

# The Protective Factors for Maintaining Independence©

*An Outcome Measurement Tool for Aging Services*

*Jordan Golin and Jeffrey D. Freedman*

Social service agencies are under increasing pressure to demonstrate the value and efficacy of services that they provide to their older adult clients. These agencies are already accustomed to complying with considerable amounts of regulatory requirements and oversight mandates that require them to meticulously document all agency activity while striving to deliver high-quality services with strained and often inadequate budgets. However, these same agencies often lack the information and training on strategies for measuring the impact of their services on their clients in a clear and meaningful way. Such strategies are becoming increasingly important in tracking and authenticating accountability to the governing bodies, funding sources, and, most importantly, the agencies themselves in their pursuit of ensuring the highest quality of care to those in need.

There are several challenges associated with incorporating outcome measurement systems into the general work of social service agencies. First, there is the time and effort needed to educate and train staff on the need for such systems and the implementation of these measurement tools. Second, during a period of economic pressures, administrators may hesitate to commit the funding for such training. Third, agency workers who already have an overflowing plate of responsibilities may resist and resent taking on yet another burdensome task.

Another hurdle is the more fundamental problem of how best to measure the efficacy of services provided to older adult clients. Although even the most effective services will be unable to prevent eventual decline and death, most social service agencies place a high priority on helping clients maintain health and independence and delay physical, cognitive, and emotional deterioration. Although it may seem obvious that the success of a social service agency is in part reflected in its ability to help clients avoid negative events (e.g., hospitalizations, evictions), it becomes more complicated when there is a need to appraise the achievement of this goal. In other words, how can an agency rate its performance of helping someone circumvent a problem? How does an agency accurately measure its success in preventing an unfortunate event?

Prevention and maintenance are at the heart of community-based services for older adults. Experienced service providers recognize and rate the success or failure of their work based on their observations of their clients' appearance (e.g.,

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weight, hygiene), cognitive status (e.g., memory, speech), and general functioning (e.g., judgment, activities of daily living). When clients are not doing well, providers naturally increase the frequency and intensity of services. Conversely, services are kept at a lower intensity or maintenance level when clients are stable and safely engaging in activities of daily living.

This time-honored approach to treatment and evaluation based exclusively on service provider observations is no longer viable in today's funding climate. Due partly to the current tough economic times, clients, families, and funders now expect concrete, measurable results commensurate with the time and effort being invested in services. The previous practice of simply trusting that social workers are using their professional judgment in providing effective care is no longer sufficient. So, the question remains: How can progress be quantified and documented when maintenance and prevention are the desired outcomes?

### ONE AGENCY'S STRUGGLES WITH OUTCOME MEASUREMENT

Jewish Family & Children's Service of Pittsburgh (JF&CS), a multifaceted non-profit social service agency, was struggling with the challenge of measuring the outcomes of the clients in its Older Adults Services division. For decades, the geriatric care managers (all masters-level clinical social workers) have been monitoring, assessing, and intervening with older adults. Currently these professionals average nearly 20 years of experience working with the elder population of Pittsburgh. They are supervised by a clinical psychologist and have weekly consultations with a geriatric psychiatrist. JF&CS also provides other services to assist older adults in remaining independent, including in-home caregiver services, cognitive enhancement training, and supplemental food programs.

With the changes in expectations regarding measurable outcomes, JF&CS struggled to demonstrate the true value and real impact of these services. The outcome measures that had been used were primitive and more reflective of outputs (i.e., number of units of service provided) than of actual outcomes (i.e., improvements in functioning or well-being). As such, there was a struggle to show existing and potential funders evidence of the merits of JF&CS's services to its older adult clients.

The staff reviewed a number of outcome measurement tools used across North America and found that the task of identifying a measurement tool that would be relevant and user-friendly to a social service agency was more problematic than initially thought. Some tools were overly narrow, some were overly lengthy, and some seemed geared toward researchers working in laboratory conditions. Still, it seemed clear that a complex tool was required. As geriatric care managers and clinicians, the professional staff routinely helps clients in a wide range of areas: They assist with financial management challenges, advocate within the health care system, discover solutions for legal difficulties, explore in-home care options, communicate with family members, and provide emotional support. Measuring and quantifying the success of these many and varied activities in a concise manner proved to be daunting.

