

# Provider and staff perceptions of veterans' attrition from a national primary care weight management program

Danielle Arigo<sup>1,2</sup>, Stephanie Hooker<sup>3</sup>, Jennifer Funderburk<sup>1</sup>, Margaret Dundon<sup>1,4</sup>, Patricia Dubbert<sup>5</sup>, Gina Evans-Hudnall<sup>6</sup>, Sarah Catanese<sup>7</sup>, Jenny O'Donohue<sup>7</sup>, Eva-Maria Dickinson<sup>8</sup>, Christine DeMasi<sup>9</sup>, Sheri Downey<sup>9</sup> and Cyrus DeSouza<sup>9</sup>

<sup>1</sup>Center for Integrated Healthcare, Syracuse VA Medical Center, Syracuse, NY, USA

<sup>2</sup>Department of Psychology, Drexel University, Philadelphia, PA, USA

<sup>3</sup>Department of Psychology, University of Colorado, Denver, CO, USA

<sup>4</sup>Department of Veterans Affairs, National Center for Health Promotion and Disease Prevention, Durham, NC, USA

<sup>5</sup>South Central VA MIRECC, Jackson, MS, USA

<sup>6</sup>Michael A. DeBakey VA Medical Center and Baylor College of Medicine, Houston, TX, USA

<sup>7</sup>Jesse Brown VA Medical Center, Chicago, IL, USA

<sup>8</sup>Stratton VA Medical Center, Albany, NY, USA

<sup>9</sup>Omaha VA Medical Center, Omaha, NE, USA

**Background:** Overweight and obesity are growing problems for primary care. Although effective weight management programs exist, these programs experience significant attrition, which limits effectiveness. **Objectives:** This study examined provider and staff perceptions of attrition from the Veterans Health Administration MOVE!<sup>®</sup> Weight Management Program as an initial step toward understanding attrition from primary care-based programs. **Participants:** MOVE!<sup>®</sup> clinicians, primary care providers, and other staff members who interacted with patients about participating in MOVE!<sup>®</sup> ( $n = 754$ ) from Department of Veterans Affairs medical centers throughout the United States. Respondents were predominantly female (80.8%), Caucasian (79.2%), and trained as nurses (L.P.N., R.N., or N.P.; 50%). **Measure:** Participants completed a web-mediated survey; items assessed agreement with personal and programmatic reasons for dropout, and allowed respondents to indicate the number one reason for dropout in an open-ended format. This survey was adapted from an existing tool designed to capture patient perceptions. **Results:** Respondents indicated that veterans experienced practical barriers to attendance (eg, transportation and scheduling difficulties) and desire for additions to the program (eg, a live exercise component). Low motivation was the primary factor identified by respondents as associated with dropout, particularly as noted by MOVE!<sup>®</sup> clinicians (versus other providers/staff;  $P < 0.01$ ). **Conclusions:** These findings suggest that programmatic changes, such as adding additional meeting times or in-session exercise time, may be of benefit to MOVE!<sup>®</sup>. In addition, increasing the use of techniques such as Motivational Interviewing among providers who refer patients to MOVE!<sup>®</sup> may improve participant engagement in MOVE!<sup>®</sup> and other primary care-based weight management programs. Further research is needed to effectively identify those likely to withdraw from weight management programs before achieving their goals, and the reasons for withdrawal.

**Key words:** attrition; health providers; obesity treatment; primary care; weight management

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Correspondence to: Jennifer Funderburk, Syracuse VA Medical Center, 800 Irving Avenue, Syracuse, NY 13210, USA.  
Email: Jennifer.Funderburk@va.gov

