

# 5As Team obesity intervention in primary care: development and evaluation of shared decision-making weight management tools

A. M. Osunlana<sup>1</sup>, J. Asselin<sup>1,2</sup>, R. Anderson<sup>3</sup>, A. A. Ogunleye<sup>1,2</sup>, A. Cave<sup>2</sup>, A. M. Sharma<sup>1</sup> and D. L. Campbell-Scherer<sup>2</sup>

## What is already known about this subject

- Obesity is a prevalent, chronic condition which requires long-term prevention and management; as a result, it is imperative to address gaps to provision of obesity care in primary care, an ideal site for chronic disease prevention and management.
- Implementation of the 5As (Ask, Assess, Assist, Agree and Advice) of Obesity Management developed by the Canadian Obesity Network – Réseau canadien en obésité, funded by the Public Health Agency of Canada, has been found to increase weight management interactions between providers and patients in primary care. Despite these advances, we have observed lower rates of uptake of the 5As of obesity management in primary care than expected.

## What this study adds

- This study presents a unique process of developing tools which address barriers to implementation of evidence-based obesity management strategies in primary care.
- We present the 5As Team tool kit which was co-developed with front-line interdisciplinary providers to aid the implementation of 5As of obesity management in primary care.

<sup>1</sup>Department of Medicine, Obesity Research and Management, University of Alberta, Edmonton, AB, Canada; <sup>2</sup>Department of Family Medicine, University of Alberta, Edmonton, AB, Canada; <sup>3</sup>Edmonton Southside Primary Care Network, Edmonton, AB, Canada

Received 19 December 2014; revised 13 April 2015; accepted 18 May 2015

Address for correspondence: Dr AM Osunlana, Department of Medicine, Obesity Research and Management, University of Alberta, Li Ka Shing Center for Health Research Innovation, Room 1–116, 87th Avenue and 112th Street, Edmonton, AB, Canada T6G 2E1. E-mail: osunlana@ualberta.ca

**Trial Registration:** NCT01967797.

## Summary

Despite several clinical practice guidelines, there remains a considerable gap in prevention and management of obesity in primary care. To address the need for changing provider behaviour, a randomized controlled trial with convergent mixed method evaluation, the 5As Team (5AsT) study, was conducted. As part of the 5AsT intervention, the 5AsT tool kit was developed. This paper describes the development process and evaluation of these tools. Tools were co-developed by the multidisciplinary research team and the 5AsT, which included registered nurses/nurse practitioners ( $n = 15$ ), mental health workers ( $n = 7$ ) and registered dietitians ( $n = 7$ ), who were previously randomized to the 5AsT intervention group at a primary care network in Edmonton, Alberta, Canada. The 5AsT tool development occurred through a practice/implementation-oriented, need-based, iterative process during learning collaborative sessions of the 5AsT intervention. Feedback during tool development was received through field notes and final provider evaluation was carried out through anonymous questionnaires. Twelve tools were co-developed with 5AsT. All tools were evaluated as either ‘most useful’ or ‘moderately useful’ in primary care practice by the 5AsT. Four key findings during 5AsT tool development were the need for: tools that were adaptive, tools to facilitate interdisciplinary practice, tools to help patients understand realistic expectations for weight loss and shared decision-making tools for goal setting and relapse prevention. The 5AsT tools are primary care tools which extend the utility of the 5As of obesity management framework in clinical practice.

**Keywords:** Obesity, overweight, primary care, weight management implementation tools.

## The clinical problem

Obesity is a complex chronic condition frequently managed in primary care. In Canada, one in four adults is living with obesity (1). It is associated with an increased risk for a wide range of mental, mechanical and metabolic problems, which negatively affect patient's health-related quality of life. Like other chronic diseases, obesity requires long-term management. Evidence-based weight management guidelines (1), interventions and tools exist; however, there is a significant gap in their use in primary care (2–5). There is a dire need for effective strategies to breach the gap in the implementation of weight management in primary care practice (5).