Several different approaches to measuring outcomes were considered. One involved incorporating several separate standardized tools that measure discrete areas of functioning. The second involved adopting a preexisting, broad-based measurement system that covers all of the areas relevant to the agency's interventions

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with this population. The third involved developing a new measurement system. We next review each of these three approaches.

### **Incorporating Several Standardized Tools**

For the first approach, the agency considered identifying and assembling a battery of tests that could be uniformly administered to all clients on an ongoing basis. For example, one tool would measure social isolation, another tool would assess activities of daily living, and a third would evaluate cognitive functioning. Including a range of areas was considered critical because most of the care management clients have a myriad of needs. The JF&CS staff had already been using a number of well-tested and highly regarded inventories and questionnaires that measure discrete areas of functioning. For example, the social workers regularly used the Geriatric Depression Scale (Yesavage et al., 1982) to evaluate symptoms of depression and the Folstein Mini Mental Status Exam (Folstein, Folstein, & McHugh, 1975) to screen for deficits in cognitive functioning. The agency was able to identify additional tools that effectively measure progress or decline in the many different areas of functioning addressed by the social workers, including the Perceived Well-Being Scale (Reker & Wong, 1984), the Lubben Social Network Scale (Lubben, 1988), and the Personal Mastery Scale (Pearlin & Schooler, 1978).

To evaluate the success or failure of the services being delivered, staff would need to track changes in test scores over time. Because services are typically provided over extended periods (sometimes years), the social workers would be required to administer each of these tests to each of their clients on multiple occasions. In addition, although many of these tools were designed to be brief in their administration (i.e., less than five minutes), incorporating the entire set of tools would necessitate a session lasting more than one hour. The agency staff imagined an elder client's reaction to being regularly burdened with a time-consuming and exhausting session of testing with a dozen different evaluative tools. These imagined sessions seemed counter to the desire to alleviate burdens and distress. Additionally, concerns were expressed about the time this testing would take away from the delivery of services.

### **Adopting a Preexisting, Broad-Based Measurement System**

The second approach that was considered was to use a broad-based geriatric assessment tool. Such tools evaluate functioning across a wide range of domains and provide a detailed picture of the older adult. Examples include the Older American's Resources and Services – OARS (Laurie, 1978), the PGC-Multilevel Assessment Instruments (Lawton et al., 1982), and the Iowa Self-Assessment Inventory (Morris & Buckwalter, 1988).

These tests are strongly supported by the professional literature and yield a great deal of important data. However, they are also lengthy and time consuming. The OARS, for example, requires at least 45 minutes of face-to-face time for each administration. Moreover, these tools seemed better suited to a thorough initial evaluation of a client than for engaging in a routine assessment of client functioning.

Having struck out twice and before swinging again, the clinical team all met as a group and asked the basic question, "What are we aiming to accomplish with our clients?" Rather than relying on standard assumptions of what clients needed, the staff considered three sources of information to answer this question. The first source

was those areas of concern identified by client, families, and staff that had then been collaboratively restated as treatment goals. The second source was social worker observations and client feedback that had been used to track progress toward treatment goals. The third source was the body of professional research that focused on the wide range of existing programs and interventions designed to maintain the well-being of older adults. It was hoped that, by identifying the variables that were most commonly used as indicators for successful treatment of older adults, consensus would develop around clear and measurable outcomes. These outcomes could then serve as the basis for items in an effective outcome measurement tool.

### **The Importance of Nursing Home Risk Factors**

The most frequently cited and accepted outcome for work with older adults is delaying nursing home admissions. Long-term placement in a skilled nursing facility represents, for many, a sharp decline in independent functioning and consequently the withdrawal from participation in the larger community. A nursing home admission is a clear line separating independent well-being from compromised health and dependent living. As such, community-based services for older adults make strong efforts to avoid such placements and often consider the placement of a client in a long-term skilled nursing facility as the end of their work.

