



# Dissemination of the Hospital Elder Life Program: Implementation, Adaptation, and Successes

## Citation

Inouye, Sharon K., Dorothy I. Baker, Patricia Fugal, and Elizabeth H. Bradley. 2006. Dissemination of the Hospital Elder Life Program: Implementation, Adaptation, and Successes. *Journal of the American Geriatrics Society* 54, no.10 (October): 1492–1499.

## Published Version

doi:10.1111/j.1532-5415.2006.00869.x

## Permanent link

<http://nrs.harvard.edu/urn-3:HUL.InstRepos:42668756>

## Terms of Use

This article was downloaded from Harvard University's DASH repository, WARNING: This file should NOT have been available for downloading from Harvard University's DASH repository.; This article was downloaded from Harvard University's DASH repository, and is made available under the terms and conditions applicable to Other Posted Material, as set forth at <http://nrs.harvard.edu/urn-3:HUL.InstRepos:dash.current.terms-of-use#LAA>

## Share Your Story

The Harvard community has made this article openly available.  
Please share how this access benefits you. [Submit a story](#).

[Accessibility](#)

## Dissemination of the Hospital Elder Life Program: Implementation, Adaptation, and Successes

Sharon K. Inouye, MD, MPH,\*<sup>†</sup> Dorothy I. Baker, PhD, RN-CS,<sup>‡</sup> Patricia Fugal, BS,<sup>‡</sup> and Elizabeth H. Bradley, PhD<sup>§</sup> for the HELP Dissemination Project

**OBJECTIVES:** To describe the Hospital Elder Life Program (HELP) across dissemination sites, to detail adaptations, and to summarize advantages across sites.

**DESIGN:** Cross-sectional survey.

**SETTING:** HELP sites in acute care hospitals.

**PARTICIPANTS:** Thirteen sites that enrolled 11,344 patients.

**MEASUREMENTS:** Seventy-five closed- and open-ended questions describing details of the HELP site, procedures, staffing, outcomes tracked, and advantages.

**RESULTS:** As of July 1, 2005, HELP had been fully implemented in 13 sites, with a median duration of 24 months (range 6.0–38.0). Although a high degree of fidelity to the original model was maintained, variations existed in staffing patterns, outcome tracking, and recommended HELP procedures. Adaptations were made across multiple domains, including enrollment criteria at 15.4% of sites, screening and assessment tools at 61.5%, and individual intervention protocols at 15.4% to 30.8%. Local circumstances drove these adaptations, with the most common reasons being lack of adequate staffing and logistical constraints. All sites conducted regular HELP staff meetings; other recommended quality assurance procedures were conducted at 46.2% to 92.3% of sites. Reported advantages of HELP included providing an educational resource at 100% of sites, improving hospital outcomes (e.g., delirium and functional decline) at 100%, providing nursing education and improving retention at 100%, enhancing patient and family satisfaction with care at 92.3%, raising visibility for geriatrics at 92.3%, and improving quality of care at 84.6%.

**CONCLUSION:** This report describes the real-world implementation of HELP across 13 sites, documents their

local adaptations and successes, and provides insight into how motivated institutions can create change to improve quality of care for older persons. *J Am Geriatr Soc* 54: 1492–1499, 2006.

**Key words:** Hospital Elder Life Program; delirium prevention; hospital care; geriatrics; geriatric assessment; acute care for the elderly; iatrogenesis

The Hospital Elder Life Program (HELP) is an innovative model of care designed to prevent delirium and functional decline in hospitalized older persons.<sup>1,2</sup> The program provides skilled interdisciplinary staff and trained volunteers to implement intervention protocols targeted toward six delirium risk factors: orientation, therapeutic activities, early mobilization, vision and hearing optimization, oral volume repletion, and sleep enhancement. The program is designed to be superimposed on existing hospital units and does not require a separate, dedicated geriatric unit. HELP has been demonstrated to be effective for prevention of delirium and functional decline.<sup>1,2</sup> In addition, cost-effectiveness has been demonstrated for both acute hospital<sup>3</sup> and long-term care settings.<sup>4</sup> The unique strengths of the HELP model that contributed to its effectiveness included the targeted nature of the interventions, early intervention focusing on prevention, well-trained staff dedicated to the program, standardized intervention protocols, tracking of adherence to all protocols, and built-in quality assurance procedures.<sup>2</sup>

During 2000, the HELP Dissemination Program was established to assist interested sites in implementing HELP at their hospitals. Interested sites contact the HELP dissemination team, complete registration forms, and sign the HELP dissemination site-copyright protection contract. Subsequently, sites purchase the dissemination package, which includes program manuals, business tools, training videotapes or compact discs, and tracking software. During the dissemination process, sites receive ongoing support from the HELP Dissemination Team, based at Yale University School of Medicine. In addition, the HELP Website

From the \*Department of Medicine, Beth Israel Deaconess Medical Center, Harvard Medical School, Boston, Massachusetts; <sup>†</sup>Aging Brain Center, Institute for Aging Research, Hebrew SeniorLife, Boston, Massachusetts; and Departments of <sup>‡</sup>Medicine and <sup>§</sup>Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut.