Supported by the Canadian Institutes of Health Research and the Public Health Agency of Canada Innovation Strategy, the Canadian Obesity Network – Réseau canadien en obésité developed a novel framework and tools for obesity counselling and management – the 5As (ask, assess, assist, agree and advice) of obesity management (6). This framework is based on the 2006 Canadian Obesity Guidelines as well as expert opinion from experts and front-line health providers working in primary care (1). The implementation of the 5As of obesity management in primary care increases weight management interactions between healthcare providers and patients (2); however, there is a gap in its implementation in primary care (7). In order to address this, 5As Team (5AsT) study, a randomized controlled trial, was initiated in a primary care network (PCN), Alberta, Canada. The overarching objective of the 5AsT study is to increase the number and quality of weight management encounters in primary care, and as a subcomponent, the present paper addresses the creation of a tool kit that resulted from the 6-month learning collaboration of the 5AsT intervention. During the intervention phase of this trial, the multidisciplinary research team and the 5AsT, which includes registered nurses (RN), nurse practitioners (NP), mental health workers (MHW) and registered dietitians (RD) (7), co-developed an array of tools to support the integration of the 5As of obesity management into the 5AsT primary care practices. This paper describes the process of co-developing these tools and their evaluation by the primary care providers involved in this project.

## Methods

### Design and setting

The 5AsT study is a randomized controlled trial with mixed method evaluation to improve the number and quality of weight management encounters in primary care, within a large PCN in Edmonton, Alberta, Canada. The protocol has been published previously (7). This PCN is one of the first and largest in Alberta and serves an ethnically and socially diverse population and is reflective of an urban/suburban Canadian setting. It provides collaborative care for 46 community family practices in South Edmonton through dedicated interdisciplinary healthcare providers who are embedded in these practices and serve a population of over 192 655 Albertans. All stages of the project were carried out with the collaboration of the PCN. The study was approved by the University of Alberta Research Ethics board.

Participants

### Participants

The process of tool development involved the research team and the 5AsT participants. The research team consisted of: two external practice facilitators, an anthropologist, epidemiologist, family physicians, an obesity expert, public health experts and graphic designers. The PCN staff, 5AsT participants, included: a 29-member multidisciplinary team including 15 RNs/NPs, 7 MHWs and 7 RD, one of whom serves as a liaison internal practice facilitator (clinical champion). The 5AsT participants were previously randomized within their clinic teams to the intervention group of the 5AsT study (7).

### Tool kit development

In brief, to determine the content of the 5AsT intervention, the randomized participants collaboratively self-identified obesity management knowledge gaps and areas of implementation challenge with their patients, e.g. emotional eating, weight gain prevention, among others. Based on these topic areas, the 5AsT intervention was designed to include speaker sessions at biweekly learning collaborative meetings, practice facilitation, clinical champion support and weight management tool development. Several tools were brought to the 5AsT by speakers during the intervention, but only those co-developed with the 5AsT are discussed in this paper.

The tools were co-developed with the 5AsT through a participatory and iterative process for use in their practices. Key areas included the need for tools to facilitate interdisciplinary practice to help providers give consistent weight-related messages and perform comprehensive assessment of root causes of obesity outside their usual practice scope, streamlining complex patient visits for obesity management, time-efficient assessment of the 4Ms (mental, mechanical, metabolic and monetary) (8), dealing with unrealistic weight loss expectations, counselling on behavioural weight management targets, addressing weight relapse, weight gain prevention and communicating the physiological effect of stress and sleep on weight gain. Tools were developed over a 6-month period (October 2013–April 2014) at biweekly learning collaborative sessions, a gathering of the 5AsT to review lessons learned

from speaker sessions and brainstorming implementation plans. In an iterative process, the research team reviewed existing evidence in all identified topic areas and proposed several tools to the 5AsT to address their identified needs.