With the clear line of skilled nursing facility (SNF) admission as a guidepost, the next step was to research and identify the many factors that lead a person toward this life-changing demarcation. It was hoped that tracking these factors would be useful for the dual purposes of monitoring an older adult client's progress or decline and of measuring a social worker's effectiveness.

JF&CS staff spent time identifying scientific studies that focused on a large variety of client characteristics, attributes, and behaviors found to be strongly correlated with increased risk for SNF admission. From this review of the literature, a list was compiled of frequently cited risk factors, such as cognitive impairment (Gaugler et al., 2009), living alone (Kersting, 2001), deficits in activities of daily living (Elgar et al., 2002), and depression (Harris et al., 2006). These factors were congruent with the challenges being addressed by the social workers. For instance, the geriatric care managers often help clients obtain in-home caregiver services, establish psychiatric treatment, and secure more safe and elder-friendly living quarters. The parallel between the research and the work goals with clients was a compelling argument to use these risk factors as part of the evolving measurement tool.

### **The Development of a Home-Grown Tool**

It was believed that this list of risk factors was a step in the right direction. However, to use this list as a measurement tool, it was necessary to clearly delineate the meaning of these factors. Because the many research articles from which the list was generated used similar terminology but with differing descriptions and definitions, there was some uncertainty and ambiguity surrounding the factors' meaning. For example, studies used different definitions and tools to measure cognitive impairment, social isolation, and physical activity. To move closer toward clarity, some of the factors, such as caregiver well-being, were divided into more discrete components. This step helped generate a more precise understanding of the variables and led to the development of a more reliable system of scoring.

It was also decided that each factor must satisfy at least two criteria: (1) It must be specifically defined so that there would be a greater likelihood of consensus on its identification and its rating (i.e., high interrater reliability), and (2) it must be a condition, circumstance, or area of functioning that could be altered or influenced by the collaborative efforts of the geriatric care managers. It was decided that three factors that were highly correlated with nursing home admissions but did not meet the second criteria (age, income, and living with someone) would be included in the tool so that they could be considered when working with clients, but would be excluded from formal analyses.

Although the list was initially conceptualized as “risk factors” for SNF admission, it was strongly argued that the new system should be based on a model of well-being and encouragement of independence, rather than on a medically oriented model of pathology. As a result, the tool was named the Protective Factors for Maintaining Independence © (PFMI). The “protective factor” nomenclature better reflects the strength-based approach to treatment whose efforts promote clients’ health and ameliorate areas of relative weakness. From the extensive review of the professional literature and the social workers’ real-life experiences working with this population, and with the “protective factor” perspective in mind, 20 factors were identified for inclusion in the tool.

**PROTECTIVE FACTORS FOR MAINTAINING INDEPENDENCE ©**

The 20 factors, including those marked with an asterisk that are excluded from formal analyses, are shown in Table 1.

**Scoring the PFMI ©**

The next step of this process involved developing a simple, efficient, and reliable way of measuring and scoring the 20 identified factors. Traditionally, inventories such as the PFMI are developed by academic institutions that follow a rigorous protocol of conducting numerous small studies to refine and validate the tool. In such a process, each factor is carefully studied in detail to verify its utility (i.e., testing for construct, content, and criterion validity) and the reliability of the scoring system (i.e., interrater, test-retest, intermethod, and internal reliability). Given that the agency is a small nonprofit social service agency limited in staff and financial resources, a less formal but effective process was pursued, as described next.