Address correspondence to Sharon K. Inouye, MD, MPH, Aging Brain Center, Hebrew SeniorLife, 1200 Centre Street, Boston, MA 02131. E-mail: hospitalelderlife@yale.edu

DOI: 10.1111/j.1532-5415.2006.00869.x

(<http://www.hospitalelderlifeprogram.org>) was created to provide continuing support and information to the HELP dissemination sites, such as an on-line discussion forum to enhance intersite communication and exchange of information, as well as patient and family education materials about delirium and its prevention. The HELP Website, as well as the annual HELP conference, has contributed to creating a supportive community of HELP sites, which has facilitated early adoption.

Previous work demonstrated that adherence to the intervention protocols as described in the original HELP model directly affects the program's effectiveness.<sup>5</sup> The effectiveness of the intervention for delirium reduction was directly related to the number and completeness of the interventions received, although dissemination of HELP often involves modification of the program and adaptation of the intervention protocols. One study<sup>6</sup> identified common challenges across initial HELP dissemination sites, including gaining internal support, ensuring effective clinician leadership, integrating with existing geriatric programs, maintaining program fidelity, demonstrating positive outcomes, and maintaining momentum despite unrealistic timeframes and limited resources. A subsequent study<sup>7</sup> identified presence of clinical leadership, adaptation to local circumstances, and obtaining long-term funding as three key elements in sustaining HELP beyond the initial period. Although these studies have been useful in identifying the challenges to initiating and sustaining HELP, more-detailed information describing the dissemination sites and their local adaptations might prove useful to other sites considering implementation of the HELP model or other innovations in geriatric care.

The goals of this study were to provide a detailed description of current HELP dissemination sites, to describe adaptations of the program across sites, and to provide an overview of advantages and successes of the program across sites. This article is not intended to summarize quantitative outcome data across sites. It is hoped that this descriptive study will provide greater insight into the real-world implementation of an innovative model of care.

## METHODS

### Study Design and Sample

The study was based on a cross-sectional survey completed by the HELP sites between July 1, 2005, and December 31, 2005. Seventeen study sites were eligible to participate in the survey, because they had a valid HELP dissemination site contract in place for at least 1 year (completed before June 30, 2004), they had implemented the program, and they had continued to actively enroll patients at the time of the survey. Of these 17 sites, 13 (76.5%) completed the survey. Four sites did not complete the survey; two declined participation (1 because of sick leave of the respondent), and two did not respond after a minimum of four requests to complete were made to the site. The two sites that did not respond were 400- to 500-bed academic teaching hospitals. The earliest patient enrollment at the 13 participating sites began on August 1, 2002, with additional hospitals joining and enrolling patients sequentially over the ensuing 41 months until the end of the study period on December 31, 2005.

### Data Collection

The survey was conducted using [www.SurveyMonkey.com](http://www.SurveyMonkey.com), an easy-to-use tool designed to create customized on-line surveys and to tabulate results as they arrive. The survey consisted of 75 closed- and open-ended questions designed to collect descriptive details about specific elements of each HELP dissemination site, including descriptions of the hospital; the HELP site within the hospital; the enrollment procedures, including adaptations; the HELP interventions, including adaptations; the HELP team members and volunteers; quality assurance procedures; outcomes tracked; program successes; and sources of funding. Details about specific adaptations or innovations were requested through open-ended questions. This study was conducted under an institutional review board exemption from Yale University School of Medicine.

### Data Analysis

The data were tabulated and analyzed using descriptive statistics, including means, standard deviations, medians, ranges, and percentages. Because of the skewed nature of the data for many of the variables, the median and ranges were selected to provide the best estimates of central tendency and distribution of the data.

## RESULTS

### General Hospital Characteristics

Table 1 describes the general hospital characteristics at which HELP was implemented, as well as individual site characteristics. In general, HELP was implemented at mid-sized academic teaching hospitals in urban areas of six U.S. states (Maine, Michigan, New York, Ohio, Pennsylvania, Wisconsin) and one province in Canada (Ontario), although 7.7% of the programs were implemented at nonteaching community hospitals, and 23.1% were implemented in rural areas. The majority of these hospitals served substantial proportions (>40%) of Medicare-aged populations, comparable with national trends.<sup>8</sup> In addition, the majority of participating hospitals provided geriatric services, with 100% having a consulting geriatrician, 92.3% having geriatric nursing (defined as advanced practice nurses with specialized geriatric training), and 30.8% having an acute care for the elderly (ACE) unit. The average lengths of hospital stay for all patients in these hospitals were 4.8 days overall and 5.7 days for Medicare patients, which are comparable with current rates extrapolated from national statistics.<sup>9</sup> Given that the information about HELP has come from peer-reviewed publications and academic presentations at national gerontological meetings, without any advertising or marketing to date, the initial uptake at academic teaching hospitals is not surprising. Currently, diffusion to community hospitals is increasing.

