A CRITICAL EXAMINATION OF FIDELITY, ADAPTABILITY, AND MAINTENANCE IN A NATIONAL TRAINING PROGRAM FOR STAFF IN LONG-TERM CARE

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ABSTRACT

SUSAN FLETCHER: A Critical Examination of Fidelity, Adaptability, and Maintenance in a National Training Program for Staff in Long-Term Care
(Under the direction of Sheryl Zimmerman, PhD)

The quality of care in long-term care settings depends in large part upon the ability of staff to meet resident needs. Reviews of recent staff training programs indicate effective staff training is related to improved resident satisfaction and quality of life. However, although numerous training programs have been developed, few have been rigorously evaluated. In particular, there is a dearth of information describing the fidelity, sustainability and potential dissemination of training programs. These factors are critical in promoting and maintaining positive change among staff members and ultimately improving resident care across heterogeneous long-term care settings. Therefore, the purpose of this dissertation study is to evaluate a standardized staff-training program specifically developed for staff caring for residents with dementia in long-term care settings. The <italic>*Foundations of Dementia Care*</italic> (FDC) program was developed by staff at the national Alzheimer's Association and is intended for national dissemination. Specifically, the dissertation aims are to: 1) To examine to what extent FDC was consistently implemented as intended in diverse settings and using multiple trainers; 2) To examine trainer and trainee reactions to a standardized training program; and, 3) To examine the Reach, Adoptability, Effectiveness and Maintenance of FDC using the RE-AIM evaluation model. These aims are consistent with the goals of the <italic>*Geriatric Social Work Initiative*</italic> (GSWI) and the Council of Social Work Education National Center for Gerontological Social Work Education. Funding

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DEDICATION

This dissertation is dedicated to “Junior” (deceased), a friend and resident at the former Cuyahoga County Nursing Home in Cleveland, Ohio. Junior taught me that all residents in long-term care have valuable lessons to share regardless of age or disability. This work is also dedicated to my husband, Gregory Allen Bechtel, whose love, support and encouragement has made it possible for me to complete this work; and to my mother, Louise Fletcher and my children, Ryan Salo, Jason Salo and Marcie Foster, for their unwavering belief in me.

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TABLE OF CONTENTS

LIST OF TABLES

Table

LIST OF ABBREVIATIONS

BCC	Behavioral Change Consortium
CS-LTC	Collaborative Studies of Long-Term Care
DCS	Direct care staff
FDC	Foundations of Dementia Care
IOM	Institute of Medicine
LTC	Long term care
M	Mean
NH	Nursing home
NIH	National Institutes of Health
PRISM	Practical, Robust Implementation and Sustainability Model
RC/AL	Residential care/assisted living
RE-AIM	Reach, Effectiveness, Adoption, Implementation and Maintenance evaluation model
SD	Standard Deviation
TTT	Train-the-trainer

CHAPTER 1

Introduction

Among the most challenging of chronic diseases is *dementia*, a progressively disabling illness that eventually restricts daily activities and necessitates greater and more complex care. While the majority of individuals with dementia receive care from their families, as the disease progresses many families choose long-term care (LTC) as the most effective way to meet the increased demands for daily care. Within LTC settings, approximately 80-90% of direct resident care is provided by non-licensed direct-care staff (DCS) (e.g., nursing assistants, nurse aides, in-home aides, and personal-care aides). The quality of care LTC residents receive is related to the ability of DCS to meet residents' physical and personal needs.[1-3]

Previous studies found resident and family satisfaction and resident quality of life are better when staff has more training.[4-5] The Institute of Medicine (IOM) LTC quality report cites staff training and education are significantly linked to care.[6] Training may be particularly important for staff caring for residents with dementia. Staff with more education report more dementia-sensitive attitudes (e.g., provision of individualized care, demonstrating respect and understanding)[7] and staff themselves have recognized the need for more dementia-specific training.[4] Further, clinicians have warned that failure to equip staff to provide for the particular needs of residents with dementia may cause unnecessary suffering.[8]

Diversity among LTC settings results in variability in the quality of care for residents with dementia, with some residents receiving poor care.[9] One of the standards of professional practice for social workers in health care settings addresses health disparities,[10] yet the lack of equitable care and the existence of health disparities across LTC settings have long warranted concern.[11] Effective, standardized staff training is not consistently disseminated

across LTC potentially continuing and increasing disparities. Data from previous research indicate LTC settings that are more dependent upon Medicaid reimbursement have less money available for staff training programs, yet are more likely to care for residents with significantly more severe health-related deficiencies. Such resident characteristics often increase the staff training necessary to meet resident needs.[11]

Unfortunately, while training programs targeting staff caring for residents with dementia in LTC settings have demonstrated desired change in staff knowledge, behaviors, and attitudes, few have demonstrated significant change and even less have demonstrated sustained change.[7,12-14] Of utmost importance when discussing the effectiveness of staff training programs is the lack of comprehensive evaluation methods. Few training programs have included an evaluation component and when evaluations are included, substantial methodological weaknesses are often revealed. [14-15]

Without critical evaluation, it is difficult to know if training programs are implemented as intended (i.e., implementation fidelity), and what program-level or setting-level variables facilitate or hinder adoption and sustainability to other LTC settings.[15-17] Further, the effectiveness of a training program itself is difficult to determine without serious consideration of fidelity.[18-19] Finally, without adequate information about which program factors are responsible for intended change, and which factors may be adapted to specific settings, it is challenging to maintain training on a broad level.[20] The examination of a standardized staff training program intended for national dissemination may enhance the sustainability and dissemination of efficacious programs across LTC settings, thereby promoting quality and equitable resident care.

Therefore, the purpose of this dissertation study is to evaluate a standardized staff training program specifically developed for staff caring for residents with dementia in LTC settings. The *Foundations of Dementia Care* (FDC) program, developed by staff at the national Alzheimer's Association, is the first ever staff training program intended for national dissemination. Specifically, the dissertation aims are to: 1) To examine what extent FDC was consistently implemented as intended in diverse LTC settings and using multiple trainers; 2) To examine trainer and trainee reactions to a highly standardized training program; and, 3) To examine the Reach, Adoptability, Effectiveness and Maintenance of FDC using the RE-AIM evaluation model.

The work is consistent with the goals of the *Geriatric Social Work Initiative* (GSWI).[21] GSWI is supported by the John A. Hartford Foundation and collaborates with social work education programs to: 1) prepare faculty leaders in gerontological research and education; 2) develop training opportunities for students; and 3) include gerontological competencies into social work curricula. Social workers have made significant contributions in advancing quality of care in long-term-care settings through research and the evaluation of direct interventions, services, and policy. This paper will continue the tradition of applying knowledge and skills associated with the profession, to examine staff training programs through the lens of evaluation models. Such an examination has the potential to improve resident care, contribute to the knowledge of evaluation methods and influence the broader field of training and evaluation in diverse settings and is therefore appropriate and very significant. The evaluation model used in this dissertation was the focus of The Hartford Geriatric Social Work Translational Research Conference, Chantilly, VA, April 4-6, 2008.

The *Foundations for Dementia Care Training Program* (FDC) is the first national program developed and advocated by the Alzheimer's Association to enhance person-centered care in long-term care (LTC). The parent study of this dissertation work is an evaluation of the FDC training conducted as a joint effort between the Collaborative Studies of Long-Term Care (CS-LTC) and the Alzheimer's Association (Principal Investigator, Sheryl Zimmerman). The FDC training is classroom-based and provided to LTC staff by staff of local Alzheimer's Association chapters and is intended for use in nursing homes (NH), residential care settings/assisted living settings (RC/AL). The trainers were either master trainers (who were trained by the Alzheimer's Association) or individuals trained by master trainers. All trainers are provided clear and concise manuals to facilitate high adherence to intended implementation. The evaluation team partnered with four Alzheimer's Association chapters in each of four states (NC, SC, VA, and KY) to conduct the study.

Approval for all procedures was granted by the Institutional Review Board at UNC. The parent study used random assignment at the setting-level, assigning 8 settings to the training group (4 NH; 4RC/AL) and 8 settings (5 NH; 3RC/AL) to the control group which later received a delayed training. This design allowed for the assessment of fidelity and the RE-AIM components in all 16 LTC settings. The evaluation included the delivery of six different session topics of the FDC program to each setting, two of which are designed for supervisory staff and four of which are designed for both supervisory and direct care staff. Training content included team leadership (three sessions), improving communication (one session), and reducing pain (two sessions). Table 1.1 describes the sessions, objectives, and intended participants. The intent was that all staff received their training over a six week period. Trainers were expected to offer each of the six sessions twice in each setting to

facilitate all staff attending. Baseline data were collected through staff interview and questionnaire of a randomly selected sample of supervisory and direct care staff that were expected to receive the training but may or may not have actually attended the training. Follow-up data were collected from these individuals immediately after training and again three months after the completion of training. When those individuals were not available for the follow-up, they were randomly replaced with other individuals.[22]

Each of the three chapters (2-4) included in the dissertation correspond with the three aims described above. The purpose of the second chapter, entitled "Implementation Fidelity of a Standardized Dementia Care Training Program Across Multiple Trainers and Settings," is to answer the following questions: 1) To what extent was the FDC, a standardized staff training program, consistently implemented as intended in diverse LTC settings and using multiple trainers?; 2) Are setting characteristics, program characteristics and/or trainer characteristics related to the degree of implementation fidelity?; and 3) Is trainer perception of fidelity a suitable proxy for observed fidelity? A linear mixed model of statistical analysis was used to determine to what extent three measures of implementation fidelity (trainer adherence to the key words identified in the trainer's manual, trainer additions to the program and session duration) related to setting characteristics, program characteristics, and trainer characteristics while controlling for the heterogeneity between trainers and setting not explained by any of these characteristics. Results indicate that some or all key words were delivered in more than 85% of the sessions. There was significant variability in fidelity across session and across trainer-level variables. The paper concludes with strategies to maintain fidelity in training programs intended for diverse settings, including identifying core

components, better adhering to the script in interactive sessions, and recognizing trainer characteristics related to fidelity.

The third chapter, entitled "Trainee and Trainer Reactions to a Scripted Dementia Care Training Program in Residential Care/Assisted Living Settings and Nursing Homes" used linear mixed models and regression models to examine how trainers and trainees reacted to the highly standardized FDC. Specifically, the extent to which the degree of adherence to the script (i.e., implementation fidelity) was related to: (1) trainee satisfaction; (2) trainee rating of trainer knowledge; (3) trainer rating of program effectiveness and relevance; and (4) the trainer's perception of trainee interest was examined. Results indicate a significant positive relationship between trainee ratings of satisfaction and trainer knowledge with implementation fidelity. Trainer additions to the script were related to their own lower ratings of session effectiveness and perceived trainee interest. However, trainers had some unfavorable reactions to reading a script suggesting that while adherence to a standardized training program is positively received by trainees, trainers may need training and support to become more comfortable with such standardization. These two papers are in press on the first of two special issues in *Alzheimer's Care Today.*

The fourth chapter is entitled "Enhancing Staff Training in Long-Term Care." Using the Reach, Effectiveness, Adoption, Implementation and Maintenance (RE-AIM) and the Practical, Robust Implementation and Sustainability Model (PRISM) evaluation frameworks, this paper considers findings from the evaluation of *Foundations of Dementia Care* training program in the context of impact, translation, regulation and a role for a training specialist. Strategies to improve evidence-based care and outcomes in NHs, RC/AL settings, and nonresidential settings that provide LTC for older adults are suggested.

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Table 1.1. Foundations of Dementia Care: Sessions, objectives and participants[a]

Session	Objectives	Participants
Learning to Lead: Leading the Team	Review team leader roles Learn basics of quality dementia care Learn to empower staff	Supervisors
Learning to Lead: From Classroom to Practice	Learn ways to foster a learning environment Ensuring what is learned in the classroom is applied on the floor Learn specific approaches for supporting staff	Supervisors
Learning to Lead: Building a Vision	Identify characteristics of a successful team Review Alzheimer's Association practice recommendations Learn strategies to address recommendations Develop short term action plans	Supervisors Direct care staff
Improving Communication	Learn about communication challenges for people with dementia Learn how to use non-verbal communication strategies Learn the Positive Physical Approach Learn guidelines to improve verbal communication with people with dementia	Supervisors Direct care staff
Reducing Pain: Awareness	Learn the definition of pain and understand its causes Identify when residents may be in pain Describe different types of pain	Supervisors Direct care staff
Reducing Pain: Practice	Learn how to report pain successfully Learn how to respond to pain Learn strategies to prevent pain and improve resident comfort	Supervisors Direct care staff

[a] From Mitchell CM, Zimmerman S, Beeber AS. Dementia care training for long-term care staff: If you provide it, will they come? *Alzheimer's Care Today*. In press.