## Evaluation

As described previously, field notes were taken of all intervention sessions to monitor the implementation process and context (7). The 5AsT reviewed and critiqued proposed tools through group discussions and individual use of these tools in their practices. Feedback to the research team occurred through collection of field notes at learning collaborative sessions where these tools were discussed. Once a consensus was reached, tools were edited and refined. A final assessment was carried out with the use of anonymous questionnaires to evaluate the usefulness of all developed tools in these providers' practices. Providers rated the overall usefulness of handouts/tools developed for use, in their practice on a 7-point Likert scale. Responses recorded as 'excellent' and 'very good' were grouped as 'most useful', 'good' and 'satisfactory' were grouped as 'moderately useful', whereas 'poor' and 'very poor' were grouped as 'not useful'. This survey assessed provider acceptability and feasibility of further use in practice.

## Results

### 5AsT shared decision-making tools (5AsT tool kit)

#### Provider tools

*Physical activity prescriptions for patients with existing comorbidities.* This tool was developed as a result of the identified need for adapting existing physical activity recommendations (9) to comorbid conditions commonly seen in patients with obesity (Appendix S1).

*4Ms core messaging for interdisciplinary team-based care.* One of the core requirements of weight management is an interdisciplinary team approach (1). This tool (Appendix S2) provides key information to support the assessment of the 4Ms (8) for providers with different areas and levels of expertise.

*Obesogenic drug table.* This pocket tool (Appendix S3) is designed to alert providers to the obesogenic side effects of common medications (10–14). It highlights the need for longitudinal surveillance and prevention of weight gain.

#### Patient tools

These were created to address provider identified weight management counselling gaps. At the end of patient visits, patients are given these tools as handouts for further review.

*Stress and eating.* This handout (Appendix S4) was designed to help patients understand how their eating habits may be related to stressful life situations. It can be used either to assist providers in their conversations with patients or as a handout for patients.

*What is driving your hunger?.* This tool (Appendix S5) provides information to be used in counselling patients to help identify root causes of excess hunger. It can also be used as a patient handout.

*Obesity fact sheet.* This tool (Appendix S6) was created to address the gaps in patient's knowledge regarding weight management. It is an educative handout provided to patients at their visits to ensure patients receive evidence-based information regarding their weight and to ensure consistent messaging regarding weight management.

*5AsT sustaining the change: my relapse prevention tool.* Maintenance of achieved weight loss has been found to be a challenge for many patients. Studies have reported that greater than 50% of individuals return to their baseline weight after 3–5 years (15,16). The 5AsT expressed limitations in assisting patients in relapse prevention and as a result this handout (Appendix S7) was developed to be given to patients at visits to prepare them for prevention of relapse in weight management.

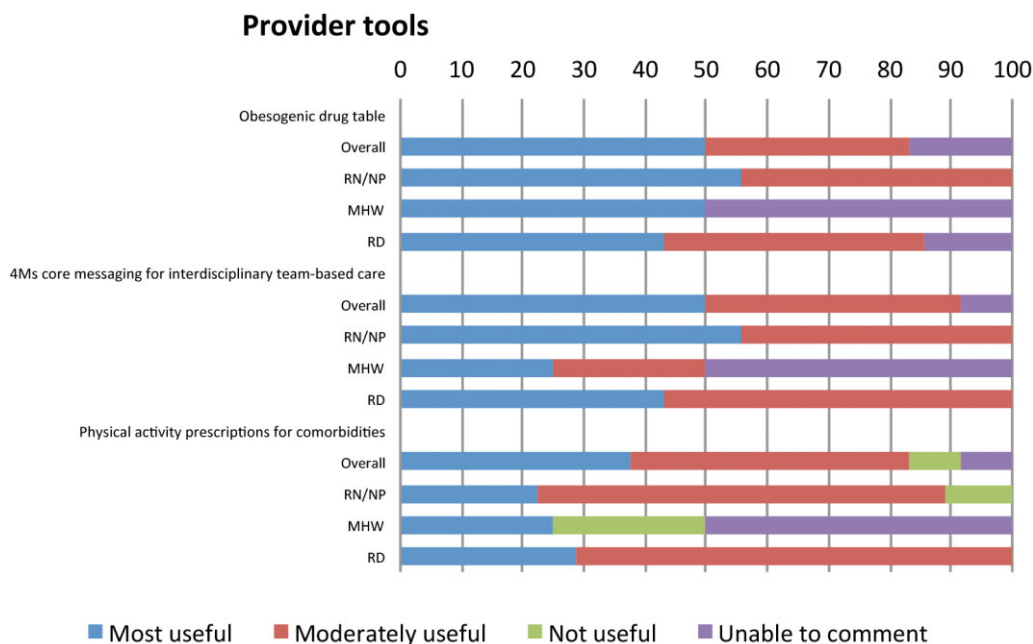
#### Patient–provider communication tools