### HELP Site Characteristics

For individual HELP sites, the time to implementation, defined as the time from completing a signed HELP contract to the time of enrollment of the first HELP patient into the program, had a median of 7.0 months and ranged from 0.5 to 24 months. Many programs were actively engaged in implementation before the time of the signed contract;

**Table 1. General Description of Hospital Elder Life Program (HELP) Sites (N = 13)**

Characteristic	Value
<b>Hospital</b>	
Teaching hospital, n (%)	12 (92.3)
Nonprofit, n (%)	13 (100)
Urban, n (%)	10 (76.9)
Number of staffed beds, median (range)	438 (91–1,228)
Average daily census, median (range)	390 (66–1,150)
Percentage of patients aged, median (range)	
≥65	43.5 (8.6–75.0)
≥75	31.8 (10.7–75.0)
≥85	10.1 (4.35–40.0)
Geriatric nurses available, n (%)	12 (92.3)
Consulting geriatrician available, n (%)	13 (100)
ACE unit, n (%)	4 (30.8)
Active volunteer service, n (%)	13 (100)
Average length of stay (days), median (range)	
Overall	4.8 (3.0–6.2)
Medicare patients	5.7 (5.0–6.9)
<b>HELP site</b>	
Time to implementation (months), median (range)*	7.0 (0.5–24.0)
Duration of program (months), median (range)	24.0 (6.0–38.0)
Types of patients served by program, n (%) <sup>†</sup>	
Medicine unit	9 (69.2)
Surgery unit (general or orthopedic)	3 (23.1)
Combined medical-surgical unit	5 (38.4)
Geriatric or ACE unit	3 (23.1)
Other	5 (38.4)
Number of paid HELP staff, median, (range)	1.6 (1.0–5.1)
Number of volunteers, median (range)	20.0 (9.0–50.0)
Total number of patients to date at site, median (range)	450 (71–4,332)
New patients enrolled per week, median (range)	10.0 (3.0–41.0)
Use enrollment cap, n (%)	8 (61.5)
Enrollment cap, patients per day, median (range)	8.0 (6.0–12.0)

\* Time from a signed contract to enrollment of first HELP patient.

<sup>†</sup> Programs have been implemented on multiple units; thus, the total exceeds 100%. Other units include: cardiology-telemetry, cardiology-pulmonary, oncology, and palliative care.

ACE = acute care for the elderly.

therefore, this time period may represent an underestimate of the total duration to establish a HELP site. On average, the HELP sites presented in this report had been actively enrolling patients for 2 years at the time of the survey. Programs were serving a variety of patients, including medical, surgical, geriatric, and other populations (Table 1). Some programs had expanded to cover four to five hospital units. The median number of paid HELP staff, defined as paid staff who were fully dedicated to HELP (not including vol-

unteers and interdisciplinary consultants) was 1.6 full-time equivalents per site. The median number of volunteers per site was 20. The total number of patients enrolled since the time of implementation was a median of 450 per site, and a total of 11,344 patients had been enrolled across all sites during the study period. The sites enrolled a median of 10 new patients per week (range 3.0–41.0), and 61.5% of sites capped enrollment at a median of eight patients per day. The numbers of staff, volunteers, and patients enrolled tend to increase over time across all HELP sites.

### The HELP Team Across Sites

The recommended members of the HELP team are the Elder Life Specialist, Elder Life Nurse Specialist, and geriatrician.<sup>2</sup> The Elder Life Specialist is the program and volunteer coordinator who screens and enrolls patients, trains and oversees volunteers, and tracks intervention adherence. The Elder Life Nurse Specialist is an advanced practice nurse with specialized training in geriatrics who implements nursing-related assessments and protocols targeted toward the six delirium risk factors. These roles were present in varying combinations at the implemented HELP sites (Table 2), with 84.6% having a designated Elder Life Specialist, 92.3% having an Elder Life Nurse Specialist, and 92.3% having a geriatrician dedicated to the program. In some programs, the responsibilities were shared across roles (i.e., the Elder Life Nurse Specialist rather than the Elder Life Specialist might conduct patient enrollment and volunteer coordination). Interdisciplinary consultants regularly participated in 11 of 13 (84.6%) sites, including nutrition (84.6% of sites), physical therapy (84.6%), occupational therapy (76.9%), social work (76.9%), chaplaincy (69.2%), pharmacy (61.5%), and care coordination or case management (61.5%).

All HELP sites had a program director, a role that has been demonstrated to be crucial to implementing and sustaining the HELP model.<sup>6,7</sup> Various disciplines held this role across sites, as demonstrated in Table 2. A broad,

**Table 2. Hospital Elder Life Program (HELP) Personnel Across Sites (N = 13)**

Personnel	n (%)
<b>Presence of HELP team member(s)</b>	
Elder Life Specialist*	11 (84.6)
Elder Life Nurse Specialist <sup>†</sup>	12 (92.3)
Geriatrician	12 (92.3)
Program director	13 (100)
Interdisciplinary consultants <sup>‡</sup>	11 (84.6)
Trained volunteers	13 (100)
<b>Discipline of HELP program director</b>	
Elder Life Nurse Specialist <sup>†</sup>	6 (46.2)
Elder Life Specialist*	3 (23.1)
Geriatrician	1 (7.7)
Other <sup>§</sup>	3 (23.1)

\* Program coordinator and volunteer coordinator, a special role created for the HELP model.

<sup>†</sup> Advanced practice nurse with specialized geriatric training.

<sup>‡</sup> See text for details; includes nutrition, rehabilitation therapy, care coordination, social work, pharmacy, and chaplaincy.