A simple four-point scoring system was adopted as a first step toward addressing construct validity and reliability through ensuring clarity and consensus among the social workers in scoring each factor. Additionally, it was believed that rating a person’s functioning on a four-point scale could be done quickly. The lowest score on the scale was assigned a value of “0,” indicating the

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**Table 1.**  
**Factors Included in the PFMI Tool**

Age*	Safe environment
Income*	Appropriate housing
Living with someone*	Financial stability
ADL/IADL mastery	Maintains personal safety
Social involvement	Exercise and physical activity
Medical coverage	Sense of purpose, meaning in life
Medication compliance	Sense of control
Cognitive intactness	Caregiver well-being: Health
Emotional stability	Caregiver well-being: Physical stamina
Adequate nutrition	Caregiver well-being: Financial security

lowest and least desirable level of a factor. A “1” indicated a need for a large degree of improvement, a “2” indicated a need for some improvement, whereas the highest score, a “3” indicated the highest and most desirable level of a factor in which no improvement was deemed necessary.

For a concrete example of the four-point scoring system in use, consider one of the 20 factors in the list: activities of daily living (ADLs), which also encompass instrumental activities of daily living (IADLs). ADLs refer to the basic activities we all do daily, including hygiene (bathing and grooming), continence, dressing, eating, toileting (ability to use a restroom), and transferring (getting in and out of bed or moving from a sitting to standing position). IADLs are more complex activities and include but are not limited to shopping, preparing meals, driving, managing finances, and managing medication. To score a “0” on the rating system, the person would present with more than one ADL deficit, such as an inability to independently dress or feed oneself. A score of “1” would indicate that the person has one ADL deficit, such as an inability to bathe independently. A “2” indicates that the person has been identified with an IADL deficit, such as managing his or her finances but no ADL deficits. A “3” is indicative of no ADL or IADL deficits.

Much like in the staff meetings to develop a detailed and consensual definition of each factor, the development of the scoring guidelines emerged from democratic, round-table discussions. These discussions addressed issues associated with both the instrument’s validity and reliability. Participants included not only the geriatric care managers but also the entire Older Adults Services staff so that the instrument would have applicability to a broad range of services and not exclusively to care management.

Following an initial agreement on the rating guidelines for each factor, care managers and other staff reviewed the records of their clients and scored each of them based on the rating criteria. With these scores in hand, the staff then reconvened to discuss the rationale for each of these scores and further developed consensus on the scoring criteria. Differences of opinion among the staff in regard to scoring were carefully examined and discussed. Rating criteria for each factor continued to be modified until there was strong agreement among the staff. Finally, a form was created listing the revised criteria, and staff began using this new instrument over a trial period of several months.

During this trial period the feedback was overwhelmingly positive. The staff reported that the easy-to-use measurement tool accurately reflected the progress of their clients, was consistent with their own observational findings, and, as such, was a valid instrument. Occasional questions about scoring were brought back to the entire team, and minor tweaking helped make the tool clearer and more consistent across the clinicians, thus addressing interrater reliability.

### **Expanding the Use of the PFMI © to Other Agencies**

During this development process, colleagues from partner agencies in a multiagency association known as AgeWell Pittsburgh expressed an interest in adopting the new protective factors tool. AgeWell Pittsburgh is a collaborative network comprised of JF&CS, the Jewish Association of Aging (JAA), and the Jewish Community Center (JCC) with the goal of helping older adults live as independently as possible in the community for as long as possible. The JAA and JCC were also struggling with the challenge of measuring outcomes in their work with older adults, much of which

substantially differed from the type of work provided at JF&CS. For example, the JCC provides mostly social-recreational and wellness services (e.g., fitness programs, educational classes), and the JAA provides more medical-oriented services (e.g., outpatient rehabilitation, home health services). Between the three agencies, more than 6,000 older adults in Allegheny County were receiving a wide range of supportive, community-based services, fitness and exercise programs, adult day services, Meals on Wheels, and in-home caregiver services.

