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After the randomized trial: Implementation of community-based continence promotion in the real world

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Abstract

Background: Most women aged 65 suffer from incontinence, associated with high healthcare costs, institutionalization, and negative quality of life, but few seek care. “Mind over Matter: Healthy Bowels, Healthy Bladder” (MOM) is a small-group self-management workshop, led by a trained facilitator in a community setting, proven to improve incontinence in older women.

Design: We used mixed methods to gather information on the real-world adoption, maintenance, and implementation of MOM by community agencies following a randomized controlled trial (RCT) that tested intervention effects on incontinence.

Setting: Community agencies serving older adults in six Wisconsin communities.

Participants: Community agency administrators and facilitators trained to offer MOM for the RCT.

Measurements: Investigators tracked rates of adoption (offering MOM in the 12 months following the RCT) and maintenance (offering MOM > 1 time in the next 18 months) in six communities. Individual interviews and focus groups (N=17) generated qualitative data about barriers and facilitators related to adoption and maintenance. Trained observers assessed implementation fidelity (alignment with program protocol) at 42 MOM sessions.

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Authors' Contributions

All authors made substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data. Drs. Schmuhi and Brown and Ms. Brow drafted the article, while Drs. Wise and Mahoney and Ms. Myers critically revised the article for important intellectual content. All authors gave final approval of the version to be published.

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Conflicts of interest

Brown – Receives royalties from Wolters-Kluwer (Up to Date, Inc); provides expert consultations for Grand Rounds, Inc.

Mahoney – Serves on the Board of the Wisconsin Institute for Healthy Aging (WIHA)

Results: 67% of communities (4/6) adopted MOM and 50% (3/6) maintained MOM. No implementation fidelity lapses occurred. Facilitators of adoption and maintenance included MOM's well organized protocol and lean time commitment; sharing of implementation efforts between partner organizations; staff specifically assigned to health promotion activities; and high community interest in continence promotion. Other than stigma associated with incontinence, barriers were similar to those seen with other community-based programs for older adults: limited funding/staffing, competing organizational priorities, challenges identifying/training facilitators, and difficulty engaging community partners/participants.

Conclusion: Using design for dissemination and community engagement, assessment of implementation outcomes is feasible in conjunction with a clinical RCT. Partner-centered implementation packages can address barriers to adoption and maintenance.

Keywords

Urinary incontinence; Bowel incontinence; Fecal incontinence; Dissemination and implementation; Community-based health promotion

INTRODUCTION

More than 60% of United States women age 65 or older living independently suffer from urinary or bowel incontinence.³ Women with incontinence experience significant negative mental health impacts and decreased quality of life, and most do not seek care from healthcare providers for their incontinence symptoms.^{4,5} With the current growth of the older population in the United States, it is projected that nearly 25% of Americans will be age 65 or older by 2060.⁶ With this demographic shift, the burden of incontinence is also expected to rise,⁷ resulting in increased morbidity and a decrease in the overall quality of life for aging women.

Urinary and bowel incontinence symptoms can be prevented, improved, or even cured through behavior changes including optimization of fluid and fiber intake, pelvic floor muscle exercises (Kegel squeezes), and changes to toileting behaviors.^{4,8,9} According to the International Continence Society (ICS), "continence promotion, education and primary prevention involves informing and educating the public and health care professionals that urinary incontinence and bowel incontinence are not inevitable, but are treatable or at least manageable."¹⁰ While multiple randomized trials have demonstrated the effectiveness of in-person bladder health classes to prevent and treat incontinence—with the first published in 2004^{2,11,12}—continence promotion classes are not widely available to American women.

"Mind Over Matter: Healthy Bowels, Healthy Bladder" (MOM) is a small-group continence promotion program for older women specifically designed for community-based implementation and dissemination. It combines education with personalized goal setting and action planning to empower women to make and sustain behavior changes to improve symptoms. The program capitalizes on the relative social acceptability of urinary incontinence to address symptoms of both urinary and bowel incontinence in women aged 50 years and older. More detailed information about the program can be found in the description of its randomized controlled trial (RCT).² In this RCT, 71% of MOM

participants, versus 23% of controls, had improvement in urinary incontinence symptoms three months after completing the program. Similarly, 55% of MOM participants, versus 27% of controls, had improvement in bowel incontinence symptoms in that same timeframe.²

MOM is unique in that it is intended to be facilitated by someone without healthcare or research expertise, using a train-the-trainer model to certify women affiliated with community agencies to implement and facilitate the program. MOM was developed and tested in partnership and coordination with the Wisconsin Institute for Healthy Aging (WIHA), a nonprofit organization that disseminates high-level, evidence-based health promotion programs to all 72 of Wisconsin's counties and 11 tribes.¹³ By engaging WIHA in intervention development and testing, we hoped to maximize MOM's chances of being widely disseminated, adopted, maintained, and implemented with fidelity.