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Up to 69% of primary care patients in the United States are overweight or obese (Stecker and Sparks, 2006) and at increased risk for comorbid conditions such as diabetes, cardiovascular disease, and depression. The primary care setting has been identified as instrumental in the treatment of obesity (Goldie and Brown, 2012). Recent changes to Medicaid and Medicare regulations in the United States now allow reimbursement for weight management care (Center for Medicare and Medicaid Services, 2012), eliminating a key obstacle to addressing obesity in this setting. Although many existing primary care-based weight management programs enjoy strong empirical support (Tsai *et al.*, 2010; Haas *et al.*, 2012), the ongoing problem of attrition from such programs limits their effectiveness. Estimates of withdrawal from weight management programs published between 1983 and 2010 range from 16% (Grossi *et al.*, 2006) to upward of 75% (Bernier and Avard, 1986; Inelmen *et al.*, 2004). Given that primary care-based programs typically rely on referrals from primary care providers and other professional staff (eg, nurses), and that these providers and staff have ongoing interaction with program participants, examining primary care providers' and staff members' perceptions could provide insight into the problem of attrition. The present study is a descriptive investigation of this underexplored aspect of attrition from a nationally implemented, primary care-based weight management program.

### **The role of primary care provider and staff perceptions**

Primary care-based weight management programs rely on providers and staff to refer patients, assist with initiating enrollment, and encourage attendance. Consequently, provider and staff perceptions of and attitudes toward the program can impact implementation, patient engagement, and overall program effectiveness (Larme and Pugh, 1998; Damschroder *et al.*, 2009). For example, providers who have positive impressions of a program are more likely to discuss the program with patients (Westheimer *et al.*, 2008; Quinn *et al.*, 2009), and their patients are more likely to attend (Meredith *et al.*, 2005), than providers who have negative impressions. In addition, previous research has identified negative beliefs about weight management interventions

(eg, perceived ineffectiveness, anticipated resistance from patients) as key barriers to successful weight control in primary care (Foster *et al.*, 2003; Forman-Hoffman *et al.*, 2006). This work rarely has assessed provider and staff perceptions of participant withdrawal from structured weight control programs, which could help to identify pathways to reducing attrition (Skelton *et al.*, 2012). Providers and staff also may have suggestions for programmatic changes that may minimize attrition.

### **Weight Management Among Veterans: The Veterans Health Administration MOVE!® Program**

Weight management is a particular problem among veterans, as more than 75% of this population is overweight or obese (Das *et al.*, 2005; Koepsell *et al.*, 2009). Controlling for related demographic characteristics (eg, age, gender), the prevalence of overweight and obesity is higher among veterans than non-veterans (Gizlice, 2002; Nelson, 2006). To address this concern, the Veterans Health Administration (VHA) – the health care division of the US Department of Veterans Affairs (VA) – designed the MOVE!® Weight Management Program to include components of existing evidence-based interventions (eg, nutrition and physical activity education, instruction in effective goal setting). Each VA medical center has its own MOVE!® Coordinator who oversees the program, as well as staff members from various disciplines (eg, nurses, dietitians, psychologists) who deliver intervention modules. MOVE!® also has built in flexibility in order to accommodate the needs of different facilities and patient populations (eg, number of groups per week; Damschroder *et al.*, 2011), though there are core content and delivery requirements that are consistent throughout the VHA.

MOVE!® was nationally implemented throughout VA primary care clinics in 2006 (Kinsinger *et al.*, 2009); since that time, over 450 000 veterans have participated in MOVE!® and have lost over 300 tons of excess weight (Veterans Health Administration, 2011). MOVE!® is now the largest weight management program offered by an integrated healthcare system (Damschroder *et al.*, 2011). Consequently, MOVE!® offers a distinctive opportunity to examine provider and staff perceptions of attrition from a national weight management intervention that is

initiated in primary care. Like other weight management programs, MOVE!<sup>®</sup> has experienced significant dropout. Nationally, <5% of eligible veterans participate in MOVE!<sup>®</sup> (Littman *et al.*, 2012), and more than 40% of the veterans referred to MOVE!<sup>®</sup> participated in only one session (Kahwati *et al.*, 2011). Clarifying the circumstances associated with dropout is thus a high priority for MOVE!<sup>®</sup>. Improving our understanding of patient and program characteristics associated with dropout would allow for program improvement in two ways: (1) identification of participants who are most likely to withdraw (which would provide opportunity for additional intervention), and (2) modification of ineffective or suboptimal program components.

