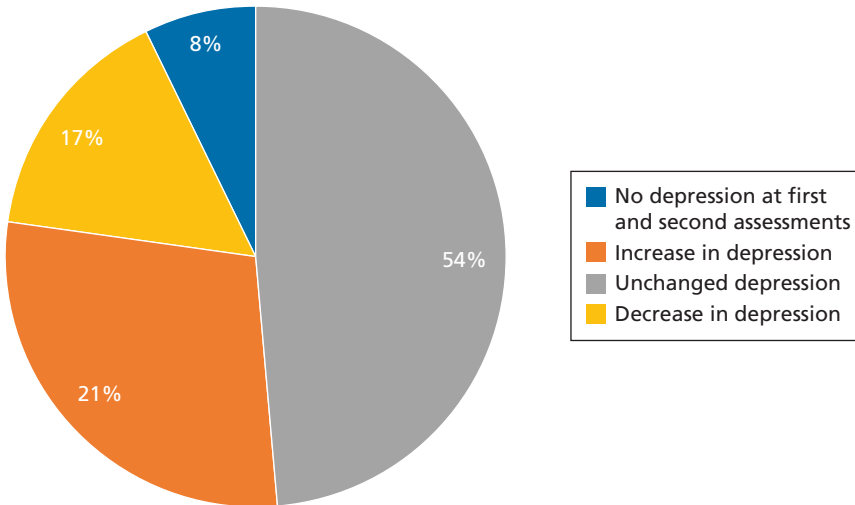
Next, we investigated the rates of cognitive impairment and changes over the course of their stays among Weinberg Center clients. This analysis suggests that, like depression, most clients at the Weinberg Center maintained a similar level of cognition throughout their stays (outlined in Figures 4.3 and 4.4). For this analysis, we define cognitive impairment with the Brief Interview for Mental Status (BIMS), which is highly correlated with the Mini-Mental State Exam (Folstein, Folstein, and McHugh, 1975).

Figure 4.1
Share of Clients by Reported Depression over Time



NOTE: Number of clients in each assessment: first assessment = 99; second assessment = 99; third assessment = 75; fourth assessment = 60.

Figure 4.2
Change in Clients' Depression Between the First and Second Assessments



NOTE: Only includes clients who received their first and second assessments (99 clients).

Slightly more than half (52 percent) of clients entered the Weinberg Center with full cognitive functioning, as outlined in Figure 4.3. However, 38 percent and 10 percent entered with moderate impairment and severe impairment, respectively. Across assessments, the percentage of Weinberg Center clients with cognitive impairment increased.

Figure 4.3 shows that between the first and second assessment, the percentage of clients who were classified as cognitively intact increased by 4 percentage points, while the percentage of moderately impaired clients decreased by 7 percentage points. The number of clients with severe impairment increased by 3 percentage points. By the fourth assessment, nine months after entering the Hebrew Home, 62 percent of clients reportedly had some degree of cognitive impairment, while 39 percent were cognitively intact.

Figure 4.4 shows changes in clients' cognition between the first and second assessment. Nearly half of clients (45 percent) remained cognitively intact between these two assessments. About one third of clients found their condition stayed the same (32 percent). Among the remaining clients, 13 percent experienced improvement in their cognition between the first and second assessment. A similar percent of clients (10 percent) saw their condition become worse. This nearly equal shift between improvement and decline explains why the composition of the cohort did not change substantially between the first and second assessment.

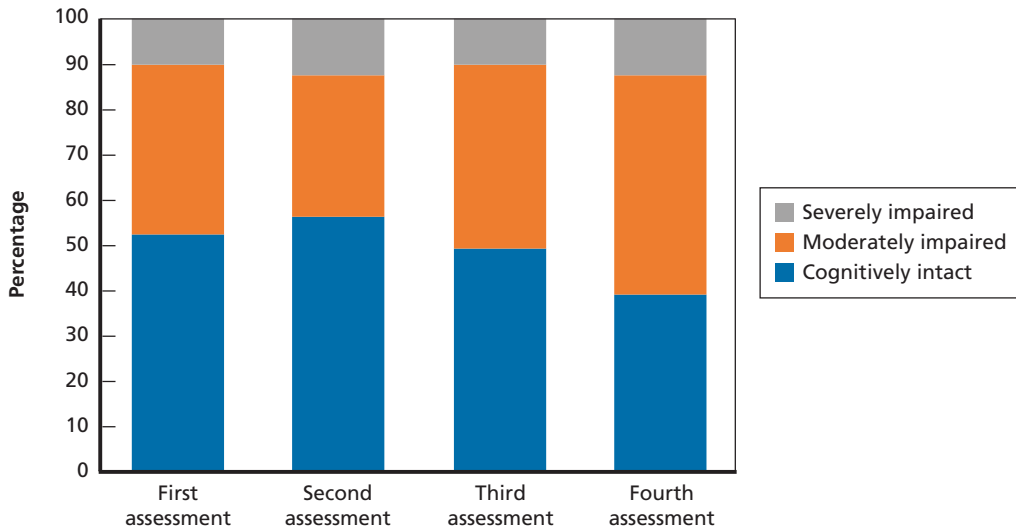
Pain

Next, we present our analyses of pain among Weinberg Center clients. Figure 4.5 presents the percentage of Weinberg Center clients who experienced different severities of pain over their first four assessments. Our analyses suggest that few Weinberg Center clients arrived with significant pain severity or duration. In their first assessment, 75 percent of Weinberg Center clients presented with no pain while 15 percent presented with mild pain, 7 percent with moderate pain, and 3 percent with severe pain.

Over time, the percentage of Weinberg Center clients with any pain decreased. By the second assessment, 80 percent of patients reported no pain, 11 percent reported mild pain, 9 percent reported moderate pain, and no clients reported severe or very severe pain. These percentages remained relatively constant over the next two assessments.

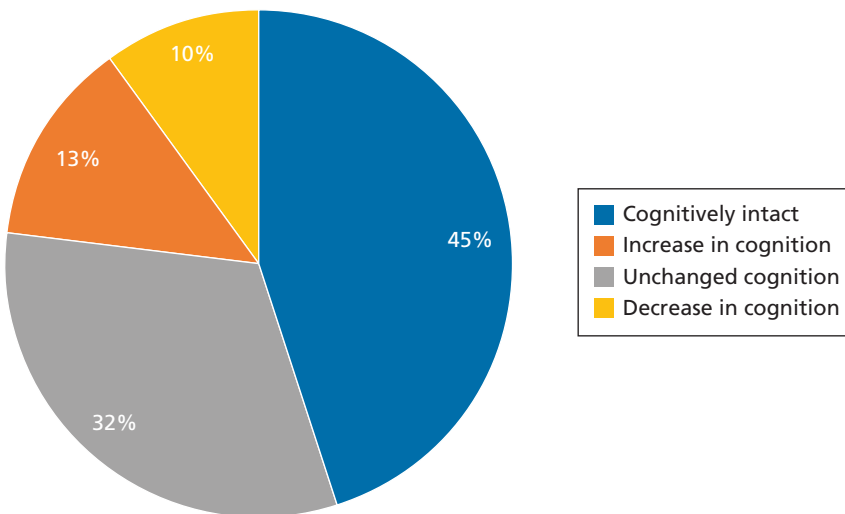
Figure 4.6 presents a comparison of the number of clients reporting each level of pain at assessment one and assessment two. Notably, only 75 of the original 96 clients in the sample had data recorded for assessment two, and three of these individuals were not included in the first assessment. This analysis only considers patients who attended both their first and second assessment for pain leaving 72 clients in the sample. About two thirds of all clients with no pain remained pain-free (68 percent). Fifteen percent of clients experienced similar or increased levels of pain across the timepoints. However, 17 percent experienced a decrease in the severity of their pain from time one to

Figure 4.3
Share of Clients by Reported Cognition over Time



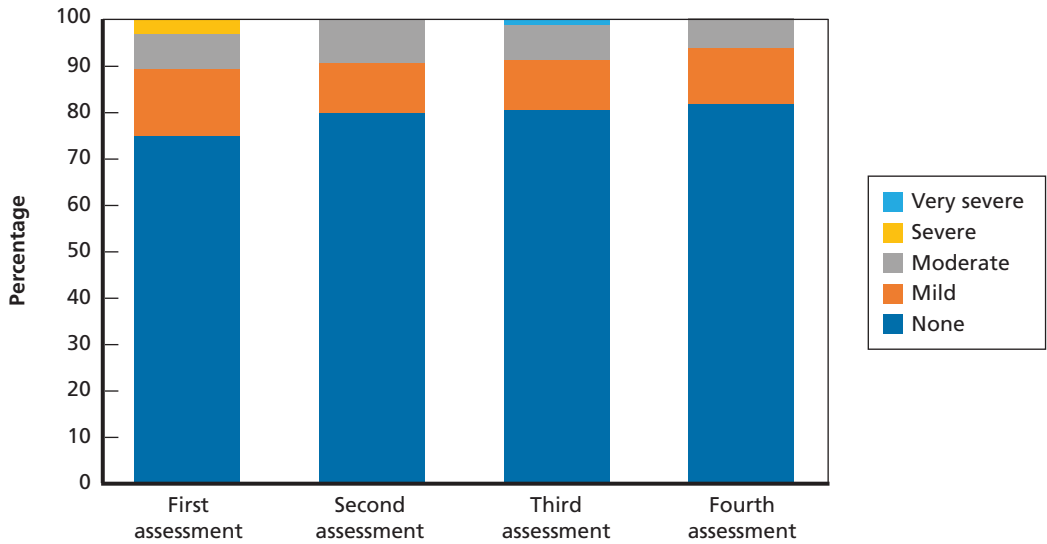
NOTE: Number of clients in each assessment: first assessment = 100; second assessment = 96; third assessment = 76; fourth assessment = 66.

Figure 4.4
Change in Clients' Cognitive Impairment Between the First and Second Assessments



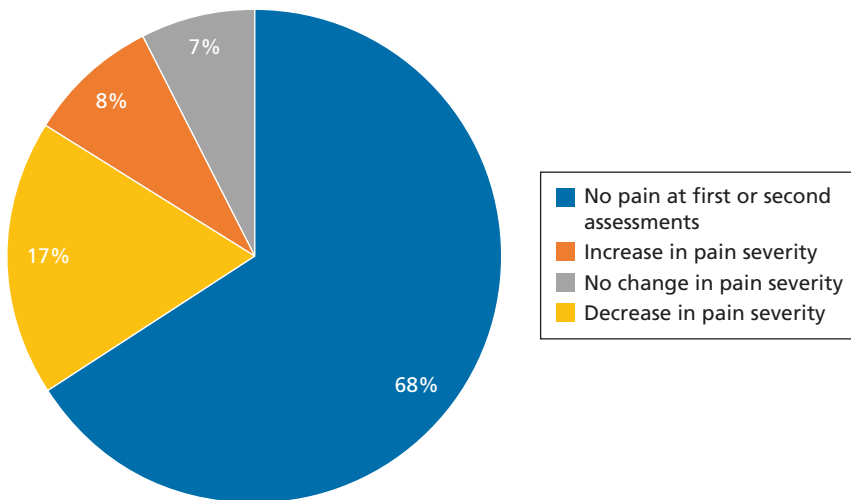
NOTE: Only includes clients who received their first and second assessment (96 clients).

Figure 4.5
Share of Clients by Reported Pain Severity over Time



NOTE: Number of clients in each assessment: first assessment = 96; second assessment = 75; third assessment = 66; fourth assessment = 61.

Figure 4.6
Change in Clients’ Pain Severity Between First and Second Assessments



NOTE: Only includes clients who received their first and second assessments (72 clients).

time two. In sum, most clients either continued to experience no pain or experienced a decrease in the pain they reported at the start of their stays.

Turning to the duration of clients' pain, our analysis of the MDS data, summarized in Figure 4.7, tells a similar story. At the first assessment, 75 percent of Weinberg Center clients reported no pain, just over 20 percent reported rare or occasional pain, and 4 percent reported frequent pain. No clients reported constant pain. By the second assessment, the number of clients with a high duration of pain decreased. Approximately 80 percent of clients reported no pain at the second assessment, an increase of 5 percentage points from the first assessment. Just 16 percent of clients reported rare or occasional pain (compared with 20 percent in the first assessment). The percentage of clients with frequent pain remained constant at 4 percent. Assessments three and four present a similar story, with the rates of no pain staying close to 80 percent and rare or occasional pain hovering around 15 percent. Frequent pain decreased to 2 percent over the last two assessments. One person reported frequent pain in their fourth assessment.

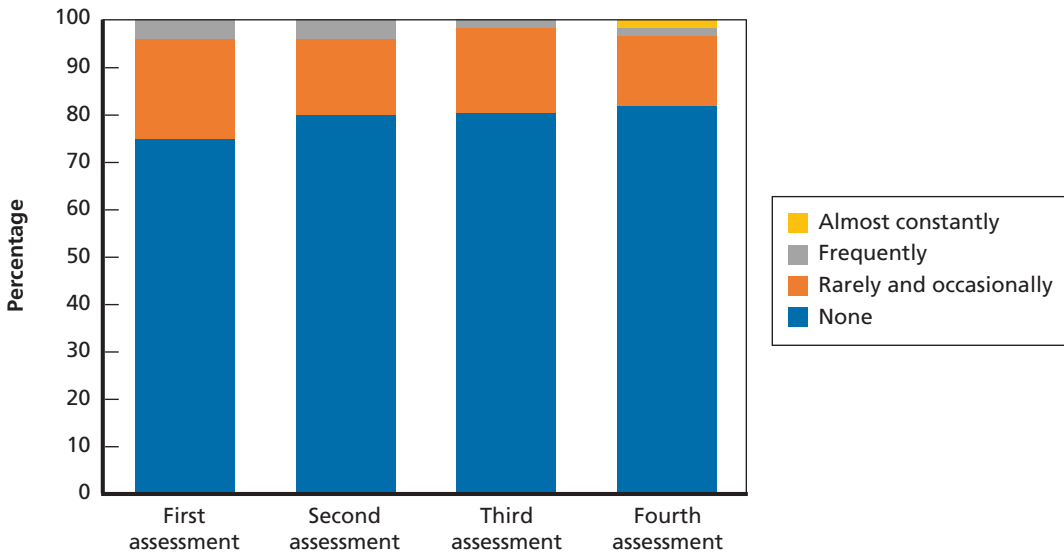
Figure 4.8 presents the results of our comparison of pain duration over assessments one and two. We have pain duration information for the first and second assessment for 72 clients. Only these clients are included in the analysis presented in Figure 4.8. Looking at the change between the first and second assessment, we see that most clients (68 percent) started without and continued to have no pain. A total of seven clients (10 percent) reported the same pain duration across the first two assessments, and six clients (8 percent) reported an increase in pain duration. Ten clients (14 percent) reported a decrease in pain duration across assessment one and two.