These are tools created to facilitate meaningful communication between providers and patients.

*4Ms cards.* The 4Ms cards, a modified version of the 4Ms (8) (Appendix S8) are tools used to assess root causes and complications of obesity as well as barriers to management. These were designed to streamline comprehensive obesity assessment and assist providers to efficiently manage consultation time, a major limitation for some existing tool kits (17). A demonstration of its use can be found on YouTube: <http://youtu.be/vRtYo9sPJBI>.

*Patient decision-making tool.* This tool (Appendix S9) is meant to be used in conjunction with the 4Ms cards to structure the resulting conversation. The purpose is for the patient to reflect on both their strength and challenges, allowing them to decide where they would like to focus their efforts. A demonstration of this process can be found on YouTube: <http://youtu.be/vRtYo9sPJBI>. At follow-up visits, these goals are revisited and reappraisal of weight management progress is then carried out.

*Goal sheet.* This tool (Appendix S10) provides a space for patients to set SMART (specific, measurable, achievable, rewarding and time-bound) goals (18) and includes an easy



**Figure 1** Usefulness of 5As Team (5AsT) tool kit as graded by 5AsT providers: provider tools.

example to follow. In response to provider feedback, the SMART format was modified to include anticipated barriers and solutions. Both the patient and provider keep copies of this page and make notes regarding their plan.

*Weight loss vs. patient important health and wellness outcome graph.* The conceptual weight loss vs. Patient important health and wellness outcome graph (Appendix S11) has three key messages: the first being that weight loss will eventually plateau; secondly, that patients and physicians need to be aware of the gap between achievable and expected weight loss; and finally, that patient important health and wellness outcomes can continue to improve even beyond the weight loss plateau (19). It was created due to providers' expressed difficulties in assisting patients to develop realistic weight loss expectations. It also reminds healthcare providers to focus on long-term improvements in health and well-being rather than on achieving unrealistic weight goals.

*Weight regulation.* This serves as a communication tool between providers and patients to explain complex body processes involved in weight regulation (Appendix S12). Using the simplified and characterized body image on the sheet, providers can help patients understand their weight regulation in relation to factors such as poor sleep, stress or eating habits.

#### Evaluation of 5AsT tool kit

After 6 months of the 5AsT intervention, the providers were asked to rate the overall usefulness of the 5AsT tools

in their practice. Eighty-three per cent ( $n = 24$ ) of providers completed the survey. All tools were found to be predominantly 'most useful' or 'moderately useful' and more than half of the providers rated the following as 'most useful': weight loss versus patient important health and wellness outcome graph ( $n = 19$ , 79.2%), stress and eating ( $n = 14$ , 58.3%), obesity fact sheets ( $n = 13$ , 54.2%) and 4Ms cards ( $N = 13$ , 54.2%) (Figs 1–3). Furthermore, analyses reveal variations in the rating of 'most useful' tool among 5AsT providers by discipline (Figs 1–3).