Only one previous study has examined staff perceptions from MOVE!<sup>®</sup> (Locatelli *et al.*, 2012), and focused only on the perceptions of a small number of MOVE!<sup>®</sup> coordinators. The present study builds upon this existing work by examining perceptions of dropout in a large sample of primary care providers and staff, including those who are not directly involved in MOVE!<sup>®</sup> program delivery (but serve as key referral sources). This method provided the opportunity to explore potential differences in the perceptions of providers and staff directly involved in MOVE!<sup>®</sup> program delivery and those who were not. Any observed differences between those involved in MOVE!<sup>®</sup> and those who serve only as referral sources could point to opportunities for education and ideas for better incorporating the program within primary care.

## Method

### Participants and procedure

Primary care providers and staff from four VHA regional networks were invited to participate in a web-based survey. Recruitment regions were selected for geographic and demographic diversity, and included the Northeast (New York State), South/Midwest (Texas, Louisiana, Arkansas, and Oklahoma), North/Midwest (South Dakota, Nebraska, and Iowa), and the Great Lakes region (Illinois, Wisconsin, and Michigan). MOVE!<sup>®</sup> coordinators at the network and facility levels (ie, those individuals responsible for overseeing the MOVE!<sup>®</sup> across multiple VA primary care clinics within a specific location) were contacted via email

by a member of the research team (S.H., P.D.) to request the email addresses of primary care providers and staff in their regional networks. Emails that included web links to the survey were sent to those providers and staff members whose contact information was supplied. Providers and staff members also received reminder emails about the study at 7 and 14 days after initial contact.

A total of 2696 providers and staff members were eligible to participate in the present study. Research personnel were able to obtain contact information for 2649 providers and staff members, who were contacted via email; 900 participated in the survey (response rate of 34%). As a first step toward understanding provider and staff perceptions of attrition from MOVE!<sup>®</sup>, we restricted the remainder of the survey to respondents who had some previous interaction with MOVE!<sup>®</sup>-eligible patients, as their opinions would have a higher chance of being influenced by actual interactions with patients who attended MOVE!<sup>®</sup>. At the start of the survey, 146 respondents (16.2%) indicated that they had never referred a patient to MOVE!<sup>®</sup> and had never interacted with a patient about their participation in MOVE!<sup>®</sup>. These individuals were excluded from further participation, leaving a final sample of 754 respondents. Their mean age was 47.60 years (SD = 10.0); the largest subsets were female (80.8%), Caucasian (79.2%), and working as nurses (L.P.N., R.N., or N.P.; 50%). Most respondents (84.4%) typically spent 5 or fewer hours per week on MOVE!<sup>®</sup>-related work activities (eg, facilitating groups). Those who had referred patients to MOVE!<sup>®</sup> but were not directly involved in MOVE!<sup>®</sup> program delivery were categorized as non-MOVE!<sup>®</sup> providers and staff (37.5%). Additional demographic and background information is available in Table 1.

### Measure

The web-based survey used in this study included 23 items. Nine items were related to respondent background and VA facility (eg, demographic information, VA network). Attrition-related items were based on Grossi *et al.*'s (2006) causes of attrition interview, a series of questions designed by physicians, epidemiologists, and psychologists with extensive experience in weight management research and treatment. The original items were used in a sample of 978 patients to assess their reasons for withdrawal

**Table 1** Demographic information

	Number	Percentage
Gender		
Male	141	19.2
Female	595	80.8
Race		
Black	56	7.7
White	578	79.2
Asian	52	7.1
American Indian/Alaskan Native	7	1.0
Multiracial	14	1.9
Other	17	2.3
Unknown	6	0.8
Ethnicity		
Hispanic or Latino	20	2.8
Not Hispanic or Latino	692	97.2
Role in the MOVE! Program		
Facility or VISN MOVE! coordinator	29	4.0
MOVE! clinician (conduct enrollments, lead groups) 86	86	11.9
MOVE! physician champion	9	1.2
Other physician/provider	172	23.7
Level of training		
M.D.	108	14.7
R.N., N.P., L.P.N.	367	50
Registered dietician	95	12.9
Master's- or Ph.D.-level psychologist	18	2.5
Physician's assistant	32	4.4
Medical assistant/tech	12	1.6
Physical activity specialist	60.8%	
Behavioral health specialist	29	4.0
Other	20	2.7
Hour per week devoted to MOVE!		
< 5 h per week	595	84.4
5–10 h per week	43	6.1
11–15 h per week	9	1.3
16–20 h per week	10	1.4
21–25 h per week	6	0.9
26–30 h per week	6	0.9
31–35 h per week	4	0.6
35 or more hours per week	32	4.5

