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Addressing Primary Care Providers' Confidence in the Management of Overweight and Obese Active-Duty Service Members Using the 5As Toolkit

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Author Note

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Abstract

Phase II Site(s): Butt's Army Airfield Clinic, DiRaimondo Clinic, Robinson Clinic at Ft Carson, Colorado

Project Title: Addressing Primary Care Providers' Confidence in the Management of Overweight and Obese Active-Duty Service Members Using the 5As Toolkit

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Background or Problem/Issue: In 2015, more than 65% of active-duty service members (ADSM) were overweight or obese and this percentage continues to increase. To further complicate this problem, less than half of all primary care providers address patient weight status at their periodic health examinations due to feeling uncomfortable, lacking time, or not feeling competent enough to work through the issue. With the transition of healthcare under the Defense Health Agency (DHA), providers must have confidence in their ability to manage their patients' care to ensure the Quadruple Aim is met—increased readiness and better health by providing better care at lower costs.

Clinical Question or Purpose: How can primary care providers at Soldier-centered medical homes at Ft. Carson, Colorado, increase their confidence and self-efficacy in managing and treating ADSM who are overweight or obese?

Project Design: This project was an educational intervention that supported the implementation and evaluation of a toolkit based on the 5As framework: Ask, Assess, Advise, Assist and Arrange. The toolkit includes numerous handouts for both providers and patients to help manage overweight and obesity.

Analysis of Results: Pre-and-post educational session/tool implementation revealed no difference in ICD-10 coding procedures or use of interventions for overweight/obese Soldiers. There was no change in using the 5As toolkit; specifically, no provider chose to use the framework before or after the educational session. Overall, survey results gathered from providers before and after the project educational session showed no difference.

Organizational Impact/Implications for Practice: This project came up against many barriers to intervention utilization resulting in limited provider attendance, increased virtual appointments, and a limited timeline for follow-up. Providers remain hesitant to address overweight and obesity due to these multiple barriers. Further research and education are required to find an easy and quick tool to help standardize the treatment of overweight and obese patients.

Addressing Primary Care Providers' Confidence in the Management of Overweight and Obese Active-Duty Service Members Using the 5As Toolkit

Being overweight or obese is well known to compromise a person's health status (Malkawi, Meeterns, Kremers, & Sleddens, 2018). Health complications often attributed to excess weight include hypertension, diabetes, fatty liver disease, musculoskeletal pain, reduced quality of life, and poor work performance (Malkawi et al., 2018). As health care professionals, it is imperative the management and treatment of patients who are overweight or obese receive care following established clinical practice guidelines (CPG) to facilitate a healthier population and military force (Malkawi et al., 2018). Standardization of the *VA/DoD Clinical Practice Guideline for Screening and Management of Overweight and Obesity* (VA/DoD CPG) and the 5As toolkit is one solution to this growing problem. The 5As framework is a mnemonic/algorithm (Ask, Assess, Advise, Assist, and Arrange) to guide the provider's conversation with a patient regarding their weight (Hazlehurst et al., 2014).

Significance of the Problem

According to the Centers for Disease Control and Prevention [CDC] (2018), 2015-2016 data revealed that nearly 40% and just over 93 million Americans are obese. The CDC (2018) also discloses that in 2008 the healthcare costs related to obesity averaged 147 billion and those categorized as obese spent $1,429 more than those who were not obese. Managing overweight and obesity as a provider is a significant issue that has recently come to the forefront of clinic life (Asselin, Osunlana, Ogunleye, Sharma, & Campbell-Scherer, 2015). Medicare and Medicaid recently suggested that providers offer weekly counseling appointments to patients that are overweight or obese for the first month and then biweekly counseling sessions for the next five

months (Asselin et al., 2015). These visits would likely increase provider workload, stress, rushed appointments, and substandard care potential (Asselin et al., 2015).

According to Asselin et al. (2015), the root of not addressing weight can be traced to the lack of knowledge and confidence providers have in addressing weight management with their patients. Less than half of providers discussed the issue of overweight or obesity during the patient's periodic health screening (Asselin et al., 2015). The lack of training and lack of time during the appointments result in the poor implementation of lifestyle modifications to improve the patient's overall health and prevent future complications (Asselin et al., 2015). Not addressing weight due to lack of knowledge or confidence is no longer an option in the readiness-focused Defense Health Agency (DHA) (Health.mil, 2013).