However, some research has shown that health promotion programs like MOM fail to be widely adopted or incorporated into the suite of services offered by Aging and Disability Resource Centers (ADRCs) and other community agencies on a continuous basis, despite their effectiveness in helping participants achieve desirable health outcomes and improved quality of life.^{14–16} Especially in rural areas, community organizations may experience significant obstacles to sustainable implementation of small group, in-person programming due to limited funding or staff resources.¹⁷

The primary objective of this study was to use Glasgow's RE-AIM¹⁸ (Reach, Effectiveness, Adoption, Implementation, Maintenance) framework to quantify and understand barriers to and facilitators of implementation, adoption, and maintenance of the MOM intervention. The secondary objective was to engage study communities and WIHA staff in the development of a partner-focused implementation package for MOM that both incorporates solutions to the observed barriers and capitalizes on identified facilitators to help ensure successful statewide dissemination of the intervention.

METHODS

Conceptual Framework

Glasgow's RE-AIM¹⁸ framework allows for assessment of five domains of an intervention's public health impact: Reach, Effectiveness, Adoption, Implementation, and Maintenance. RE-AIM provides structure for researchers who wish to evaluate evidence-based programming after introduction to the target communities, and assessment of its components provides valuable insight into how programs can be best developed to address challenging and complex health care issues.^{18,19} Reach refers to the intervention's ability to reach the intended target population. Effectiveness describes its successful impact on intended outcomes (in this case incontinence symptoms). Adoption describes the ability and willingness of community agencies to take up an intervention. Implementation describes the fidelity of the implemented program to the intended protocol. Maintenance refers to sustainability of the intervention, in this case at the community level. For this study, we focused on adoption, maintenance, and implementation fidelity, as well as their barriers and facilitators.

Study Design, Measures, and Timeline

In this manuscript we report implementation data obtained during a larger parent study that collected data about intervention effectiveness and implementation. The parent study design, a type 1 hybrid effectiveness-implementation study,¹ is depicted in Figure 1. It entailed a randomized controlled trial (RCT) of MOM in six communities across Wisconsin between April and November 2017 to evaluate intervention effectiveness, followed by prospective data collection over the following 18 months regarding adoption and maintenance, with assessment of implementation fidelity throughout the study. The results of the intervention effectiveness portion of the parent study were previously reported.

As part of the RCT, eight community representatives from the six participating communities received training to facilitate the MOM intervention during a two-day, in-person training session in April 2017. Each community was then obligated to offer two MOM workshops (one for those randomized to the treatment arm in their community, and another for those randomized to the control arm). During the eighteen months following the conclusion of the RCT, the six study communities were permitted, but not obligated, to continue offering the MOM intervention, and the research team did not provide financial or administrative support during this period.

Adoption describes the ability and willingness of a community agency to take up an intervention, while maintenance refers to the intervention's sustainability. For this study, adoption was defined as the independent offering of at least one MOM workshop in the year following the conclusion of the RCT (December 2017 – December 2018). This definition was selected in consultation with the Wisconsin Institute for Healthy Aging (WIHA), which disseminates evidence-based health promotion programs for older adults. Most agencies that serve older adults in Wisconsin offer in-person programs during the spring and fall because of poor attendance in the winter and summer, and a particular program is not usually offered more than once per season. Maintenance was defined as the independent offering of more than one workshop during the 18 months following the RCT (December 2017 – July 2019). To assess adoption and maintenance, we surveyed community agencies three times during the follow-up period (at months 15, 18, and 21 of the study) about MOM workshops that they independently planned and offered during that time period. Those who did not reply to surveys received follow-up queries via email or telephone.