Note: Frequencies and percentages from subset of sample included in analyses (ie, respondents who had previously referred a veteran to MOVE! or interacted with a veteran about participation in MOVE!),  $n = 754$ .

from weight loss programs. In the present study items were reworded toward providers; 13 open-ended items were substituted with forced-choice, Likert-type responses, in an attempt to quantify several aspects of MOVE!<sup>®</sup> perceptions, limit participant burden, and facilitate completion via web-based questionnaire. For example, providers and staff were asked how strongly they agreed with potential reasons for patient dropout after one or two sessions, on a scale from 1 (strongly disagree) to 5 (strongly agree). Forced-choice items were grouped into personal/practical reasons

(eg, transportation difficulties, health problems, etc.) and programmatic reasons (eg, disagreed with the treatment plan, had unsatisfactory results). The final item allowed an open-ended response to the question ‘What is the number one reason you think veterans drop out of MOVE!<sup>®</sup>?’

### Statistical analyses

General provider and staff perceptions of MOVE!<sup>®</sup> program attrition are summarized below using descriptive statistics (ie, means, standard

deviations) for quantitative items and frequency counts for qualitative responses. We also compared perceptions of MOVE!<sup>®</sup> staff to perceptions of non-MOVE!<sup>®</sup> staff using independent samples *t*-tests. For the open-ended item, two independent raters read all responses and agreed on 22 thematic categories. The raters then classified each response into one or more categories. Several respondents gave more than one answer to this item (or answers that touched on more than one theme). As a result, categories were not considered mutually exclusive, which precluded the calculation of a  $\kappa$  coefficient for interrater consistency. Categorization showed 71% overall agreement between the two raters, however; agreement ranged from 68% to 80% across all categories, and discrepancies were resolved through discussion.

## Results

The first group of survey items concerned provider and staff perceptions about personal and practical difficulties that may lead patients to withdraw from MOVE!<sup>®</sup>. Respondents tended to agree that patients who withdraw from MOVE!<sup>®</sup> had problems at work ( $M = 3.60$ ,  $SD = 0.90$ ), financial problems ( $M = 3.68$ ,  $SD = 0.90$ ), health problems other than obesity ( $M = 3.65$ ,  $SD = 0.88$ ), and problems with transportation to VA facilities ( $M = 3.86$ ,  $SD = 0.90$ ). Respondents were more neutral (ie, ratings close to the scale midpoint) about the likelihood that patients who withdrew from MOVE!<sup>®</sup> had family problems ( $M = 3.36$ ,  $SD = 0.88$ ), were satisfied with MOVE!<sup>®</sup> program results ( $M = 3.12$ ,  $SD = 0.90$ ), or were confident in their ability to lose weight (or maintain losses) without professional help ( $M = 3.08$ ,  $SD = 0.91$ ). Respondents seemed to disagree that patients who withdrew from MOVE!<sup>®</sup> took issue with their MOVE!<sup>®</sup> treatment plans ( $M = 2.70$ ,  $SD = 0.89$ ). None of these perceptions differed between MOVE!<sup>®</sup> clinicians and referring providers/staff ( $t_s < 1.82$ ,  $p_s > 0.07$ ).

Second, respondents were asked about those patients who withdraw from MOVE!<sup>®</sup> and have unsatisfactory results (based on MOVE!<sup>®</sup> goals) at the time of their withdrawal. Respondents were somewhat neutral about patients' personal dissatisfaction with their weight loss ( $M = 3.39$ ,  $SD = 0.90$ ), but tended to agree that patients were

unable to keep to the treatment program ( $M = 3.80$ ,  $SD = 0.76$ ). Respondents also agreed that these patients lacked sufficient motivation to continue the program ( $M = 4.0$ ,  $SD = 0.81$ ). MOVE!<sup>®</sup> staff agreed more strongly than non-MOVE!<sup>®</sup> staff that patients lacked motivation to continue ( $t [447] = -2.43$ ,  $P = 0.015$ ). There were no other differences in perceptions of attrition between MOVE!<sup>®</sup>-related and non-MOVE!<sup>®</sup> staff ( $p_s > 0.16$ ).