CHAPTER 2

Implementation Fidelity of a Standardized Dementia Care Training Program Across Multiple Trainers and Settings

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INTRODUCTION

In the course of evaluating the outcomes of a training program, it is necessary to determine if the program was administered as intended and in a consistent manner, also known as *implementation fidelity*.[1] If a training program is not delivered as intended the findings may not be reflective of the success (or lack of success) of the program, because the program was not fully implemented. There are many reasons why a program may not be conducted as planned. For example, a lack of resources or space may limit the ability to implement some of the intended training activities, leading to poor outcomes and the premature rejection of a potentially effective program. Conversely, successful outcomes may be due to something apart from the actual program, such as high trainer enthusiasm which promotes staff engagement and learning even though the training program was not conducted as planned. Thus, it is important to understand the amount of implementation fidelity when evaluating the merits of a training program.[2]

Unfortunately, fidelity has not been given appropriate attention especially in outcome studies related to staff training in long-term care (LTC) settings.[2] Of note, fidelity of staff training programs in LTC is virtually unknown, severely limiting an understanding of program effectiveness in these settings.[3] One reason that this area has not been explored is the high cost associated with assessing implementation fidelity. The gold standard for assessing fidelity entails analyzing video or audio recordings of actual sessions that have been transcribed, a process that is laborious and time consuming. Finding alternative methods

to assess fidelity may encourage trainers and evaluators to examine fidelity within the training evaluation framework.

This paper describes the implementation fidelity of the Alzheimer's Association *Foundations of Dementia Care* (FDC) staff training program. FDC, a classroom-based program for staff who provide care for residents with dementia in LTC, is highly standardized through the use of a manual with scripted text and activities. Intended to be disseminated across diverse settings, FDC developers incorporated strategies to enhance implementation fidelity including a trainers' manual and specific instructions during trainer preparation sessions to help them adhere to the manual content within specified time parameters. Since the FDC program is to be read as written, developers gave particular care to the design of the trainers' manual and ensuring the font size was large enough so the content could be easily read when delivering it to a group.

For this paper, we analyzed 119 audio-recordings of FDC sessions to answer the following questions: 1) To what extent was the FDC, a standardized staff training program, consistently implemented as intended in diverse LTC settings and using multiple trainers?; 2) Are setting characteristics, program characteristics and/or trainer characteristics related to the degree of implementation fidelity?; and, 3) Is trainer perception of fidelity a suitable proxy for observed fidelity? The question relating fidelity to outcomes is addressed in a separate paper in an upcoming journal of *Alzheimer's Care Today*, as it is a complex issue best understood in the broader context of overall effectiveness.

Fidelity

Fidelity assesses if a program was delivered to all participants as designed and in a consistent manner.[4] A review of 500 prevention and health promotion interventions for

children and adolescents found that high implementation fidelity is significantly related to better outcomes.[5] Of utmost importance is fidelity to the *core components* of a program, defined as the required concepts of the program that are immutable and most likely linked to successful outcomes.[6] When core components are omitted or altered, program outcomes may not reflect the true effectiveness of the program. Unfortunately, in some cases, omissions or alterations are unavoidable. For example, limited staff attendance at a given session may prohibit conducting specified group activities that require a minimum number of attendees, and this type of modification may result in inconsistent outcomes.

Examining fidelity also allows an exploration of the extent to which outcomes are associated with the dosage of the program. Consider the case when a training session is rushed, and is conducted in 45 minutes instead of the planned 60 minutes. Losing 15 minutes may not allow adequate time for planned activities, and staff may not have the ability to critically apply new information within the training session. This change in dosage may be akin to a patient taking only 75% of his medications in a drug trial.

Furthermore, assessing fidelity is important to understand how the implementation process may vary when training programs are conducted across settings and trainers.[7] If one setting conducts a training program off-site, for instance, the lack of potential interruptions may enhance staff attention and program effectiveness compared to a setting that conducts training in a break room. Thus, fidelity is related to more than the content or duration of a training session, and extends to the setting-level conditions under which the training is provided.

Complete fidelity is not always possible, and may not always be desirable. An *adaptation* is the purposeful process of modifying a program without compromising the core

components.[8] Adaptations may occur for a variety of reasons, such as changing program activities to meet the structural limitations of a setting or altering content to address the specific needs of the trainees. Trainer initiated modifications that may or may not compromise core components is referred to as *trainer drift.*[9] Examples of trainer drift include the insertion of additional material or changes in the delivery or intensity of content such as repeating phrases. Analyzing how setting, program and trainer characteristics are related to implementation fidelity provides a better understanding of what affects fidelity, the kinds of adaptations that occur, and what strategies may be put in place to reduce or eliminate variability that may affect outcomes.

METHODS

The evaluation of FDC included six different training session topics: 1) Learning to Lead: Leading the Team; (2) Learning to Lead: Classroom to Practice; (3) Learning to Lead: Building a Vision; (4) About Dementia: Improving Communication; (5) Reducing Pain: Awareness; and, (6) Reducing Pain: Practice. These sessions were delivered by nine trainers at 16 LTC settings with each session intended to be delivered more than once so that all LTC staff could attend. By design, only supervisory staff attended Leading the Team (1) and Classroom to Practice (2). The remaining sessions were attended by all staff (i.e., supervisors as well as direct care workers, activity personnel, and others). The session topics were to be delivered in order and each session was designed to last one hour.

The research team and staff from the national office of the Alzheimer's Association identified geographical regions and Alzheimer's Association chapters within which the evaluation of the FDC would occur; the specific long-term care settings to be trained were stratified to include nursing homes (NHs) and residential care/assisted living (RC/AL)

communities that met criteria related to size and not having received similar such training in the last year. Trainers from the identified chapters were selected and prepared to deliver FDC by staff at the national office. A description of the training content and delivery protocol was included in a detailed manual provided to each trainer. The manual contained scripted text, planned activities, and a timeframe for each component. Trainers also attended a training session for the evaluation of FDC, conducted by staff from the national office of the Alzheimer's Association and research staff. Trainer instructions included the following statement: "This is a completely scripted training program. Everything you need to do and say is carefully laid out for you." In addition, trainers were asked to participate in monthly conference calls with research staff and staff from the national office of the Alzheimer's Association. The discussion during these calls focused on the need to adhere to the program protocol, data collection procedures, and challenges and solutions to training delivery such as low attendance and inadequate space.

This evaluation of FDC fidelity used multiple data sources including analyses of session audio recordings, trainer self-report, and attendance sheets, allowing for a detailed examination of actual implementation across settings and trainers. The use of trainer self-report also allowed for a comparison between observed fidelity (i.e., coded audio-recordings) and trainer perceived fidelity in order to determine if trainer report may be used as an efficient and cost effective substitute for recordings.

Sample and Measures

Nine trainers and sixteen settings participated in this project, 15 of which provided fidelity data for these analyses (nine NH and six RC/AL settings). One setting was entirely omitted from the analysis due to the loss of audio-files. Sessions were audio recorded to

assess the amount of implementation fidelity. A total of 163 sessions were delivered during the evaluation of FDC. Thirty-one sessions (19%) were missing an audio recording for a variety of reasons (e.g., the trainer forgot to turn on the recorder or taped over a previous delivery; failed batteries). Of the 132 recorded sessions, 13 of the recordings had more than 20% of the content missing or inaudible and so were omitted from the analysis, resulting in a total of 119 recordings included in the evaluation.

Trainers were asked to complete a form at the conclusion of every session, and in result, trainers completed 115 matching trainer forms for the 119 sessions. *Setting-level data* collected on these forms included setting type (i.e., NH or RC/AL) and type of room in which the session was held (e.g., classroom, nursing station, dining room). The number of staff attending each session (another setting-level variable) was determined by the signed attendance sheet returned to the research team along with the trainer form. All *program-level data* (i.e., session topic and trainer ID) were obtained from the trainer forms. The last question asked after each session ascertained the trainer's perception of fidelity: How **confident** are you that you were able to adhere to the training protocol (e.g., delivered material in correct order, used language from the training manual)? The responses for this item ranged from 1= not at all confident to 5 = very confident. *Trainer-level data* (e.g., age, years of college, years worked as a trainer) were obtained from a pre-training interview conducted by one of the authors

ANALYSIS

For each session, fidelity was quantified in three ways: (1) percent fidelity to core components, defined herein as the use of key words; (2) percent additions; and (3) session duration. Assessing percent fidelity to core components (key words) allowed for a detailed

examination of the extent to which the core components were delivered as intended. Assessing percent additions provided information on the amount of trainer drift per session, and session duration was a measure of program dosage.

Two Alzheimer's Association National Office staff members with expertise in the evaluation of educational programs and professional training worked in collaboration with the research team to develop a coding tool to assess core components. Specifically, key words within the trainer manual were identified as those that constituted the core components of the program. The majority of the material within the script included key words, although some of the script did not (e.g., a trainer asking participants to get into small groups). All statements or questions within the trainer's script that contained a key word will be referred to as a *unit of observation*. Trained research assistants listened to the audio recordings and counted the number of key words per unit of observation that were used by the trainers. An example of how fidelity was quantified as adherence to key words is seen in the following unit of observation from the FDC script:

Ask: What are some of the ways that **pain can affect** a **person's daily living**?

The bolded words are the key words, and the entire sentence is considered a unit of observation. Each unit of observation was coded on a 3-point scale depending on the degree of fidelity to the key words: it was coded as complete fidelity if the trainer used all of the key words; complete and partial fidelity if the trainer used either all of the key words or some of the key words; and no fidelity if the trainer did not use any of the key words. A separate score was calculated for percent partial fidelity (i.e., use of some of the key words) but was achieved in only 19.5% of the units of observation, making it too small to use as a separate

variable in a meaningful way for analyses. Therefore, the scores were summarized within each session to derive percent complete, complete and partial, and no fidelity per session.

The second measure of fidelity, percent additions, was calculated by coding all additions to a scripted unit of observation (e.g., trainers adding more explanation or personal stories in addition to or in place of key words). Additions were coded as yes or no per unit of observation. Percent additions were determined for each session. Session duration, the third measure of fidelity, was determined based on the length of the audio-recordings. It is important to note that the trainers were not aware of how fidelity was being examined in these analyses.

These coding procedures were pilot tested using an audio recording from a training session not included in the evaluation. Then, the initial three recordings were coded by the first author and two student research assistants in order to ensure reliability (coding agreement). All areas of disagreement were discussed until 80% agreement was reached. The research assistants then coded all tapes, with every 20th tape co-coded by the first author to assess reliability in an ongoing way.

A form of statistical analysis called a linear mixed model was used to determine to what extent fidelity related to setting characteristics (i.e., setting type, room, staff in attendance), program characteristics (i.e., session topic), and trainer characteristics (trainer age, education, experience as a trainer, experience working with people with dementia, and years working in a LTC setting) while allowing for heterogeneity (i.e., differences) between trainers and setting not explained by any of these characteristics. The capability to take this heterogeneity into account is the principal advantage of a linear mixed model for this

analysis. Bonferroni post-hoc tests were applied when significant differences were revealed to determine which comparisons were significantly different.[b]

In order to examine the relationship between trainer characteristics and implementation fidelity, correlations were calculated between percent implementation fidelity and trainer characteristics (e.g., age, years of college, years worked as a trainer). Significant variables were included in a stepwise regression. In order to determine if trainer perception of fidelity may be an acceptable proxy for evaluating implementation fidelity, correlations were calculated between the amount of fidelity measured based on the audio recordings and trainer perception of fidelity as reported on the trainer forms.

RESULTS

Table 2.1 illustrates the frequency and distribution of all of the variables in the analyses including setting, program, and trainer-level variables. The majority of sessions (67%) were conducted for NH staff with variability as to room type within the setting. The mean number of staff attending sessions averaged 12 (SD=9.2), with a lower number in those sessions specific to supervisors (M=8.14, SD=6.9) and a higher number in the sessions for all staff (M= 28.4., SD= 7.9). Session topics were fairly well distributed with Building a Vision being provided the most times (21%) and Classroom to Practice the least times (13.4%). The number of sessions per trainer also varied from 8 (Trainer C) to 22 (Trainer H). Perceived fidelity as measured by trainers' confidence to adhere to the training protocol averaged 4.5

[b] The extent to which variability in fidelity is explained by program-level, setting-level, and trainer-level characteristics was addressed using linear mixed models in which the dependent variable was percent fidelity (either complete or complete and partial), and the explanatory part of the model included random effects for trainer, setting, and session topic by trainer plus fixed effects for the number of staff attending and the categorical factors session topic, offering (first time topic offered vs. second or third time), room type, and setting type. The model allowed for statistical testing and estimation of the impact of the fixed effect covariates on adherence while accounting for the complex variance structure in the data due to within-trainer and within-setting correlation of adherence outcomes. Post hoc analysis of pairwise comparisons among session topics used the Bonferroni method to adjust for multiple comparisons (.05/15 =.0033).