#### Discussion

This paper describes the development process and evaluation of a series of obesity management tools through a participatory multidisciplinary intervention (5AsT intervention) to facilitate incorporation of the 5As of obesity management framework into primary care practice. In the course of this intervention, providers identified areas where they felt it would be helpful to have knowledge or shared decision-making tools to frame the conversation. Following an iterative process of tool development, practitioners used these tools in flexible ways in their encounters and reported that they helped them construct more efficient processes for integrating evidence into their obesity management practice. As an example, the 4Ms cards developed for this project were rated as a useful construct for the nurses, who often integrate obesity management in the course of other encounters (Fig. 3).

The evaluation of the final created 5AsT tool kit revealed variations in responses from the different disciplines

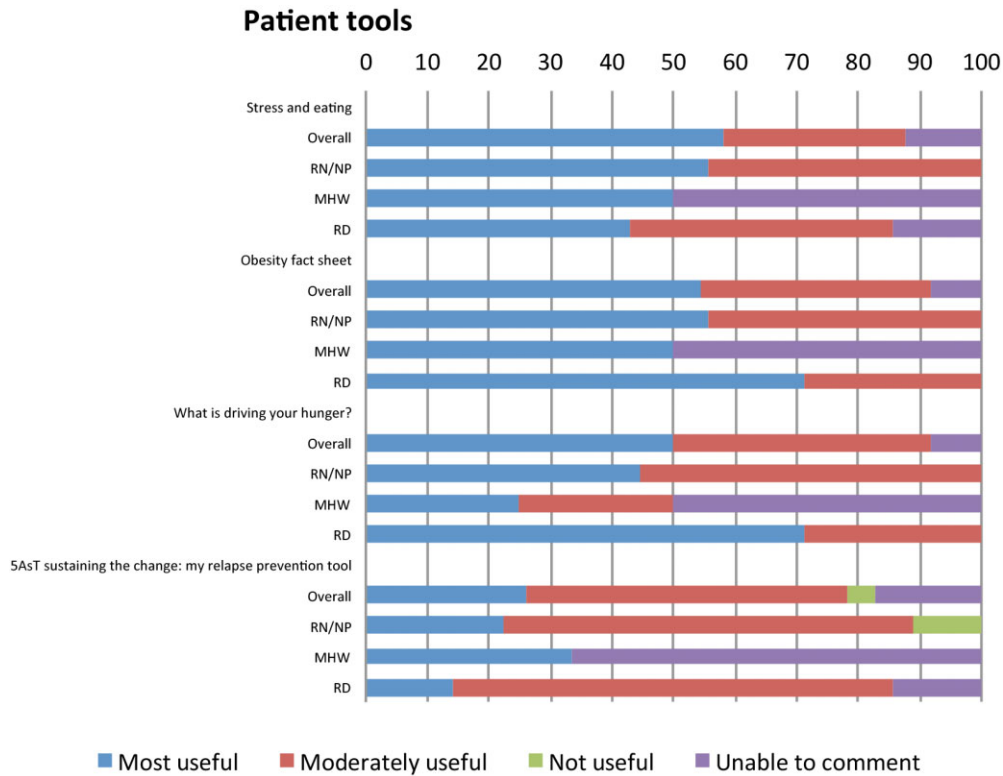


Figure 2 Usefulness of 5As Team (5AsT) tool kit as graded by 5AsT providers: patient tools.

regarding tool usefulness in their practice. This may indicate that some tools may be more acceptable or applicable to a particular discipline than others. Observed differences among disciplines may be explained by the differences in job descriptions, differences in work environment and lack of use of tools in practice during the implementation period. Overall, over half of the providers found the following tools most useful in their practice: weight loss vs. patient important health and wellness outcome graph, stress and eating, obesity fact sheets and 4Ms cards.

There are three main lessons learned from the tool development in the 5AsT study. Firstly, in order to support interdisciplinary team-based obesity care in primary care, it is important that all providers are giving consistent messaging and that they have confidence in identifying and addressing the root causes of obesity outside of their core discipline. The 4Ms core messaging for interdisciplinary team-based care booklet was created for this purpose.