## Qualitative feedback

Of the 754 respondents who completed the study, 517 (69%) provided responses to the open-ended item asking about what they perceive as the number one reason patients drop out of MOVE!<sup>®</sup>. Providers and staff who were not directly involved in MOVE!<sup>®</sup> program delivery were more likely to provide a response to this optional item, versus leaving it blank, than MOVE!<sup>®</sup> staff ( $\chi^2 = 38.31$ ,  $P < 0.0001$ ). Among those who did offer a response, non-MOVE!<sup>®</sup> staff were more likely to answer 'I don't know' to the open-ended item than were MOVE!<sup>®</sup> staff ( $\chi^2 = 4.90$ ,  $P = 0.03$ ). A summary of thematic categories and the number of times each theme was mentioned in response to this item can be found in Table 2. Respondents listed low motivation for and/or lack of interest in losing weight as a primary reason for patient dropout. As an explanation for the perceived lack of necessary motivation/interest among patients, respondents noted that referring providers often fail to assess (and bolster) these personal characteristics before enrollment. There were no differences between MOVE!<sup>®</sup> and non-MOVE!<sup>®</sup> staff in the frequency of citing motivation as a reason for attrition ( $\chi^2 = 1.37$ ,  $P = 0.27$ ).

Although patient motivation/interest was by far the most frequently cited reason for dropout, several other attributions were common. These attributions included transportation difficulties (eg, no way to get to the VA facility, cost of gas, distance to facility), scheduling problems (eg, meetings scheduled during the workday, difficulty adding additional meetings to veterans' appointment schedules), and patients' lack of confidence in their ability to make positive behavior change. With respect to MOVE!<sup>®</sup> program delivery, many respondents noted that veterans were disappointed by the lack of physical activity during MOVE!<sup>®</sup> sessions; MOVE!<sup>®</sup> staff were more likely to cite this barrier than non-MOVE!<sup>®</sup> staff



**Table 2** Open-ended responses for 'Patients' number one reason for withdrawing from MOVE!<sup>®</sup>

Reasons related to MOVE! program structure	Frequency
Times available for appointments (ie, during business hours) and other scheduling difficulties	69
Not enough staff resources (eg, availability)	3
Not enough structure	2
Too much structure	3
No/not enough group meetings	17
Not enough individual coaching/patients not comfortable in groups	22
No incentives	4
No in-session exercise component (or personal trainer)	4
Poor connections with MOVE! clinicians	17
Program or components ineffective/perception of ineffectiveness, or program did not meet the patients' needs	24
Problems with TeleMOVE! <sup>®</sup> /veterans did not want TeleMOVE! <sup>®</sup>	6
Enrollment delay or no follow-up	5
Patients unaware of options within the program	5
<b>Reasons related to veterans' personal/professional barriers</b>	
Lack of interest in, confidence in, or motivation for weight loss	234
Financial limitations that prevent change (eg, buying healthier foods, insurance does not cover)	11
Transportation difficulties (eg, distance to facility, gas prices)	121
No emotional or instrumental support outside of veterans affairs	8
Expectation for fast weight loss was not met	24
Medical or mental health issues other than obesity	10
Confident in success without the program	12
Women uncomfortable in groups that are predominantly male	2
No response, don't know, or other	23

Note: TeleMOVE!<sup>®</sup> = MOVE!<sup>®</sup> components delivered via telephone or live video feed.

( $\chi^2 = 5.63$ ,  $P = 0.02$ ). As a remedy, several respondents recommend that MOVE!<sup>®</sup> introduce a live exercise component to the program. Some respondents suggested that fewer patients would withdraw if they had access to individual coaching sessions, whereas other providers suggested that more group meetings would reduce dropout. Still others stated that a major problem with MOVE!<sup>®</sup> is a lack of incentives, and endorsed discounts for insurance premiums or gym memberships to retain participants.