<sup>§</sup> Includes center director, director of senior services, and geriatric administrator.

interdisciplinary spectrum of leaders, who are nonphysicians in the vast majority of cases, play this role. Given the small sample size, it was not possible to examine differences in program characteristics by leader types.

Volunteers play a crucial and unique hands-on role in the HELP model, conducting many of the core program interventions.<sup>2</sup> Although this role requires special training and supervision by paid staff, the presence of volunteers introduces a valued, humanistic element to the program and maximizes the cost-effectiveness of providing high-quality hospital care. All HELP sites in this report used trained volunteers. Volunteers were recruited through active efforts via local colleges and universities (at 100% of sites), hospital volunteer services (92.3%), general community initiatives (92.3%), local churches or religious organizations (61.5%), recruitment among hospital employees (46.2%), and other strategies (local high schools, special summer programs, ladies' auxiliary groups, and retired senior volunteer programs) (38.5%). Although some sites reported initial difficulties with recruiting adequate numbers of volunteers, most sites were able to obtain target numbers through publicity campaigns and through recruiting at multiple sites. In addition, sites reported that the volunteer numbers tended to increase over time and that, once mechanisms were established, recruitment became less of a problem over time.

### HELP Site Procedures Across Sites

HELP site procedures and adaptations are presented in Table 3. Age and other enrollment criteria were adapted at two of 13 (15.4%) sites; these adaptations included broadening age criteria (e.g., to age  $\geq 65$ ) and inclusion criteria (e.g., to include patients with severe dementia, aphasia, terminal prognosis). The majority of sites (61.5%) adapted the HELP screening and assessment tools for application at their individual sites. Three sites altered the screening assessments used, such as adding the clock-drawing test<sup>10</sup> or substituting the modified Mini-Mental State (3MS) Examination<sup>11</sup> or Mini-Cog<sup>12</sup> for the Mini-Mental State Examination (MMSE).<sup>13</sup> Three sites added other screening geriatric assessments, such as pain and bladder or bowel function. Three sites created simplified checklist forms for screening and enrollment. All of the sites applied all of the HELP intervention protocols as recommended, with the sole exception of the nonpharmacological sleep protocol,<sup>2,14</sup> which was not conducted at five (38.5%) sites. The vast majority of sites implemented the protocols fully, although 15.4% to 30.8% of sites adapted the individual protocols according to local circumstances, as shown in Table 3. The most frequent adaptations included reducing the frequency of the intervention (e.g., mobility two times daily instead of three) or providing only part of the intervention (e.g., setup only rather than direct feeding assistance). Frequent reasons for adaptations included lack of sufficient paid or volunteer staff to perform all interventions fully and liability or union concerns limiting the role of volunteers in feeding and mobility at individual hospitals. Adaptations did not always involve a reduction in the intervention. In fact, at some sites, adaptation included augmenting the intervention, such as adapted therapeutic

**Table 3. Hospital Elder Life Program (HELP) Site Procedures and Adaptations (N = 13)**

HELP Program Procedure	Full	Adapted	Not Done
	n (%)		
<b>Enrollment procedure</b>			
Apply age criterion $\geq 70$	11 (84.6)	2 (15.4)	—
Use HELP enrollment criteria	11 (84.6)	2 (15.4)	—
Use HELP screening and assessment tools	5 (38.5)	8 (61.5)	—
<b>Intervention protocols</b>			
Daily visitor/orientation	10 (76.9)	3 (23.1)	—
Therapeutic activities	11 (84.6)	2 (15.4)	—
Early mobilization	7 (53.8)	6 (46.2)	—
Vision	9 (69.2)	4 (30.8)	—
Hearing	9 (69.2)	4 (30.8)	—
Oral volume repletion/dehydration	9 (69.2)	4 (30.8)	—
Feeding assistance	9 (69.2)	4 (30.8)	—
Sleep enhancement	4 (30.8)	4 (30.8)	5 (38.5)
<b>Quality assurance procedure*</b>			
Track intervention protocol adherence	9 (69.2)	NA	4 (30.8)
Hold HELP staff meetings	13 (100)	NA	—
Check staff performance	6 (46.2)	NA	7 (53.8)
Check volunteer performance	12 (92.3)	NA	1 (7.7)
Conduct educational sessions for volunteers	11 (84.6)	NA	2 (15.4)
Perform patient and family satisfaction surveys	8 (61.5)	NA	5 (38.5)

\* Specific adaptations for this category not assessed.

activities protocols, which included music or pet therapy, and adding ACE interventions to HELP protocols.

Other recommended HELP interventions<sup>2</sup> were conducted at the majority of sites. HELP geriatric nursing interventions and provider education programs were implemented at 100% of sites. Regular interdisciplinary rounds were held at 69.2% of sites. Geriatrician consultation for HELP patients was provided at 92.3% of sites, and other interdisciplinary consultation was available at 84.6% of sites. Upon discharge, 53.8% of sites communicated with community agencies or nursing homes receiving HELP patients, and 38.5% of sites performed a postdischarge telephone follow-up with the patients.