(SD= 0.9), which is midway between “confident” and “very confident”. Trainers averaged 48.8 years of age, had 4.5 years of college, had been working as a trainer for 12.4 years, had 2.4 years of experience caring for a person with dementia, and had worked in a long-term care setting for 4.4 years, on average.

Measures of fidelity

Table 2.2 summarizes the three measures of fidelity. Overall percent fidelity to key words was as follows: complete fidelity (i.e., use of all key words) was achieved in 67.2% (SD =19.7) of the total units of observation; complete and partial fidelity (use of either all of the key words or some of the key words) was achieved in 86.7% (SD=9.4) of the total units of observation; and no fidelity (i.e., no use of the key words) was observed in 13.1% (SD =9.3) of the total units of observation. Variability in percent additions ranged from 0-60.7% with a mean of 9.2% (SD= 11.4) and a median of 5.3 units of observation in which trainers added material. While duration ranged from 29 minutes to 81 minutes, the average session was somewhat less than the intended hour at 49.0 (SD =9.5) minutes in length.

There was no statistically significant relationship between fidelity to key words and percent additions and/or session duration when controlling for setting (type, room, number of staff attending), and program (topic, trainer). Percent additions, however, were significantly related to overall session duration [$F(56/37.5)=1.8$, $p=.05$] with more additions related to longer session duration.

Setting-level and program-level sources of variation

Analysis examined correlates of complete fidelity and of complete and partial fidelity, percent additions, and session duration. No significant relationship was found between any of the setting characteristics (NH or RC/AL, room type, number of staff in attendance) and the

three measures of fidelity. Of the program characteristics examined (trainer and topic), session topic was the only significant correlate of fidelity to key words. These results are shown in Table 2.3. Building a Vision had the most fidelity to key words (92.7%) while Classroom to Practice had the least (82.0%). Post hoc analysis demonstrated significant differences between four sets of topics: (a) Classroom to Practice (82.0) and Pain Awareness (91.3; $p<.01$); (b) Classroom to Practice (82.0) and Building a Vision (92.7; $p < .01$); (c) Classroom to Practice (82.0) and Improving Communication (89.9; $p < .05$); and (d) Leading the Team (85.6) and Building a Vision (92.7; $p < .05$). In essence, Classroom to Practice is a significant outlier on the lower end of fidelity to key words, and Building a Vision is a significant outlier on the higher end of fidelity to key words.

In terms of additions, the highest percent of additions occurred in Building a Vision (18.5%) and the least occurred in Pain Practice (1.8%). Significant differences at $p <.01$ were found between six sets of topics: (a) Leading the Team (4.4) and Building a Vision (18.5); (b) Classroom to Practice (13.4) and Pain Practice (1.8); (c) Building a Vision (18.5) and Improving Communication (2.6); (d) Building a Vision (18.5) and Pain Practice (1.8); (e) Improving Communication (2.6) and Pain Awareness (14.9); and (f) Pain Awareness (14.9) and Pain Practice (1.8). Significant differences at $p <.05$ were found between two sets of topics: (a) Leading the Team (4.4) and Pain Awareness (14.9); and (2) Classroom to Practice (13.4) and Improving Communication.(2.6) Pain Practice is a significant outlier in the lower end of percent additions and Building a Vision is a significant outlier in the higher end of percent additions.

Examining mean duration among topics, the longest topic on average was Leading the Team (54.5 minutes) and the shortest was Pain Practice (44.1minutes) with the

differences being these two being significant at $p < .05$. No other sessions differed significantly in terms of mean duration.

Trainer-level sources of variation

There were small to medium correlations between complete fidelity and older age [$r(105)=.29$, $p<.01$)]; more years working as a trainer [$r(105)=.48$, $p<.01$)]; more years working in a LTC setting [$r(105)=.21$, $p<.05$)]; fewer years experience working with a person with dementia [$r(105)=-.40$, $p<.01$)], and fewer years of college [$r(105)=-.61$, $p<.01$]. However, when included in a stepwise regression that determined which of these characteristics was/were most related to complete fidelity, only two were significant: (1) years of college related to percent complete fidelity [$\beta = -.61$ $t(117)=-7.8$, $p < .01$] and explained 36% of the variance in complete fidelity [$R^2=.36$, $F(1,104)=60.2$, $p<.01$]; and (2) years as a trainer related to percent complete fidelity [$\beta = .29$ $t(117)=3.8$, $p < .01$] explained an additional 8% of the variance in complete fidelity [$R^2= .08$, $F(1,104)=14.1$, $p<.01$]. Thus, the more years of college, the lower the percent complete fidelity, and the more experience as a trainer, the higher the complete fidelity. Combined, the proportion of variance explained by these two characteristics is 44%, meaning that the ability to predict fidelity by knowing these two trainer characteristics is 44%. No trainer characteristics were related to percent additions or session duration.

Proxy method for evaluating fidelity

Percent fidelity by trainer and trainer perceptions of adherence are shown in Table 2.4. There were no significant correlations between how trainers perceived fidelity and percent additions or session duration. However, small correlations were found between perceived fidelity and complete fidelity to key words [$r(113)=.30$, $p<.01$]; complete and

partial fidelity to key words [$r(113)=.20$, $p<.05$]; and no fidelity to key words [$r(113)=.34$, $p<.01$].

DISCUSSION

Adherence to key words (complete and partial) in 86.7% of the FDC sessions indicates that high implementation fidelity of a standardized staff training program delivered across diverse LTC setting by numerous trainers is possible. Maintaining high fidelity ensures that trainees will receive the intended content and to the extent that the program is effective, will be more likely to achieve its intended outcomes. While data on fidelity in other staff training programs in LTC is not available, fidelity assessed in training programs in other settings such as health promotion and prevention interventions tends to approximate 60%, with few programs achieving fidelity higher than 80%.[5] On the other hand, findings from this study are consistent with a multi-site educational study where educators achieved 84-86% fidelity to key words.[10] In the present study, it seems that the use of trainer manuals and trainer support through conference calls may have been successful strategies to maintain high implementation fidelity across multiple settings and trainers. This is an important finding when considering disseminating FDC across diverse settings. However, these trainers also were aware that the FDC program was being evaluated, and so may have been more diligent to fidelity than they would have been otherwise. Thus, it might be considered that fidelity approaching 90% is the maximum that might be expected in an optimal situation for a training program similar to FDC.

It is important to note however, that session topic, a program variable, was significantly related to the degree of fidelity to key words and percent additions. While previous studies demonstrate that a difference of 20%-40% in fidelity across trainers and

sites is not uncommon,[5] exploration of topic variability is not widely studied, and these results may suggest strategies to maintain consistent fidelity across training topics. Building a Vision had the most fidelity and the highest percent additions, which may be due to differences among the number of interactive activities in this session compared to others. It included 21 minutes of intended interactive activities (e.g., breaking into teams to discuss the practice recommendations, spending time developing action plans). These activities may account for high fidelity because they necessitated trainers reading specific instructions to staff on how to perform the activities. The activities may also have increased percent additions by allowing more time for personal stories and/or informal sharing of topic-related material during transitions from small to large group activities. Thus, consistent fidelity across program topics may be improved by developers assuring equal amounts of scripted and interactive components per topic, and more fidelity might be achieved by having more scripted components during interactive sessions. The use of multiple components within a program (e.g., group activities, lecture, videos) is not uncommon in training programs,[11] and the extent to which specific components may reduce overall fidelity must be considered in conjunction with how essential each component is to program effectiveness.[7] Component analysis would be helpful in determining if components that reduce fidelity may be omitted without reducing effectiveness.

While more in depth analysis would be necessary to fully deconstruct the relationship between trainer years of college and years of experience as a trainer with implementation fidelity, it may be that more years of college increase trainer self-efficacy, resulting in more reliance on personal knowledge rather than program content. On the other hand, more years as a trainer may be related to more of an appreciation to adhere to the protocol, hence the

higher implementation fidelity. These explanations are conjectures and their importance as they relate to fidelity warrants further study.

Trainers' perceptions of fidelity were associated with observed fidelity. The small to medium correlation between trainer perceptions of implementation fidelity with the observed measure of fidelity must take into account that: (a) trainers knew they were being audio-taped which may have influenced their ratings of perceived fidelity; and (b) trainers were not aware of the coding scheme (i.e., identification of key words) and therefore based their perceptions on whether or not they adhered to the content rather than key words. Thus, the modest correlations and these caveats suggest more rigorous guidelines (e.g., clear explanation to trainers about what constitutes adherence) and additional evaluation (e.g., randomly recording trainers without their knowledge) are needed before suggesting trainer self-report is an acceptable proxy for audio-recording or other objective indicators of fidelity.

While this study indicates that with careful attention high fidelity can be maintained in a standardized staff training program implemented across diverse settings and with multiple trainers, it is important to discuss potential practical implications of maximizing fidelity. On the one hand, highly standardized training programs such as FDC have the potential to be easily replicated because a script can be followed. Thus, there is the potential to consistently train staff across settings and so *standardize* resident care; however, it is not known if the lack of adaptation alters the *quality* of that care, such as in instances when the staff have different training needs or the LTC residents have different care needs that cannot be met if high fidelity is to be maintained. While developers of training programs may assume adaptations put established program effectiveness at risk, flexibility may enhance effectiveness for specific settings by adapting the content to meet the specific needs of a

resident population or incorporating cultural adaptations to enhance understanding among diverse staff. Another practical consideration is the need to consider the quality of trainer additions themselves. Purposeful additions to clarify content or illustrate how content may be applied to daily activities may promote trainee learning while tangential additions or personal stories may detract from program content.

Thus, the matter of fidelity boils down to two basic questions: 1) How much fidelity is *essential* to produce positive outcomes, and 2) how much adaptation is *allowable* while still achieving positive outcomes? The tension between maximizing fidelity versus allowing flexibility in staff training programs may be reduced with a better understanding of the core components of a program and the ability to identify which, if any, components lead to the failure or success of the program.[1] Once the effectiveness of each component is documented, developers would be better equipped to determine the appropriate balance between rigid fidelity and flexibility.[2] Then, trainers can be taught to understand the core content and what components may and may not be modified (and to what degree).

To fully put these findings into context, some limitations to the study must be considered. Perhaps most importantly, while the identification of key words may be a good measure of adherence to a script, it may not be a sufficient measure of the delivery of core components. That is, the selection of individual words may be too arbitrary a method for assessing whether or not the intended learning objective is explained. Looking back at the example, "Ask: What are some of the ways that pain can affect a person's daily living?" it is unclear whether the core component is for staff to learn that pain can affect residents' daily living or to think of *how* pain may affect residents' daily living. By simply stating the key words, the core learning objective may be missed. This is especially true since trainers were

unaware of the key words and may not have assigned the same weight of importance to a particular word as the developers intended (e.g., a trainer may have emphasized the word ‘ways’ and omitted ‘daily’). In such a case, the trainer’s fidelity score would have been lower even though the basic concept was covered.

Further, while obvious setting-, program-, and trainer-level variables were considered in the analyses, it is not possible to fully consider all of the contextual factors that may be related to implementation fidelity across LTC settings and with multiple trainers. Over 23 potential factors have been mentioned in previous studies, including organizational complexity and support, program compatibility with organizational needs, and the availability of technical support.[5] These limitations notwithstanding, this study confirms that a standardized dementia care training program can be delivered as intended across diverse LTC settings and trainers. This finding is important considering the critical need to provide feasible and sustainable staff training to facilitate the care of those with dementia.

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Table 2.1 Frequency of sessions and distribution of variables

Setting-level variables (N=15 settings, applied to 119 sessions)	**Frequency (percent)**
Setting type	
NH	80 (67)
RC/AL	39 (33)
Room type	
Classroom	30 (25)
Dining room	27 (23)
Conference room	21 (18)
Other	32 (35)
Number of staff in attendance	**Mean (SD)** 12 (9.2)
Program-level variables (N=119)	**Frequency (percent)**
Number of sessions by topic	
Leading the Team	18 (15.1)
Classroom to Practice	16 (13.4)
Building a Vision	25 (21.0)
Improving Communication	22 (18.5)
Pain Awareness	18 (15.1)
Pain Practice	20 (16.8)
Number of sessions by trainer	
Trainer A	13 (10.9)
Trainer B	17 (14.3)
Trainer C	8 (6.7)
Trainer D	9 (7.6)
Trainer E	10 (8.4)
Trainer F	13 (10.9)
Trainer G	14 (11.8)
Trainer H	22 (18.5)
Trainer I	13 (10.9)
Trainer-level variables (N=9)	**Mean (SD)**
Perceived fidelity (N=115)[1]	4.5 (0.9)
Age (in years)	48.8 (11.6)
Years of college	4.5 (1.0)
Years worked as a trainer	12.4 (7.2)
Years experience caring for persons with dementia (including family)	2.4 (3.3)
Years worked in long-term care (in any position)	4.4 (5.2)

[1] Responses for this item ranged from 1= not at all confident to 5 = very confident.