Relevance to Military Nursing

Overweight and obesity is a pandemic that has not escaped the active-duty population. The Health Related Behaviors Survey completed in 2015 found that over 65% of active-duty service members were either overweight or obese (RAND Corporation, 2018). The obese population was highest within the Army and among senior enlisted personnel with women being less likely to be obese than men (RAND Corporation, 2018). The military did meet the obesity goals of Healthy People 2020. However, the high percentage of service members categorized as overweight is a concern (RAND Corporation, 2018).

Complications of obesity within the military population result in more medical appointments, lost time at work, increased prescriptions/medication usage, and more monitoring of disease processes. The VA/DoD CPG (2014) states that overweight or obese patient care is estimated to cost an additional $370 per patient per year in medical costs. Poor healthcare utilization results in lost money, time and decreases the individual's quality of life. Providers

who are not confident to treat overweight or obese ADSMs contribute to impaired readiness thereby impacting the overall mission and reducing our uniformed services' total lethality. With the transition to the DHA, providers must bolster their education and confidence in their patient management to meet the goals of the quadruple aim; care that focuses on improved readiness by ensuring better health, better care, and lower cost-- the overall goal of the military health system (Health.mil, 2013).

Clinical Question

How can primary care providers at Ft. Carson, Colorado, effectively manage the overweight and obese active-duty population to ensure military mission success and efficient healthcare utilization?

Literature Review of Solutions

The PICO question used for the initial literature search is for adults between the ages of 19 to 64 years of age seen within primary care **(P)**, will implementation of a weight management tool based on clinical practice guidelines using a systematic delivery approach **(I)**, as compared to standard weight management practices **(C)**, result in increased provider confidence and self-efficacy **(O)**? The search assessed articles in CINAHL, Embase, and PubMed. A visual representation for each database search and the number of articles found through each search is in Appendix A. Age inclusion of 19 to 64 excluded studies that involved children and elderly. Exclusion criteria also included pregnancy. Exclusion criteria did not include year of publication. However, only recent articles published within the past 11 years were found to be relevant to the topic. As shown in Appendix A, after applying the aforementioned initial search terms, 121 articles were found. Once duplicates were removed, 111 articles remained. Of those 111 articles,

78 were excluded as irrelevant to the topic of interest. Thirty-three full-text articles were assessed for eligibility, and 17 additional articles were excluded as non-study articles, ongoing trials, abstract-only articles, wrong intervention, and print corrections. After applying all the exclusion criteria, there were 17 articles for inclusion in this project.

Review of Evidence

The 17 articles included in the synthesis provided evidence consisting of contextual factors affecting providers when discussing weight management: evaluating an obesity management tool in the primary care setting, determining the impact of an obesity management program on providers' self-efficacy, managing overweight or obese patients, and examining patient perspectives regarding weight management resources. Appendix B displays a brief synopsis of each study. The overall evidence-based solution incorporates key findings from each study.

Evidence-Based Solution

The 5As include: Ask, Assess, Advise, Assist, and Arrange. The 5As framework began as a tool for smoking cessation. However, since 1998, the 5As framework has continued to be incorporated into weight management strategies in primary care per the National Institute of Health guidelines as well as used for managing other chronic diseases (Hazlehurst et al., 2014). Rueda-Clausen et al. (2013) showed primary care providers who utilized the 5As framework for overweight and obesity management had a twofold increase in diagnosis and follow-up care. The utilization of the 5As demonstrated increased patient motivation to participate in lifestyle modifications (dietary modifications and exercise). Patient motivation continued to increase for each domain of the 5As used (Rose, Poynter, Anderson, Noar, & Conigliaro, 2012).