Quality assurance procedures were built in to HELP procedures and have been integral to the program's effectiveness and success. With the exception of regular staff performance assessments (conducted at 46.2% of sites), these procedures have been performed at the majority of sites. Individual intervention protocol adherence was tracked at 69.2% of sites, and 100% of sites hold regular HELP staff meetings to review patients and procedures. With the high usage of volunteers, the majority of sites regularly monitor and enhance volunteer performance with systematic competency-based checklists (92.3%) and regular educational sessions for volunteers (84.6%). Many

sites use volunteer newsletters to augment communication and education of volunteers. Patient and family satisfaction surveys are conducted at 61.5% of sites and were used routinely for ongoing program feedback and improvement.

### Outcomes Tracked Across Sites

Table 4 documents outcomes that are being tracked across individual HELP sites, in descending order by frequency. At a minimum, programs were advised to track the following outcomes, which are obtained routinely as part of HELP procedures: intervention adherence rates, MMSE and activities of daily living (ADLs) at admission and discharge, hospital length of stay, nursing home placement, discharge destination, formal home services, and patient and family satisfaction rates. In addition, sites were encouraged to track outcomes that were priority areas for their own institutions. The five leading outcomes (Table 4) that respondents reported that they tracked at their site were use of restraints (92.3% of sites), falls (92.3%), delirium (84.6%), use of sitters (84.6%), and hospital length of stay (84.6%). Despite the current focus on cost-containment in healthcare, only 30.8% of sites tracked hospital cost savings, mainly because of logistical constraints. As opposed to the majority of the other outcomes on Table 4 that HELP staff can readily track, accurate tracking of costs and cost savings at the patient level requires high-level institutional support, commitment from fiscal services, external funding, or some combination of the three.

### Advantages and Successes Across Sites

Although analysis of the outcomes tracked at individual sites was beyond the scope of this study, Table 5 indicates

**Table 4. Outcomes Tracked Across Hospital Elder Life Program (HELP) Sites (N = 13)**

Outcome	n (%)
Use of restraints	12 (92.3)
Falls	12 (92.3)
Delirium	11 (84.6)
Use of sitters	11 (84.6)
Length of hospital stay	11 (84.6)
Discharge destination	10 (76.9)
Patient-family satisfaction rates	9 (69.2)
Mini-Mental State Examination at admission and discharge	8 (61.5)
Use of Foley catheters	8 (61.5)
Intervention adherence rates*	7 (53.8)
Activities of daily living at admission and discharge	6 (46.2)
Nurse retention or satisfaction	6 (46.2)
Aide retention or satisfaction	5 (38.5)
Pressure ulcers	5 (38.5)
Hospital cost savings	4 (30.8)
Incident reports/legal actions	4 (30.8)
Other <sup>†</sup>	4 (30.8)

\* Adherence indicates percentage of assigned interventions received per patient per day.

<sup>†</sup> Includes geriatric pathways completed, depression, anxiety, polypharmacy, nutrition, mobility, pain, and constipation.

advantages and successes of HELP as reported across sites. Table 5 lists general themes of areas of advantage or success in descending order of frequency and gives examples under each theme. The advantages of HELP reported by at least half the sites included providing an educational resource at 100% of sites, improving hospital outcomes (e.g., delirium and functional decline) at 100%, providing nursing education and improving retention at 100%, enhancing patient and family satisfaction with care at 92.3%, raising visibility for geriatrics at 92.3%, improving quality of care at 84.6%, providing cost-effective care at 76.9%, improving community relations at 76.9%, contributing to awards or commendations for the hospital at 76.9%, and distinguishing volunteer services at 53.8%. These advantages provided incentives for sustaining the program at individual institutions.

### Site Funding

Obtaining long-term funding has been identified as essential to sustaining HELP beyond the initial period.<sup>7</sup> The individual HELP sites varied in their sources of program funding. Eleven sites (84.6%) were able to obtain hospital budget allocations. Other sources included external grant support in five (38.5%), donor support in four (30.8%), and in-kind support or donated materials from other programs (such as shared staff and resources) in two (15.4%). Most programs had multiple sources of funding.

### DISCUSSION

HELP has been successfully implemented at 13 sites across the United States and Canada, enrolling 11,344 patients over the study period. Whereas a high degree of fidelity to the original HELP model<sup>2</sup> was maintained across all of the sites, adaptations were present across multiple domains, including HELP team composition, enrollment procedures, intervention protocols, quality assurance procedures, and outcome tracking. Local circumstances drove these adaptations, and the reasons and types of adaptations were distinctive across sites. The most common reasons for adaptation were lack of adequate staffing (paid or volunteer) and budgetary or other logistical constraints to conducting all of the HELP intervention protocols.

Although adaptation may be essential for implementation and survival of a program, the effect of these adaptations needs to be fully evaluated locally. Program effectiveness and cost-effectiveness have been well demonstrated with the fully implemented HELP model,<sup>1-5</sup> but similar degrees of success with adapted programs cannot be assured. Outcome evaluation using local data is underway at most HELP sites; only one site has published results.<sup>15</sup> Despite the adaptations, most sites report local advantages and successes of HELP at their sites, as documented in this study. Many of these factors were instrumental to sustaining the program at the local institution. Results based on site-specific data and local successes can be meaningful and compelling to hospital management and are highly useful to justifying and sustaining HELP sites.