Mobility

To assess Weinberg Center clients' mobility, we examined clients' reported mobility "on unit" (i.e., in his or her room or adjacent corridor) during their stays. The results are presented in Figure 4.9. Our analysis of clients' ability to traverse the space within and surrounding their room at Hebrew Home revealed that many Weinberg Center clients arrived with mobility restrictions. In the first assessment, of the 100 clients in our sample, only one client (1 percent) reported no mobility issues on site, and three clients (3 percent) reported requiring basic supervision while moving through the Hebrew Home. In contrast, 29 percent of clients required limited assistance, 29 percent needed extensive assistance, and 34 percent were totally dependent on staff.

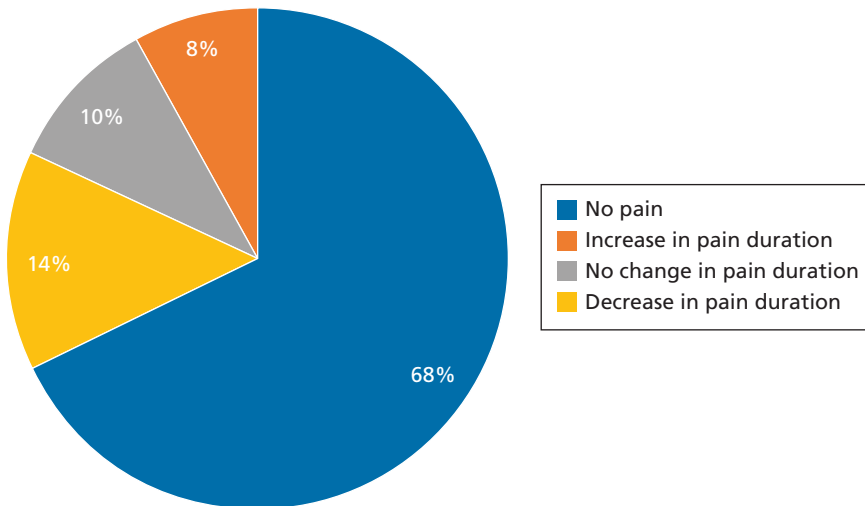
By the second assessment, the composition of the clients was largely the same, with some improvements among a small subset of clients. Only 2 percent of clients reported not needing any assistance, 9 percent reported requiring supervision, 29 percent required limited assistance, 27 percent required extensive assistance, and 32 percent were totally dependent on staff while on site. Thus, there was a slight decrease in the percentage of clients who were totally dependent on staff (32 percent versus

Figure 4.7
Share of Clients by Reported Pain Duration over Time



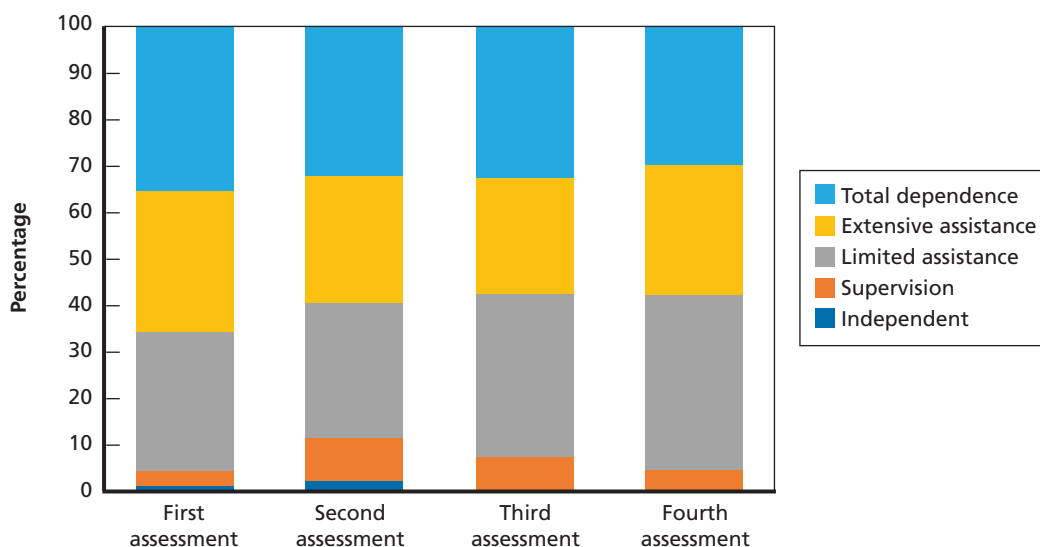
NOTE: Clients present at each assessment: first assessment = 96; second assessment = 75; third assessment = 66; fourth assessment = 61.

Figure 4.8
Change in Clients' Pain Duration Between First and Second Assessments



NOTE: Only includes clients who received their first and second assessments (72 clients).

Figure 4.9
Share of Clients by Reported Self-LoCOMotion on Unit over Time



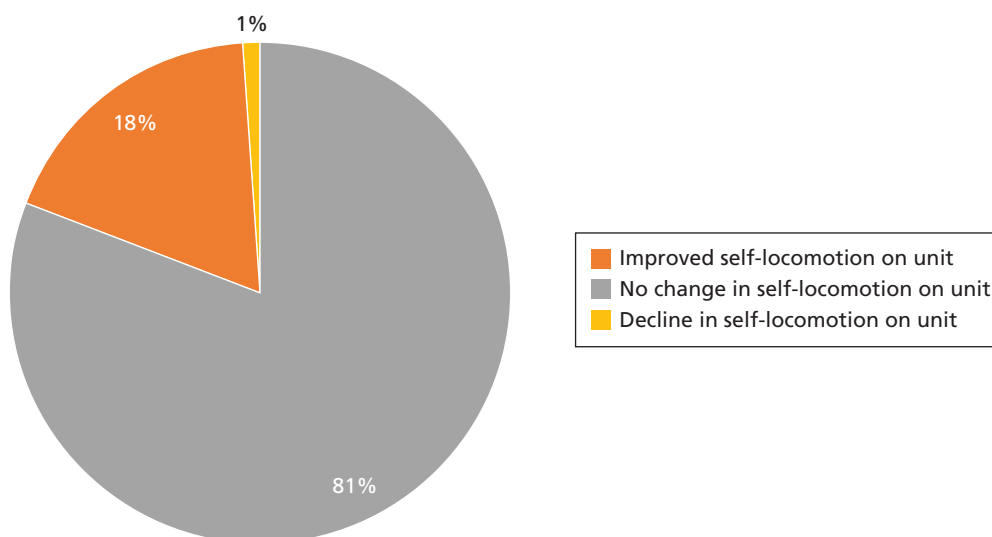
NOTE: Clients present at each assessment: first assessment = 100; second assessment = 96; third assessment = 76; fourth assessment = 64.

34 percent) and who required extensive assistance (27 percent versus 29 percent). The percentage of clients reporting requiring some supervision increased (9 percent versus 3 percent), suggesting that some clients regained some mobility between their first and second assessment but still required supervision. However, these results suggest that between 2013 and 2019, most clients served by the Weinberg Center faced significant and persistent mobility issues.

Next, we investigated whether client mobility changed between the first and second assessment. Figure 4.10 presents the results of this analysis. Between the first and second assessment, some clients saw improvement in their mobility on site. Of the 96 clients whose mobility was assessed at the first and second assessment, 18 percent saw an improvement in their onsite mobility after becoming a Weinberg Center client. Only one client saw their mobility on site diminish. Most clients continued to experience the same level of mobility between the two assessments.

As we saw with depression, cognition, and pain, most clients who enter Weinberg Center did not see dramatic changes in their mobility, although some clients experienced improvement within the first three months of their stays. Appendix A provides the results of our analysis on self-locomotion off unit, transfer ability (e.g., from bed to wheelchair), and bed mobility.

Figure 4.10
Change in the Number of Clients Reporting Different Levels of Self-Loconation on Unit
Between the First and Second Assessment



NOTE: Only includes clients who received their first and second assessment (96 clients).

Summary

The results of our analyses suggest that many Weinberg Center clients in our sample presented with poor physical and mental health: depression (88 percent), cognitive impairment (48 percent), and limited mobility (99 percent), and a quarter of clients presented with pain. Clients’ rates of depression and mobility issues are higher than we would expect to see based on comparable data on older adult populations (Jongeneelis et al., 2004; Musich et al., 2018). The high rates of depression might reflect the established relationship between EM and depression (Dyer et al., 2000; Steffens et al., 2009). Similarly, research suggests that greater dependency on caregivers—which could occur when one has mobility issues—could lead to higher rates of EM, which could translate into even higher rates of mobility issues among victims of EM (Lachs et al., 1997a). Rates of cognitive impairment and pain are similar to those in the population (Yaffe et al., 2011; Reid, Eccleston, and Pillemer 2015).

In general, we find that these conditions remain relatively stable over a period of nine months (four assessments), with more patients improving than declining. Among depressed clients, most remained stable and 16 percent saw a decrease in the severity of their depression by the second assessment (four months later).¹ Among clients with

¹ One reviewer noted that the decrease in measured depression could occur because the person was removed from an abusive environment and not because of any specific treatment from the Weinberg Center. This point

cognitive issues, one third of clients' condition stayed the same, while 13 percent actually experienced improvement in their cognition between the first and second assessment. Clients also typically continued to experience no pain after arriving at the Center, while some saw their pain severity and duration decrease. Most clients presented with some mobility issues. By the second assessment, 18 percent saw an improvement in their mobility, only one client saw their mobility decrease, and most clients remained stable in this regard.

In sum, most clients maintained a similar health status between the first and second assessment at the Center, with some clients improving and a notably smaller number deteriorating. Although the short time frame makes it difficult to formally assess the impact of the Weinberg Center on these outcomes, the overall trend of stability or improvement with comparatively few instances of declines in these areas of health over the nine-month period is promising.

The typical trajectory for older adults is a decline in these outcomes, especially when a change of setting occurs, such as a move to a residential care home, which has been shown to be associated with an increase in depression (Rovner, 1993) and decline in cognitive functioning (González-Colaco Harmand et al., 2014; Scocco, Rapattoni, and Fantoni, 2006; Wilson et al., 2007). The fact that clients stabilize or see improvements in depression, cognition, self-locomotion, and pain relief in the first year could suggest that Weinberg Center services stabilize outcomes that would otherwise have declined. Future work could potentially expand on these analyses and explore this possibility, if measures for an appropriate comparison group were collected and used to determine the trajectory of changes among similar individuals not being served by the Weinberg Center.

highlights the need for a strong comparison group to assess such threats to validity in future more comprehensive evaluations.

Financial Analysis of Weinberg Center Costs

In this chapter, we provide the results of a high-level analysis of Weinberg Center costs based on financial data provided by the Center. For the purposes of cost savings and other benefits presented later in this report, it is important to recognize the contexts in which Weinberg Center operates.

One of the most notable features of the Weinberg Center model, and the most consequential for this cost analysis, is the Center's colocation with the Hebrew Home, which enables the Weinberg Center clients to take advantage of essential Hebrew Home services, most notably lodging and medical care, without incurring additional operating costs to the Center. Historically, 80 percent of Weinberg clients are eligible for Medicare and/or Medicaid, which offsets the costs incurred by the Hebrew Home. For the remaining 20 percent of clients, the Hebrew Home provides those services in kind at no cost to the Center. As noted earlier, the concept underlying the Weinberg Center is to take advantage of existing RHCF resources with limited additional costs. Colocation is a key feature of the Weinberg Center model, and, in the absence of the Center's intervention, its clients would not have access to the Hebrew Home services. Conversely, as explained by Weinberg Center representatives, the Hebrew Home's staffing and other capacity to provide residential and physician services would exist at the same level even in the absence of the Weinberg Center.

Because of the relationship between the Weinberg Center and the Hebrew Home, the operating costs of the Center analyzed in this chapter do not cover the totality of resources spent to provide services to its clients. They exclude the cost of lodging, health care, and any other services provided to Weinberg Center clients by the Hebrew Home. These services contribute to positive outcomes (i.e., benefits) for clients and are "cost free" to the Weinberg Center but nonetheless pose a cost to payers (typically Medicare and/or Medicaid) and represent actual used resources that can be valued and, for the purposes of a formal cost-benefit analysis, belong to the same side of the equation as Weinberg Center costs. For example, average daily bed charges in the Hebrew Home have typically ranged between \$270 and \$310 per person, which offers a partial indication of the volume of additional resources used to support clients housed in the Hebrew Home. Further details on some of these costs is provided in Appendix B.

Weinberg Center Costs

As the first step in the analysis, we provide a summary overview of the evolution of the Weinberg Center’s throughput and its daily costs over the reference period in our analysis. Figure 5.1 shows the evolution of the number of shelter days between 2013 and 2019 and contrasts that with the trend in average costs per shelter day per person. The number of annual shelter days increased steadily from 12,171 in 2013 to 21,862 in 2018, with a subsequent slight decrease to 21,382 in 2019. Over the same period, average shelter day costs stayed largely constant, around \$20 per day, except for 2015, when daily costs rose to \$25.

Against this backdrop, we provide an overview of the evolution of Weinberg Center costs between 2013 and 2019. As Figure 5.2 shows, total Weinberg Center operating costs grew from approximately \$235,000 in 2013 to more than \$400,000 in 2019, simultaneously with the steady increase in the number of patient-days recorded over the same period.

Figure 5.3 provides a breakdown of Weinberg Center operating costs by type. It shows that most Weinberg Center operating costs were incurred through the provision of legal services and mental health services, consistent with the makeup of the Center’s staff. Legal services were the largest cost category in every year, although the provision of mental health services in 2015 and 2016 incurred comparable costs.