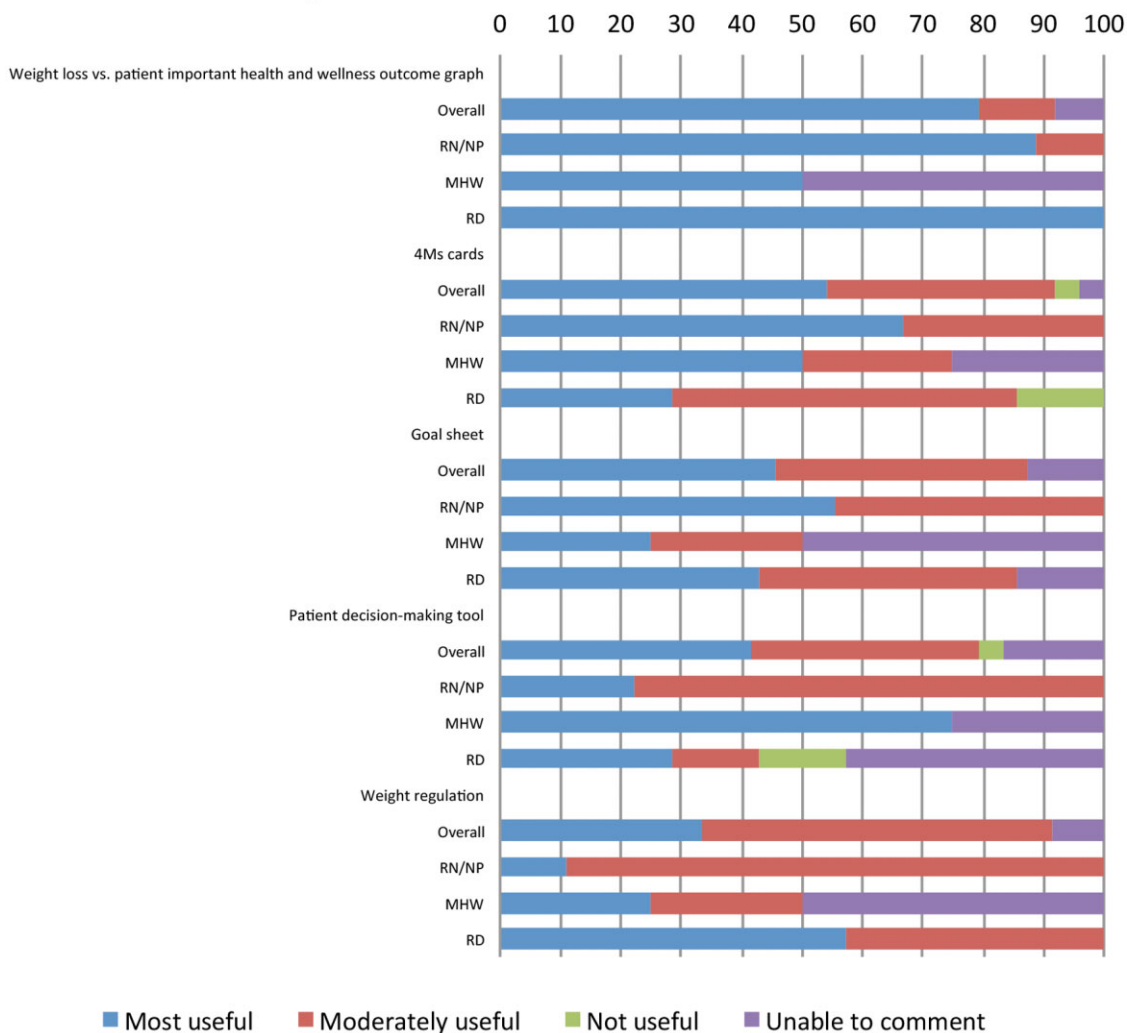
Secondly, unique encounters for obesity management seldom occur in primary care, rather obesity is incorporated in the management of multiple conditions in primary care (J. Asselin, unpublished data). There is a need for assessment tools that are simple, flexible and appropriate to the primary care context. Providers articulated that they preferred to use the 5As in a flexible approach, borrowing different aspects of it for use in different situations. The

5AsT tool kit was best used to augment each clinician’s personalized approach that they tailored to different patients.