Table 2.2. Percent fidelity to key words, percent additions, and session duration (N=119)

Measure of fidelity	Mean	SD
Inclusion of key words		
Complete fidelity (percent)	67.2	19.7
Percent complete and partial fidelity (percent)[1]	86.7	9.4
No fidelity (percent)	13.1	9.3
Additions (percent)	9.2	11.4
Session duration (minutes)	49	9.5

[1]Quantified as all or at least some of the key words.

Table 2.3. Comparing fidelity by topic: Estimated means and standard errors by topic for percent partial or complete adherence, percent additions, and session duration

Measure		Leading the Team	Classroom to Practice	Building a Vision	Improving Communi-cation	Pain Awareness	Pain Practice
Percent complete and partial adherence	Means (SE)	85.6 (3.3)	82.0 (3.4)	92.7 (3.0)	89.9 (2.9)	91.3 (3.1)	87.0 (3.1)
Percent additions	Means (SE)	4.4 (2.1)	13.4 (3.9)	18.5 (3.4)	2.6 (3.1)	14.9 (3.6)	1.8 (3.5)
Session duration (minutes)	Means (SE)	54.5 (3.4)	52.6 (3.5)	50.8 (2.9)	51.1 (2.9)	49.5 (3.3)	44.1 (3.2)

Table 2.4. Percent fidelity to key words, percent additions and perceived adherence to key words by trainers (N=119)

		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Complete adherence to key words	Means (SE)	76.7 (7.8)	84 (7.0)	85.2 (5.2)	85.5 (7.6)	59.1 (10.1)	51.1 (10.0)	40.5 (9.7)	68.2 (17.3)	54.1 (18.3)
Complete and partial adherence to key words	Means (SE)	93.0 (7.6)	92.5 (4.6)	93.4 (6.0)	94.2 (5.3)	80.2 (8.2)	80.7 (8.2)	79.3 (5.6)	87.3 (9.1)	80.1 (10.4)
No adherence to key words	Means (SE)	6.9 (7.8)	7.7 (4.7)	6.5 (6.2)	5.8 (5.3)	19.5 (8.3)	18.8 (7.9)	20.8 (6.0)	12.7 (8.8)	18.8 (10.3)
Percent additions	Means (SE)	5.5 (4.4)	9.8 (9.9)	5.6 (6.0)	5.7 (3.7)	16.7 (14.5)	8.8 (7.7)	11.9 (20.7)	9.7 (10.9)	8.7 (10.1)
Perceived fidelity[a]	Means (SE)	4.7 (.6)	4.9 (.3)	5.0 (0.0)	4.4 (.7)	5.0 (.0)	4.5 (.97)	4.6 (.6)	4.5 (.5)	2.7 (.8)

[a]Responses for this item ranged from 1= not at all

CHAPTER 3

Trainee and Trainer Reactions to a Scripted Dementia Care Training Program in Residential Care/Assisted Living Settings and Nursing Homes

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INTRODUCTION

The quality of care for persons with dementia in long-term care (LTC) settings depends in large part upon the ability of staff to meet resident needs. One of the most important determinants of staff ability is training, and training programs that target staff who care for residents with dementia have demonstrated positive change in staff knowledge, behaviors, and attitude.[1,2] In order to better replicate these training programs across settings, developers have produced highly standardized programs to maximize *implementation fidelity* (i.e., the degree to which a program is delivered to all participants as designed and in a consistent manner).[3] Without high implementation fidelity, the training may not be delivered consistently or completely across settings and in such cases, the outcomes would not reflect the worth of the program; instead, they may be due to either incomplete or inconsistent program delivery.[4] An effective method to assure high fidelity in training programs is to use scripted training manuals.[5] However, rigid adherence to a script may inhibit desired outcomes if the material does not address the specific needs of the trainees (e.g., if the script contains text unfamiliar to the trainees), or if it is not sufficiently relevant for diverse training needs (e.g., if the material does not apply to resident needs). Additionally, desired outcomes may not be achieved if the trainer's presentation skills are stymied.[6] Further, demanding trainers to adhere to scripted text and sets of behavior may have a negative influence on the learning process by decreasing their own motivation.[7] Thus, while standardized training programs have potential for wide dissemination and replication, examining trainee and

trainer reactions to highly scripted material is important to understand the benefits and limitations of such programs.[7,8]

The Importance of Trainee and Trainer Reactions

A main component of the effectiveness of staff training is how the trainees react to the training format. This format can include the content of the training program, the demeanor of the trainer, and how the training is delivered.[12] Numerous studies have demonstrated a direct relationship between trainee's reactions to training and the actual outcomes of that training.[11,12] Successful training outcomes are associated with trainees' perceiving the content to be relevant, the trainer to be "expert" and qualified, and being able to identify benefits of the training.[2,12]

The other half of the trainee-trainer relationship is the trainer, and while he/she is a central agent in the learning process, his or her perspective is often overlooked in the literature.[13] Trainers themselves usually have specific skills and experiences they bring to the training session, such as the ability to identify trainees' needs and to support their learning.[14] Further, trainer reaction is important because these individuals often have the authority to choose what training material to deliver and they may alter the material at their discretion. If trainers have negative reactions to highly scripted training programs, such programs may not be used or may be modified to such an extent that it lowers implementation fidelity and therefore calls into question the meaning of outcomes that are observed. That is, if a trainer has modified a program and trainees fail to demonstrate an increase in knowledge following training, one cannot conclude that the training program was ineffective. At the same time, a program that has been found to be effective must be replicated with diligence if the same outcomes are to be achieved in the new site. Thus, trainers' reactions to a scripted program

are important both when assessing the outcomes of a program and when assuring that an effective training program is delivered as intended.

Foundations of Dementia Care

Foundations of Dementia Care (FDC) is a standardized, classroom-based training program developed for staff working in LTC. The content of FDC was developed using the principles of person-centered care and adult learning theory. The hour-long sessions included staff interaction, the use of videos, demonstration, and lectures. All material was scripted, including trainer text prior, during, and immediately following interactive components and use of videos. Trainers were instructed to adhere directly to the text and time limits. Topics included: (1) Learning to Lead: Leading a Team; (2) Learning to Lead: From Classroom to Practice; (3) Building a Vision; (4) Improving Communication; (5) About Pain; Awareness; and (6) About Pain: Practice. Training for the first two topics included only supervisory staff, while both supervisory and direct care staff attended training on the remaining topics. The trainers were selected and prepared according to the protocol of the national office of the Alzheimer's Association, and were instructed to take time to learn and practice the content. Trainers also attended a training session for the evaluation of FDC, conducted by staff from the national office of the Alzheimer's Association and the research team.

Evaluation of Foundations of Dementia Care

An evaluation of FDC included nine trainers delivering the sessions multiple times across 16 LTC settings in four states. The evaluation of the program determined it had high adherence to the script although with significant variability between some topics.[9] The goal of the current study was to examine the degree to which adherence to the standardized script is related to trainee and trainer reactions to the program – meaning, do trainees and trainers

react differently to the training program depending upon the extent to which the trainers adhere to the script. Other outcome measures including changes in trainee knowledge, attitude and behavior are addressed in another article.[10]

METHODS

This study was an analysis of survey data collected from trainers and trainees immediately after training as well as text data from transcribed interviews with trainers before and after completing all training sessions to examine the extent to which trainer and trainee reactions to FDC are related to implementation fidelity.

Sample and Measures

The nine trainers delivered FDC to 784 staff working at nine nursing homes (NHs) and seven residential care/assisted living (RC/AL) communities participating in the Collaborative Studies of Long-Term Care. An additional site participated in this project, but fidelity data were not available for these analyses. A total of 163 sessions were delivered (because many sessions were delivered more than once to allow for all/most trainees to attend) and of those, 119 were audio coded and quantified to determine the amount of implementation fidelity of each session.

Implementation fidelity

Implementation fidelity was quantified in two ways for this study: percent adherence to key words in the script and percent additions to the script. Staff from the national office of the Alzheimer's Association identified key words within the trainer script. Each statement within the script containing a key word was identified as a *unit of observation* and trained research assistants coded each unit of observation for the number of key words that were spoken by the trainer for that unit of observation. The scores were summarized for each

session to calculate percent complete fidelity (i.e., the percentage of units of observation in which all key words were used), percent complete and partial fidelity (i.e., the percentage in which all or some of the key words were used), and no fidelity (i.e., the percentage in which none of the key words were used). A separate score was calculated for percent partial fidelity (i.e., use of some of the key words) but was achieved in only 19.5% of the units of observation making it too small to use as a separate variable in a meaningful way for analyses. Therefore, the scores were summarized within each session to derive percent complete, complete and partial, and no fidelity per session.

Percent additions, the second measure of fidelity, were determined by coding the percent of times trainers' made additions to a unit of observation such as by providing additional explanation or personal stories. A trainer may have complete fidelity (adhered to all the key words) and also have high percent additions. Details of this process are summarized elsewhere.[9]

Trainee measures

A six-item trainee satisfaction form was completed immediately after each training session and included four items related to satisfaction with the program: (1) appropriateness of this program to your experience level; (2) degree to which the program met your needs; and, (3) likelihood of recommending the program to others; and (4) overall satisfaction. Answers for these items ranged from 1-5 on a Likert scale (poor, fair, good, very good, excellent). Two additional items related to satisfaction with the trainer: (1) rate the instructor on knowledge of the material; and (2) rate the instructor on teaching style, with the same five-point response options. No data were available on previous training or trainee knowledge of dementia prior to attending the FDC program. Staff members were asked to

complete a form for each session they attended. A total of 1999 satisfaction forms were completed and used in the analysis.

Trainer measures

Trainer data included session-level reactions completed after each session, and also program-level reactions to the FDC program in general, completed before beginning FDC training and after completing the last FDC session.

Session-level. Trainers responded to three items at the conclusion of every session, using a 5-point Likert scale (not at all to very) addressing their perceptions about session relevance and effectiveness and trainee interest. For example, the item on session effectiveness was stated as: How effective do you think the training session was in achieving its stated objectives? Trainers answered using the following scale: (1) Not at all effective; (2) a little effective; (3) fairly effective; (4) effective; and, (5) very effective.

Program-level measures. Trainers participated in two telephone interviews conducted by a member of the research team, one before or as soon as possible after the trainer's first delivery of FDC (i.e., pre-training interview) and the second conducted after the trainer completed all of her sessions, to assess change over time (i.e., post-training interview). The interviews included two close-ended items focused on the *overall* FDC program: (1) How relevant do you think the training material is/was to the participants' daily activities; and (2) How effective do you think the training is/was in achieving its stated objectives. Trainers were also asked how they thought trainees rated them on instructor knowledge and teaching style, using the same five-point scale described above on the trainee forms (poor, fair, good, very good, excellent). In addition, trainers were encouraged to provide open-ended comments about each item.

ANALYSIS

Trainee data

Correlations between items on the trainee survey (appropriateness, degree to which met need, likelihood of recommending, and overall satisfaction) were all strong; [$r(117) \geq .89$, $p<.01$)]. Therefore, only one item was used in the analysis: overall satisfaction. This item was chosen because it is most often used in quantifying trainee satisfaction.[14] Trainee ratings of instructor knowledge and teaching style were also highly correlated [$r(117) \geq .88$, $p<.01$)] and therefore only instructor knowledge was used in the analysis. This item was chosen since research indicated trainee perception of trainer expertise is related to learning.[15]

The method of analysis used to examine whether fidelity level was related to trainee outcome measures was linear mixed models. A linear mixed model has two qualities that make it appropriate for this analysis. First, it takes into account that the trainees attended sessions in groups (i.e., were "clustered"), such that all trainees in a group had the same trainer in the same setting. Second, it takes into account heterogeneity among trainers and settings. Three linear mixed models allowing for heterogeneity between trainers and settings and controlling for session topic and the number of trainees attending the session were run to determine the extent to which trainee satisfaction and trainee ratings of instructor knowledge were related to (predicted by) (1) percent complete fidelity; (2) percent complete or partial fidelity; and, (3) percent additions to the script.[i]

[i] More specifically, the extent to which trainer and trainee reactions related to fidelity level was addressed using linear mixed models in which the dependent variable was a measure of trainer or trainee reaction, and the explanatory part of the model included random effects for trainer, setting, and session topic by trainer plus fixed effects for the number of staff attending, the fidelity measure and the categorical factor session topic. The model allowed for statistical testing and estimation of the impact of the fixed effect covariates on trainer or trainee reactions while accounting for the complex variance structure in the data due to within-trainer and within-setting correlation of trainer and trainee.