The remainder of Weinberg Center operating costs were incurred by paying for furniture and other household setups, client expenses, and indirect overhead costs. Indirect overhead costs were 5 percent of total operating costs in every year.

Figure 5.1
Weinberg Center Shelter Days and Average Daily Costs, 2013–2019

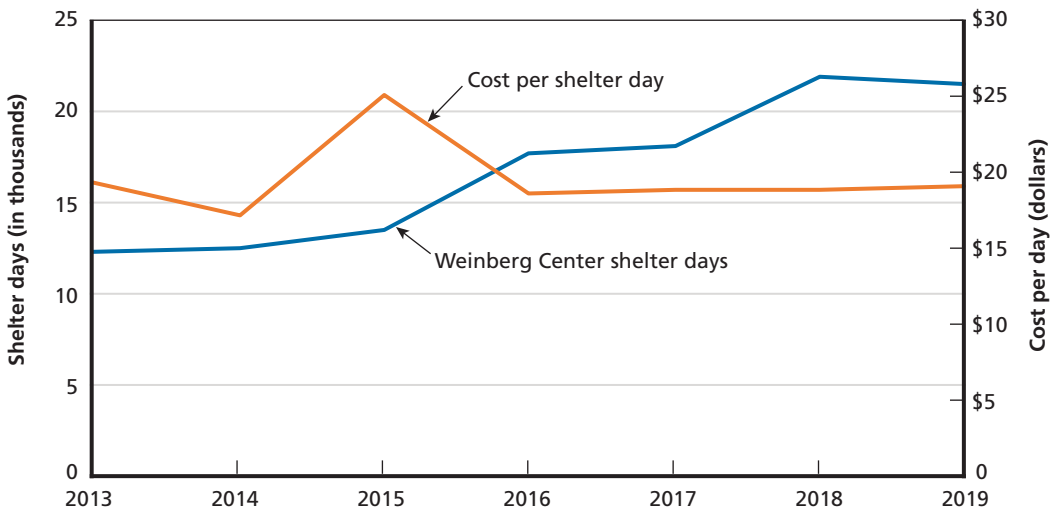


Figure 5.2
Weinberg Center Operating Costs, 2013–2019

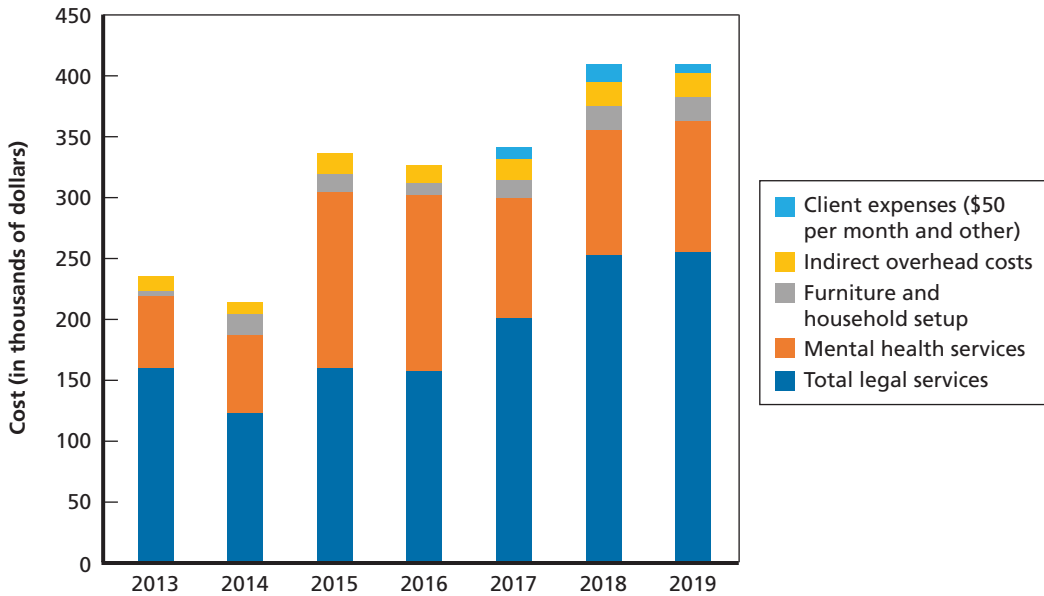


Figure 5.4 provides a further breakdown of Weinberg Center’s largest spending category, legal services. It shows that the majority of all legal costs (ranging from 69 percent to 77 percent) are accounted for by providing direct services to clients. The remainder of legal costs are incurred by other activities, such as working on cases (that ultimately do not result in an individual becoming a Weinberg client) and participating in trainings on various topics.

Summary

In sum, total Weinberg Center operating costs grew from approximately \$235,000 in 2013 to more than \$400,000 in 2019. This growth in costs corresponds to an increase in the number of annual shelter days provided by the Weinberg Center between 2013 and 2018, with a slight decrease in 2019. Using the overall costs of the Center, this means that costs of an average shelter day stayed largely constant, slightly under \$20 per day. Most of these costs reflect the provision of legal services and mental health services for clients. Indirect overhead costs were 5 percent of total operating costs in every year. We provide an overview of Weinberg Center’s operating costs to compare them with the magnitude of the potential savings discussed in the next chapter, although we urge caution because these costs do not capture the totality of resources spent providing services to the Center’s clients.

Figure 5.3
Distribution of Weinberg Center Costs, by Type, 2013–2019

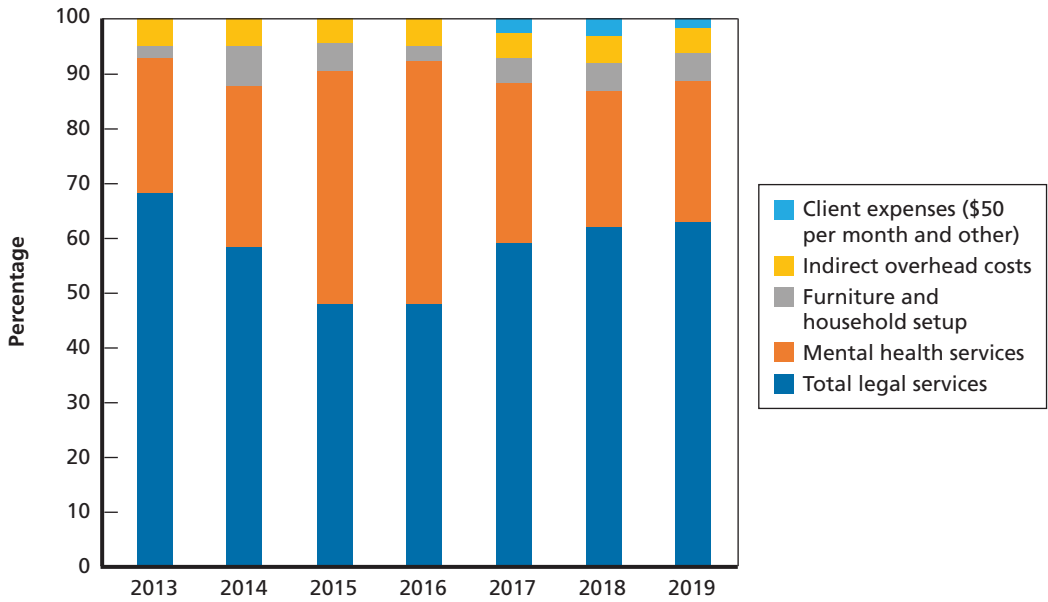
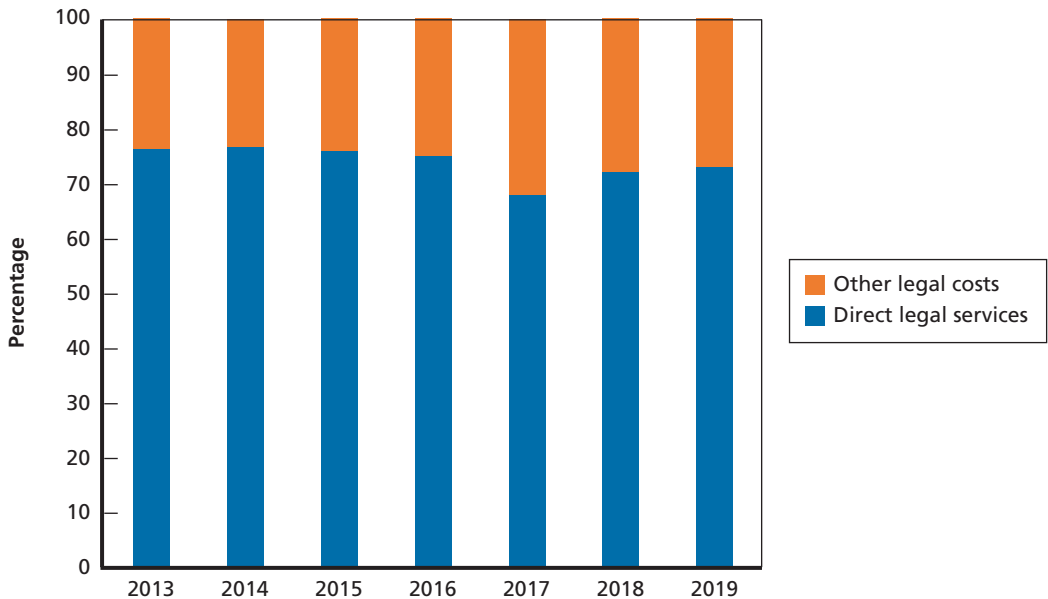


Figure 5.4
Composition of Weinberg Center Spending on Legal Services, 2013–2019



Analysis of Cost Savings and Other Benefits

We take a vignette approach to this initial cost analysis to estimate the possible benefits generated by services provided by the Weinberg Center. Each vignette is a short narrative describing exemplar pathways that some Weinberg Center clients follow and collectively demonstrate the diversity of experiences and pathways among Weinberg Center clients. In each vignette, we provide an overview of existing evidence on benefits and savings that may be realized in the life situation or pathway described in the vignette and a discussion of who these savings and benefits could affect. This evidence is drawn from academic literature and other publicly available sources. We crafted each vignette from actual stories and experiences of Weinberg Center clients to maximize the likelihood that the vignette-based cost analysis reflects the true costs and savings created by Weinberg Center services.

In this chapter, we introduce five hypothetical vignettes that focus on a specific service provided by the Weinberg Center. For each vignette, we use the same structure consisting of three sections:

1. a short narrative of the vignette (i.e., a life situation similar to one that might be experienced by an actual Weinberg Center client)
2. a discussion of the savings and benefits created by Weinberg Center services featured in the hypothetical case based on real-world data that approximate this case to the extent possible
3. an analysis of how these benefits might expand if applied to the entire cohort of Weinberg Center clients covered by this evaluation (i.e., individuals entering the Weinberg Center between 2013 and 2019).

As previously mentioned, we are most concerned with three key parameters:

1. costs of an adverse event the Weinberg Center intervention aims to avoid
2. reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention
3. population of Weinberg Center clients receiving the intervention.

We discuss each element in the following sections and highlight areas where additional data collection would further illuminate the parameters above. An additional important consideration is who bears the costs and who accrues the savings discussed in the vignettes and in other scenarios. The vignettes are limited to establishing the overall volume of potential savings, but we return to the discussion of the distribution of costs and benefits later in this chapter.

Vignette 1: Armando's Untreated Condition

Box 6.1

Vignette 1: Armando's Untreated Condition

- Armando is a 65-year-old man who experienced neglect and physical EM by his daughter, who is his primary caregiver.
- Armando has undiagnosed hypertension. He was not attending regular checkups with his primary care physician because his daughter refused to take him.
- Because of his untreated hypertension, Armando went to the ER three years ago and was hospitalized. No other medical conditions were identified during this episode.
- Upon entering the Weinberg Center, Armando was given a full checkup, his hypertension was identified, and he started treatment for it.
- Armando had no cardiovascular complications for the next five years.
- In Armando's case, the Weinberg Center might have created cost savings by identifying a previously undiagnosed condition, improving patient health and management of that condition, and reducing the need for ER and hospital use.

Individual Analysis

In Armando's case, the Weinberg Center might have created savings by reducing the number of ER visits needed by a client (see Box 6.1). To estimate the value of this service, we turn to the existing literature. We use data from Medical Expenditure Panel Survey Household Component (MEPS-HC) and Medical Provider Component (MEPS-MPC) to estimate the average cost of an ER visit for individuals older than 65 (Mirel and Carper, 2014). Health care expenses in the MEPS represent payments to physicians, hospitals, and other health care providers for services reported by respondents to the MEPS-HC. An analysis of these data found that, in 2011, the average cost of an ER visit among older populations was \$884 (Mirel and Carper, 2014). Adjusting for medical cost inflation rates reported by the PricewaterhouseCoopers (PwC) Health Research Institute (2020), these costs were approximately \$1,556.12 in 2020.

We then use inpatient charge data from the Centers for Medicare and Medicaid Services to calculate the cost of hospitalization for a cardiac condition. Specifically, we use total payments made in fiscal year 2017 to hospital Medicare providers in New York City for two Medicare Severity Diagnosis Related Groups (MS-DRGs): Heart Failure & Shock with Complication or Comorbidity and Heart Failure & Shock with

Major Complication and Comorbidity.¹ The average total payment made to providers in the Bronx for these two MS-DRGs, weighted by the number of discharges reported by each provider, was \$18,982.63.² Adjusting this cost for health care inflation results in a payment of \$22,480.83 in 2020 (PwC Health Research Institute, 2020). Adding the ER and hospital episodes together, the costs of adverse events in Armando’s case are approximately \$24,000.

With respect to the second parameter, the reduction in risk attributable to Weinberg Center intervention, Armando’s case assumes that the provision of hypertension treatment at the Weinberg Center prevented Armando from requiring ER care and subsequent hospitalization in the future. Thus, in this hypothetical scenario, the reduction in risk is absolute—that is, 100 percent, or 1. Lastly, because the vignette involves only Armando, the population receiving the Weinberg Center intervention is one person. Table 6.1 summarizes the individual-level analysis pertaining to this vignette. The results indicate that Armando’s case would yield cost savings of just over \$24,000 in the form of avoided future emergency care and hospitalization.