## Discussion

The present study represents an attempt to supplement existing knowledge about attrition from primary care-based weight management programs by investigating the perceptions of providers and other professional staff members involved in the implementation of MOVE!<sup>®</sup>, a nationally disseminated, primary care-based program. Although responses to our survey were limited to a convenience sample of providers from four (of 21)

VHA networks, included networks were chosen to maximize differences in retention rates and patient demographics. Also, despite a modest response rate, our recruitment method yielded a high number of respondents across these networks. Thus, the present findings could be useful for informing ongoing research and program improvement.

Both quantitative and qualitative responses to the present survey show that primary care providers and staff believe that patients encounter a variety of obstacles to attendance in a primary care-based weight management program. Existing reports suggest that providers generally perceive veterans' clinical presentations as more complex than those of civilians, particularly with respect to medical and psychiatric comorbidities (Sayer *et al.*, 2009). Indeed, comparisons have confirmed that veterans who use VA healthcare facilities also tend to be 'older, less educated, poorer, sicker, and more disabled' (Wang *et al.*, 2005) than both the general population and veterans who do not use VA services (Agha *et al.*, 2000; Koepsell *et al.*, 2002). Challenges related to these circumstances were reflected in providers' reports that personal

and logistic barriers contribute to withdrawal from MOVE!<sup>®</sup>, including financial concerns, transportation difficulties, scheduling conflicts, and lack of confidence in success.

These findings reflect some of the perceptions of MOVE!<sup>®</sup> Coordinators (as described in a previous report; Locatelli *et al.*, 2012), and extend them to a broader sample of providers and staff members who interact with patients about their weight management efforts. In contrast to existing work, however, providers and staff members who participated in the present study cited the limited availability of both group meetings and individual coaching sessions. The frequency of MOVE!<sup>®</sup> group meetings and individual sessions vary by facility, and may be based on patient request and staff availability. It is possible that this structure does not provide enough easily accessible support for many patients, and that VA facilities could improve retention by increasing the frequency of group meetings.

The perception that additional individual coaching sessions may be helpful stands in direct contrast to findings from the MOVE!<sup>®</sup> National Best Practices Evaluation (Kahwati *et al.*, 2011), however. This large-scale study showed that delivery of MOVE!<sup>®</sup> in a group format is more effective than individual delivery, and that group administration is a 'necessary condition' for achieving large weight loss outcomes. It may be that respondents reported on patient requests or concerns, rather than their own impressions. Yet the present findings demonstrate that lack of knowledge about specific aspects of MOVE!<sup>®</sup>, which has been noted in qualitative interviews with MOVE!<sup>®</sup> coordinators (Locatelli *et al.*, 2012) and in an existing survey of providers and staff (Arigo *et al.*, 2012), may be widespread. Improving primary care provider and staff knowledge of such findings is thus an area of opportunity for MOVE!<sup>®</sup>, as it may increase patient engagement and outcome expectancies.

In addition, some providers and staff members – particularly those involved in MOVE!<sup>®</sup> delivery – attributed attrition to the lack of in-session exercise instruction in the program. Several VA sites have recognized the potential benefit of including on-site exercise modules and now have exercise equipment available to MOVE!<sup>®</sup> participants. Making exercise equipment and instruction more widely available might improve engagement in MOVE!<sup>®</sup> and other primary care-based weight management programs. Providers and staff also

may have insight into barriers that are more difficult for participants to recognize or address without additional assistance. For example, an overwhelming number of providers and staff described lack of (or decreased) motivation as the primary reason for participant dropout; in existing reports of patient perceptions, lack of motivation is cited much less often (Grossi *et al.*, 2006). Endorsement of low motivation as a key reason for attrition (in a multiple-choice format) was particularly strong among staff involved in MOVE!<sup>®</sup>, who have more consistent program-related interaction with participants than do other primary care staff. MOVE!<sup>®</sup> staff were not more likely to offer this response to open-ended items than were non-MOVE!<sup>®</sup> staff, however.