With support from the United Way of Allegheny County and the Jewish Federation of Greater Pittsburgh, an outcomes study protocol was established for each of the three AgeWell Pittsburgh partners to use the PFMI. However, the instrument needed to be modified to meet the needs of the different agencies. First, it was decided that all of the agencies would begin using the PFMI for all of their aging services. Some of the programs were more accustomed than others to measuring outcomes so efforts at promoting staff education and culture shifts were needed. Second, the scoring criteria needed to be modified to accommodate the additional programs that were to begin using the tool. The criteria that had previously been agreed on were based on the care management context and did not always lend themselves to data gleaned from other types of staff–client interactions. Third, not every factor was relevant to every service being offered, and all staff members did not possess the professional expertise needed to assess every factor. For example, a fitness instructor might not be able to assess the presence of cognitive impairment. Therefore, it was decided that each AgeWell Pittsburgh service would use either a subset of the PFMI or the entire instrument, as determined by (1) the client concerns being addressed by the particular service and (2) the ability of the service provider to measure the presence or absence of the factor. Fourth, the frequency of administration was reconsidered. Whereas the care managers assessed their clients every 3 months, this timetable did not fit AgeWell Pittsburgh services that were short term in nature or were of lower service intensity. It was decided that the frequency of administration would vary from service to service, based on the nature of the intervention provided. Services that provide intensive interventions to high-risk clients (e.g., in-home caregiver services) would administer the instrument every 3 months, whereas services that provide less intensive interventions to healthier clients (e.g., exercise programs) would administer the instrument every 6–12 months.

Over time, the PFMI became an integrated part of the outcome measurement system used by all AgeWell Pittsburgh services. The AgeWell Pittsburgh agencies could now use the PFMI scores not only to monitor each client on specific areas of functioning but also could aggregate data across clients to provide an overall view of the results of agency efforts.

Modifying the instrument, training staff on its use, and implementing it on a consistent basis were more challenging for some programs than for others. As is often the case with modifications to work routines and protocol, the initial phase required close monitoring and frequent staff training to ensure the consistent and uniform use of the instrument. This process was easiest for those staff who recognized that the tool was not merely a “paperwork requirement” but that it could assist them in their work by providing an objective outcome measure that would accurately reflect their efforts. The rollout of the instrument was also easier for those staff in programs that already demanded ongoing documentation.

Finally, developing and implementing a system for capturing and recording the data created additional challenges, given that the availability of funding for this project was limited and technology resources in each of the three agencies differed considerably. Consequently, some staff members used simple spreadsheets to record their data, whereas others used more sophisticated information management software. Not surprisingly, these differences complicated the task of aggregating data and running reports.

### **Current Status of the PFMI ©**

AgeWell Pittsburgh has now been using the PFMI for more than two years and has screened over 4,000 clients. Each of the AgeWell Pittsburgh services from the three partner agencies (16 services in total) either use a subset of the PFMI or the entire instrument to track changes in client functioning and as an outcome measure. Data are recorded in a shared information management system, and reports can be generated by program, by agency, and for all of AgeWell Pittsburgh.

Using the PFMI with a particular client is straightforward. Some of the programs use a one-page self-assessment version, other programs interview their clients, and still others base the scores on observations of their clients. In no case does the gathering of data require more than 20 minutes of the client's time. Following the scoring protocol, a staff person assigns scores to each of the factors and reassesses the client at a predetermined interval. Throughout the service delivery process, efforts are made to boost those protective factors that are likely to maximize independence. The staff person has easy access to the scores via his or her computer, monitors changes, and can alter the interventions provided or refer the client for additional services when necessary. Progress (or decline) can be shared with the client and/or family, and concerns can be framed in the context of the protective factors.

Although the tool was designed to be relatively easy to administer, analyzing the results proved to be more difficult, at least initially. Any one of the 20 scores can go up, down, or remain unchanged from one administration of the PFMI to the next. Since scores are being tracked for up to 20 protective factors, it was a struggle to determine the best way to summarize the data. This became even more challenging when attempting to examine data across multiple administrations for a particular client and still more complicated when attempts were made to aggregate data across multiple clients and programs. The staff felt that it was critically important to overcome these difficulties so as to get the most from the data and thus determine the effects of the interventions. Ultimately, the solution to these challenges required the purchase of a new data management system that was able to manage more complex data analyses. The PFMI scores, as well as other events that are of great interest (e.g., hospitalizations, ER visits) are now entered into this system. Currently, this solution is successfully providing the reports needed to monitor clients, adjust the interventions, and assess the achievements. Standard reports and ad hoc queries on the client and aggregate levels can now be easily run in response to staff requests and funder requirements.