Implementation fidelity evaluates how closely an intervention, as implemented, aligns with its intended protocol. During the RCT, a trained member of the research team observed each MOM workshop and completed a checklist (Supplemental File 1) to evaluate fidelity. The fidelity checklist emphasized adherence to key program content (curriculum) and principles (workshop environment, facilitation, and best practices for adult education) rather than verbatim reading of the workshop script. Fidelity was considered adequate if the research team observed major protocol lapses in fewer than 20% of sessions, based on Harden and colleagues' finding of an average rate of 81% implementation with fidelity in their systematic review of RE-AIM outcomes across behavioral interventions.²⁰

All MOM workshops in 2017 (N=36) were attended by a fidelity observer. Following the RCT, scheduled MOM workshops in 2018 and 2019 (N=6/33) were randomly selected for

fidelity evaluation. As during the RCT, fidelity was considered adequate if the research team observed major protocol lapses in fewer than 20% of the sessions.

Data about barriers to and facilitators of adoption and maintenance were collected through focus groups and communication between the study team and the community agencies trained to implement MOM in the 18 months following completion of the RCT. The study team conducted two focus groups during the second year of the study and invited workshop facilitators, program coordinators, and WIHA staff to participate in both. The first focus group took place in December 2017, shortly after the completion of the RCT, and the second occurred 6 months later.

Members of the research team facilitated discussions around the potential barriers to and facilitators of successful implementation, adoption, and maintenance, and data generated during the focus groups were content analyzed around the same themes. These data became the basis for an implementation package to be disseminated alongside other workshop materials. Following the first focus group, implementation package materials were drafted based on information provided about barriers and facilitators. Feedback was collected from community agencies about these materials during the second focus group, and revised materials were presented at a Stakeholder Advisory Board meeting in December 2018, one year following completion of the RCT. The Wisconsin Institute for Healthy Aging then started pilot dissemination using this implementation package in April 2019.

Analyses

Based on surveys and other communications with community agencies, investigators tabulated absolute numbers and calculated proportions of planned and executed workshops during the 18-month period following the RCT. Content analyses of data collected from focus group transcripts and surveys were used to identify common themes and match barriers to facilitators. Two members of the research team independently analyzed and coded focus group transcripts and survey data using QSR International NVivo 11 software. The coding scheme combined elements of conventional, directed, and summative content analysis.²¹ Investigators sought primarily to describe the experiences of community agencies during the implementation of the MOM program, with a particular focus on barriers and facilitators. While coders approached this process with an awareness of barriers and facilitators reported by similar health promotion initiatives, they allowed unique themes to emerge from the MOM focus group data. Each coder began by individually analyzing the data line-by-line and categorizing concepts into themes. The coders then discussed each category, developed common terminology, and resolved discrepancies. Finally, coders performed an additional analysis to determine which and how many community agencies addressed each identified barrier or facilitator during either focus group session, in order to differentiate between barriers or facilitators rooted in the MOM program from those rooted in community agencies' processes.

RESULTS

Table 1 provides demographic data and details of workshop implementation in participating communities. All six communities recruited during the grant application process remained

engaged throughout and beyond the RCT. Two-thirds of communities were predominantly rural and half had median household incomes lower than the state median of \$56,811 in 2016. The majority of communities (five of six, 83%) held their workshops at one or more senior centers and half collaborated with an Aging and Disability Resource Center (ADRC) partner. Three of six (50%) of communities employed a paid facilitator. The first focus group had 9 attendees and the second had 8, with all six community agencies and WIHA represented at each focus group.

Adoption and Maintenance

Planned quarterly electronic surveys yielded low response rates, so the research team reached representatives of community agencies that did not respond to the survey via direct emails and phone calls. Investigators confirmed data collected from these personal communications during the two focus groups, which were attended by representatives from all six communities.

Table 2 enumerates planned and actual adoption and maintenance. While five of six study communities (83%) planned to offer a MOM workshop in the year following the RCT, four of six (67%) successfully executed a workshop, thus achieving adoption. Three communities (50%) achieved maintenance by offering more than one workshop in the 18 months following the RCT. Three of the four adopting communities (75%) employed paid rather than volunteer facilitators and combined the efforts of at least two community agencies to offer MOM. Notably, these same three communities also successfully demonstrated maintenance, while the other three communities did not.

The primary implementing agency for community E dissolved during the period between grant preparation and funding. The representative from that agency identified a volunteer who was willing to facilitate the workshops as part of the RCT. That volunteer had to identify a location for the workshops and did not have any agency support beyond an agency that created a limited term employment position for her to receive the grant funding. This community did not plan or achieve adoption or maintenance of MOM beyond the planned workshops as part of the RCT.