Trainer session-level data

Correlations between trainer items ranged from $r(114)=.68$ to $r(108)=.73$, $p<.01$, therefore all items were included in the analysis (i.e., perceptions of session relevance, effectiveness and trainee interest). Three linear mixed models, allowing for heterogeneity between trainers and settings, and controlling for topic and the number of trainees attending the session, were run to determine the extent to which trainer perceptions were related to(predicted by) (1) percent complete fidelity; (2) percent complete or partial fidelity; and, (3) percent additions to the script.

Trainer program-level data

Items from the trainer pre and post training surveys were analyzed using descriptive statistics (mean, standard deviation). Paired samples t-tests were run to examine change in trainer ratings over time. Trainer comments during the interviews were noted during the interview, and transcribed and categorized by the related item in the interview (e.g., all comments on program effectiveness were grouped together).

RESULTS

The frequency and distribution of all variables used in the analysis are summarized in Table 3.1. Within each of the 15 settings, there was variability among the number of sessions delivered ranging from 4 in Setting G to 12 in Setting D; the mean number of sessions per setting was 12.4 (SD=6.5). The most sessions (25) were provided for Building a Vision, and least (16) for Classroom to Practice. Trainer H provided 22 sessions, while Trainer C provided 8, with an average of 4.7 (SD=2.4) sessions per trainer. As noted in our earlier work[9], complete fidelity (i.e., use of all key words) was achieved in 67.2% (SD=20.6) units of observation, and complete or partial fidelity (i.e., use of all or some of the key words) was

achieved in 86.7% (SD=9.4) the units of observation. Percent additions averaged 9.2% (SD=11.3).

Trainee and trainer session-level reactions to FDC sessions are summarized in Table 3.2. On a five point scale from low (1) to high (5), trainee satisfaction averaged 3.0 (SD=.4) and trainee rating of instructor's knowledge averaged 3.2 (SD=.2). Trainer reactions at the conclusion of each session averaged 4.3 (SD=.9) for session relevance; 4.2 (SD=.6) for session effectiveness; and 3.1 (SD=.3) for perceived trainee interest. Thus, trainer's perception of relevancy and effectiveness were at least one point higher (on a five point scale) than their perception of trainee interest as well as the trainee's own ratings.

Trainee satisfaction and implementation fidelity

Trainee satisfaction was related to degree of implementation fidelity. When trainers achieved complete implementation fidelity (i.e., used all key words) trainees were significantly more satisfied. On average, when complete fidelity increased 10 percentage points, the score on trainee satisfaction increased by 0.04 points (on a five point scale) [$F(1,62) = 19.7$, $p<.01$]. When complete or partial implementation fidelity (i.e., the proportion of units of observation in which trainers used all or some of the key words) was used as the predictor, there was no significant relationship between satisfaction and fidelity. Furthermore, there was no significant relationship between trainee satisfaction and percent additions.

Trainee rating of trainer knowledge and implementation fidelity

Trainee reaction to trainer knowledge was also related to the degree of implementation fidelity. Complete fidelity was significantly related to higher ratings of trainer knowledge [$F(1,55.2) = 15.8$, $p<.01$)]. For every increase of 10 percentage points in

complete fidelity, there was a corresponding 0.01 increase in trainee rating of trainer knowledge (on a five point scale). There was no significant relationship between ratings of trainer knowledge and complete or partial implementation fidelity or percent additions.

Trainer session-level reactions and implementation fidelity

Trainer reaction to session level relevance was not significantly related to implementation fidelity. However, trainer perceptions of session effectiveness was significantly related to percent additions [$F(1,86.5) = 4.8$, $p<.05$]. On average, when additions increased 10 percentage points, there was a corresponding 1.0 point increase in trainer rating of perceived effectiveness. A significant relationship was also found between percent additions and perceived trainee interest [$F(1,77.6) = 9.1$, $p<.01$]. On average, when additions increased 10 percentage points, there was a 2.0 decrease in trainer rating of perceived trainee interest. So, higher percent additions were associated with trainers' higher ratings of session effectiveness and lower ratings of perceived trainer interest.

Trainer program-level reactions

Both qualitative and quantitative data indicate trainers' reactions to the program were more positive pre-training than post-training (see Table 3.3). Of note, perceived effectiveness dropped from 3.6 (SD=.5) to 3.0 (SD=.9), which was a significant change [$t(198)=14.01$, $p<.01$]. Comparing these data to those in Table 3.2, it is evident that trainers' perceptions about trainee's ratings of their knowledge and teaching style were lower than the actual trainee ratings. On a scale of 1 to 5 where 1= poor knowledge of the material and 5=excellent knowledge of the material, trainee's rated trainer knowledge 3.2 whereas trainers *thought* trainees would rate them between 2.4 and 2.6.

Each trainer, while sharing overall positive comments about FDC content, had critical comments about strictly adhering to a script. When asked about how they would rate themselves on trainer effectiveness, program relevance and perceived trainee interest, trainers were asked for additional comments. All comments were transcribed verbatim When asked to rate the effectiveness of FDC in meeting the objectives, all comments related effectiveness to the script. Examples of recurring comments included:

- *"It would've been better if we could change it to meet the needs of the staff. Some of them were lost. If I could've stopped to explain or use an example they would've gotten it."*
- *"Give me an outline of the great content and let me use my own words."*
- *"The training would've been more effective if I could've used stories and props and individualized the content."*

Reference to adhering to a script was also associated with program relevance in trainers' comments. When asked how relevant FDC material seemed to be to the trainees' daily activities, recurring replies included:

- *"Training has to be flexible to what the training issues are…Some facilities have a strong need for behaviors and some have other needs. You have to look at the layout of the facility and adapt the training appropriately."*
- *"If I use it again I will make it more flexible and more responsive to the group I'm in front of. I can't know their needs until I get there. A lot of training material I use, I develop it in PowerPoint form and tailor it to meet the needs of the staff I am talking to."*

Trainers' also believed following a script would negatively influence trainee perceptions of their knowledge and teaching style as these recurring comments describe:

- *"My communication skills were hampered and were really irrelevant. I wasn't using my communication skills but theirs. I was less effective."*
- *"A trainer has to be able to use their own words and stories. It increased the trainees' respect for the trainer and allows them to apply the material to residents better."*

DISCUSSION

Based upon the premise that standardization is important for the replication of a training program, this project assessed trainee's and trainer's perceptions to the use of a highly scripted training format related to dementia care practices in LTC settings. Results indicated that trainees were more favorable of such standardization than were trainers, both overall and comparatively. With more fidelity, trainees reported more satisfaction and perceived the trainers to have more knowledge. It may well be that the use of a scripted program conveys a more professional and educational context in which to learn; that is, a program that is manualized/codified/scripted suggests that the material has more validity than training materials presented in a more informal and individualized manner by a trainer.[6] A well-scripted and developed training program may receive more positive trainee reactions without trainer modifications and in fact, trainer variability may not be beneficial. Such a program may be easier to follow and understand than a program in which the trainer has latitude to insert his or her own content. Adherence to a script may also reduce trainee anxiety, which is known to decrease learning.[16]

Also, it is worth noting that increased trainee satisfaction may speak to the quality of the FDC training material itself. Of note, while the percent increase in satisfaction and perception of trainer knowledge as related to fidelity was modest (i.e., .04 and .01 increase in ratings with each 10% increase in fidelity), it is important to recognize that perceptions were already slanted toward the positive (3.0-3.2 on a 5 point scale), and so the degree of possible increase was somewhat tempered. Data on previous training the staff had received would have been helpful to better understanding these differences, as, for example, those with previous training may have rated FDC training lower or higher in comparison to previous training.

Trainers, on the other hand, provided comments indicating that while they appreciated the value of delivering material consistently, they had negative feelings regarding reading directly from a script. Their somewhat negative reaction often focused on not being allowed to use their own expertise. Indeed, when delivering a standardized program, personalized input from the trainer is discouraged in order to maintain high fidelity, which in this case seems to have lead to some negative feelings. It appears that trainers responded to their reactions by inserting additional individualized material -- especially when they perceived there to be less trainee interest -- and that these additions may have increased their feeling that the training was effective. Of course, the limitation herein is that these additions make it less likely that the training program can be replicated across settings and by different trainers. These additions did not relate to trainee satisfaction or trainee's ratings of trainer's knowledge, but it should be noted that the number of additions was too low to adequately assess this relationship.

Thus, there is a bit of a dynamic tension between allowing/encouraging trainers to personalize their training material and – quite literally – sticking to the script. It may be that additional study is needed to examine the relationship of both fidelity and additions to other outcomes of interest, most notably to an increase in trainee's knowledge. However, absent such outcome data, the benefits of fidelity seem clear, and there is indication that trainers can understand the value of implementation fidelity and adhere to a script regardless of their personal reaction.[6] One such strategy was used as part of the evaluation of FDC, in that trainers were encouraged to participate in monthly conference calls with the research staff and program developers. Much of the focus on these calls included discussions about the difficulties of adhering to a script. Interestingly, there was a moderate correlation between the number of conference calls trainers participated in and percent fidelity [$r(117).49$, $p<.001$)], meaning that the more calls trainers participated in, the higher their fidelity. It may be that discussing the difficulties of adhering to a script with other trainers and the program developers reinforced the importance of the material itself rather than its delivery, and also provided a support network for the trainers. There was, however, no significant relationship between the number of conference calls a trainer participated in and her reaction to the program as measured by program relevance, effectiveness or trainee interest. In other words, with encouragement, trainers adhered to the script regardless of their personal reaction to doing so. Of course, had trainers known that trainees' perceptions would be more favorable with increased fidelity, and that the trainees perceived trainer's knowledge and style as more favorable than did the trainer's themselves, this too might have made fidelity more acceptable.

The trainer's attitudes about a scripted program should not be taken lightly, though, because they may in part explain why their feelings of the program's effectiveness decreased over time, and why they perceived trainee interest as lower than the relevance and effectiveness of the material itself in meeting its objectives. Furthermore, the attitude of the trainers in this evaluation suggest that when trainers deliver FDC in the field, without the support from their peers and others as was obtained during conference calls, implementation fidelity may be lower than reported in this study.

In addition to working with trainers in the context of delivering a scripted training program, these results have implications for the qualifications of those trainers. The less professional judgment that is needed to provide training, the more possible it may be to employ "train the trainer" (TTT) programs without losing effectiveness. In the TTT model, professional trainers deliver a training program to selected staff members in LTC. These trained LTC staff become educators for the setting. The Learning Institute of Alzheimer's Association of Rochester, NY (www.alz-rochesterny.org), an example of one of the many Alzheimer's Associations offering TTT has delivered such courses to over 100 settings and organizations. Such programs have the potential to increase replication and save the cost of hiring professional trainers for each setting.

Trainee preference for scripted text calls into question the need for the presence of live trainers versus trainees watching videotapes of training sessions. A recent study of live versus video training for support staff working with challenging behaviors found both types of delivery were equally effective in changes in knowledge and behavior.[17] However, trainees preferred the live trainer although the reasons for their preference were not clear. FDC is based on scripted material yet included interactive activities in which a trainer was

necessary. A video recording would not allow for the group activities or questions and answers after the session Still, additional research comparing live versus video-recordings for dementia care training in LTC in reference to trainee reaction, changes in behavior, and cost-effectiveness is warranted.

There are some limitations to this research, one being that it was limited to a study of nine trainers and one training program. Replicating these findings in a larger sample will promote (or refute) the perceived importance of fidelity. Further, including more variability among trainers may have altered the findings. For example, all of the trainers in the study had some years of college (M=4.5, SD=.9), had many years experience as a trainer (M=17.4, SD=7.2), and on a 5-point Likert scale from low to high, had relatively high confidence in their communication skills (M=3.4, SD=.6). Trainers with less education, experience, and confidence may have reacted more favorably to high implementation fidelity and may not express the desire to insert their own words and content.

While examining trainee and trainer reactions is an important part of examining the benefits and limitations of a standardized program, the most important aspect of any training program is an improvement in resident care. Changes in trainee knowledge, attitudes, and behaviors related to FDC are discussed in another paper.[10] Since trainee response forms were anonymous, directly linking outcomes with trainee reaction is not possible. Although previous studies indicate a relationship between reaction and changes in these outcomes,[11] more study is needed to better understand how trainee reactions to a training program specifically relate to changes in resident care.