Thirdly, one of the largest struggles articulated by providers was the need for promoting realistic weight loss expectations in patients. They felt that this was a sensitive topic with extensive misinformation perpetuated both by the public discourse as well as different healthcare providers. They very much wanted a pictorial way to discuss this with patients, which resulted in the conceptual drawing of the weight loss vs. patient important health and wellness outcomes graph. This chart allowed them to effectively deliver messages regarding the benefits of moderate exercise on the prevention of diabetes, while emphasizing that this might not result in more weight loss once patients plateau. It also allowed them to discuss the risks of relapse and the importance of prevention of weight gain.

A limitation is that the tool development and evaluation process was limited to primary care nurses, NPs, dieticians and MHWs. Future work will be needed to evaluate physicians’ and patients’ perceptions of the tools. Another limitation is that the practical utility of the tools was evaluated by healthcare practitioners, who were directly involved in the 5AsT intervention leading to them being well-versed in the 5As framework for obesity management. Thus, whether or not these tools will also be found

**Patient-provider communication tools**



**Figure 3** Usefulness of 5As Team (5AsT) tool kit as graded by 5AsT providers: patient-provider communication tools.

acceptable and helpful by healthcare providers unfamiliar with the 5As framework remains to be determined.

**Conclusion**

There is a need for strategies to improve the implementation of evidence-based clinical practice guidelines in shared decision-making discussions between providers and patients (20). The 5AsT tools help primary care interdisciplinary practitioners create scripts and approaches to facilitate rapid patient assessment, weight management counselling and shared decision-making to make obesity management more of a part of their routine practice. The implementation of a 5AsT tool kit may complement the existing 5As of obesity management suite of tools to facilitate obesity management in primary care.

**Conflict of Interest Statement**

Drs. Osunlana, Asselin, and Ogunleye, have nothing to disclose. Robin Anderson has nothing to disclose. Dr. Campbell-Scherer reports non-financial support from Edmonton Southside Primary Care Network and grants from Alberta Innovates Health Solutions during the conduct of the study. Dr. Cave reports grants from Alberta Innovates Health Solutions during the conduct of the study. Dr. Sharma is a member of an Advisory Board or equivalent with a commercial organization (Vivus: Consultancy for anti-obesity drug; Novo Nordisk: National [Canada] Advisory Board for anti-diabetes drug). He is also a member of a Speakers bureau (Vivus: Payment for development of educational presentations including service on speaker' bureau).

## Acknowledgements

AMO, JA, AAO, AC, RA, AMS and DLC-S conceived and designed the 5AsT study tools with support from 5As Team. AMO carried out all analysis. AMO, JA, DLC-S drafted this manuscript with all authors providing critical comments and revisions. All authors have read and approved the final version.

The Authors acknowledge our funder, Alberta Innovates Health Solutions, the in kind support from our collaborator, Edmonton South Side Primary Care Network, and graphic design support from Academic Technologies, Office of Education, Faculty of Medicine & Dentistry in the 5AsT Intervention Project.