Barriers to and facilitators of adoption and maintenance

Table 3 outlines these barriers to and facilitators of adoption and maintenance and how they informed implementation package development and refinement. Content analysis revealed several barriers including: stigma associated with incontinence; the financial expense of MOM; staff/volunteer time requirement; challenges of identifying and training workshop facilitators; difficulty engaging community partners to support the program; competing organizational priorities; and difficulty recruiting participants. Each community described financial costs and time commitments as the most significant barriers to adoption and maintenance. Difficulty achieving recommended workshop enrollment (eight to 12 participants) was a significant barrier to implementation, especially in smaller communities, communities that had offered MOM recently, and communities that started recruiting participants within one month of the proposed workshop start date. In order to offset staff time and other costs, most community agencies charged workshop participants a small fee;

however, one community charged \$50 per participant—a decision they came to see as a barrier to recruitment.

Participating communities frequently identified facilitators of adoption and maintenance related to the design of MOM, which was fine-tuned through an iterative, community-engaged process. Design-related facilitators included a well-organized facilitator manual, limited props and set-up, and a relatively low number of sessions. (MOM consists of three sessions, spread out over a period of four weeks, while other evidence-based health promotion programs require up to 12 sessions over an extended time period).^{2,17}

Marketing and outreach assistance from partner organizations and strong community interest in the program topic were powerful facilitators. Permanent, paid staff dedicated to health promotion had an important impact on adoption and maintenance, as illustrated by Community A, an agency that serves four rural counties and offered more than half of all MOM workshops during the 18-month follow-up period.

Based on identified barriers and facilitators, MOM's implementation package underwent multiple stages of adaptation and revision to address actual barriers reported by participating community agencies and capitalize on observed facilitators. Additional information about this iterative process is available in Supplemental File 2.

Implementation

Observers reported no major lapses in fidelity to key MOM concepts and principles during random observations of 6/33 workshops occurring in the 18-month period following the RCT. However, content analysis revealed minor deviations from workshop protocol in a few communities during the 18-month follow-up period. For example, one community hosted two workshops with fewer than the recommended minimum of eight participants. Another community scheduled a MOM workshop with sessions in three successive weeks, rather than biweekly as required by the protocol. The research team caught and corrected this scheduling irregularity before the workshop. These deviations from protocol during the research phase are unlikely to occur during future implementation of MOM because WIHA safeguards against these types of logistical deviations by registering and reviewing all workshops to ensure compliance with program guidelines.

DISCUSSION

In this type 1 hybrid effectiveness-implementation trial, Mind Over Matter: Healthy Bowels, Healthy Bladder (MOM) exhibited high adoption, maintenance, and implementation with fidelity by community agencies. We were able to assess these implementation outcomes in conjunction with a randomized clinical trial by designing the study and intervention with dissemination and implementation in mind and with stakeholder engagement at each stage in the research.

Many of the barriers that impede adoption, maintenance, and implementation of MOM—namely cost, staffing limitations, and sufficient participant recruitment—have been encountered by other evidence-based health promotion programs.^{22–24} As with any

intervention, agencies will always incur costs when implementing MOM; however, the workshop design minimizes financial burdens associated with other in-person health promotion programs, and estimates included in the implementation package make costs explicit to organizations that wish to consider the intervention. The MOM intervention design eliminates the need for expert facilitation and, in conjunction with the implementation package, reduces staff or volunteer time and workload. While no community-based health promotion program is immune to participant recruitment challenges, the MOM implementation package provides community agencies with an array of highly customizable tools to assist with participant recruitment and outreach to allied organizations.

A funding limitation related to recent changes to the federal Administration for Community Living Older Americans Act Title III-D significantly hindered Community E, which did not plan or execute any workshops after the RCT. As of 2016, these funds are only available to evidence-based health promotion programs of the highest tier, as determined by the Administration on Aging.²⁵ At the time during which we collected data on adoption, maintenance, and implementation, MOM did not meet this standard due to the fact that results of the RCT had not been published. Since this time, results of the RCT have been published, and WIHA has initiated the application process by which MOM may qualify for this funding.² Additionally, organizational changes in Community E led to the midstream transfer of the MOM implementation from one sponsoring agency to another. While the agency that inherited MOM fulfilled the requirements of the RCT, it was less interested in a longer-term commitment to MOM, especially without the possibility of Older Americans Act funding at that time.