Applying the Vignette to the Weinberg Center Population

We now attempt to estimate the savings at the level of the entire Weinberg Center population, which, for the purposes of our analysis, is limited to the 2013–2019 cohort. Armando’s vignette above represents an “ideal” scenario: The Weinberg Center’s intervention completely eliminated the risk of an adverse event, which is not an outcome that will materialize for everybody receiving the intervention. Therefore, the challenge

Table 6.1
Results of Armando’s Vignette: Individual Analysis

Parameter	Value
Costs of an adverse event the Weinberg Center intervention aims to avoid	\$24,037
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	1
Population of Weinberg Center clients receiving the intervention	1
Savings stemming from the Weinberg Center intervention	\$24,037 over 4–5 years

¹ For more on these data, see Centers for Medicare and Medicaid Services, 2020.

² This estimate is broadly similar to data reported by the Agency for Healthcare Research and Quality’s Healthcare Cost and Utilization Project (HCUP), which uses inpatient statistics on cardiovascular and cerebrovascular conditions and procedures to produce estimates of average costs per patient. Average total hospital costs in HCUP reports reflect actual expenses incurred in the production of hospital services but do not include physician billing. According to a HCUP report from 2012, the cost of a hospitalization for a congestive heart failure in 2010 for adults age 65 and older was \$10,500 (Steiner, Barret, and Weiss, 2012). Adjusting this amount for health care inflation, the cost equals \$20,146.87 in 2020.

in applying the vignette to the entire population lies in estimating the overall reduction in risk and the number of people who could benefit from the intervention.

We use the same three-step process to calculate the possible cost savings for the entire Weinberg Center population. The costs of an adverse event remain the same: \$24,037. With respect to the reduction in the risk, a recent systematic review and meta-analysis based on 123 studies (Ettehad et al., 2016) found that treatment for hypertension, which results in a 10mm Hg decrease in systolic blood pressure, reduces risks of coronary heart disease by 17 percent (95 percent confidence interval [CI]: 12–22 percent), heart failure by 28 percent (95 percent CI: 22–33 percent), and stroke by 27 percent (95 percent CI: 23–32 percent). An older trial by Vaccarino et al. (2001) put the 4.5-year risk of coronary heart disease, heart failure, and stroke event in older populations not randomized to treatment with hypertension at 5.8 percent, 4.4 percent, and 6.8 percent, respectively. Combining these parameters implies a 4.1 percent chance per person that one of these three events is avoided because of Weinberg Center interventions over 4.5 years.³

Next, we turn to the size of the eligible population. Our analysis of MDS data indicates that 71 percent of Weinberg Center clients suffered from hypertension and, therefore, would benefit from treatment. Table 6.2 presents the results of the population-level analysis. It shows that applying Armando's case to the entire Weinberg cohort might result in savings of slightly more than \$69,000 over four to five

Table 6.2
Results of Armando's Vignette: Population-Level Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$24,037
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	0.041
Population of Weinberg Center clients receiving the intervention	71
Savings stemming from the Weinberg Center intervention	\$69,187 over 4–5 years

NOTE: We are mindful that presenting cost savings on an annual basis might be the most desirable form, and we attempt to present such unit of analysis for each vignette. However, in this instance, we are unable to calculate annualized cost savings because the estimate of risk reduction is based on a multiyear follow-up period and cannot be prorated on an annual basis without introducing a risk of error.

³ This calculation is the sum of the absolute risks for the three events reported by Vaccarino et al. (2001) reduced by the effect reported in Ettehad et al. (2016). In the absence of further data that could inform any necessary adjustments, this approach incorporates an assumption that the individual risks for these three events are mutually independent.

years. That is because the combination of risk reductions reported in the literature and the prevalence of hypertension among Weinberg Center clients suggests it would be reasonable to expect two to three cases like Armando's situation in a cohort of 100 over six years (i.e., the size of our sample of clients).

As previously noted, there are limitations to this cost savings analysis. First, our calculation of the savings, presented above, assumes that none of the Weinberg Center cohort were previously treated for hypertension. However, any clients already receiving treatment should be removed from the population count. Second, the parameters for risk reduction are based on general population studies rather than older adults experiencing EM, specifically. It is possible that risks are higher among this group, which would increase the costs savings. It is also possible that the effectiveness of treatment would be different, although it is not clear in which direction. For example, some indication of the results' sensitivity to the transferability of evidence from existing literature can be demonstrated by rerunning the analyses above with the lower and upper bounds of the confidence intervals reported by Ettehad et al. (2016). Using the lower bound of the effectiveness estimates reduces the population-level savings to \$55,090, while using the upper bound yields estimated savings of \$83,693. Last, it is important to keep in mind that this analysis only covers avoided ER and hospitalization costs. For example, it is possible that some of these adverse events would, in the absence of treatment, end up fatal, in which case there would be additional benefits from the Weinberg Center intervention in the form of life-years saved.

Vignette 2: Belinda's Guardian

Box 6.2

Vignette 2: Belinda's Guardian

- Belinda, who has dementia, is abused by her son, who is her primary caretaker.
- Belinda, a Medicare beneficiary, is admitted to the hospital after becoming disoriented.
- The hospital staff realize Belinda is being abused and tell Weinberg Center's legal staff about her.
- However, in order to move Belinda to the Weinberg Center, she must have a new guardian appointed by a local court. Until this process is resolved, Belinda has no option but to stay in the hospital, because she has no other place to go.
- The Weinberg Center's legal team eases the guardianship process and helps identify a suitable guardian for Belinda, ensuring her safety and giving her the chance to move into Weinberg Center.
- Because of the intervention by Weinberg Center, Belinda stayed at the hospital for a shorter period than she would have otherwise.

Individual Analysis

The potential savings in Belinda's case stem from a reduction in the length of her hospital stay; thus, the hospital costs are a key parameter for this vignette (see Box 6.2). Although not all Weinberg Center clients with guardianship issues await resolution in the hospital, data from the Center suggest that this is a common situation: 75 percent of all clients who have guardianship issues (defined as requiring support related to assigning a guardian) come from a hospital setting. To estimate the cost of a hospital stay for older patients with dementia, we turn to the literature. Zhu et al. (2015) undertook a longitudinal study of Medicare beneficiaries residing in Northern Manhattan admitted to a hospital between 1999 and 2010. They found that those with dementia had on average 13.8 days of hospitalization with expenditures of \$24,123, implying an average daily cost of hospitalization of \$1,748.⁴ We use this result to estimate the cost of a hospital stay in Belinda's case and inflate it using data from the PwC Health Research Institute (2020), which yields a daily cost of \$5,286.⁵

Next, we estimate the reduction in risk of a long-term hospital stay (caused by guardianship issues) attributable to Weinberg Center services. American Bar Association data indicate that the average length of the process of assigning a new guardian in New York state is 211 days (American Bar Association, 2016). However, Weinberg Center data indicate that, with the Center's support, clients with guardianship issues waited an average of 33.5 days to enter the facility (median value was 30 days). The

⁴ We are aware that the calculation of daily costs assumes that costs are linearly distributed across the entire hospital stay, which may not be the case. For instance, there may be upfront charges that are triggered irrespective of the overall length of stay. However, in the absence of more-detailed data, this calculation represents the best approximation of daily costs available.

⁵ We assign the average cost derived from Zhu et al. (2015) for 2005 because this is the midpoint of the reference period covered by the study. PwC's data start in 2007—therefore, for the cost inflation in 2006, we used the average value reported by the PwC Health Research Institute (7.7 percent).

difference between these two parameters creates our estimate of the reduction in risk caused by the Weinberg Center. In other words, we assume that the provision of legal services to Belinda reduced the length of her hospital stay from 211 days to 33.5 (i.e., by 187.5 days). Because this is an individual-level analysis covering Belinda only, the total population size for this analysis is one. Table 6.3 presents the results of the individual analysis and shows that in Belinda's case the Weinberg Center intervention results in savings of \$991,173.⁶

Applying the Vignette to the Weinberg Center Population

Next, we apply the components of Belinda's case to the entire Weinberg Center cohort. In this analysis, the costs of an adverse event—daily costs of staying in a hospital—remain the same. The reduction in risk is also the same, as we assume that the Weinberg Center's legal services are able to achieve the same reduction in the length of hospital stay, as it is calculated as a difference between two average values reported in the literature (for individuals not receiving Weinberg Center services) or by the Weinberg Center (for individuals supported by the Center).

Table 6.3
Results of Belinda's Vignette: Individual Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$5,286 per day
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	187.5 days
Population of Weinberg Center clients receiving the intervention	1
Savings stemming from the Weinberg Center intervention	\$991,173

Table 6.4
Results of Belinda's Vignette: Population-Level Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$5,286 per day
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	187.5 days
Population of Weinberg Center clients receiving the intervention	2.1 per year
Savings stemming from the Weinberg Center intervention	\$2,163,588 per year

⁶ It is important to note that this is just one hypothetical scenario. Other strategies can be employed to shorten the time a client waits in the hospital, such as seeking the appointment of a temporary guardian, but these approaches are not always employed or effective and come with their own financial and quality-of-life costs.

Thus, the only update required to move from the individual to the population level is to determine the number of individuals in a similar situation to Belinda. According to data provided by the Weinberg Center, there were 15 individuals with guardianship issues in the 2013–2019 cohort, or on average 2.1 per year; we use this number for the population-level analysis. Table 6.4 presents the results. Applying Belinda's case to the 2013–2019 cohort yields cost savings exceeding \$2 million per year.

It is important that readers interpret this result as illustrative of the potential savings generated by the Weinberg Center rather than a firm evidence-based estimate. Our estimate is a best guess based on the published literature. The result is extremely sensitive to the value of its input parameters, since hospital stays are expensive events, the costs of which could vary substantially across contexts, and because the assumed length of the hospital stay in this vignette is unusually long. To illustrate, if the length of the avoided hospital stay and the daily cost of the hospital stay were one-third lower than assumed, the resulting estimated population-level savings would be less than \$1 million per year. Conversely, if the actual length of the avoided hospital stay and the daily costs were one-quarter higher than assumed, the estimated population-level savings would be more than \$3 million a year. Similar considerations, albeit at a smaller scale, also apply to the remaining vignettes.

In sum, the vignette indicates that, if the situation described in Belinda's case, approximates the situation experienced by Weinberg Center clients, there is a potential for sizable savings to payers and governments. However, the exact calculation of these savings would require more-detailed input data.

Vignette 3: Ciara's Home

Box 6.3

Vignette 3: Ciara's Home

- One day, Ciara met Joan, who asked if she could stay with Ciara, promising to help care for her.
- Ciara agreed, but soon Joan was abusing Ciara financially, stealing from her, and taking her Social Security checks. Joan was also in the process of getting Ciara to transfer ownership of her home to her.
- Ciara fell ill from stress and neglect, and Adult Protective Services referred her to the Weinberg Center.
- The Weinberg Center legal team worked to ensure that Joan was evicted from Ciara's home. Joan was also ordered to return the money she stole from Ciara.
- By providing this service, the Weinberg Center protected Ciara's assets (her house) and decreased her need for future government assistance (e.g., for housing, health care co-payments) because of her loss of income and assets.

Individual Analysis

The savings in Ciara's case stem from her ability to regain access to her assets and from reductions in Ciara's need for public assistance once she was able to draw on her own resources again (see Box 6.3). A 2016 analysis by the New York State Office of Children and Family Services provides preliminary estimates of the value of services provided by the Weinberg Center in Ciara's case (Huang and Lawitz, 2016). This study documented the average cost of financial abuse to older citizens in New York State and broke these costs down by type (e.g., real estate, stolen checks). We can apply these estimates to Ciara's case. For instance, the study found that, on average, older adults experiencing EM who lost real estate assets to an abuser lost an average of \$176,878.59. Older adults experiencing EM who lost benefit checks because of theft by an abuser lost an average of \$6,000.30.⁷

Huang and Lawitz (2016) also estimated the cost of financial abuse to the state via spending on services that victims of EM require because of lost income due to theft by abusers. Relevant to Ciara's case are rent subsidies, which she would have needed if she had lost her house to Joan, her abuser. The authors estimated that rent subsidies for older adults experiencing EM without housing resources cost the state \$2,719.25 on average per case. Table 6.5 summarizes the results of the analysis pertaining to Ciara. It shows the total savings assumed in this scenario are \$185,598.05.

Applying the Vignette to the Weinberg Center Population

The application of this vignette to the broader Weinberg Center population is challenging. The parameters pertaining to the costs of adverse events can be retained and

⁷ We thank one reviewer for pointing out that Adult Protective Services may only keep track of significant losses and not include smaller losses which could bias our estimates. However, the report does include some smaller scale losses, so we hope that, if true, we are only missing a small subset of extremely small losses among older adults experiencing EM.

Table 6.5
Results of Ciara's Vignette: Individual Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$185,598.05
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	1
Population of Weinberg Center clients receiving the intervention	1
Savings stemming from the Weinberg Center intervention	\$185,598.05

used again. However, values for the other two parameters are difficult to determine. First, to determine how much services at the Weinberg Center *reduce the risk* that victims of financial EM lose their assets, we would need to know how frequently Weinberg Center legal services are successful in restoring clients' access to their assets and how this success rate differs across various types of assets/issues. For example, the Weinberg Center might be much more likely to help its clients resolve housing-related issues, whereas recovering lost money is much more difficult and might happen only in rare cases. Thus, we are cognizant of the fact that Ciara's story represents an illustrative best-case scenario for a victim of EM who has lost significant wealth and, therefore, might not happen very often.

Last, to expand this estimate to a wider variety of individuals, we would need to know how many Weinberg clients enter with each type of issue and are provided with legal assistance from the Weinberg Center. For these reasons, the volume of benefits described in this vignette at the population level remains unclear, as laid out in

Table 6.6
Results of Ciara's Vignette: Population-Level Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$185,598.05
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	Unknown
Population of Weinberg Center clients receiving the intervention	Unknown
Savings stemming from the Weinberg Center intervention	Unclear

Table 6.6.