## References

1. Lau DC, Douketis JD, Morrison KM *et al.* 2006 Canadian clinical practice guidelines on the management and prevention of obesity in adults and children [summary]. *CMAJ* 2007; **176**: S1–S13.
2. Rueda-Clausen C, Benterud E, Bond T *et al.* Effect of implementing the 5As of Obesity Management framework on provider-patient interactions in primary care. *Clin Obes* 2014; **4**: 39–44.
3. Abid A, Galuska D, Khan LK *et al.* Are healthcare professionals advising obese patients to lose weight? A trend analysis. *MedGenMed* 2005; **7**: 10.
4. Laws R, Counterweight Project Team. A new evidence-based model for weight management in primary care: the Counterweight Programme. *J Hum Nutr Diet* 2004; **17**: 191–208.
5. Beran MS, Fowles JB, Kind EA, Craft CE. State of the Art reviews: patient and physician communication about weight management: can we close the gap? *Am J Lifestyle Med* 2008; **2**: 75–83.
6. CON Primary Care Working Group, 5As for adults. URL [http://www.obesitynetwork.ca/5As\\_adult](http://www.obesitynetwork.ca/5As_adult) (accessed April 2015)
7. Campbell-Scherer DL, Asselin J, Osunlana AM *et al.* Implementation and evaluation of the 5As framework of obesity management in primary care: design of the 5As Team (5AsT) randomized control trial. *Implement Sci* 2014; **9**: 78.
8. Sharma AM. M, M, M & M: a mnemonic for assessing obesity. *Obes Rev* 2010; **11**: 808–809.
9. American College of Sports Medicine. *ACSM's Guidelines for Exercise Testing and Prescription*, 9th edn. Lippincott Williams & Wilkins: Philadelphia, 2013.
10. Gallo MF, Lopez LM, Grimes DA *et al.* Combination contraceptives: effects on weight. *Cochrane Database Syst Rev* 2014; (1): CD003987.
11. Leucht S, Cipriani A, Spineli L *et al.* Comparative efficacy and tolerability of 15 antipsychotic drugs in schizophrenia: a multiple-treatments meta-analysis. *Lancet* 2013; **382**: 951–962.
12. Lopez LM, Edelman A, Chen M *et al.* Progestin-only contraceptives: effects on weight. *Cochrane Database Syst Rev* 2013; (7): CD008815.
13. Malone M. Medications associated with weight gain. *Ann Pharmacother* 2005; **39**: 2046–2055.
14. Ness-Abramof R, Apovian CM. Drug-induced weight gain. *Drugs Today (Barc)* 2005; **41**: 547–555.
15. Wadden TA, Foster GD. Behavioral treatment of obesity. *Med Clin North Am* 2000; **84**: 441–461, vii.
16. Kramer FM, Jeffery RW, Forster JL, Snell MK. Long-term follow-up of behavioral treatment for obesity: patterns of weight regain among men and women. *Int J Obes* 1989; **13**: 123–136.
17. Stiff L, Vogel L, Remington PL. Evaluating the implementation of a primary care weight management toolkit. *WMJ* 2014; **113**: 28–31.
18. Latham GP, Locke EA. Enhancing the benefits and overcoming the pitfalls of goal setting. *Organ Dyn* 2006; **35**: 332–340.
19. Knowler WC, Barrett-Connor E, Fowler SE *et al.* Reduction in the incidence of type 2 diabetes with lifestyle intervention or metformin. *N Engl J Med* 2002; **346**: 393–403.
20. Hoffmann TC, Montori VM, Del Mar C. The connection between evidence-based medicine and shared decision making. *JAMA* 2014; **312**: 1295–1296.

## Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's web-site:

**Appendix S1.** Physical activity prescriptions for patients with existing comorbidities.

**Appendix S2.** 4Ms core messaging for interdisciplinary team-based care.

**Appendix S3.** Obesogenic drug table.

**Appendix S4.** Stress and eating.

**Appendix S5.** What's driving your hunger?

**Appendix S6.** Obesity fact sheet.

**Appendix S7.** 5AsT sustaining the change: my relapse prevention tool.

**Appendix S8.** 4Ms cards.

**Appendix S9.** Patient decision-making tool.

**Appendix S10.** Goal sheet.

**Appendix S11.** Weight loss vs. patient important health and wellness outcome graph.

**Appendix S12.** Weight regulation.