Findings from the present study thus highlight the potential importance of attending to participant motivation in weight management interventions. Consensus among weight management experts reflects the general knowledge that there is no 'magic wand' for weight loss; weight loss should not exceed 1–2 pounds per week and should result from consistent adherence to a healthy lifestyle, rather than to a strict, unsustainable diet plan (National Institutes of Health, 2000; Kushner, 2007). Although this approach leads to healthier long-term outcomes than crash dieting, individuals who follow the aforementioned recommendations may become frustrated with slower progress (Foster *et al.*, 1997). The combination of frustration and modest weight loss may result in withdrawal from weight management programs.

### **Addressing motivation for weight management in primary care**

Existing research on weight loss outcomes demonstrates that participant motivation is a significant predictor of weight loss success (Webber *et al.*, 2010). Consequently, targeting participant motivation may be an effective method for reducing attrition rates and improving weight loss outcomes in weight management programs. In the present study, providers and staff noted (in an open-ended format) that providers have the unique ability to bolster motivation for a weight management program prior to participant enrollment. Primary care providers, who constitute the largest referral source for MOVE!<sup>®</sup>, often give the referral without explaining (1) why weight loss is important for

patients' individual health or quality of life, and (2) that patients may experience significant physical and mental health benefits even from modest weight loss (Mertens and Van Gaal, 2000; Tuomilehto *et al.*, 2001). Primary care providers also may make recommendations for behavior change without assessing patients' willingness, reasons, or ability to make such changes.

Previous investigations of provider and patient perceptions show that many veterans who receive VA care prefer not to discuss weight management with their providers. Although providers are willing to engage with patients about weight management, such discussions often are characterized as unhelpful and likely to leave patients feeling blamed for their weight problems (Ruelaz *et al.*, 2007). However, increasing patient involvement in health care decisions, including decisions about weight loss, has resulted in improved health outcomes. Brief interventions such as motivational interviewing (MI; Miller and Rollnick, 2002) acknowledge patient autonomy and help to reduce ambivalence about behavior change, thereby increasing patient identification with positive reasons for change. Adding MI to weight management interventions has previously demonstrated greater weight loss, relative to weight management interventions alone (DiLillo and West, 2011). Using this approach to specifically address participant engagement and ongoing attendance at MOVE!<sup>®</sup> sessions – particularly those at high risk for dropout – also could reduce attrition. Thus, incorporating MI both before and during participation in weight management programs would be a time- and cost-effective method for alleviating a significant barrier to weight loss efforts and program attendance. Healthcare organizations such as the VA have begun to provide in-service trainings and follow-up coaching in MI for medical staff. The VHA is also in the process of testing an MI-based tool to help providers engage patients before MOVE!<sup>®</sup> enrollment. The 'Moving Veterans into MOVE!<sup>®</sup>' tool provides five key steps to guide clinicians in using basic MI skills (such as asking permission to talk about weight) for a patient-centered interaction around weight loss efforts (Veterans Health Administration, 2012).

### Strengths, limitations, and future directions

The present study benefitted from a large, geographically diverse sample of primary care  
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providers and staff members, and its design allowed for examination of attrition using both quantitative and qualitative methods. This study was intended only as an initial step toward understanding attrition from primary care-based weight management programs, however. As a result, there are noteworthy limitations that should be addressed in ongoing research. It is perhaps the case that assessing the perceptions of providers and staff who have no experience with MOVE!<sup>®</sup> (or MOVE!<sup>®</sup>-eligible) patients will offer additional insight. As these respondents were excluded from the present study, there is a need for broader inclusion in future work. Further, provider and staff perceptions should be compared to responses from patients in order to provide a balanced perspective. This study also used a modified survey to assess provider and staff perceptions. Although this survey was based on an existing assessment tool, these results should be replicated with validated measures. In addition to reported perceptions, objective assessment of referrals (eg, from patients' medical records) would allow for comparison of subjective reports to provider behavior. Future research also should continue to explore staff- and patient-endorsed reasons for attrition, objective predictors of attrition (eg, weight at program start), and the potential benefit of adding motivational components (eg, MI) to a weight management program to reduce program attrition.

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