Vignette 4: Dmitry Enrolls in Medicaid

Box 6.4

Vignette 4: Dmitry Enrolls in Medicaid

- Dmitry is being abused by his son, who has taken control of his finances.
- Without access to his financial resources, Dmitry was unable to pay his co-payments for his physician visits, even though he is covered by Medicare.
- Because of his lack of primary care from his physician, Dmitry visited the ER three times a year.
- After being referred to the Weinberg Center, its legal team helped Dmitry enroll in Medicaid, which he can use to pay his co-payments for his medical care.
- By providing this service, the Weinberg Center increased the likelihood that Dmitry will receive regular medical care and no longer require ER care.

Individual Analysis

The savings realized in Dmitry's case stem from the avoidance of future medical costs due to fewer ER visits and fewer subsequent hospitalizations (see Box 6.4). To capture the cost of an ER visit, we use the same parameter as in Armando's vignette: \$884 per visit (Mirel and Karper, 2014), or \$1,556 in 2020 dollars (PwC Health Research Institute, 2020). In Armando's case, all future adverse events are averted—that is, the reduction in risk is one. The population size in this case is also one. Table 6.7 presents the results of the individual-level analysis. The avoidance of future emergency use results in savings of nearly \$4,668 per year.

Applying the Vignette to the Weinberg Center population

Next, we apply Dmitry's case to the population of the Weinberg Center. The parameter for the costs of an adverse event (i.e., an ER visit) remain the same: \$1,556. We use existing research by Lachs et al. (1997b) on victims of EM and assume that older individuals who experience EM use the ER on average three times a year. We then calculate the possible reduction in risk caused by Weinberg Center services (in this case, by helping Dmitry access Medicaid) using estimates from Federman, Vladeck, and Siu (2005). Federman and co-authors compared the health care usage of low-income older people with and without Medicaid and found that ER use among those without Medicaid was 5.4 percent greater than among those with Medicaid support.

Table 6.7
Results of Dmitry's Vignette: Individual Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	ER visit: \$1,556 (3 per year)
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	1
Population of Weinberg Center clients receiving the intervention	1
Savings stemming from the Weinberg Center intervention	\$4,668 per year

According to data provided by the Weinberg Center, staff assisted 79 percent of the Center’s clients with enrolling in Medicaid. We apply this proportion to arrive at the population size for this analysis. Table 6.8 presents the results of the analysis. It shows that Weinberg Center assistance in enrolling its clients in Medicaid has the potential to generate more than \$18,000 in savings in the form of avoided ER visits.⁸

Table 6.8
Results of Dmitry’s Vignette: Population-Level Analysis

Parameter	Value
Costs of an adverse event that the Weinberg Center intervention aims to avoid	\$1,556 (3 per year)
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	0.05
Population of Weinberg Center clients receiving the intervention	79
Savings stemming from the Weinberg Center intervention	\$18,439 per year

⁸ Note that the full extent of these savings would start accruing only once the entire cohort of clients with this need has been helped, i.e., in our cohort example at the end of 2019. In the prior years, the volume of annual savings would be a function of the number of clients saved. For instance, assuming an even distribution of clients with this need across the entire cohort timeframe means the Weinberg Center would help on average 11.3 people a year, yielding *new* savings of \$2,634 annually.

Vignette 5: Ella's End-of-Life Decisions

Box 6.5

Vignette 5: Ella's End-of-Life Decisions

- Ella has Alzheimer's disease and her current guardian, her husband, is neglecting her.
- Adult Protective Services became aware of Ella's deteriorating condition after a neighbor called to report her ill health.
- Because of her cognitive state and the fact that her primary guardian was abusing her, the Weinberg Center's legal team worked to secure another guardian to make decisions for Ella.
- Ella then worked with Weinberg Center's legal team to determine what her end-of-life wishes would be, sharing those with her guardian and formalizing them in relevant legal documents.
- At the end of her life, when Ella could no longer speak for herself, Ella's guardian was able to communicate her end-of-life desires, including a request not to resuscitate and to forgo heroic efforts to prolong her life.

Individual Analysis

In Ella's case, savings stem from the avoidance of unwanted and expensive end-of-life care (see Box 6.5). By making an early determination about the type of care she wanted—and did not want—at the end of her life, Ella received palliative care that gave her comfort in her final days, but she did not receive any therapy that would likely further damage her health to prolong her life (D'Amico et al., 2009). Costs savings in this case would reflect the difference in health spending if Ella had not outlined her wishes prior to her death.

Research suggests that there is a significant difference in the cost of end-of-life care between individuals who make early determinations about their desires for treatment in their final days. A study by Chambers et al. (1994) evaluated the difference in end-of-life spending between individuals with advance directives, which are legal documents that outline a person's wishes about end-of-life care, and those without. The primary data source for Chambers et al.'s analysis was a particular hospital's financial management database, which contained clinical and financial information for all patients hospitalized during the study period. In this hospital's database, data are recorded for each patient, and a profile of resources consumed and billed to a patient can be generated to estimate the cost of his or her hospital stay before the patient's death.

Chambers et al. found that patients who had advance directives spent an average of \$30,478 on their final hospital stays. Conversely, patients without an advance directive spent an average of \$95,305. The median cost for patients with advance directives was \$15,321, whereas the median for patients without advance directives was \$57,963. The results suggest that patients with advance directives ultimately receive less expensive medical care in their final hospital stays than patients with advance directives. The difference between these amounts, \$64,827, represents the possible costs savings associated with supporting older clients in making end-of-life decisions.

Table 6.9
Results of Ella's Vignette: Individual Analysis

Parameter	Value
Costs of an adverse event the Weinberg Center intervention aims to avoid	\$64,827
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	1
Population of Weinberg Center clients receiving the intervention	1
Savings stemming from the Weinberg Center intervention	\$64,827

One might expect patients with advance directives to be systematically different than patients without advance directives (e.g., patients with advance directives might have more-severe conditions). However, the authors found that patients with and without advance directives were not significantly different in terms of sex, race, or religion and had similar levels of severity of illness upon admission to the hospital. This difference in health care costs remained significant after controlling for severity of disease, use of an intensive care unit, and number of procedures. Moreover, demographics, length of stay, admitting service, admitting diagnosis, and previous admission to the study hospital did not change the significance of the difference in cost. Table 6.9 presents the results of the individual-level analysis.

Table 6.10
Results of Ella's Vignette: Population-Level Analysis

Parameter	Value
Costs of an adverse event that Weinberg Center intervention aims to avoid	\$64,827
Reduction in the risk of the adverse event occurring attributable to Weinberg Center intervention	1
Population of Weinberg Center clients receiving the intervention	Unknown
Savings stemming from the Weinberg Center intervention	Unknown

Applying the Vignette to the Weinberg Center Population

Applying Ella's case to the broader client population at Weinberg Center would require information on the number of clients who decide to create an advance directive because of support or encouragement from Weinberg Center staff. It is critical to understand whether clients would have requested and created advance directives without the support of Weinberg Center staff or not. We do not currently have this type of information on Weinberg Center clients.

It would also be useful to know the contents of clients' advance directives. Specifically, data on the number of clients who use an advance directive to forgo extensive measures to extend their life could help us estimate how many clients would likely have lower costs for their end-of-life care. One study found that most patients (70 percent) would prefer to reject life-sustaining treatments if given a poor prognosis (Emanuel et al., 1991). More details about the preferences of individual Weinberg Center clients would allow us to estimate the cost savings created by the creation of advance directives at the Center. Table 6.10 presents the results of the population-level analysis.

Other Plausible Savings

The five vignettes presented above represent a selection of hypothetical scenarios intended to illustrate the range of savings and benefits generated by the Weinberg Center. The true extent of benefits generated by the Weinberg Center extends beyond this narrow group of scenarios and the analytical approach used (as noted earlier) could be applied, in principle, to any service provided by the Weinberg Center, if enough data were available.

Medical Savings

Taking Armando's case (Vignette 1) as an example, the scenario presented was confined to the provision of services to treat hypertension. Although hypertension is the most prevalent condition among Weinberg Center clients, it is only one of many conditions for which treatment services could result in the avoidance of future adverse events and associated costs. Table 6.11 presents an overview of the most prevalent health conditions affecting Weinberg Center clients when they enter the Center. Calculations like those presented in Armando's case (Vignette 1) could be performed for each of these. Appendix B presents a nonexhaustive set of parameters in existing literature that could be employed in such analyses.

Nonmedical Savings

Similarly, the vignettes on social and legal services capture only a fraction of instances in which Weinberg Center interventions might lead to savings and other benefits. For instance, Ciara's case (Vignette 3) involved a specific set of issues, but another person

Table 6.11
Most Prevalent Health Conditions Among the
2013–2019 Weinberg Center Client Cohort upon Entry

Condition	% of Weinberg Center Clients
Hypertension	74
Hyperlipidemia	45
Dementia	33
Gastroesophageal reflux disease	31
Anemia	29
Depression	29
Arthritis	23
Diabetes mellitus	21
Osteoporosis	17
Heart failure	15
Thyroid	15
Stroke (cerebrovascular accident, transient ischemic attack, or stroke)	15
Chronic obstructive pulmonary disease	14
Cataracts, glaucoma, or macular degeneration	14
Anxiety disorder	13
Benign prostatic hyperplasia	11
Cancer	9
Alzheimer’s	8
Hemiplegia	8

SOURCE: MDS data provide by the Weinberg Center.

could deal with a different set of issues that could lead to different savings and benefits. To illustrate, Table 6.12 outlines the costs of other adverse events related to financial EM reported by the New York Office of Children and Family Services in 2016. As previously mentioned, it might not always be possible to recoup such losses in every case, but, in an ideal scenario, a victim of a crime could leverage the courts and be reimbursed for stolen assets. Notably, Table 6.12 also includes parameters for situations in which Weinberg Center legal services could alleviate at least some of the burden placed on state agencies tasked with addressing EM cases.

Table 6.12
Examples of Parameters Pertaining to Lost Assets and Prosecutions of Elder Abuse: Average Costs Reported by the New York Office of Children and Family Services, 2016

Adverse Event	Cost
Costs borne by victims of elder abuse	
Lost housing assets (included in Ciara's case)	\$176,878.50
Lost benefit checks (included in Ciara's case)	\$6,000.30
Lost cash	\$38,538.73
Lost personal checks	\$29,449.70
Monetary losses via ATM transactions	\$24,958.67
Lost credit card	\$17,402.61
Costs borne by state agencies associated with prosecution of elder abuse cases	
Adult Protective Services	\$644.30
Legal intervention	\$729.34
Financial management	\$750.50
Other (e.g., aid accessing bank)	\$1,485.16

SOURCE: Huang and Lawitz, 2016.

Benefits Other Than Cost Savings

In our analysis, we focused on the possibility that Weinberg Center interventions produce cost savings resulting from the avoidance of future adverse events, such as hospitalizations or continued inability of mistreated individuals to access their assets. However, the Center is likely to benefit clients in other ways. Chief among these are improvements in clients' quality of life. Mechanisms through which clients' quality of life might improve include identification and subsequent treatment of health conditions, provision of social services assisting Weinberg Center clients with their reintegration in community, legal assistance with end-of-life arrangements, and prevention of future abuse.

Measurement of improvements in quality of life can be challenging. In the context of medical interventions, it is possible to express any positive outcomes in terms of quality-adjusted life-years (QALYs) gained. One QALY corresponds to one year in perfect health and can be used to capture how much a medical intervention extends and improves patients' lives (Pearson, 2019). This method is frequently used to compare the effectiveness of various therapies and inform clinical decisions. QALY gains associated with the type of interventions provided by the Weinberg Center provide an indication of the scope of potential benefits beyond cost savings. We provide illustrative quality-

of-life parameters from the existing literature related in Appendix B that highlight the potential quality-of-life gains created by Weinberg Center services.⁹

Calculating quality-of-life improvements in a cost analysis is also difficult because such improvements are not easy to monetize. Generally, quality-of-life improvements would result from the consumption of new or additional services and, thus, would involve *increases* in costs (e.g., because of the more intensive provision of health care services). Therefore, the key question is: At what point would the increased costs of services outweigh the quality-of-life benefits (i.e., how much are the increases in quality of life worth)? Regrettably, there is no universally accepted value of one QALY in the United States or globally, although suggestions have been made in existing literature, ranging from slightly less than the value of gross domestic product (GDP) per capita to multiples of GDP (Pearson and Chapman, 2019).¹⁰ Some international public health authorities, such as the National Institute for Health and Care Excellence, use cost-per-QALY thresholds to guide their recommendations and assessments of the cost-effectiveness of individual treatments (Dillon, 2015). Similarly, existing literature assesses the cost-effectiveness of treatment options by measuring the costs of a QALY gained. Accordingly, Appendix B complements the data on quality-of-life benefits with information on costs and cost-effectiveness, where available.

Outside the context of health care, social and legal interventions could also plausibly lead to quality-of-life improvements, but such services do not have a measure like QALY. Without such a measure, it is difficult to monetize the value of such services. To illustrate, to investigate possible quality-of-life benefits associated with making early determinations about end-of-life care, Garrido et al. (2015) investigated whether patients with do-not-resuscitate (DNR) orders had a higher quality of life in their last week of life than patients who did not have such an order.

Garrido et al. used retrospective caregiver reports of quality of life in the week before death, as it is not possible to prospectively identify a patient's last week of life.¹¹ The authors found that the presence of a DNR order was significantly associated with better quality of life in the week before death. A future analysis of the benefits of the

⁹ As with the vignette-based analyses of cost savings, the same caveats about transferability of lessons from existing literature to the context of the Weinberg Center and the absence of clear counterfactual data apply.

¹⁰ To illustrate the debate about appropriate cost-effectiveness cutoffs, the threshold values applied by the National Institute for Health and Care Excellence in the British health system range from 20,000 to 30,000 pounds sterling (i.e., slightly lower than the country's GDP per capita). By contrast, on the upper end of the spectrum, Neumann, Cohen, and Weinstein (2014) suggested a range of \$100,000 to \$150,000—that is, up to approximately three times the U.S. GDP per capita.