The Ask component represents the provider asking the patient if they feel open to discuss their weight, making sure to remove any bias or judgmental attitudes by asking questions and minimizing the use of statements (Vallis, Piccinini-Vallis, Sharma, & Freedhoff, 2013). The Assess component represents assessing anthropometric data to include waist measure, weight, body mass index and possible reasons for the weight gain (Vallis et al., 2013). The Advise component represents the provider educating the patient on the risks of being overweight or obese, the benefits of weight loss and discussing the implementation strategies and tools for long-term success (Vallis et al., 2013). The Assist component represents the provider assisting the patient in finding resources, assisting in finding and consulting with other health care professionals (mental health, dietician), and assisting the patient in identifying barriers to their weight loss (Vallis et al., 2013). Lastly, the Arrange component represents arranging future appointments for follow-up (Vallis et al., 2013).

The evidence-based solution is a tool kit developed by Osunlana et al. (2015). The kit consists of patient education handouts ranging from nutrition, physiology of weight gain (i.e., poor sleep habits), use of frequency, intensity, type, and time (FITT) framework for exercise management, and the effects of stress, mood, and medications have on weight gain. The kit also offers fillable goal sheets and relapse prevention sheets that address the effects of sleep, mood, and the physiological process that drives hunger. Providers were educated and trained on properly utilizing and implementing the 5As toolkit to assist in standardizing the management of overweight and obesity. This solution intended to improve the provider's confidence and self-efficacy in managing overweight or obese ADSM.

Focus Areas

This project consisted of four main focus areas: (1) educating providers regarding the implementation of the 5As toolkit concurrently with the VA/DoD CPG, (2) providers adopting the 5As framework, toolkit, and CPG guidelines into practice, (3) improving providers' confidence and self-efficacy in managing the overweight and obese ADSM population using the 5As framework, toolkit, and CPG and (4) evaluating effectiveness of the intervention after implementation. Education for the providers at Ft. Carson, Colorado, addressed the VA/DoD CPG's critical elements for overweight and obese patients embedded within the 5As toolkit. After educating providers , implementing and evaluating the evidence-based practice project took place.

Organizing Framework

The RE-AIM model guided the organizing framework for this project. According to Glasgow and Estabrooks (2018), each letter stands for a component of the model. The *R* signifies the *reach* component and describes the target population in varying aspects. The *E* signifies *effectiveness* and describes how the intervention implemented affected the measured outcomes like increased provider confidence and adverse outcomes. The *A* signifies *adoption* and describes the number of people or staff members that agree to implement the intervention and participate in program change. The *I* signifies *implementation* and describes the degree to which the staff adheres to implementing the intervention as intended. The *M* signifies *maintenance* and explains how the intervention and program change will be maintained if successful once completed (Glasgow & Estabrooks, 2018).

The RE-AIM model allowed for a natural breakdown of the project plan into manageable-sized chunks of data and is depicted visually in Appendix C. The data was then used sequentially throughout the development, implementation, and maintenance of this project. The Reach component included providers at Ft. Carson, Colorado. Reach consisted of evaluating the clinic's medical personnel for perceived roadblocks in engaging the patient about the diagnosis, implementing care, and current knowledge regarding diagnosis and management to include knowledge about the 5As framework toolkit utilization. There was a review of the electronic health record (EHR) to evaluate if providers utilized the 5As toolkit for every identified patient (Effectiveness). Adoption was using the EHR to ensure provider compliance in utilizing the 5As toolkit and to ensure the providers using the intervention were representative of the population of providers as a whole. Implementation was measured via the EHR to determine if providers utilized the toolkit, documented correctly, and addressed any adaptations required for the intervention's continued success. Finally, guidance for toolkit utilization was provided to all participating providers and the officer in charge of the clinic and utilized alongside the VA/DoD CPG for patient diagnosis and management of overweight and obesity to ensure the Maintenance phase of the RE-AIM model.

Project Design

General Approach

This project consisted of an education intervention and the implementation and evaluation of a toolkit based on the 5As framework. Starting with a retrospective chart review of 75 electronic health records (25 charts from each of the three participating clinics) with a documented BMI greater than or equal to 25, the team was able to determine whether providers

were following current guidelines in managing the overweight and obese ADSM population. Providers completed a survey prior to the education session establishing providers' knowledge base regarding managing overweight and obesity utilizing the 5As framework and toolkit. Educating providers via PowerPoint utilizing the 5As framework, the associated toolkit and a brief review of the VA/DoD CPG was conducted by the project team immediately after administering the pre-survey. A post-survey was administered approximately one month later establishing providers' new knowledge base. Reviewing 75 charts (25 from each clinic) approximately one month after education and providers implementing the intervention was performed by the project team in order to determine any changes in provider EHR documentation and utilizing the 5As toolkit.