Previous studies<sup>6,7</sup> have provided detailed examination of the challenges and barriers to the HELP dissemination process and analyzed these factors within a conceptual framework linked to diffusion of innovations.<sup>16,17</sup> The

**Table 5. Advantages and Successes Across Hospital Elder Life Program (HELP) Sites (N = 13)**

<u>HELP serves as educational/training site or geriatrics resource site</u>	13 (100%)
<ul style="list-style-type: none"> <li>• Serves as training site for nurses' aides, nursing students, medical students, medical residents, geriatric fellows, physical and occupational therapy students, speech therapy students, social work students, psychology students, sociology students, and gerontology students (12 sites)</li> <li>• Motivates many volunteers to pursue jobs in the healthcare profession (10 sites)</li> <li>• Increases awareness about geriatric care broadly at the institution for nurses, physicians, dietary staff, and rehabilitation therapy staff (7 sites)</li> <li>• Recognized as a resource for geriatric training and expertise (7 sites)</li> <li>• Provides specialized training, such as: <ul style="list-style-type: none"> <li>◦ Partnerships with local universities (4 sites)</li> <li>◦ Summer gerontology internships (2 sites)</li> <li>◦ On-line learning modules on delirium (1 site)</li> </ul> </li> </ul>	
<u>HELP plays role in improving hospital outcomes for older persons</u>	13 (100%)
<ul style="list-style-type: none"> <li>• Substantial improvement in clinical outcomes for patients, including delirium, functional decline, falls, restraint, and Foley catheter use (9 sites)</li> <li>• Mini-Mental State Examination scores remained stable or improved (7 sites)</li> <li>• Daily requests by staff and physicians to bring patients onto the program (i.e., HELP in standing order sets for some physicians) (6 sites)</li> </ul>	
<u>HELP plays role in providing nursing education and improving nursing job satisfaction and retention</u>	13 (100%)
<ul style="list-style-type: none"> <li>• Role in nursing orientation and ongoing educational sessions (8 sites)</li> <li>• Improves nurses' knowledge and skill in working with elderly patients (7 sites)</li> <li>• Increases nursing satisfaction (5 sites)</li> <li>• Reduces stress or workload of nursing staff (4 sites)</li> </ul>	
<u>HELP plays role in enhancing patient and family satisfaction with hospital care</u>	12 (92.3%)
<ul style="list-style-type: none"> <li>• Improves rates of patient and family satisfaction on surveys (6 sites)</li> <li>• Patients and families request program upon readmission (5 sites)</li> <li>• Unsolicited letters and donations from patients and family members (4 sites)</li> </ul>	
<u>HELP raises visibility for geriatrics</u>	12 (92.3%)
<ul style="list-style-type: none"> <li>• Local, regional, and national presentations and posters related to the program (11 sites)</li> <li>• Publicity in local and national media (10 sites)</li> <li>• Recognition in the community as a healthcare system dedicated to excellence in geriatric care (7 sites)</li> <li>• Staff play role in advising hospital about geriatric issues (6 sites)</li> </ul>	
<u>HELP plays role in improving quality of care at the institution</u>	11 (84.6%)
<ul style="list-style-type: none"> <li>• Assistance with meeting hospital accreditation or quality assurance standards (6 sites)</li> <li>• Significant drop in falls and use of restraints, bladder catheters, and sitters (5 sites)</li> <li>• Results of program assessment recorded in medical record (5 sites)</li> <li>• Received Joint Commission on Accreditation of Healthcare Organizations commendation (2 sites)</li> </ul>	
<u>HELP plays role in providing cost-effective care</u>	10 (76.9%)
<ul style="list-style-type: none"> <li>• Costs decreased through reduction in delirium and length of stay (7 sites)</li> <li>• Volunteer component facilitated provision of cost-effective care (6 sites)</li> <li>• More than \$1 million cost savings demonstrated during initial years (1 site)<sup>15</sup></li> </ul>	
<u>HELP plays role in improving public relations and community outreach for the hospital</u>	10 (76.9%)
<ul style="list-style-type: none"> <li>• Improved community relations through volunteer program, outreach, and providing lectures on aging (4 sites)</li> <li>• Strengthened interdisciplinary ties at institution (4 sites)</li> <li>• Strengthened ties with long-term care facilities, home health agencies, adult day care centers (3 sites)</li> </ul>	
<u>HELP plays role in contributing to awards or commendations for the hospital</u>	10 (76.9%)
<ul style="list-style-type: none"> <li>• Major role in applying for or achieving Magnet status (6 sites)</li> <li>• Hospital awards for excellence in care, quality improvement, and patient satisfaction (5 sites)</li> <li>• Role in receipt of two prestigious grants (2 sites)</li> </ul>	
<u>HELP plays role in distinguishing volunteer services</u>	7 (53.8%)
<ul style="list-style-type: none"> <li>• High degree of volunteer satisfaction, retention, and participation in improvement of quality of care for older persons (6 sites)</li> <li>• Recognition as innovative, hands-on volunteer program (5 sites)</li> </ul>	
<u>HELP plays role in providing research opportunities</u>	3 (23.1%)

present study, although not addressing the diffusion process per se, provides some useful insights into how these barriers were successfully addressed across the early adoption sites. Evidence for how the programs addressed the six major challenges identified in the previous studies<sup>6,7</sup> is provided