¹¹ Caregivers answered three questions during the post-mortem interview: (1) "In your opinion, how would you rate the overall quality of the patient's death/last week of life?" (0 = worst possible, 10 = best possible); (2) "In your opinion, just prior to the death of the patient [his/her last week, or when you last saw the patient], how would you rate his/her level of psychological distress?" (0 = none, 10 = extremely upset); and (3) ". . . physical distress?" (0 = none, 10 = extremely distressed). Distress scores were reverse-scored so that higher numbers indicate better quality of life. Scores were then averaged.

Weinberg Center could include measures like those used by Garrido et al. (2015) to capture quality-of-life benefits produced by the Center's services.

To summarize, the potential benefits of Weinberg Center interventions are not confined to cost savings but extend to other domains, in particular quality-of-life benefits. Quantifying and monetizing such benefits are much more difficult but may be attempted in future research using different approaches to data collection and analysis than were possible in the context of this evaluation.

Distribution of Saving and Benefit Accrual Across Various Stakeholders

One important consideration when analyzing potential benefits stemming from Weinberg Center intervention is not only the volume of cost savings (and other benefits) but also to whom these savings and benefits accrue. Because the examples covered in the vignettes are built on the principle of avoiding future adverse events, the monetary savings could primarily be expected to accrue to those who would bear the costs of the adverse event if it took place. However, with more detail, the variety of entities that might derive cost savings in each scenario could plausibly be greater than those outlined here. For example, some clients might have multiple medical conditions or a health condition in combination with needs for a guardian (e.g., dementia), which would require constructing specific estimates that consider joint savings accrued because of Weinberg's services. Similarly, there could be some entities incurring new costs, e.g., because of additional treatment costs, although, overall, the scenario might result in savings. Table 6.13 provides an illustrative indication of the distribution of savings across individual classes of stakeholders involved in the vignettes. Green text represents possible gains, and red represents possible losses.

The distribution presented in Table 6.13 is, because of data limitations, illustrative only but demonstrates the type of analysis that could be performed with systematically collected data. This endeavor would yield two essential benefits. First, a systematic mapping of the allocation of benefits would serve to make the results of the economic analysis more precise. To illustrate, unit costs of adverse events, such as hospitalization, could be expected to vary substantially depending on the provider and payer. Having the ability to allocate costs and cost savings to individual entities in turn helps ensure that appropriate parameters are incorporated in the analysis. Second, having a better understanding of who savings and benefits accrue to is essential in communicating the overall impact and added value of the Weinberg Center. This is particularly the case because in numerous scenarios the entities benefiting from Weinberg Center interventions are different from those involved in funding and managing the Center's operations.

Table 6.13
Illustrative Overview of the Distribution of Savings and Other Benefits Across Various Stakeholders

Vignette	Weinberg Center Clients	Weinberg Center and the Hebrew Home	Government	Other Entities
Armando (Vignette 1)	<ul style="list-style-type: none"> Reduced future out-of-pocket health care costs Improved health outcomes Improved quality of life 	<ul style="list-style-type: none"> Costs associated with provision of health services Some reduction in future health care costs 	<ul style="list-style-type: none"> Costs associated with reimbursement of health services Reduced future Medicare and/or Medicaid expenditure 	Commercial insurers (where applicable) <ul style="list-style-type: none"> Costs associated with reimbursement of health services Reduced future payouts
Belinda (Vignette 2)	<ul style="list-style-type: none"> Reduced out-of-pocket health care costs Improved quality of life 	<ul style="list-style-type: none"> Costs associated with provision of legal services 	<ul style="list-style-type: none"> Reduced future Medicare and/or Medicaid expenditure 	Commercial insurers (where applicable) <ul style="list-style-type: none"> Reduced future payouts
Ciara (Vignette 3)	<ul style="list-style-type: none"> Restored income and access to assets Restored ability to pay obligations and avoid debt 	<ul style="list-style-type: none"> Costs associated with provision of legal services 	<ul style="list-style-type: none"> Reduced spending on public assistance 	Social service NGOs (where applicable) <ul style="list-style-type: none"> Reduced social support spending
Dmitry (Vignette 4)	<ul style="list-style-type: none"> Reduced out-of-pocket costs because of access to support services Increased out-of-pocket costs because of greater uptake in health care Improved health outcomes and quality of life 	<ul style="list-style-type: none"> Costs associated with provision of legal services Possible reduction in future health care costs because of improved health outcomes (see Vignette 1) 	<ul style="list-style-type: none"> Increased spending on public assistance Possible reduction in future health care costs because of improved health outcomes (see Vignette 1) 	Social service NGOs (where applicable) <ul style="list-style-type: none"> Reduced social support spending
Ella (Vignette 5)	<ul style="list-style-type: none"> Improved quality of life 	<ul style="list-style-type: none"> Costs associated with provision of legal services 	<ul style="list-style-type: none"> Reduced future Medicare and/or Medicaid expenditure on unwanted treatments 	N/A

NOTE: NGOs = nongovernmental organizations.

Conclusions and Recommendations

The Weinberg Center represents a new model of protecting and providing care and services to older adults experiencing EM that could generate substantial benefits for its clients, as well as cost savings for a wider variety of stakeholders. Given both the unique nature of the model and limitations previously discussed, the following conclusions build largely on illustrative observations and hypothetical scenarios.

Conclusions

Weinberg Center staff provide myriad coordinated services to clients during their stays. We learned from the interviews about the variety of services provided by the Center. A key benefit of the Center model is the coordination of care among members of the multidisciplinary team. Although it was outside the scope of this study to speak with clients and get direct reports of benefits they experienced, staff interviewees mentioned what they saw as benefits to clients. A key benefit mentioned by staff is improved self-worth and confidence on the part of clients. This stems from work with clients in various areas, including traditional services, such as medical care, but also education about finances, connections to peers and socializing, and awareness of available social services outside the Center.

Weinberg Center clients have stable health and functioning during their stays at the Center. Our analysis of MDS data for selected medical indicators suggests that the health status of Weinberg clients is relatively stable during their stays—and in areas with a noted change, improvements are more frequent than deteriorations. The absence of deterioration is noteworthy: Given the nature of the health conditions affecting Weinberg clients at admission, their recent abuse, and their abrupt move to an RHCf that can trigger declines in health, some gradual worsening of their health could have been expected (Rovner, 1993, González-Colaco Harmand et al., 2014; Scocco, Rappattoni, and Fantoni, 2006; Wilson et al., 2007).

The Weinberg Center has the potential to generate savings and benefits that far exceed its operating costs. Our analysis of savings based on five illustrative vignettes demonstrates that even a subset of Weinberg Center interventions could

plausibly lead to savings that exceed multiple times the amount it normally costs to run the Center.

However, substantial uncertainties remain on both sides of the equation. On the savings side, estimates of savings depend on the extent to which parameters from existing literature (and thus different contexts) are transferrable to the Weinberg Center population and on how Weinberg Center interventions differ from services individuals might receive in the absence of the Center's intervention. As illustrated by rudimentary sensitivity analyses, the estimated potential savings, particularly those discussed in vignettes with comparatively high estimates, are extremely sensitive to the value of key parameters. Although we used the best available evidence to construct these estimates, there is always the possibility of error when applying evidence from one context to a different population and environment. On the cost side, the unit costs associated with the provision of Center services are not available, precluding a more traditional cost-benefit analysis. In addition, limiting the analysis to the costs of operating just the Center does not account for the costs to the Hebrew Home and to Medicare and/or Medicaid of providing lodging, medical care, and other services. Still, the order of magnitude of potential savings, estimated via five vignettes representing a small subset of scenarios in which the Weinberg Center could make a difference, strongly suggests that the Weinberg Center model adds substantial value.

Recommendations

Additional data collection and analysis would be beneficial for understanding the impact of Weinberg Center services on clients and cost savings. Some of the data needed for a traditional cost-benefit or cost-effectiveness analyses are beyond what is typically collected by most organizations, including the Weinberg Center, and collecting such data was beyond the scope of this study. Expanded data collection efforts, allowing a more robust research design, would offer a broader and more systematic assessment of the Center's achievements and value added. Areas for consideration include the following:

- *Follow-up on Weinberg Center clients after they leave the Center.* It could be possible to survey former Weinberg Center clients once a period has elapsed after their departures from the Weinberg Center. This activity is a precondition for a true impact evaluation of the Weinberg Center. Such a survey could, among other things, assess the extent to which long-term benefits hypothesized to be gained truly materialized from the stay in the Center. One area of interest in this regard might be the prevention of the recurrence of abuse, which is among the hoped-for impacts of the Weinberg Center. We note that the Weinberg Center recently received a grant for a 12-week bridge program to assist Center clients

with reintegration. In addition to helping achieve positive reintegration outcomes, the bridge is an opportunity to collect some follow-up data during the program, although this effort does not address the question of a longer follow-up. The bridge program is, nonetheless, illustrative of the type of support and effort that would be required to capture the Weinberg Center's long-term impacts. Health care utilization (e.g., ER usage and hospitalizations) is another type of cost savings, as hypothesized in the vignettes, that could be demonstrated with follow-up data collection.

- *Detailed data collection on clients while they are at the Weinberg Center.* More-detailed information could be collected on clients' stays at the Weinberg Center and the services they received. This effort could include breakdowns of individual health, social, and legal services provided to the client population, the characteristics of the client population receiving these services, and unit costs associated with the provision of individual services. In addition, systematic data on the outcomes of service provision could be collected. For instance, not every legal support provided by the Weinberg Center will be 100 percent successful—for some areas, such as retrieval of stolen monetary assets, the expected likelihood of success may be low. Therefore, it would be helpful to have data on the success rate of Weinberg legal services.
- *Additional data collection on services received by clients before they entered the Weinberg Center.* It could be beneficial to attempt collecting more-detailed information on the level of support (or lack thereof) available to individuals before they enter the Weinberg Center. These data would help establish the uniqueness of the Weinberg Center interventions over and above what would have been available to Weinberg Center clients elsewhere. They would also provide insights into the nature of services and interventions (and thus associated costs) that are replaced and, in the future, possibly avoided by the Center's intervention.
- *Comparison group considerations.* A key consideration in evaluation designs would be to identify what is the counterfactual: What would have happened to the client without the Weinberg Center and its intervention? A randomized control group would not be appropriate for the Center, but more-rigorous evaluation designs would ideally incorporate a comparison group to which the population of Weinberg Center clients and their trajectories would be compared. One possibility could be to select an existing facility that would represent a likely option for Weinberg Center clients in the absence of the Weinberg Center and collect data on its client population. This type of facility could be a skilled nursing facility that does not address individuals' abuse situations. A second option would be to include individuals referred to Adult Protective Services, where they receive case management, with a greater likelihood of outpatient care provision.

Additional Details on Changes in Selected Health Indicators Among the Weinberg Center Cohort

Measure Definitions

Depression

We used client data collected by Weinberg staff via the Patient Health Questionnaire-9 (PHQ-9) Total Severity Score to track depression severity over time. The PHQ-9 Total Severity Score is interpreted as follows: 1–4 for minimal depression, 5–9 for mild depression, 10–14 for moderate depression, 15–19 for moderately severe depression, and 20–27 for severe depression. According to this measure of depression, approximately 88 percent of clients arrive at the Center with some level of depression, higher than established estimates of depression among older adults experiencing EM, which is generally closer to two-thirds. For more information about the PHQ-9, see Kroenke, Spitzer, and Williams, 2001.

Cognition

We used client data collected by Weinberg staff via the BIMS, which assesses different aspects of cognitive functioning to create a measure of cognitive functioning. Lower scores suggest low cognition levels, and higher scores suggest that the person is cognitively intact (13–15 points is cognitively intact, 8–12 points is moderately impaired, and 0–7 points is severely impaired). For more information about the BIMS, see Saliba et al., 2012.

Self-Locomotion on Unit

We examined clients' reported mobility "on site" (i.e., at the Hebrew Home) during their stays. In this measure, a client is considered "independent" if they completed the activity (in this case, moving around the facility) with no help or oversight every time during the seven-day look-back period and this occurred at least three times. A person is considered in need of supervision if oversight, encouragement, or cueing was provided three or more times during the past seven days. The person is considered to require limited assistance if he or she received physical help in guided maneuvering of a limb or limbs or other

nonweight-bearing assistance on three or more occasions and extensive assistance if the resident required weight-bearing support or full staff involvement three or more times in the past seven days. Finally, the client is considered totally dependent if staff was required to fully support the client without any client help or willingness to perform activity over the past seven days. These measures are traditionally reported as part of the larger Activities of Daily Living (ADL) scale, which has demonstrated high validity and reliability. We recognize that our choice to focus narrowly on mobility is a limitation of our analysis. For more about the ADL, see Carpenter et al., 2006.

Pain

In our analysis, pain severity is classified using a scale of 0 to 10 found in the MDS. Trained staff at the Weinberg Center ask patients to consider the intensity of their worst pain during the previous five days, where 0 is no pain and 10 is the worst pain imaginable. If a client's pain is between 1 and 3, the pain is considered mild. If a client's pain is between 4 and 6, the pain is considered moderate, between 7 and 8 is severe, and 9 and 10 are very severe. If preferred, clients can respond using a verbal descriptor scale (1 is mild pain, 2 is moderate pain, 3 is severe pain, and 4 is very severe pain). If the client is unable to answer, the staff uses a pattern of four types of observational cues to assess a patient who might require treatment for pain.

Pain duration is measured by staff, who assess the number of days (in the past five days) a person was in pain. A person in pain is considered to have a pain duration of "rarely/occasionally" if they complained or showed evidence of pain on one to two days over the past five days, "frequently" if the resident complained or showed evidence of pain on three to four days of the past five days, and "almost constantly" if pain occurred on a daily basis. If the patient is unable to respond verbally, staff will complete this evaluation based on their experience with the patient.

Research finds that the pain measures in the MDS have a high validity and reliability (Fries et al., 2001). However, these measures have only been tested as a scale (together with other measures) so we cannot say for certain whether using a singular measure is as reliable and valid as the larger scale. We recognize that this narrow focus is a limitation of our analysis, but we are encouraged by the fact that the measures, together, have strong validity and reliability.

Additional Measures

Locomotion Off Unit

Although not part of our primary analysis, we also looked at several other measures of locomotion (see Figures A.1 and A.2). The MDS defines *locomotion off unit* as "How resident moves to and returns from off-unit locations (e.g., areas set aside for dining, activities or treatments). If facility has only one floor, how resident moves to and from

distant areas on the floor. If in wheelchair, self-sufficiency once in chair” (Centers for Medicare and Medicaid Services, 2020).