Setting and Population

The population of interest was providers who delivered care to ADSMs belonging to Fort Carson, Colorado. The three clinics that participated were Butt's Army Airfield Clinic, DiRaimondo Clinic, and Robinson Clinic. The providers within these clinics were the unit of analysis. Fort Carson's medical treatment facilities serve nearly 25,000 ADSMs through three Family Medicine Clinics and five Soldier-Centered Medical Homes (Evans Army Community Hospital, n.d.; U.S. Army, 2019).

Procedural Steps

This project's goal was to implement the 5As toolkit to ensure the provider applied a systematic approach at each visit to manage overweight or obese active-duty personnel. Appendix D depicts the procedural steps identified below and Appendix E shows the timeline for project implementation.

A literature review was necessary to understand what current practices have proven strategies for managing overweight and obese individuals throughout primary care clinics. The clinics and providers chosen represent the population they serve, thereby excluding specialty clinics and the associated providers and those not serving ADSMs. Additional factors considered for clinic/provider selection were the prevalence of overweight or obesity in the population served. Another essential component was discovering current practices at Butt's Army Airfield, DiRaimondo, and Robinson clinics. Using the 5As toolkit as a standardized practice was a critical element of this project requiring a review to ensure the 5As toolkit complies with current guidelines (VA/DoD CPG). It was necessary to implement the most appropriate and up- to -date resources on overweight and obesity management to ensure providers received proper training.

A pre- and post-education self-assessment survey was given and completed by the providers within the selected clinical areas to assess self-competency in managing and treating the overweight and obese patient population. The providers completed a pre-education self-assessment survey before any educational intervention by the project team. Dr. Melanie Jay, the lead author of "Do Internists, Pediatricians, and Psychiatrists Feel Competent in Obesity Care?" provided the provider's surveys. Permission for the use of this survey is in Appendix F. Providers were given education via PowerPoint regarding using the 5 A's toolkit and active engagement with the overweight and obese patient population. Education was also provided regarding correct documentation within each patient EHR - to include documentation using ICD-10 codes for overweight and obesity. There were periodic checks of patient's charts and provider documentation in the EHR to ensure adoption and implementation phases were progressing. The EHR is compliant if the provider used an appropriate ICD-10 code, documented the use of the

5As toolkit, and the plan of care followed the checklist found in the VA/DoD CPG. If there were any missing components of the criteria above, the EHR chart is noncompliant. Distribution and collection of a post-education self-assessment survey, consisting of the same questions from the pre-education survey, was performed in February and March 2021, approximately one month after receiving the initial education. The survey included the initial providers who completed the pre-education survey in January 2021. As seen in Appendix G, the data was analyzed using computer programming to determine the intervention's effectiveness.

Data Analysis Plan

The solution had one independent variable (provider educational training), a process measure, and two dependent variables (provider confidence/perceived self-efficacy and documentation/toolkit compliance), outcome measures. To implement the solution, the primary care provider's education on using the 5As tool was paramount. The goal was to train 80-100% of the provider staff in the three clinics. Due to deployment schedules, leaves, temporary duty assignments, and other barriers not foreseen at the start of this project discussed below; this was impossible. There was no specific data on the percentage of staff trained to see a significant difference in practice changes in the literature reviewed.

The evaluation of dependent variables of provider confidence/self-efficacy and documentation compliance was through the administration of a pre-and post-survey of the 5As/5As toolkit training and retrospective chart audits respectfully. The literature review did not note a percentage difference that was significant in the provider's pre-and post-survey scores. However, the research did note an increase in using the 5As Assess and Assist components and patient follow-up. Additionally, the literature did not suggest what constitutes a compliant chart.

A detailed data analysis of non-parametric statistics was necessary for evaluating these variables — the data analysis plan is found in Appendix G.

Potential Barriers

A potential barrier that is always of concern in any project implementation is participation from clinic staff implementing the new solution. This implementation project did not expect 100% participation at Butt's Army Airfield, DiRaimondo, or Robinson clinics. The goal was to have one large clinic at Ft. Carson to have 80% staff participation. However, we used the three participating clinics listed previously due to leadership requests. Regular training and education were to be provided to clinic staff for motivation and help ensure adherence to the intervention and include providers who may not have attended the initial education session.