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Table 3.1. Frequency and distribution of sessions by setting, topic, trainer, number of trainees attending, and implementation fidelity

Sessions by setting (N=119)*	**Frequency (percent)**
Setting A	9 (7.6)
Setting B	4 (3.4)
Setting C	5 (4.2)
Setting D	12 (10.1)
Setting E	9 (7.6)
Setting F	10 (8.4)
Setting G	4 (3.4)
Setting H	8 (6.7)
Setting I	9 (7.6)
Setting J	5 (4.2)
Setting K	6 (5.0)
Setting L	10 (8.4)
Setting M	11 (9.2)
Setting N	7 (5.9)
Setting O	10 (8.4)
Mean (SD)	12.4 (6.5)
Sessions by topic (N=119)[1]	
Leading the Team	18 (15.1)
Classroom to Practice	16 (13.4)
Building a Vision	25 (21.0)
Improving Communication	22 (18.5)
Pain Awareness	18 (15.1)
Pain Practice	20 (16.8)
Sessions by trainer (N=119)[1]	
Trainer A	13 (12.3)
Trainer B	17 (13.4)
Trainer C	8 (6.7)
Trainer D	9 (7.6)
Trainer E	10 (8.4)
Trainer F	13 (10.9)
Trainer G	14 (11.8)
Trainer H	22 (18.5)
Trainer I	13 (10.9)
Mean (SD)	4.7 (2.4)
	Mean (SD)
Number of trainees in attendance[1]	12 (9.2)
Implementation fidelity	**Mean (SD)**
Complete fidelity	67.2 (20.6)
Complete and partial fidelity	86.7 (9.4)
Percent additions	9.2 (11.3)

[1]Variability controlled for in linear mixed model analysis

Table 3.2. Trainee and trainer reactions after each session[1]

Trainee-level variables (N=1992)[2]	**Mean (SD)**
Overall satisfaction	3.0 (.4)
Instructor's knowledge of the material	3.2 (.2)
Trainer session- level variables (N=119)	
Perceived session relevancy	4.3 (.9)
Perceived session effectiveness	4.2 (.6)
Perceived trainee interest	3.1 (.3)

[1] Based on a 5 point Likert scale from low to high

[2]Total number of satisfaction forms included in the evaluation; frequency varied by session.

Table 3.3. Trainer perceptions of program relevance, effectiveness, and perception of trainee rating on teaching style, pre-training and post-training interview (N=9)[1]

Item	Pre-training Mean (SD)	Post-training Mean (SD)
Relevance	3.7 (.4)	3.5 (.7)
Effectiveness	3.6 (.5)	3.0 (.9)[2]
Trainer knowledge	2.6 (.8)	2.4 (.9)
Trainer teaching style	2.6 (.8)	2.0 (.9)

[1] Based on a five-point scale from low to high
[2] Significant at $p < .01$

CHAPTER 4

Enhancing Staff Training in Long-Term Care

Authors:

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INTRODUCTION

The Alzheimer's Association estimates that in the United States 5.3 million people currently have Alzheimer's disease and the total direct healthcare cost for this disease, including long-term care, is expected to be 172 billion dollars.[1] The majority of individuals with dementia receive care from their families although as the disease progresses many families choose residential long-term care (LTC) as the most effective way to meet the increased demands for daily care.[2] Within LTC settings, direct care staff (e.g., nursing assistants, nurse aides, personal care aides) provide a significant proportion of care and support.[3,4] While the provision of this care necessitates some degree of training, few training programs have demonstrated desired outcomes in staff knowledge, attitudes, and behaviors, and even less have demonstrated sustained change.[5-8] An examination of other health care interventions intended for widespread use indicates a similar lack of effectiveness.[9,10]

According to Glasgow, an expert in translating research to practical application, health care interventions are beset by the "law of halves."[10,11] For a given program, approximately half of the settings for which an intervention is intended will adopt it (i.e., 50% impact). Half of the interventionists within those settings will implement it (i.e., 25% impact), and half of intended participants will participate (i.e., 12.5% impact). Of those participants, only half will follow it correctly (i.e., 6.2% impact), and only half of those will benefit (i.e., 3.1% impact). Finally, only half of those will still benefit six months after the training (i.e., less than 2% impact). If this law of halves holds for staff training programs in LTC, few staff intended to receive training would be likely to do so and overall, less than 2%

of staff would benefit some time after the training. From a training program perspective, this suggests a need to develop training practices to enhance overall impact.

In order to enhance the benefit of staff training, only those staff training programs that have been rigorously evaluated should be implemented in LTC.[12,13] Unfortunately, regardless of setting and substance, few training programs include an evaluation component thereby limiting the ability to identify, maintain, and disseminate effective training programs.[13] When such evaluation *is* conducted, it is important that it be comprehensive because otherwise, program effectiveness may be overlooked. For example, while a lack of significant findings may be due to a training program being a poor one, it also may be due to a) logistical matters related to the training (e.g., material written at inappropriate reading level) and/or the context in which the training is conducted (e.g., lack of appropriate space without resident interruptions); b) lack of sufficient dosage of the training component(s) responsible for change (e.g., shortened sessions due to time constraints); c) poor implementation of the program (e.g., use of unqualified trainers); or d) a lack of fit between the training program and LTC setting characteristics and staff/resident needs (e.g., content duplicates current staff training or is not considered relevant). Further, effective training programs must have the capacity to be widely disseminated across LTC settings in order to ensure adequately trained staff across diverse settings.

Recently, a comprehensive evaluation was conducted of the Foundations of Dementia Care (FDC), a national training program for LTC staff developed by the Alzheimer's Association. Eight articles examined issues such as how training content and format are developed,[13] who attends training,[14] trainer fidelity,[15] trainer and staff reactions to a scripted training program,[16] the outcomes of training,[17] staff satisfaction, [18] organizational correlates

of change, [19] and issues related to uptake of new care practices.[20] Experience in conducting this comprehensive evaluation provided us with a keen sensitivity to the issues related to effective staff training in LTC. Thus, the purpose of this paper is to set those experiences in context and to suggest strategies to enhance the overall training impact of this and other staff training programs in LTC.

FOUNDATIONS OF DEMENTIA CARE (FDC)

The *Foundations of Dementia Care* (FDC) training program, developed by the national office of the Alzheimer's Association, is their first standardized staff training program for dementia care in LTC intended for national dissemination. FDC applies the Association's Dementia Care Practice Recommendations established through the Campaign for Quality Residential Care initiative.[21] FDC is a 21-session classroom-based program for staff working in LTC and uses group exercises, videos, demonstration, and lectures, consistent with recommended adult-learning techniques. All material is scripted and includes a detailed trainer's manual to enhance standardized delivery. Pocket size reminder cards based on FDC material are intended to be distributed to staff at the end of each session to reinforce learning. A comprehensive evaluation of six sessions of FDC was conducted across nine nursing homes (NHs) and seven residential care/assisted living (RC/AL) settings. The settings represented the diversity inherent between LTC organizations. Detailed descriptions of the measures, methods, analysis and results of this evaluation are described in two recent issues of *Alzheimer's Care Today*.[22,23]

APPLYING RE-AIM (*Reach, Effectiveness, Adoption, Implementation, Maintenance*) to PROGRAM FINDINGS TO MAXIMIZE IMPACT

The RE-AIM model was developed to facilitate the adoption, implementation, and sustainability of effective health-promotion programs. It includes five components

appropriate for evaluating staff training in LTC: 1) ***Reach***: the number, proportion, and representativeness of staff participating in a training program; 2) ***Efficacy/Effectiveness***: the impact of the program on relevant outcomes, including potential unintended consequences and economic outcomes; 3) ***Adoption:*** the number, proportion, and representativeness of LTC settings and trainers initiating a program; 4) ***Implementation***: fidelity to the various elements of the program's protocol, including consistency of implementation (i.e., content and delivery) as intended by program developers; and 5) ***Maintenance*:** the extent to which the practices taught by the training program are maintained within a LTC setting and the long-term effects of the training program on staff and resident outcomes six or more months after the program is completed.[24]

RE-AIM has not been previously applied to staff training programs in LTC, and so information gleaned from the application of RE-AIM provides innovative insights to maximize the impact of training. Table 1 suggests specific strategies that can enhance the effectiveness of future deliveries of FDC and other staff training programs in LTC by employing RE-AIM principles.[5-6,11,13,15,24-28] For example, related to *reach*, participation rates in recent studies examining staff training programs in LTC have ranged from as low as 14% to a high of 100%[6] and in the evaluation of the FDC, they ranged from 13-79%.[14] One strategy to enhance *reach* may be the enlistment of key staff leaders who embrace the training to help recruit other staff.[25] These peer leaders, with similar socioeconomic, educational and cultural backgrounds as the other staff may not only successfully recruit staff members but serve as role models during the implementation process.[28]

Effectiveness has been limited in training programs in that few programs have proven effectiveness[12,13] and findings from the evaluation of FDC reflect similar limitations. A

significant change in staff knowledge immediately following training was found for two of the six session topics.[17] One reason suggested for limited effectiveness (see Table 1) is that training content may not accommodate the educational needs of diverse staff [16,29] For example, the FDC advises staff to not use pronouns when talking with residents with dementia, but trainers reported that some staff did not understand the concept of a "pronoun." Therefore, effectiveness will relate to the match between the material itself and characteristics of the trainees. Also related to effectiveness are matters of cost and unintended consequences, yet these too are rarely examined.[10] In the case of FDC, training on the six sessions would cost approximately $650, leaving one to determine whether improved knowledge in two areas and some other changes was a value for that amount. Unintended consequences could be both positive outcomes (e.g., more communication between staff and family members) and negative outcomes (e.g., stress resulting from the training), but are not usually evident because data are not obtained to evaluate unintended outcomes. Therefore, it is recommended that channels of communication remain open during training to uncover these outcomes, such as feedback mechanisms between staff, trainers and administrators including brief reports and telephone calls.[15,28] Although feedback forms were developed for FDC, only one was completed despite the fact that there were nine trainers who provided a total of 119 sessions; thus, ongoing attention is required to assure that communication remains open during training.

Adoption rates are also rarely documented in programs meaning that there are few data to inform developers about barriers or facilitators to participation at the setting level.[10] In the case of FDC, 74% of the administrators who were invited to have their settings participate in the training and evaluation agreed to do so.[14] The primary reasons for lack of

participation were organizational transitions and lack of time. In this project, it is not clear whether these barriers related to the provision of training, involvement in the evaluation, or both. However, settings may be more inclined to participate if time is taken to carefully describe the content and intended benefits of the training and to discuss setting-level barriers and related solutions.[11,13] For instance, four of the settings not participating in FDC recently hired a new administrator, and in one case both the administrator and the Director of Nursing were new and neither had been informed about the project from the departing individual. Assessing administrative stability and postponing training until administrative stability is achieved may enhance *adoption*.

Similarly, *implementation* fidelity is rarely examined when training is conducted, which severely limits an understanding of program effectiveness. Of note, a program may be ineffective merely because it was not implemented as intended, not because the program itself is lacking. The evaluation of FDC included an assessment of the degree to which trainers adhered to the written script and the percent of additions made to the script. Results indicate trainers adhered to the majority of script in more than 85% of the sessions, providing some assurance that the outcomes are a good reflection of the program. Fidelity assessed in other health-related training programs tends to approximate 60%.[30] The use of scripted and detailed manuals is recommended as a strategy to enhance implementation and ensure the program is delivered as intended by the developers.[15,27,30]

Unfortunately, *maintenance* is typically low for staff training programs and many programs are never translated into daily practice.[8,13] In FDC, change in staff knowledge was maintained after three months for only one of the six sessions. Results from other programs indicate the use of reinforcement or “booster” strategies may enhance *maintenance*.[5,6,13] FDC

included reminder cards with bullet points from each topic, with the intention for staff to keep the cards in their pockets to reinforce learning. Unfortunately, there are no data on the consistent dissemination or use of the reminder cards so their effectiveness is unknown.

Applying RE-AIM to FDC findings and in fact to the evaluation of any training program in LTC is an innovative approach in assessing overall impact of staff training because RE-AIM considers staff, program and organizational level variables that relate to ultimate program impact. In the rare instances when training evaluations are conducted, they all too often focus simply on change in staff knowledge but RE-AIM goes further in identifying cost-effectiveness and unintended consequences that may impede impact. Among its strengths, RE-AIM shifts the focus of training outcomes from short-term to long-term and is applicable to virtually any practice settings. Additionally, the model differentiates efficacy (results in an ideal situation) from effectiveness (results in a natural situation) since a program may be found efficacious under controlled conditions but not effective when implemented across diverse LTC settings.[25] Inconsistent findings may be due to contextual issues such as differences between trainer behavior under controlled evaluation circumstances and trainer behavior when delivering the material without such restrictions. Such deviation may influence program effectiveness.[31]

At the same time, it is not always possible to use the RE-AIM model when considering the results of staff training programs. Reports of training programs often use different outcome measures and rarely collect information related to all of *reach, effectiveness, adoption, implementation,* and *maintenance*. Further, while RE-AIM clearly identifies important components to be included in an evaluation, the model does not make connections between and among components.[32] For instance, staff attendance (*reach*) is

related to the organizational structure and readiness of LTC settings, in that staff will not attend a training session unless they are encouraged and enabled to do so. Therefore, strategies to increase *reach* without attending to the underlying organizational structure may not sustain *reach* in the long run. Still, the strategies suggested under each RE-AIM component offer pragmatic and feasible methods to assure widespread impact of staff training programs in LTC if they are considered during the development of the program, while it is being conducted, and during its evaluation. The following two case examples illustrate how attention to RE-AIM can improve training and likely overall impact.