These study results highlight several key facilitators that will be important considerations in the future dissemination of the MOM intervention. Community A, which offered over half of the total workshops executed during the 18-month follow-up period, employed an Aging and Disability Resource Center (ADRC) staff member focused entirely on coordinating health promotion programs like MOM. The presence of a full-time staff member committed to health promotion programs alleviated staffing limitations described by other agencies and allowed Community A to conduct more workshops than any other community. Communities experienced fewer obstacles when they were able to leverage local partnerships to coordinate recruitment, outreach, and workshop implementation. For example, Community B successfully recruited the recommended number of MOM participants, despite having recently offered a MOM workshop, by coordinating efforts between two geographically close organizations. Finally, adherence to the MOM intervention protocol and close observation of the instructions and suggestions outlined in the implementation package—designed to mirror the successes of community agencies that participated in the study—should ease implementation in future communities that choose to undertake and continue to offer MOM.

A limitation of this research is that our study population consisted of early-adopters of the MOM intervention. Early adopters of any innovation, by definition, are more receptive or have greater access to new ideas. They are likely to be aware of the need for an intervention and willing to take leadership roles to implement new interventions.²⁶ Thus, the experiences

of these early adopters may not be entirely generalizable to the target population of community agencies that may ultimately implement MOM. However, our implementation study model approximated the experience of “real world” implementation, maintenance, and adoption of MOM, since we did not offer financial or logistical assistance following the effectiveness trial, beyond what we would hope to provide any organization that inquired about the intervention.

Our ability to comment on long-term maintenance of the MOM program is limited by our focus on the 18-month time period following the conclusion of the RCT. In RE-AIM literature, maintenance is generally defined as the extent to which a program becomes institutionalized as part of an organization’s routine practices.^{19,20} These practices vary widely across organizations, as do organizations’ needs, interests, and resources, and thus it is difficult to determine a gold standard for successful maintenance. WIHA expects agencies that have been trained to offer an evidence-based health promotion program to offer the program at least annually. As many smaller organizations have limited capacity and/or interest among constituents to offer the same program more than once or twice per year, we defined successful maintenance as offering MOM more than once in the 18 months following the RCT. After WIHA introduces MOM across Wisconsin, we will better understand how communities receive the intervention and can assess broader and longer-term implementation, adoption, maintenance, and reach—the latter being the only component of RE-AIM not addressed by this study.

These results suggest that MOM is well-suited for dissemination and implementation among community agencies that serve older adults throughout Wisconsin and potentially beyond. Our partner-centered design and process significantly strengthened this study. By collaborating with WIHA and engaging study communities throughout the research process, we capitalized on the hybrid effectiveness-implementation study model and developed an intervention that not only reduced the burden of incontinence among participants, but also increased feasibility and sustainability for community agencies.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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REFERENCES

- Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation Hybrid Designs: Combining Elements of Clinical Effectiveness and Implementation Research to Enhance Public Health Impact. *Med Care*. 2012;50(3):217–226. doi:10.1097/MLR.0b013e3182408812 [PubMed: 22310560]
- Brown HW, Braun EJ, Wise ME, et al. Small-Group, Community-Member Intervention for Urinary and Bowel Incontinence: A Randomized Controlled Trial. *Obstet Gynecol*. 2019;134(3):600. doi:10.1097/AOG.0000000000003422 [PubMed: 31403596]
- Gorina Y, Schappert S, Bercovitz A, Elgaddal N, Kramarow E. Prevalence of Incontinence Among Older Americans. *Vital Health Stat*. 2014;3(36):1–24.
- Ditah I, Devaki P, Luma HN, et al. Prevalence, Trends, and Risk Factors for Fecal Incontinence in United States Adults, 2005–2010. *Clin Gastroenterol Hepatol*. 2014;12(4):636–643.e2. doi:10.1016/j.cgh.2013.07.020 [PubMed: 23906873]
- Miner PB. Economic and personal impact of fecal and urinary incontinence. *Gastroenterology*. 2004;126:S8–S13. doi:10.1053/j.gastro.2003.10.056 [PubMed: 14978633]
- Mather M, Jacobsen LA, Pollard KM. Aging in the United States. Population Reference Bureau; 2015.
- Litman HJ, McKinlay JB. The future magnitude of urological symptoms in the USA: projections using the Boston Area Community Health survey. *BJU Int*. 2007;100(4):820–825. doi:10.1111/j.1464-410X.2007.07018.x [PubMed: 17550412]
- Shamliyan TA. Systematic Review: Randomized, Controlled Trials of Nonsurgical Treatments for Urinary Incontinence in Women. *Ann Intern Med*. 2008;148(6):459. doi:10.7326/0003-4819-148-6-200803180-00211 [PubMed: 18268288]
- Diokno AC, Sampselle CM, Herzog AR, et al. Prevention of Urinary Incontinence by Behavioral Modification Program: A Randomized, Controlled Trial Among Older Women in the Community. *J Urol*. 2004;171(3):1165–1171. doi:10.1097/01.ju.0000111503.73803.c2 [PubMed: 14767293]
- Newman DK, Ee CH, Gordon D, et al. Continence promotion, education & primary prevention. *Incontinence Proc 4th Int Consult Incontinence Plymouth UK Health Publ*. Published online 2009:1643–1684.
- Sampselle CM, Newman DK, Miller JM, et al. A Randomized Controlled Trial to Compare 2 Scalable Interventions for Lower Urinary Tract Symptom Prevention: Main Outcomes of the TULIP Study. *J Urol*. 2017;197(6):1480–1486. doi:10.1016/j.juro.2016.12.099 [PubMed: 28049010]
- Griebing TL, Diokno A, Newman D, et al. Training fidelity and quality control in clinical behavioral research for urinary incontinence: The GLADIOLUS Trial. *Neurol Urodyn*. 2018;37:S633–S634.
- Wisconsin Institute for Healthy Aging - Home. Accessed January 6, 2020 <https://wihealthyaging.org/>
- Damschroder LJ, Aron DC, Keith RE, Kirsh SR, Alexander JA, Lowery JC. Fostering implementation of health services research findings into practice: a consolidated framework for advancing implementation science. *Implement Sci*. 2009;4:50. doi:10.1186/1748-5908-4-50 [PubMed: 19664226]
- Zerhouni EA. Translational and Clinical Science — Time for a New Vision. *N Engl J Med*. 2005;353(15):1621–1623. doi:10.1056/NEJMs053723 [PubMed: 16221788]
- Green LW, Glasgow RE. Evaluating the Relevance, Generalization, and Applicability of Research: Issues in External Validation and Translation Methodology. *Eval Health Prof*. 2006;29(1):126–153. doi:10.1177/0163278705284445 [PubMed: 16510882]

17. Ford JH, Abramson B, Wise M, Dattalo M, Mahoney JE. Bringing Healthy Aging to Scale: A Randomized Trial of a Quality Improvement Intervention to Increase Adoption of Evidence-Based Health Promotion Programs by Community Partners. *J Public Health Manag Pract JPHMP*. 2017;23(5):e17–e24. doi:10.1097/PHH.0000000000000503
18. Glasgow RE, Vogt TM, Boles SM. Evaluating the public health impact of health promotion interventions: the RE-AIM framework. *Am J Public Health*. 1999;89(9):1322–1327. [PubMed: 10474547]
19. Gaglio B, Shoup JA, Glasgow RE. The RE-AIM Framework: A Systematic Review of Use Over Time. *Am J Public Health*. 2013;103(6):e38–e46. doi:10.2105/AJPH.2013.301299
20. Harden SM, Gaglio B, Shoup JA, et al. Fidelity to and comparative results across behavioral interventions evaluated through the RE-AIM framework: a systematic review. *Syst Rev*. 2015;4(1):155. doi:10.1186/s13643-015-0141-0 [PubMed: 26547687]
21. Hsieh H-F, Shannon SE. Three Approaches to Qualitative Content Analysis. *Qual Health Res*. 2005;15(9):1277–1288. doi:10.1177/1049732305276687 [PubMed: 16204405]
22. Glasgow RE, Toobert DJ, Hampson SE, Strycker LA. Implementation, generalization and long-term results of the “choosing well” diabetes self-management intervention. *Patient Educ Couns*. 2002;48(2):115–122. doi:10.1016/S0738-3991(02)00025-3 [PubMed: 12401414]
23. Toobert DJ, Strycker LA, Glasgow RE, Bagdade JD. If you build it, will they come?: Reach and Adoption associated with a comprehensive lifestyle management program for women with type 2 diabetes. *Patient Educ Couns*. 2002;48(2):99–105. doi:10.1016/S0738-3991(02)00120-9 [PubMed: 12401412]
24. Dattalo M, Wise M, Ford JH II, Abramson B, Mahoney J. Essential Resources for Implementation and Sustainability of Evidence-Based Health Promotion Programs: A Mixed Methods Multi-Site Case Study. *J Community Health*. 2017;42(2):358–368. doi:10.1007/s10900-016-0263-x [PubMed: 27896504]
25. Wiener JM, Gage B, Rabiner DJ, Brown DW, Maier J, Mitchell N. Assessment of title III-D of the older Americans act: Disease prevention and health promotion services. Walth MA RTI Int. Published online 2006.
26. Dearing JW. Applying Diffusion of Innovation Theory to Intervention Development. *Res Soc Work Pract*. 2009;19(5):503–518. doi:10.1177/1049731509335569 [PubMed: 20976022]