below. *Gaining internal support* was critical to initiating the organizational change required to implement the HELP program. Sites spent much time (7 months on average before enrolling any patients) to start up their programs, including time to gain administrative and financial support,

advance interdisciplinary collaboration, and foster buy-in by physicians and nonphysician clinicians across floors. Recruiting and training staff and volunteers also occurred during the start-up period. Demonstrating the cost-effectiveness of the program to hospital administration through the published cost-effectiveness studies<sup>3,4</sup> and the HELP business tools was instrumental in overcoming the initial financial barriers. *Ensuring and sustaining effective leadership* was of paramount importance to successful adoption. The program leader must be a champion for the program in clinical and administrative domains and must generate support for the program at high levels throughout the organization. Redundancy of support and succession planning were instrumental in helping programs weather departure of key leaders and program staff. *Integration with existing programs* is integral to the successful implementation of any new program, and the HELP model successfully integrated with a number of existing programs at the institution, including ACE units, other geriatric programs, and other volunteer programs. HELP became the touchstone program for geriatrics at many institutions.

*Maintaining program fidelity while adapting to local circumstances* was identified as a fundamental challenge for all sites. Other studies<sup>17,18</sup> noted that, if adopters adapt or refine the intervention to suit their own needs, it will be adopted more readily. The present study demonstrated that adaptations were made at the majority of sites across multiple domains, while still maintaining a high degree of overall program fidelity. *Demonstrating positive outcomes*, particularly those that are compelling at the local institution, was imperative to successfully established the program. All of the sites have demonstrated their local advantages and successes well (Table 5). Finally, *obtaining long-term funding* to support the program has been critical to sustain the programs, and the programs have been successful in obtaining funding from multiple sources. Long-term hospital support has been identified as a paramount means of assuring the survival of the program. Although these examples are drawn from the experience of the initial HELP sites, the challenges and solutions may provide guidance to other program developers working on dissemination efforts.

Several caveats about this study deserve comment. First, this report is based on self-report survey data, and no external confirmation of the data reported by the sites was obtained. In addition, no quantitative outcome data are reported, because this was outside the scope of this descriptive study. Finally, this study was restricted to the initial 13 sites that had a valid HELP contract for at least 12 months at the start of this study. Although this small number limits the generalizability of the results, the descriptive data provide a useful early snapshot of the dissemination effort, now encompassing 54 dissemination sites.

In summary, this study provides a general description of the real-world implementation of HELP across a range of 13 sites and details their local adaptations and successes. This summary provides documentation of how interested and motivated clinicians and administrators can create change at their local institutions, can improve the quality and effectiveness of hospital care for older persons, and can help to prepare our healthcare system to cope with our aging society.

## ACKNOWLEDGMENTS

Additional coauthors who are members of the HELP Dissemination Project are indicated below:

HELP Working Group: Susan W. Grant, MSN, Jane McDowell, MSN, APRN-BC, Lynn H. Sette, MLS

HELP Dissemination Sites

Abington Memorial Hospital (Abington, PA): Cynthia Pyle, CRNP

Hamilton Health Sciences (Hamilton, Ontario): Anne Pizzacalla, CNS

Lankenau Hospital (Wynnewood, PA): Ruth Mooney, PhD

Lehigh Valley Hospital (Allentown, PA): Melissa Armstrong, MS, RN, CS

Maine Medical Center (Portland, ME): Stacey Farrington, MS

MetroHealth Medical Center (Cleveland, OH): Lorraine Mion, PhD, RN

Moses Taylor Hospital (Scranton, PA): Sonia Sandhaus, MSN, CRNP

New York-Presbyterian/Weill Cornell Medical Center (New York, NY): Deborah G. Cooke, BS

St. Francis Hospital (Milwaukee, WI): Linda A. Fridlington, MSN

St. Joseph Regional Medical Center (Milwaukee, WI): Cathleen A. Hoffman, RN, BSN

St. Michael Hospital (Milwaukee, WI): Karen Yust, MSN

University of Michigan Hospital (Ann Arbor, MI): Alene Blomquist, MA, LCSW

University of Pittsburgh Medical Center Shadyside Hospital (Shadyside, PA): Fred Rubin, MD

Aging Brain Center, Hebrew SeniorLife (Boston, MA): Pauline Belleville-Taylor, MS, Sarah L. Dowal, BA

The authors gratefully acknowledge the patients, families, and staff who participated in the programs and the many volunteers who devoted countless hours to serve HELP patients and improve hospital care for older persons. The authors acknowledge the following individuals by site: Mary Hoffmann, MD, Richard Fullan, LSW, Sarah Maus, LCSW, Rita Leinheiser, MA, Grace Wert, MSN (Abington Memorial Hospital); Esther Coker, MScN, MSc, RN Erin Cochrane, RSW, BSW, Lenora Crawford, Nancy Leslie RN, BHScN, Karen Robinson, BScN, MEd, Christopher Patterson, MD, FRCPC, FACP, Christine Anderson, RN, BAAN, MSCN (Hamilton Health Sciences); David E. Galinsky, MD, Kathy Moss, BSN, RN, Victoria Edelman, BSN, RNC, Kathy Rafter, RN, BSN (Lankenau Hospital); Cara Scheetz, MS (Lehigh Valley Hospital); Cynthia Barnard, CTRS, Heidi R. Wierman, MD, Wendy Osgood MS, PT (Maine Medical Center); Cheryl Bradas, BSN, RN, Coletta Hazel, MSN, RN, Becky Moldaver, MBA (MetroHealth Medical Center); Edward J. Dzielak, DO, Marilee Manganiello, MSN, CNN, Faith E. Harrell, Donna C. Starinski Valenti, RN, C (Moses Taylor Hospital); Barry Gallison, GNP, Melissa Kramps, GNP, Eugenia Siegler, MD (New York-Presbyterian/Weill Cornell Medical Center); Susan Gresser, MS, RN (St. Joseph Regional Medical Center); Jennifer Williams, Julie Moreschi, Elizabeth Welteroth, Eileen Mozolak, MaryAnn Veremeychik, CRNP (University of Pittsburgh