Case example 1: Importance of standardized delivery (implementation)

An important finding from the evaluation of FDC is that the staff trainees were satisfied with FDC and they were more satisfied when trainers strictly read the words within the script instead of omitting or changing words. Furthermore, staff perceptions of trainer knowledge was higher when the trainer adhered to the script.[16] However, during interviews with research staff, the trainers mentioned that adhering to a script did not allow them to fully use their expertise and feared it would not reflect well on their abilities. In the context of RE-AIM, the highly scripted program assured standard *implementation* and was well received by the trainees, but the trainers themselves felt restricted by the need to literally adhere to the script. However, such adherence is necessary to assure that the program is delivered as intended across settings and trainers. Therefore, while the scripted nature of FDC should be continued, selecting trainers willing to follow the protocol and bolstering their comfort when doing so may need to be included in trainer preparation. Ensuring trainers feel confident to deliver the program as written is also important. The majority FDC trainers did not feel adequately prepared and many said the opportunity to practice their delivery in front of other trainers would have assisted them in feeling more confident about their abilities.

Standardizing trainer preparation and assessing trainer knowledge of content and competency to deliver material prior to implementation as well as offering ongoing support from developers may enhance overall program effectiveness, particularly when using multiple trainers.[15,27]

At the same time, it may not be sufficient for trainers to be competent in the subject matter alone or be able to read a script in order to enhance learning.[33] FDC trainers stated the need to be able to "read" the faces of the audience to discern whether or not staff were understanding the material. Although trainers are advised to follow a script, they must be able to assess trainees' perceptions and align the material appropriately to maximize learning.[27] Thus, trainers must also understand the critical components of the training material and the extent to which those components can be modified to individualize and enhance learning consistent with the trainees' needs. Unfortunately, because most training programs have never been fully evaluated, what constitutes those critical components is often unknown. In such instances, trainers are advised to adhere to the protocol and adjust content sparingly and only with good cause, documenting the changes that they made so they can be evaluated in the context of training outcomes.

Case example 2: Respecting heterogeneity among staff (effectiveness)

In today's society, the probability of ethnically and culturally diverse groups being part of the institutional infrastructure in LTC is high. Research documents a changing workforce profile with more immigrant woman working in LTC settings although the actual numbers of immigrant women providing care is unknown due to illegal pathways to employment.[34,35] In FDC, the vast majority of staff spoke English as a first language (94%)[17] yet tremendous variability in staff ability to read, speak, and understand English has been

documented in other training programs.[6] Of note, approximately 12% of nurse aides may have problems with English literacy.[35]

Thus, cultural as well as educational differences must be taken into account in the development of a training program for LTC because culture relates to the appropriateness of the message and also to optimal delivery strategies.[36] For instance, respect for hierarchical status within Asian cultures may affect informal communication among staff such that a direct care worker might not feel comfortable participating in a training session with her supervisor. Further, foreign-born staff may present additional training challenges due to language barriers, cultural attitudes, and educational levels.[33]

Training issues related to heterogeneity where evidenced in the FDC evaluation. Staff members who self-identified as supervisors had greater baseline knowledge than others and staff of racial minority status had lower baseline knowledge in some of the topics.[20] However, four of the six training sessions were offered to supervisors and direct care staff in the same session, and included staff of all races. While joint training is important because supervisors and direct care staff work together as a team, and while it is not suggested that training be segregated, the point should be clear that the material included in a standardized training program must consider differences among trainees. These findings are reinforced by trainer reports that some staff had difficulty understanding concepts during the session and may have been uncomfortable in the presence of their supervisors.[16] Since trainers were instructed to adhere to the script, the majority did not stop reading in order to address these perceived difficulties. Therefore, while standardized scripts are effective delivery strategies, trainers may need permission to deviate from the script for purposes of clarification. Providing clear instructions to trainers about specific allowable modifications, such as

defining words within the script, would help ensure that different staff understand program content in a standardized manner. Taking time during program development to ensure that the content considers cultural and educational differences could facilitate knowledge transfer among a wider range of participants and maximize effectiveness.

DIFFUSION OF TRAINING: APPLYING TRAINING PROGRAMS ACROSS LONG-TERM CARE SETTINGS AND IN NON-RESIDENTIAL SETTINGS

When implementing standardized training such as FDC across diverse LTC settings and in other healthcare settings such as adult day care, it is crucial to ensure a goodness of fit between the program and the organizational characteristics of the setting. The *Practical, Robust, Implementation and Sustainability Model* (PRISM) is a new evaluation model that can be used to holistically evaluate the goodness of fit between a training program and the changes it seeks to instill and the setting for which it is being considered. This comprehensive framework facilitates the translation of research into practice to improve program design and effectiveness and has been successfully integrated in social, health, economic and communicative systems.[38]

What makes PRISM particularly valuable is that it incorporates concepts from numerous evaluation models including RE-AIM, diffusion of innovation theory, quality improvement and chronic care. The model contains elements important to effective staff training in LTC including: 1) program perspectives, related to both the organization (e.g., readiness, program effectiveness, complexity and cost, usability and adaptability) and staff (e.g., burden, staff needs); 2) the external environment (e.g., regulatory environment, reimbursement mechanisms); 3) implementation and sustainability infrastructure (e.g., adaptable protocol and procedures, dedicated team, plan for sustainability); 4) setting characteristics (e.g., culture, management support, shared goals, commitment to

sustainability); and 5) staff characteristics (e.g., demographics, need, competing demands, knowledge and beliefs).[38] Specific examples of components particularly relevant to staff training and not included in the RE-AIM model will illustrate how PRISM may enhance the translation of staff training in LTC settings and in non-residential settings.

Perceptions of the program and the external environment

When an administrator considers implementing a training program, he/she must consider the settings' readiness to implement the program itself (e.g., sufficient room, resources) as well as the changed care practices that are being taught, the strength of evidence for program effectiveness, and to what extent the program content addresses staff need. If a program is not considered to provide relative benefit or the organization is not ready to make the changes it conveys, there is little benefit in providing the training. All too often, administrators are not fully aware of the specific content of a training program when they bring it into their setting, in which case the likelihood of being ready to embrace the changes may be less and its potential benefit will in turn be less. From a staff perspective, a training program that increases perceived burden may not be well received, while one that includes new knowledge and skills that meet needs and can be incorporated into the daily routine is likely to be positively received.[38] Of note, including evidence about how the program can improve the caregiving process and may reduce staff workload has enhanced attendance in past programs.[6]

The external environment relates to the appropriateness of a training program including if the program teachings are congruent with regulations. For example, FDC provided training in the use of heat and cold packs to address resident pain, but direct care staff in numerous settings reported that they were prohibited from using such techniques.[15]

Therefore, a clear understanding of federal, state and setting level policies and procedures will facilitate the translation of training into practice.

Implementation and sustainability infrastructure

In order to improve program impact, it is important to ensure that the setting infrastructure encourages the implementation of new knowledge and best practices, which may necessitate mutual adaptation of the training program and the setting.[39] Thus, it may be necessary to alter components of the training program to be congruent with staff needs, such as to assure that training sessions are of short duration; also, the organization may need to adapt, such as providing additional staff to care for residents during training. Trainers and administrators are advised to discuss content and delivery strategies as well as financial considerations to illuminate where such flexibility is necessary so as to facilitate the translation of the training into a new setting. In relation to the FDC program that includes 21 sessions, trainers participating in the evaluation stated they would offer only those topics most relevant to a particular setting in future deliveries in order to enhance cost-effective implementation and maintenance.

Setting and staff characteristics

Adequate knowledge of setting and staff characteristics is vital to the diffusion of training programs into new settings.[38,39] Understanding these contextual variables and how they may alter the effectiveness of staff training requires input from key stakeholders including administration, management and staff. In this regard, gathering information on the resident population (e.g., proportion dementia, health and functional status), staff (e.g., past training; roles and responsibilities), administrators and supervisors (e.g., perceived need, available resources) and regulatory factors (e.g., training requirements, licensure) will help establish the goodness of fit between the program and the specific setting. For instance, the

PRISM model stresses the promotion of shared goals through dialogue between program developers and setting. Without adequate knowledge of setting characteristics the development of shared goals (e.g., changing practices related to pain) and cooperation (e.g. organizational commitment to program implementation) would be difficult to achieve. Similarly, an understanding of staff characteristics such as previous training and cultural diversity may facilitate the adaptation of the program to meet staff needs.

THE ROLE OF REGULATION AND TRAINING PROGRAMS IN LONG-TERM CARE

On a broad level, the amount and content of mandated training and compliance with those mandates will influence the goodness of fit between a staff training program and LTC settings. Passage of the federal Omnibus Budget Reconciliation Act (OBRA) of 1987 mandated regulations for staff training in NHs with an emphasis on improving resident quality of life, acknowledging assessment and resident rights, and requiring limitations on physical restraints and new policies for medical management.[40] Direct care staff working in Medicaid- and Medicare-certified NHs are federally mandated to complete a minimum of 75 hour of training with sixteen of those hours consisting of "supervised practical training," often referred to as clinical training. Training must include basic nursing skills, personal care skills, mental health and social service skills, caring for cognitively-impaired residents, basic restorative skills and resident's rights.[40] However, a recent report from the Office of the Inspector General suggests training has not kept pace with the changing LTC environment and recommends improving direct care training and competency program requirements.[41] Further complicating the issue is that NHs (and RC/AL settings) are allowed to conduct their own in-service training and thereby determine the training components, delivery strategies, trainer qualifications, and staff/trainer ratios. Consequently, there is no mandate to train staff

on evidence-based practices or to do so using evidence-based strategies. Oversight and evaluation of training are at the discretion of the administration making effectiveness hard to discern.[42]

There are no federal regulations related to training hours, content or care provision in RC/AL settings. While all 50 states license these residences, differences exist in the state mandates. Of note, all but six states require some dementia-specific staff training, but only 17 states specify content with 15 requiring an overview of dementia; the mandates of 12 states are general in requiring training to adequately meet the needs of the residents. Some states mandate one staff member to be trained while others require all direct care staff who work with residents with dementia be trained.[43]

Within settings where training is mandated by law, the incentive to provide training is obvious. In states with less stringent regulations, monetary constraints may decrease the likelihood of implementing voluntary staff training. Many LTC settings lack the financial and physical resources necessary for staff training and this may be particularly evident in smaller, rural settings.[6,8] To make matters worse, average annual turnover rates for direct care staff working in NHs averages 75% and so many providers may be understandably apprehensive to invest in staff training only to lose staff after a short period of time.[44] Since there currently is no guaranteed federal assistance with the cost of staff training and at best minimal federal and/or state mandates regarding training, there is little motivation for providers to expend scarce resources for training.[44]

Fortunately, there are bills now under consideration that may provide monetary or regulatory incentive to enhance training for staff in LTC. The Caring for An Aging America Act of 2009 (S.750), now referred to the Committee on Health, Education, Labor and

Pensions, would allocate $130 million over 5 years to fund training and advancement opportunities for health care professionals caring for older adults, including staff in LTC.[45] The American Recovery and Reinvestment Act of 2009 (passed 13, February 2009) and the Retooling the Health Care Workforce bill (H.R. 468) (in committee) would also provide funding to expand, train and support the health care staff caring for elders, indicating educational support for LTC staff is becoming an important focus for funding.[46,47]

Collaborative efforts between national, state, and local communities and organizations to provide sufficient incentive and financial means to implement staff training have been successful in increasing and improving staff training. For example, The Workforce Improvement for Nursing Assistants: Supporting Training, Education and Payment for Upgrading Performance (Win a Step Up) program in NC is a partnership between the NC Department of Human Services and the University of NC funded by grants from The Atlantic Philanthropies and the Robert Wood Johnson Foundation.[26] In this program, staff complete a 30 hour curriculum, agree to continue to work for the employer, and receive a bonus or raise upon completion. Evaluations of the program suggest Win a Step Up has significant positive outcomes on both quality of care and turnover of nurse aides.[26]

Excelsior College in Albany NY recently received a foundation grant from the Fred L. Emerson Foundation to create a training program aimed at preventing and treating bed sores in LTC residents, improve critical decision-making among direct care staff, and provide management training for supervisors.[48] The partnership includes Excelsior College, Auburn Memorial Hospital, and three local NHs. Over 400 LTC staff are anticipated to participate in the training. These types of collaborative efforts may be the most feasible means of improving staff training during weak economic times.