The development of COVID just prior to the start of this project was another potential barrier that progressed throughout project implementation. While COVID did not impact the development and literature review of this project starting in 2018, COVID proved to be an added potential barrier for consideration prior to physical initiation of this project starting in 2020.

Finally, time is a limiting factor is many projects. This is no exception for this project. While one year is provided at our site locations, this time is cut short by the time it takes to move, in-process into the new facility and start the electronic institutional review board (eIRB) process. The project team anticipates time as a potential barrier to allow for full project implementation and completion. The full impact of these potential barriers on the outcome of our project is discussed below.

Sustainment and Dissemination Plan

The 5As toolkit intervention was ineffective, as discussed below. However, to fulfill the RE-AIM framework's maintenance phase, the 5As toolkit, VA/DoD algorithm tree and a template for charting use were provided electronically for continued use as a resource for utilization. The team presented the completed project at Uniformed Services University research week to 2021 graduates and faculty. The team also presented project findings to the leadership and the Project Improvement Board at Evans Community Hospital at Ft. Carson.

HIPAA Concerns/Ethical Considerations

Surveys were administered to providers pre-and-post education session to assess provider knowledge regarding overweight and obesity management. These surveys were anonymous. Another outcome measure was the implementation of the 5As toolkit by reviewing the EHR for appropriate documentation. The intervention did not use personally identifiable information during the retrospective chart review before project implementation or the chart reviews used to check for intervention utilization. All project team members remained current on HIPAA training throughout project planning, implementation, and completion.

Project Results

A total of 17 providers attended training: nine physician assistants, one nurse practitioner, two medical doctors, two doctors of osteopathic medicine, one pharmacist, and two registered nurses. An examination of 75 chart audits before and 75 chart audits after the project educational session did show that each of the three clinics had service members that met the criteria for being classified as overweight or obese, as seen in Appendix H. However, these 150 chart audits revealed no statistically significant change ($p = 1$, Fisher's Exact Test) in ICD-10 coding

procedures. It also revealed no statistically significant change ($p = 0.6811$, Fisher's Exact Test) in overweight Soldier's interventions, as seen in Appendix I. There was also no change using the 5As toolkit; specifically, no provider chose to use the framework before or after the project educational session.

Of the 17 medical professionals who attended the educational training, 14 completed the pre-survey, and 10 completed the post-survey. A Mann-Whitney U test with continuity correction was conducted to determine whether there was a difference between providers' survey before and after the project educational meeting. Results of the analysis is Appendix J. Responses to question 21, whether the provider thought that most obese patients could reach a normal weight if they were motivated to do so, was the most impactful change and depicted in Appendix K. Question 10 and question 28, whether providers were confident in prescribing a plan for exercise/physical activity and if the provider had been successful in treating obesity also showed greater differences when compared with other survey questions. Responses to these questions demonstrated a shift from selecting 1 and 2 to selecting 3 and 4 on the Likert scale between pre- and post-surveys. These results may suggest an improved provider confidence when assisting patient's with self-motivation, prescribing a plan for physical activity, and being successful in treating obesity.

Analysis of Results

There is no ability to determine the effectiveness of the 5As toolkit as an educational tool due to lack of provider participation. There was no difference between pre-and post-education/tool implementation of ICD-10 codes or weight management interventions. Overall, there was no significant difference between pre-and post-survey. The lack of significant

difference suggests that this evidence-based practice project was unable to overcome barriers to implementation despite education and tool implementation.

Barriers/Limitations

There were many barriers to project implementation and completion. The novel Coronavirus changed how every person goes about their life. This highly affected the medical and military communities as professionals worldwide clamored about working effectively and maintaining patient and provider safety. Other barriers included provider concerns about implementation and follow-up for their patients. These concerns are depicted in a word cloud in Appendix L. Finally, the long-standing Army Body Composition Program (ABCP) had an unexpected effect in how providers managed their overweight/obese patients and implementation of this intervention as providers may be less likely to intervene using the 5As toolkit as the Solider is already receiving certain interventions through the ABCP.