Figure A.1
Share of Clients by Reported Self-Lo-motion Off Unit over Time

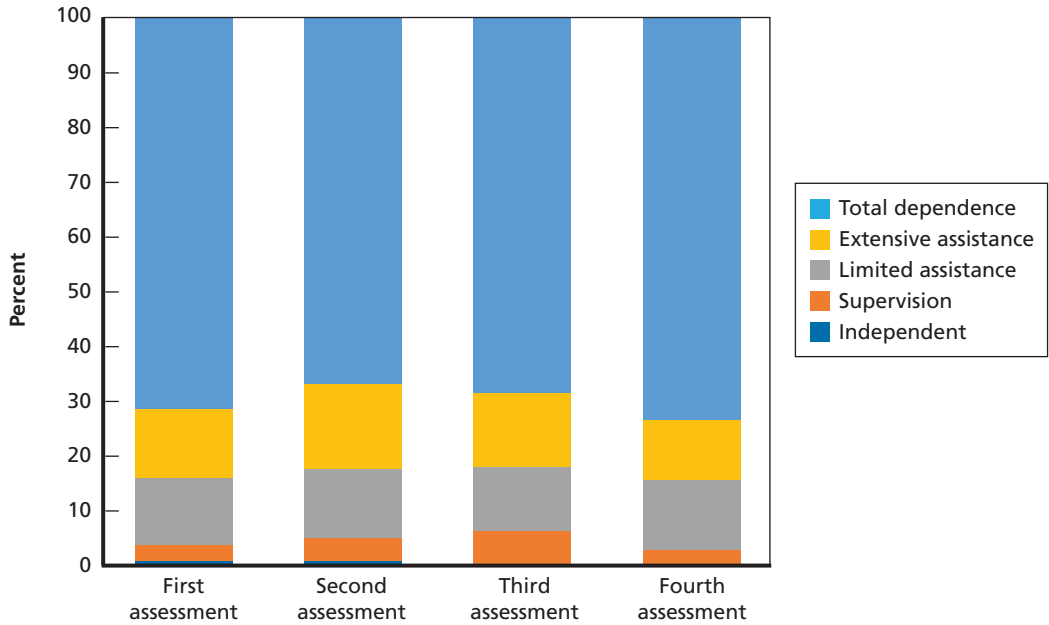
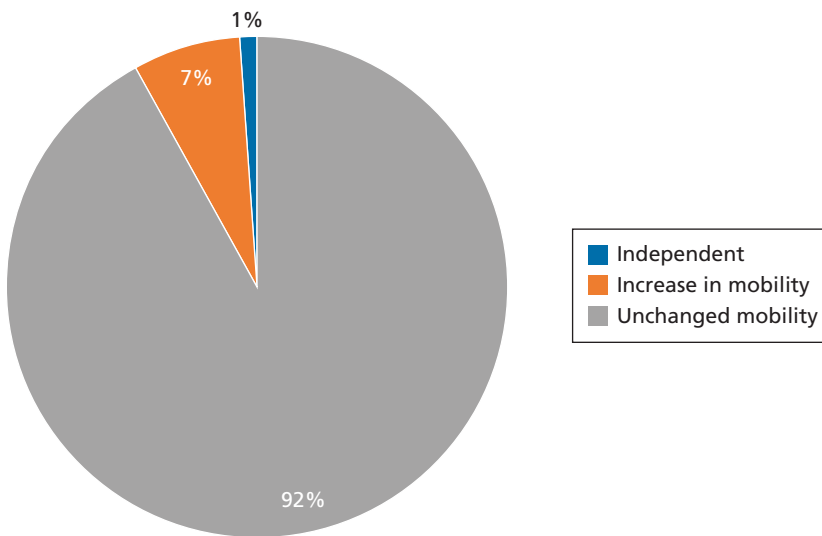


Figure A.2
Change in Self-Lo-motion Off Unit Between First and Second Assessments



Transfer

The MDS defines *transfer* as “How resident moves between surfaces including to or from a bed, chair, wheelchair, or standing position (excludes to or from the bath or toilet)” (Centers for Medicare and Medicaid Services, 2020) (see Figures A.3 and A.4).

Figure A.3
Share of Clients Across Transfer Ability Responses over Time

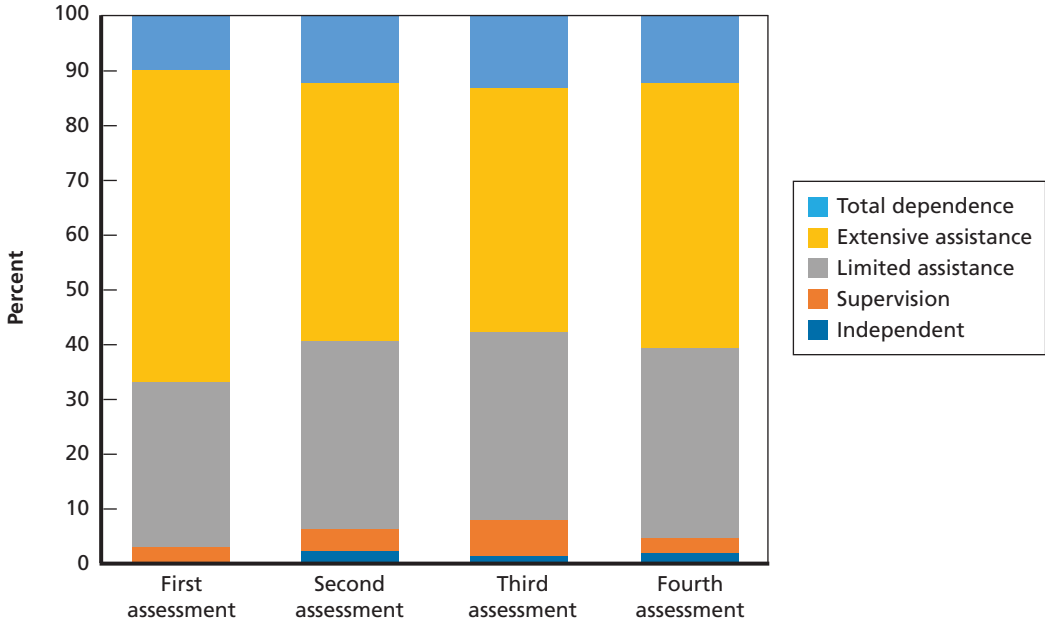
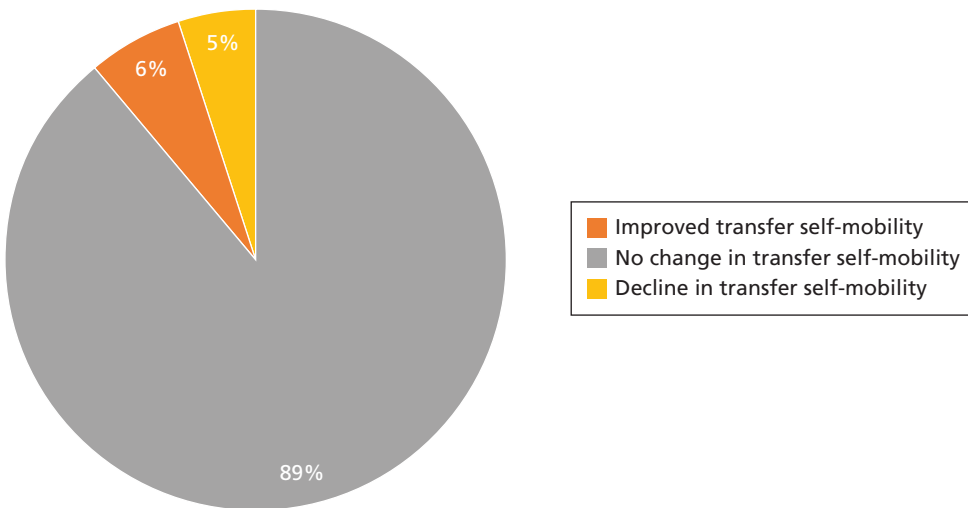


Figure A.4
Change in Transfer Ability Between First and Second Assessments



Bed Mobility

The MDS defines *bed mobility* as “How a resident moves to and from lying position, turns side or side, and positions body while in bed or alternate sleep furniture” (Centers for Medicare and Medicaid Services, 2020) (see Figures A.5 and A.6).

Figure A.5
Share of Clients by Bed Mobility Responses over Time

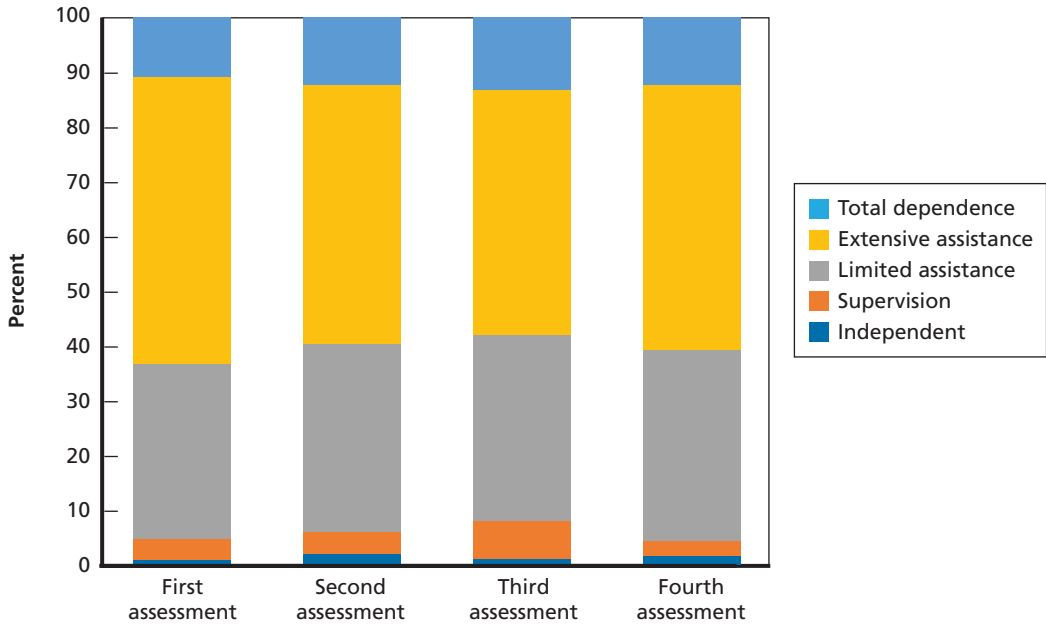
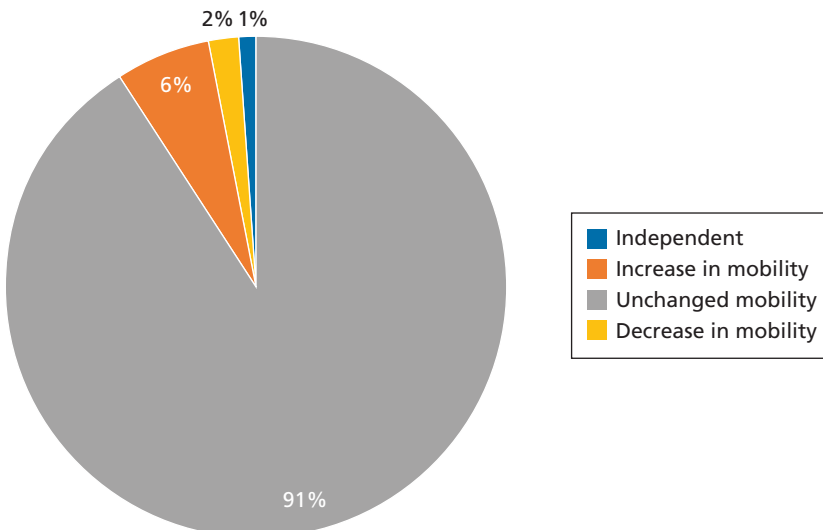


Figure A.6
Change in Bed Mobility Between First and Second Assessments



Additional Details on the Hebrew Home Costs

In this appendix, we provide additional details on costs associated with the provision of services in the Hebrew Home, the skilled nursing facility that houses the Weinberg Center. The purpose of this analysis is to provide additional background to contextualize the potential benefits stemming from the Weinberg Center intervention outlined in the five vignettes in the main body of this report. As briefly discussed in the main report, services provided by the Hebrew Home, chief among them lodging and medical services, are an inseparable component of the care that Weinberg Center clients receive. By extension, the services provided by the Hebrew Home also contribute to the realization of benefits, such as some of those hypothesized in the vignettes.

A key feature of the Weinberg Center model is its colocation within the Hebrew Home. This relationship means that Weinberg Center clients receive housing and medical care identical to that of individuals who become residents of the Hebrew Home, generally without additional costs to the Weinberg Center. This model is possible because the Hebrew Home is a well-established, skilled nursing facility with existing facilities and resources, and thus the Center can draw on already existing infrastructure and accompanying resources.

Accounting for these additional costs is difficult because of the deeply intertwined nature of the Weinberg Center and the Hebrew Home. However, when assessing the overall benefits accrued by Weinberg Center clients, a formal cost analysis would typically include all inputs to Weinberg Center's interventions, which, in some instances, might include services provided by the Hebrew Home and any other partner institutions, as applicable. A formal cost analysis could also explore the distribution of costs and benefits across various stakeholders. For instance, the cost of a bed or medical services at the Hebrew Home may be nominal to the Weinberg Center but more significant to public payers, such as Medicaid and Medicare. This is the only way to assess the comprehensive costs to various payers. This is beyond the scope of this current study but could be explored in future evaluability analyses.

In what follows, we provide basic descriptive data on costs incurred by the Hebrew Home from Weinberg Center clients. This is a first step to understanding the potential costs incurred from Hebrew Home supports and services.

Method

The following presentation is based on an analysis of patient ledgers pertaining to the cohort of 2013–2019 entrants. Of the 100 individuals in this cohort, three ledgers belonging to clients who entered the Weinberg Center in late 2019 did not contain any data. Thus, the results presented here draw on the remaining 97 ledgers.