Medical Center Shadyside Hospital); and Peter Charpentier, MPH (Yale University School of Medicine).

This work is dedicated to Mary Jane Koren and Marilyn Hennessy and in memory of Mo Katz; together you made this happen.

**Financial Disclosure:** This report was funded in part by The Institute for Incentives in Health Care. The HELP Dissemination Project was funded in part by the Alzheimer's Foundation of America, the Commonwealth Fund (Grant 20040073), the Retirement Research Foundation (Grant 99–361), the National Library of Medicine (Grant G08LM08085), and by in-kind support from the Claude D. Pepper Older Americans Independence Center at Yale University School of Medicine (P30AG21342). Dr. Inouye is supported in part by Grants K24AG00949 and R21AG025193 from the National Institute on Aging.

**Author Contributions:** All of the primary authors (Drs. Inouye, Baker, Fugal, Bradley) participated in study concept, design, acquisition of data, analysis and interpretation of data, and preparation of the manuscript. All of the co-authors participated in design of the survey questionnaire, acquisition of the data, and review and editing of the final manuscript.

**Sponsor's Role:** No role in design, methods, subject recruitment, analysis, or preparation of the manuscript.

## REFERENCES

- Inouye SK, Bogardus ST, Charpentier PA et al. A multicomponent intervention to prevent delirium in hospitalized older patients. *N Engl J Med* 1999;340:669–676.
- Inouye SK, Bogardus ST, Baker DI et al. The Hospital Elder Life Program: A model of care to prevent cognitive and functional decline in hospitalized older patients. *J Am Geriatr Soc* 2000;48:1697–1706.
- Rizzo JA, Bogardus ST, Leo-Summers L et al. Multicomponent targeted intervention to prevent delirium in hospitalized older patients: What is the economic value? *Med Care* 2001;39:740–752.
- Leslie DL, Zhang Y, Bogardus ST et al. Consequences of preventing delirium in hospitalized older adults on nursing home costs. *J Am Geriatr Soc* 2005;53:405–409.
- Inouye SK, Bogardus ST, Williams CS et al. The role of adherence on the effectiveness of nonpharmacologic interventions: Evidence from the Delirium Prevention Trial. *Arch Intern Med* 2003;163:958–964.
- Bradley EH, Schlesinger MJ, Webster TR et al. Translating research into clinical practice: Making change happen. *J Am Geriatr Soc* 2004;52:1875–1882.
- Bradley EH, Webster TR, Baker D et al. After adoption: Sustaining the innovation. A case study of disseminating the Hospital Elder Life Program. *J Am Geriatr Soc* 2005;53:1455–1461.
- Administration on Aging A Profile of Older Americans. Washington, DC: American Association of Retired Persons, 1995.
- DeFrances CJ, Hall MJ, Podgornik MN. National Hospital Discharge Survey 2003. Advance Data from Vital and Health Statistics, no. 359. Hyattsville, MD: National Center for Health Statistics, 2005.
- Watson YI, Arfken CL, Birge SJ. Clock completion: An objective screening test for dementia. *J Am Geriatr Soc* 1993;41:1235–1240.
- Teng EL, Chui HC. The Modified Mini-Mental State (3MS) examination. *J Clin Psychiatry* 1987;48:314–318.
- Borson S, Scanlan J, Brush M et al. The Mini-Cog: A cognitive 'vital signs' measure for dementia screening in multi-lingual elderly. *Int J Geriatr Psychiatry* 2000;15:1021–1027.
- Folstein MF, Folstein SE, McHugh PR. 'Mini-mental state'. A practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res* 1975;12:189–198.
- McDowell JA, Mion LC, Inouye SK. A non-pharmacologic sleep protocol for hospitalized older patients. *J Am Geriatr Soc* 1998;46:700–705.
- Rubin FH, Williams JT, Lescisin DA et al. Replicating the Hospital Elder Life Program in a community hospital and demonstrating effectiveness using quality improvement methodology. *J Am Geriatr Soc* 2006;54:1492–1499.
- Bradley EH, Webster TR, Baker D et al. Translating research into practice: Speeding the adoption of innovative health care programs. *Issue Brief (Commonw Fund)* 2004;(724):1–12.
- Rogers EM. *Diffusion of Innovations*, 5th Ed. New York: Free Press, 2003.
- Greenhalgh T, Robert G, MacFarlane F et al. Diffusion of innovations in service organizations: Systematic review and recommendations. *Milbank Q* 2004;82:581–629.