Timeline Delay

Delayed personal change in station related to COVID lockdown and isolation for team members contributed to delayed processes down the line to start project implementation including starting the eIRB process conducted by Ft. Carson. This delay substantially changed our schedule and allotted time to conduct our project intervention. The original schedule was pushed back seven months for the project initiation (selecting participating clinics and providing intervention education) and six months for process intervention to take place, which only allowed for one month for intervention implementation. This delay took away the opportunity to reach more providers, remind participating providers monthly about the implementation, less time to acquire more provider participation with repeat educational sessions and the lost

opportunity to have multiple months to gather data. This delay could be a key reason participation in the intervention was non-existent; the providers did not receive reminders about the use of the intervention and project expectations despite training one month prior. Other considerations for not partaking in intervention implementation are listed below in provider concerns. With only a small percentage of the clinic providers who participated in the educational session, this also severely limited the intervention's potential impact.

COVID-19 Considerations

COVID concerns changed the delivery of medical appointments. Many have changed to being conducted virtually rather than face-to-face appointments where an accurate height and weight can be accomplished instead of virtual appointments that may not have any height/weight documented. If so, this measurement is only stated and may not be accurate. If there is no height or weight documentation, a BMI cannot be calculated, and the intervention cannot be provided based on that current visit. COVID also changed the provider schedule with limited providers at one time in the clinic, limiting training options. The commander over the three clinics preferred face-to-face training over virtually conducting training. For example, the Robinson clinic only had two full-time providers in the clinic on a regular basis and another provider that came in twice a week every other week.

Provider Concerns

Upon completion of the education providers were allowed to voice concerns regarding implementing the 5As intervention. First, many providers voiced concern over leadership involvement being key to success on varying levels. One provider stated many shops are undermanned already and leadership has historically pushed back on service members missing work to get the care they need but care that is suggested within the VA/DoD CPG and the 5As

toolkit (mental health visits, nutrition visits, etc.). Providers stated they are reluctant to diagnose and chart a plan for overweight/obesity if they have no option to pursue these interventions, especially due to difficult leadership circumstances. Leadership sees these visits as time away from the mission, thus impairing the mission. Kelleher et al. (2017) found the same barrier in their qualitative study, examining barriers and facilitators to implementing a childhood weight management program in Ireland. Organizational support (leadership) was seen as a substantial barrier and a critical component for success in implementing weight management programs.

Another concern came from Butt's Army Airfield Clinic, where providers empanelment includes service members specialized to work the flight line. The providers voiced concern that this project did not apply to this clinic as once ADSMs are diagnosed as obese, they are removed from their jobs or reclassified. The project team did state there are current overweight ADSMs, and the 5As intervention should be implemented with this diagnosis (not just obesity) to help prevent obesity. A second provider in this clinic voiced their concern regarding BMI and the accuracy of measurement. This clinic is one where many services members are extremely fit and muscular, resulting in a larger BMI that could classify them as overweight/obese. The project team discussed that BMI, while not the most accurate, was the easiest way to track standards within the electronic health system record at this time. However, providers should relate the BMI measurement to the patient sitting in front of them. Providers could still meet standards for implementation with acknowledging the BMI, but then commenting on patient appearance and health status in the electronic health record plan to why they were not diagnosed with overweight/obesity. One provider did do this in the chart reviews.

Army Body Composition Program

The team found it essential to consider the ABCP as a barrier. Soldiers that fail height/weight and body fat standards receive a referral to the ABCP. Through this program, Soldiers are provided counseling, receive nutritional education, and establish a Soldier Action Plan to meet/maintain body fat standards. Commanders and supervisors are responsible for the implementation and evaluation of the ABCP. At the same time, healthcare personnel are responsible for assisting with nutritional/weight reduction counseling in the absence of a dietician and identifying, managing, or making appropriate referrals if indicated (Department of the Army [DOA], 2013).