The data set includes information on charges incurred during clients' stays at the Weinberg Center and payments made to offset these charges. We undertook a descriptive analysis of patients' charges to obtain an indication of the cost of various services by the Hebrew Home to payers. In addition, we calculated the number of annual person-days as the sum of the difference between each patient's entry and exit date.

Results

Charges appearing in clients' ledgers fall into several categories. By far the biggest category, accounting for approximately 90 percent of all charges, are bed charges. The other categories are assessments, other medical charges with a billing code, Medicare coinsurance, other monthly income, pension, and Social Security. We focus in this analysis on bed charges, because such charges represent the majority of costs absorbed by the Hebrew Home and payers who pay skilled nursing facility fees.¹

Table B.1 presents the topline results of an analysis of bed charges among the cohort of Weinberg Center clients. It shows that, simultaneously with the recorded increase in person-days spent at the Hebrew Home, the overall bed charges increased from \$420,000 in 2013 to more than \$4 million in 2018. The average daily charges remained relatively constant during this period, ranging from \$276 in 2015 to \$311 in 2013. Bed charge figures for 2019 are notably lower, although this is likely attributable to billing delays. This means that services provided in late 2019 might have been charged in 2020—that is, after the end of the completion—whereas the number of person-days is not subject to this limitation.

This analysis provides a topline assessment of the overall cost of Weinberg Center clients to the Hebrew Home. These costs are largely in line with the cost of skilled nursing facilities in the area (New York State Partnership for Long Term Care, undated). This information could potentially be integrated into a formal cost analysis, but that is beyond the scope of this study.

¹ The ledgers include adjustments in charges that decrease patients' balances. However, the overall volume of charges in the four categories (Medicare coinsurance, other monthly income, pension, and Social Security) remains positive—that is, patients have an outstanding balance even after these adjustments are accounted for. Other items in the data set that work to decrease patients' balance are coded as "payments" and "write-offs."

Table B.1
Hebrew Home Bed Charges, 2013–2019

Year	2013	2014	2015	2016	2017	2018	2019	Total
Bed charges	\$419,907	\$813,417	\$1,093,589	\$1,945,434	\$2,757,486	\$4,047,842	\$3,174,141	\$14,251,816
Person-days	\$1,351	\$2,906	\$3,965	\$6,880	\$9,134	\$13,334	\$13,962	\$51,532
Average daily charge	\$310.81	\$279.91	\$275.81	\$282.77	\$301.89	\$303.57	\$227.34	\$276.56

SOURCE: Data from patient ledgers provided by Hebrew Home.

Selected Possible Parameters for Future Analyses

In this appendix, we present an illustrative selection of parameters identified in existing literature that could be used to quantify cost savings and other benefits stemming from the Weinberg Center intervention under alternative scenarios.

Table C.1 presents selected parameters for the reduction of risk of various adverse events that may be achieved via various health care interventions. Coupled with other information, such as costs of hospitalizations for various adverse events and the number of individuals suffering from a given condition, these parameters could be used to estimate potential savings along the lines of the analysis presented in Vignette 1. Note, however, that none of the parameters presented in Table C.1 are based on studies focusing on populations like those as Weinberg Center clients (i.e., the elderly or individuals experiencing EM).

Table C.1
Alternative Parameters for Reduction of Risk Due to Various Health Care Interventions

Condition	Intervention	Risk Reduction (RR; relative to no treatment)	Reference
Heart Disease	Primary prevention via statins	Relative CV risk reduction 10–44%	Wadhera et al. (2016)
	Secondary prevention via statins	Relative CV risk reduction 17–34%	Wadhera et al. (2016)
		Total mortality (RR 0.57, CI 0.39–0.78), coronary mortality (RR 0.53, CI 0.29–0.74), coronary morbidity (RR 0.46, CI 0.25–0.71)	Athyros et al. (2002)
	Psychosocial interventions	RR of CV mortality 0.79 [CI 0.63–0.98]	Richards et al. (2018)
	Lifestyle modifications	Relative reduction in mortality 34%, relative reduction in incidence and readmission 35%	Janssen et al. (2012)
Stroke	Primary prevention via statins	RR, 0.85	Pignone et al. (2006)

Table C.1—Continued

Condition	Intervention	Risk Reduction (RR; relative to no treatment)	Reference
	Secondary prevention via statins	RR, 0.53	Pignone et al. (2006)
	Oral anticoagulants for patients with atrial fibrillation	RR, 64% (95% CI, 49–74%).	Lip and Lane (2015)
Breast cancer	Mammography	Mortality RR, 0.80 (95% CI, 0.73–0.89)	Marmot et al. (2013) (meta-analysis of clinical trials)
		RR, 0.85 (0.78–0.93)	Canadian Task Force on Preventative Health Care (2017) (meta-analysis of clinical trials)
		RR, 0.81 (95% CI, 0.74–0.87)	Gøtzsche and Jørgensen (2013) (meta-analysis of clinical trials)
		RR, 0.75 (95%CI, 0.69–0.81)	Broeders et al. (2012) (meta-analysis of cohort studies, women invited to screen)

NOTE: CV = cardiovascular; RR = relative risk.

Table C.2 presents selected parameters related to evidence on quality-of-life benefits associated with various health care interventions. Note, however, that only one parameter listed in Table C.2 (Elliott and Weir, 1999) is based on analyses focusing on elderly populations. No listed study focuses on situations involving EM.

Table C.2
Alternative Parameters for Improvements in Quality of Life Due to Various Health Care Interventions

Condition	Intervention	Quality-of-Life Gains	Reference
Heart Disease	Statins	Cost per year of life saved \$5,421 (with atorvastatin treatment) to \$15,073 (with lovastatin treatment) in 1999 dollars, results dependent on age	Elliott and Weir (1999)
Stroke	Screening for atrial fibrillation	Cost-effective at a threshold of 20,000 British pounds sterling per QALY (ICER range 7,000–23,000 British pounds sterling)	Welton et al. (2017)
Lung cancer	Screening of smokers	\$28,000 per QALY (2015 \$)	Villanti et al. (2015)
	Screening of smokers	\$81,000 per QALY (2014 \$), lower for ages 60–69	Black et al. (2014)
Colorectal cancer	Screening	Cost-effective (highest CER per life-year gained \$36,000 (2004 \$) or even cost-saving, depending on context	Lansdorp-Vogelaar, Knudsen, and Brenner (2011)

Weinberg Center Logic Model

In this appendix, we present the logic model of the Weinberg Center, developed by the Center's staff.

Figure D.1
Weinberg Center Logic Model

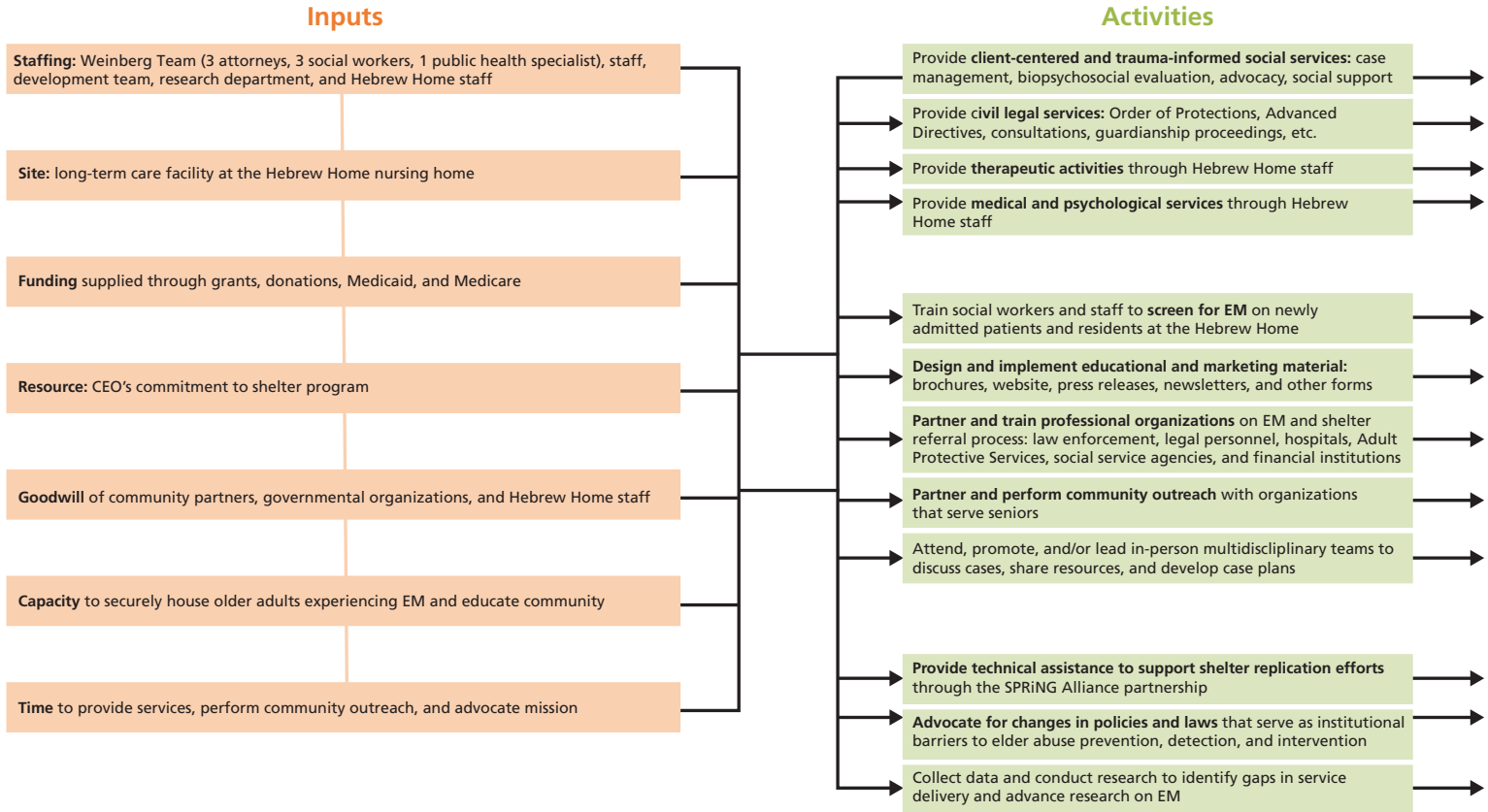
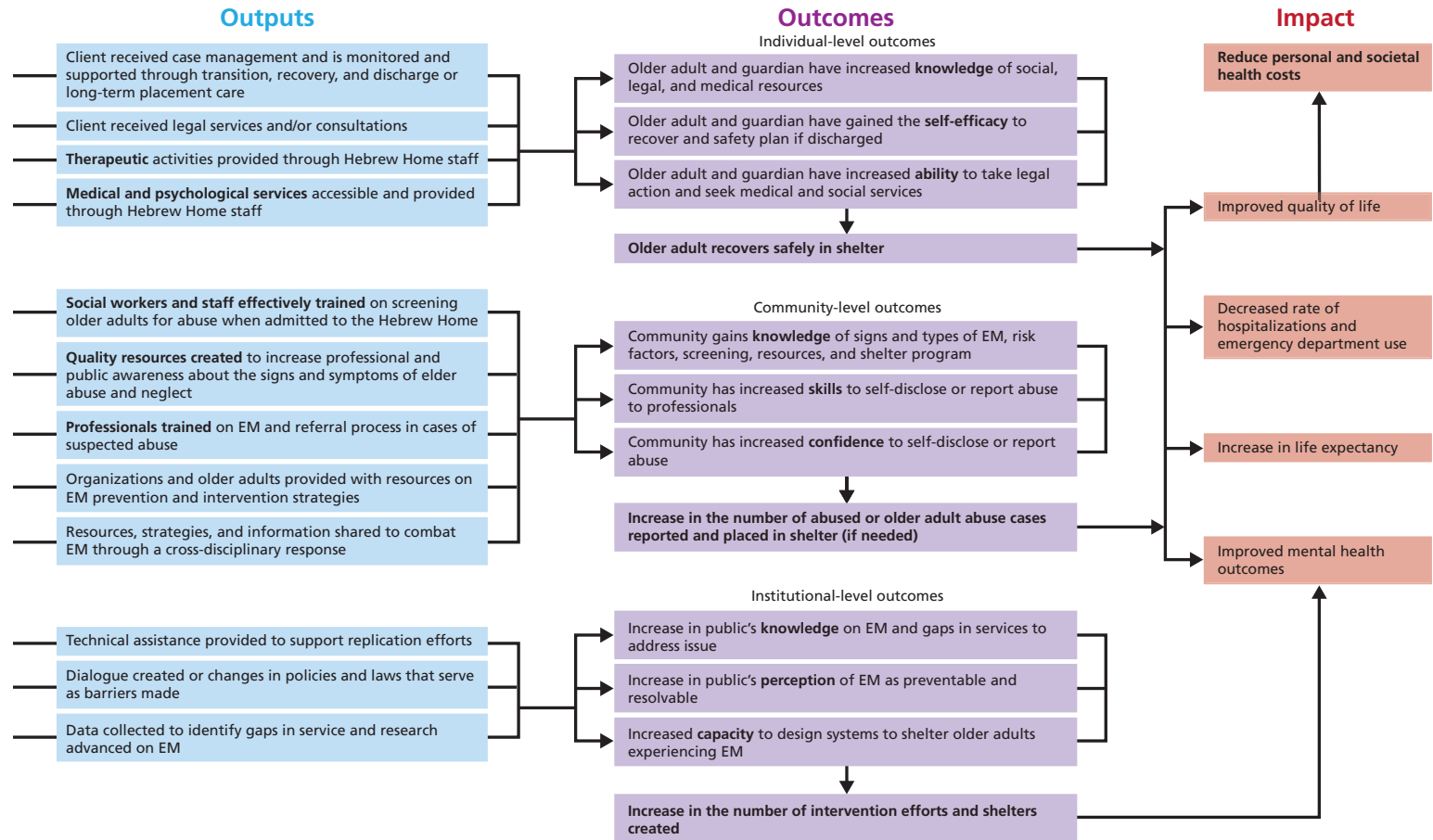


Figure D.1—Continued



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