### **Strengths of the PFMI ©**

The PFMI has allowed each of the AgeWell Pittsburgh services to measure the impact of its interventions in strengthening those protective factors that are



known to minimize the likelihood of being admitted to a nursing home. The factors assessed by the PFMI are directly related to the kinds of interventions provided by each of the AgeWell Pittsburgh services. The tool is structured so that the data from the full range of services provided by AgeWell Pittsburgh can be aggregated in a single database. At the same time, the tool is flexible enough to allow each service to assess only those factors that are relevant to its interventions. This flexibility also allows each service to conduct assessments according to a time schedule that is appropriate for that service. The costs and labor involved in maintaining the database are shared among the AgeWell Pittsburgh partners, and the use of a common instrument has allowed for the development of a shared language when discussing the status of AgeWell Pittsburgh clients.

The agency has successfully analyzed two year's worth of data and has reported back to funders about the instrumental progress made in helping the clients sustain their independence in the community. It is now possible to easily generate data on the frequency of hospitalizations and emergency room visits, nursing home admissions, changes in functioning (i.e., changes in PFMI scores), and referrals made to clients by AgeWell Pittsburgh staff.

AgeWell Pittsburgh and its advisors continue to discuss new ways of using this system and to explore additional enhancements to its implementation. The hope is that it will become possible to identify and assist more older adults in the community who continue to miss out on services that could help improve their quality of life and enhance their ability to live independently.

#### **Limitations of the PFMI ©**

The PFMI was developed primarily as an outcome instrument, and its format and administration protocols reflect this purpose. It has not been validated using existing standardized measures. Therefore, the instrument has not yet proven itself to be a scientifically valid means of measuring the risk factors for nursing home admissions. It is hoped that such studies will be forthcoming.

Although staff have grown more comfortable using the PFMI to measure the status of their clients, they have also expressed a desire to expand its use in various ways. For example, very few of the protective factors on the PFMI are assessed by all of the AgeWell Pittsburgh services. This means that staff are only identifying risk factors that are assessed by their "version" of the PFMI and are therefore unaware if their clients are deficient in other protective factors. For example, a Meals on Wheels recipient may have mental health challenges that could be ameliorated by participation in AgeWell Pittsburgh's psychotherapy service. However, this individual would not be identified as such, because the Meals on Wheels program does not assess its recipients' mental health. Such a concern could be addressed by enabling the PFMI to screen all protective factors across all service recipients.

There have also been challenges in using this tool across such a wide range of service providers. The use of a single instrument across multiple services and several agencies requires constant monitoring and collaborative conversations. Because the data are aggregated across all services, problems with any single provider can have a ripple effect that could contaminate the data for the entire system. It is incumbent on all providers, therefore, to communicate with one another regarding questions, concerns, or challenges in using the PFMI. This effort is complicated by staff turnover, the initiation of new AgeWell Pittsburgh services, and the unfortunate

phenomenon of staff being required to take on additional responsibilities that may tempt them to become less conscientious in their use of the PFMI.

## SUMMARY

The development of the PFMI is a significant accomplishment underscoring the collaborative efforts of social service agencies endeavoring to demonstrate the impact of their services for older adult clients. In response to a changing funding climate and an increased focus on accountability in the field, their efforts have yielded an instrument that offers a clear picture of program participants' functioning and greater evidence of the value of community-based services that work to bolster and sustain independent community living for the older adult population.

The process of building an outcome instrument, though challenging and time consuming, has been an invaluable experience. It compelled the social service agencies to clarify the purpose of their services and to grapple with the challenges of identifying meaningful, measurable outcomes. This, in turn, has encouraged the agencies and the general community to give focus and genuine commitment to elder care services. It is hoped that this instrument will also help maintain a high priority to elder care programs during times of economic challenge. The systems that AgeWell Pittsburgh has developed will of course continue to evolve. There will be continued efforts toward developing more effective means of connecting older adults with supportive community-based services for the health and well-being of older adults and for the betterment of the entire community.

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