One provider voiced his concern that Soldiers were rarely if ever, referred for medical evaluation upon enrollment into the ABCP. This program only requires referral for medical evaluation under certain stipulations such as requested by the Commander or Soldier, if the Soldier is being considered for separation, or is within six months of the expiration of terms of service after reenlistment bar for failure to make satisfactory progress within the ABCP (DOA, 2013). This lack of medical referral may negatively impact a provider's ability to address weight as they are not required for weight management interventions. In turn, this may lead providers not to intervene or utilize educational tools such as the 5As toolkit as the Soldier is participating in a weight management program. Kelleher et al. (2017) found similar concerns among providers listing multidisciplinary teams. A service member would see being a part of this program, challenging inefficient patient management due to miscommunication, different goals, backgrounds and perspectives.

Organizational Impact

Recommendations for clinical practice change from the project team include more provider and provider team training to increase awareness of service members who are overweight or obese. During post-intervention chart reviews, there were many appointments for annual wellness visits or future appointments with a chief concern related to weight, where weight was not discussed and not coded. The medical screener should get an accurate height and weight with a calculated BMI and report to the provider. The screener could ask the patient if they would like to discuss their weight with their provider at this appointment to incorporate the first A before the provider sees the patient. Lack of acknowledgment of the service member's BMI at these appointments shows a need for a clinical practice change.

There is also a need for leadership of the clinics and leadership military wide to be aware of the problem of overweight and obesity and become involved to allow successful interventions to occur. Leaders must be flexible with their providers to allow them to attend training and allow flexibility to book longer appointment times to accomplish intervention goals. Leadership on the rest of the base and the larger military as a whole must be flexible in order to allow their members to seek the care they need and understand that this is not a detriment to the mission.

Future Directions for Research and Practice

While many barriers impacted this project's outcome, the hesitancy among providers in the selected clinics to discuss weight and its management was still very palpable. This hesitancy would likely still be present even with perfect pre-COVID conditions. Future directions for research and practice should look at the primary care manager's caseload in the DHA, 20 appointments at 20 minutes each a day, and assess what tool would be most efficient for primary

care managers to standardize and utilize. The allotted time to provide these necessary interventions in the primary care clinic is challenging to say the least. This intervention was not the first to identify that the heavy workload and primary care provider buy-in to the primary care clinic intervention was a main determinant in successful adoption. Gesthalter et al. (2017) identified the same hesitancy among primary care providers when evaluating the adoption of early lung cancer screening programs. While providers did not protest against the evidence for early lung cancer screening, as providers at the three clinics for the 5As intervention did not object to the evidence behind the 5As intervention, providers did bulk against the strategies made in order to implement the intervention (Gesthalter et al., 2017). There was an underlying assumption by the project team that the 5As toolkit would be an easy implementation. Providers appeared hesitant at yet another tool and aspect of a visit they now needed to address and chart. Future research concerning the 5As toolkit utilization in the military setting could focus on one large clinic with maximum provider and provider team (medic and nursing staff) education and participation with a goal of 80% and longer intervention time to ensure proper follow-up with providers. Longer time can allow for interventions about provider concerns (more education, education of leadership etc.) for more likely positive outcomes. Gesthalter et al. (2017) notes support for this recommendation as the early lung cancer screening facilitation was one that utilized a program site champion with comprehensive and extensive planning for successful implementation.

Conclusion

Overweight and obesity continue to be an epidemic within the United States; therefore, it is no surprise that the conditions affect those serving in the military. Providers experience difficulty addressing the weight of ADSMs due to lack of knowledge, time, and lack of

resources. Not addressing weight with ADSMs negatively impacts health and military readiness. Unfortunately, due to unforeseen barriers, the 5As toolkit intervention was not successful; however, if the barriers listed are resolved, the 5As toolkit would be an excellent guide and help standardize how military primary health care providers manage overweight and obese ADSM.