MOVING TOWARD THE FUTURE

Collaboration and regulation may help promote staff training in LTC, and lessons learned from the evaluation of FDC are beneficial to understand how impact (RE-AIM) and translation (PRISM) can be maximized. Input from all levels of the organization (top leadership, mid-level, and frontline staff) must be included in training development and implementation in order to meet setting needs, enhance effectiveness, and alleviate potential barriers to changing care practices and assuring that those changes are maintained. While the ideal would be the formation of site-specific steering committees to ensure a positive and productive dialogue about these matters, such interaction comes at a cost and there must be some limits on the time devoted to his effort given an already full-plate of responsibly for those involved. A more pragmatic approach may be to conduct a pre-implementation assessment with administrators to review setting and program characteristics and needs and the optimal delivery protocol. This assessment could include the identification of barriers and facilitators to sustained implementation as well as the identification of key staff to assist with recruitment and a discussion about necessary adaptations in program or setting procedures and cost-effectiveness.

In considering this need to better inform administration of the content and needs of a training program, and to modify the program to meet the needs of the setting – within boundaries so that the effective components of the training program are not lost – it becomes clear that there is need for a training specialist to negotiate these waters. However, organizations that develop staff training programs often contract with other organizations or trainers to deliver their programs, and trainer qualifications may vary across organizations. In the evaluation of the FDC, the trainers themselves were staff of local chapters of the

Alzheimer's Association. Their education ranged from an associate nursing degree to a graduate degree in social work, and although most had more than 8 years of training experience within LTC settings, two had no previous experience. While the ability of these individuals to provide FDC training is not in question, they were not prepared nor empowered to meet with the administration to discuss the content, needs, and necessary modifications to the training program. Such a role may well fall to a specialist, and is one that fits squarely within the realm of social work.

Social workers have made significant contributions in advancing quality care in LTC settings through pioneering efforts in direct intervention, promoting clinical research, and developing, evaluating and disseminating effective programs. For example, social workers have been dominant voices in promoting social justice, promoting client-centered approaches to care, and facilitating a collaborative approach to research within LTC settings.[49] Further, social workers are trained in assessment, communication skills, building collaborations, and systems theory.[50] Social workers hired within LTC settings are often responsible for assessment, case management, discharge planning, coordinating services for older persons transitioning to and from settings, as well as helping to meet the psychosocial needs of residents and family members.[51] A growing number of social workers are involved in staff training and collaborative efforts to improve quality care in LTC. For example, approximately 10% of documented attendees in a state-wide collaborative to address comprehensive pressure ulcer prevention and treatment were social workers.[52] Social workers familiar with the organizational and resident dynamics within LTC may improve team-based approaches to staff training by facilitating open communication among stakeholders.[53]

Thus, a social work training specialist would have the proper conceptual grounding and skills-based training to function as an interface between the trainer and the organization, to ensure congruence between program content and organizational need and policy, and identify potential barriers to implementation and areas for mutual adaptation. If the quality of LTC is to continue to improve, then training programs must improve along with them. Considering such training in the context of impact (RE-AIM), translation (PRISM), and regulation, a role for a training specialist may be the ticket to improve evidence-based care and outcomes in NHs, RC/AL settings, and non-residential settings that provide LTC for older adults.

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Table 4.1. Suggested strategies to enhance impact when implementing a training program in long-term care settings: the RE-AIM model.

RE-AIM COMPONENT	SPECIFIC STRATEGIES TO ENHANCE IMPACT
Reach (The absolute number, proportion, and representativeness of individuals participating in the training)[24]	• Identify and enlist the help of key staff leaders to encourage staff to attend[6,25] • Emphasize the value of the program[6] • Provide incentives for attendance[13,26]
Effectiveness (The impact of the training on important outcomes, including potential negative effects, quality of life, and economic outcomes)[24]	• Ensure that the content is written at appropriate reading levels and addresses inequalities in staff abilities[6,16] • Incorporate activities within delivery strategies known to increase self-efficacy and the translation of skills into practice[6] • Develop clear and appropriate outcome measures[13] • Include data on cost-effectiveness[11] • Provide a feedback loop between staff, trainers and administrators (e.g., a conference call) to identify and discuss unintended consequences[11]
Adoption (The absolute number, proportion, and representativeness of settings and trainers initiating a specific program)[24]	• Conduct a feasibility assessment to determine goodness of fit between the program and setting[11,13] • Discuss potential barriers and solutions and modify the training as appropriate for the setting[5,25] • Stress the advantages and effectiveness of the training in general and the relative advantage of the specific program[6] • Provide incentives and public recognition for participation[6,13]

Implementation
 	
(At the setting level, implementation refers to the trainer's fidelity to the various elements of the training protocol. This includes consistency of delivery as intended and the time and cost of the intervention.)[24]
	• Use scripted and detailed trainer's manuals [15,27]
	• Carefully select, train and support trainers[15]
	• Standardize trainer preparation[15]
	• Assess trainer capacity and willingness to adhere to a protocol[15,27]
	• Use an implementation checklist that addresses
	  o Setting-level responsibilities
	  o Trainer-level responsibilities
	• Document modifications[28]

Maintenance (At the setting level, maintenance is the extent to which a program or policy taught through the training becomes part of routine organizational practices and policies. At the individual level, maintenance is the long-term effects of training on outcomes after six or more months.)[24]	• Include reinforcement strategies as part of the content[5,13] • Consider cost-appropriate methods to provide staff support, feedback and follow-up[6] • Discuss mutual goals and commitment for maintenance [26]

Table 4.2. Suggested strategies to enhance translation of staff training in long-term care settings and in non-residential settings: the PRISM model (Practical, Robust Implementation and Sustainability Model)[a]

PRISM COMPONENT	SPECIFIC STRATEGIES TO ENHANCE TRANSLATION
Program	
Organizational perspective	• Ensure organizational support and readiness • Provide evidence of program effectiveness • Address barriers to implementation • Decrease program complexity and cost • Provide observable results
Staff perspective	• Ensure training does not increase staff burden • Ensure content meets educational needs of staff
External Environment	• Know regulatory environment • Understand potential reimbursement mechanisms
Implementation and Sustainability Infrastructure	• Identify adaptable protocols and procedures • Use key staff members • Plan for sustainability
Setting Characteristics	• Identify shared goals • Identify staff training needs • Determine organizational culture • Expect commitment to sustainability
Staff Characteristics	• Understand relevant demographics (staff and residents) • Assess staff current knowledge and beliefs

[a]Feldstein AC, Glasgow RE. A practical, robust implementation and sustainability model (PRISM) for integrating research findings into practice. *The Joint Commission Journal on Quality and Patient Safety*. 2008,*34*(4),228-243.

CHAPTER 5

Conclusion

This dissertation study was conducted to better understand the overall impact of a standardized training program for staff caring for residents in LTC. The results generated provide new knowledge linking the relationship between and among setting, program, trainer, trainee level factors, and outcomes. A standardized training program such as FDC has potential to be implemented with high adherence to a scripted trainer's manual across diverse settings and with multiple trainers. Trainer characteristics and topics were directly related to amount of adherence and there was a direct relationship between amount of adherence to the script and trainee satisfaction and some trainee outcomes. Strategies were suggested to enhance attendance, effectiveness, dissemination and maintenance of staff training programs. The implications from the findings may inform research and practice and be of special importance to key stakeholders within long-term care. On a broader level, the findings may be useful to social workers using evidence-based interventions across diverse practice environments and to educators.

Implications for Research

The primary focus of this study focused on implementation fidelity of FDC. The fidelity measures used in this study captured trainer adherence to the script but did not assess other important aspects of implementation, suggesting the need to expand the measurement of fidelity.[1] Fidelity guidelines have been developed by the Treatment Fidelity Workgroup of the National Institutes of Health Behavior Change Consortium[2,3] and have been used in an activity intervention for persons with dementia[4] and suggested for use in evaluation social work interventions.[5] The guidelines assure implementation fidelity are linked to the following: (1) study design (i.e., ensure training is consistent with underlying theoretical frame work and ensure consistent training dose within and across conditions); (2) train the

trainer (i.e., description of training, assessment of trainer knowledge and skills prior to and during intervention to minimize trainer drift; (3) program delivery (i.e., control for provider differences, reduce differences, ensure adherence to protocol, minimize contamination); (4) receipt of treatment (i.e., ensure trainee comprehension of knowledge and ability to use skills during program delivery); and (5) enactment of program skills (i.e., ensure participant use of knowledge and skills after program completion).

Although this dissertation study included some of these elements, future interventions would benefit from a more thorough examination of each individual element (e.g., congruency between program content and underlying theory, ensuring and monitoring trainer capabilities, distal measures of trainee enactment of skills, and how skills relate to resident care). Of utmost importance is the need to clearly identify core components of a program and assess the degree of implementation using valid and reliable metrics. Strategies used to identify core components include deconstructing the program and systematically testing each component across sites.[6]

Improved metrics to assess fidelity would include the ability to quantify the magnitude and significance of specific deviations from the intended protocol (e.g., additions, interruptions). Such information is valuable in identifying allowable and acceptable modifications that will not diminish the objectives and goals of the program when it is disseminated.[8] The use of multiple-level outcomes will facilitate detection of confounding variables and unintended consequences. Including a measure to assess fidelity of organizational factors (e.g. appropriate space, available time) will assist in dissemination and maintenance across settings.

A significant finding from this study is an improved understanding of trainer and trainee perceptions toward standardized training. A major tenet of social work is to "meet the client where they are." This holds true in staff training where the "client" is the trainee. In the evaluation of FDC, positive trainee ratings and an increase in knowledge were directly related to trainer adherence to key words yet trainersgenerally were not receptive to high adherence. Implementers (i.e., trainers) may actively reinvent a proven program to fit their own needs and provide a sense of ownership.[9] Trainers involved in FDC expressed frustration at adhering to a script rather than using their own words and including details from their experience. This reinforces the importance of communicating the program characteristics to potential trainers and ensuring their willingness to conform to the protocol, being evaluated over time, and posessing the competency and the commitment to deliver the program as intended.[10] The need to ensure there is no disconnect between how trainers and developers define their respective roles is important not only in training, but in the delivery of any social intervention.

Implications for Practice

Social workers have made significant contributions in advancing quality of care in LTC settings through pioneering efforts in direct intervention, promoting clinical research, and developing, evaluating and disseminating effective programs. Changing the culture of LTC settings from a custodial model (e.g., taking care of the immediate physical needs of residents) to a person-centered care model (e.g., considering biopsychosocial and spiritual needs of the resident) has been a primary goal among social workers and in the profession. For example, social workers have had a dominant voice in the elimination of physical

restraints, the development of individualized care plans,[11] and a client-centered approach to dementia care.[12]

Of utmost importance to the discipline are the issues related to health disparities among LTC residents in different settings. One of the standards of professional practice for social workers in health care settings addresses health disparities: "Social workers practicing in local, state, national, and international health care settings require knowledge and skills to help them recognize and address inequalities and injustices directed toward clients, organizations, and communities related to access to care and provision of health services." [13]

Unfortunately, the lack of equitable care and the existence of health disparities across LTC settings have long warranted concern.[14,15] Issues of equity are also apparent among staff in LTC communities. Training has been associated with higher job satisfaction, lower turnover, and decreased incidence of resident problem behaviors [16, 17] Therefore, effective standardized training may provide staff with the same opportunities for satisfying and safe employment. The critical examination of FDC may be an important step in the dissemination and sustainability of effective staff training, thereby contributing to equitable care and equitable training across diverse settings.

The need to understand the process and effectiveness of training within social service organizations, including the training of social workers has also been documented.[18] The evaluations included methodological problems similar to evaluations of staff training in LTC (e.g., poor design, lack of objective measures, lack of follow-up) resulting in inconclusive findings. On a broader level, a recent report from the Institute for the Advancement of Social Work Research (IASWR) recommends social workers identify and develop practice evaluation tools for setting-level programs and promote their dissemination

and use.[19] Unfortunately, evaluations of evidence-based interventions within the field of social work are limited and the investigation of implementation fidelity within these studies is either lacking or under-reported.[5]

Practitioners would benefit from applying the RE-AIM model and other evaluation strategies suggested in this study to improve and sustain effective practice both at the micro and macro-level. Lastly, these findings are important to the education of social work students. According to the Education Policy and Accreditation Standards (EPAS) competency 2.1.6, students must be competent to engage in research-informed practice and practice informed research.[13] This is consistent with the competency goals developed by the National Center for Gerontological Social Work Education which states students need to have the ability evaluate the effectiveness of practice and programs intended to improve outcomes for older adults and apply evaluation and research findings to improve practice and program outcomes.[20] Social workers have an ethical responsibility to use programs and interventions that are effective.[21] To prepare students for evidence-based practice, they must be taught to critically evaluate and select interventions or methods supported by the scientific evidence, deliver multi-level practice interventions, and adapt recommendations and treatment manuals for use with specific client populations.[22] These skills necessitate an understanding of how to implementpractices with high fidelity to maintain program integrity and effectiveness.[21]

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