Figure 1. Study Schema.

This figure provides a graphic depiction of the parent study, a type 1 hybrid effectiveness-implementation study, timeline and activities. During and following the randomized controlled trial (RCT) effectiveness portion of the study, workshop observers collected data about implementation with fidelity. Data about adoption were collected in the 12 months following the RCT and data about maintenance in the following 18 months. Input was solicited from community partners in an ongoing process through personal communication and formally during focus groups immediately after the RCT, 6 months later, and 12 months later (at the annual Stakeholder Advisory Board meeting). Implementation package materials generated during the trial were pilot tested with pilot dissemination by the Wisconsin Institute for Healthy Aging (WIHA) 16 months after the RCT concluded.

Table 1:

Descriptions of participating communities and workshop details

Community	Population	% Rural [*]	% age 65	Median Income	Workshop Location	Partner Organizations	Facilitator Status
A	78819	90%	25%	\$46,820	Senior centers (2)	ADRC [†]	Health promotion coordinator employed by ADRC
B	37025	8%	12%	\$75,511	Senior centers (2)	None	Paid consultant
C	11531	1%	18%	\$71,519	Senior center	ADRC	Caregiver programs specialist & supportive services coordinator employed by ADRC
D	12085	1%	17%	\$44,016	Senior center	None	Volunteer at senior center
E	28056	86%	19%	\$51,470	Healthcare center	ADRC	Volunteer from community
F	18671	0%	15%	\$74,027	Senior center	None	Volunteer at senior center

^{*} Rural is considered to be less than 2,500 people, according to definitions developed by the US Census Bureau.

[†] Aging and Disability Resource Center

Table 2:

Adoption and Maintenance Outcomes following the Randomized, Controlled Trial (RCT)

Community	Planned Adoption [*]	Achieved Adoption [†]	Achieved Maintenance [‡]	Workshops executed since RCT	Participants reached since RCT
A	Yes	Yes	Yes	6	58
B	Yes	Yes	Yes	2	25
C	Yes	Yes	Yes	2	21
D	Yes	Yes	No	1	8
E	No	No	No	0	0
F	Yes	No	No	0	0
Total	5/6 (83%)	4/6 (67%)	3/6 (50%)	11	112

^{*} Planned a workshop in 12 months following RCT

[†] Executed a workshop in 12 months following RCT

[‡] > 1 workshop in 18 months following RCT

Table 3:

Barriers to successful adoption and maintenance of MOM and solutions included in the implementation package materials

Identified Barrier	Proposed solutions in implementation package
Stigma associated with incontinence or reluctance to attend a workshop related to incontinence in a small community	<ul style="list-style-type: none"> • Messaging to raise awareness of the prevalence of incontinence • Advertising workshop for prevention as well as treatment • Emphasis on voluntary sharing of personal information during workshop
Financial cost	<ul style="list-style-type: none"> • Cost estimate to allow agencies to plan for offering MOM on an ongoing basis
Staff or volunteer effort or time commitment for implementation, marketing, and outreach	<ul style="list-style-type: none"> • Time commitment estimate • Pre-made, customizable materials for recruitment, marketing, and outreach • Tips for developing partnerships to spread out responsibilities
Identifying and training facilitators	<ul style="list-style-type: none"> • Minimal training requirements for facilitators, especially those who have experience with similar programs • Connection to WIHA network of trained facilitators across the state
Recruiting community partners to assist the primary agency with implementation	<ul style="list-style-type: none"> • Value propositions for specific community partners such as ADRCs, senior centers, or health care organizations