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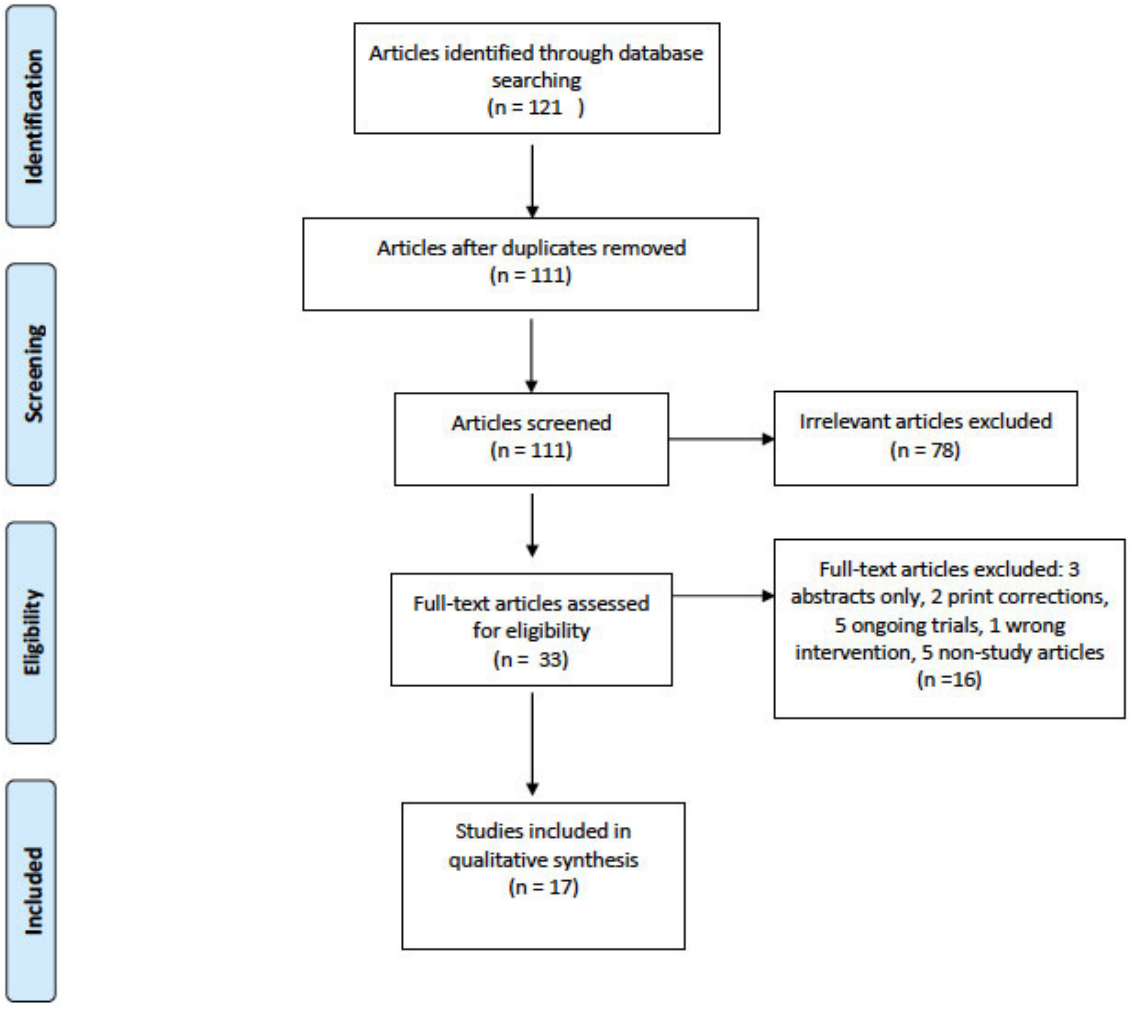
Appendix A

PRISMA Flow Diagram



Note. Adapted from *PRISMA: Transparent Reporting of Systematic Reviews and Meta-analyses.* Retrieved from http://prisma-statement.org/PRISMAStatement/FlowDiagram. Copyright 2015 PRISMA.

Appendix B

Evidence Table

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Asselin et al., 2015	Explore how primary care providers incorporate weight management into their practice	Conversations regarding obesity and physical activity are not happening. Lack of resources, training, and time are reported as reasons for poor implementation of lifestyle interventions.	Qualitative Semi-structured interviews and field notes of intervention sessions	29	Convenience sampling of 24 interdisciplinary Primary Care Network (PCN) teams	5 As Team (5AsT) design	Contextual factors that could influence the outcome measure of the 5AsT impact (qualitative outcome)
Asselin et al., 2016	Identify contextual factors that could influence the ability of providers to discuss weight with their patients	Effective interdisciplinary team care is imperative in managing overweight and obese patients	Qualitative interviews, structured field notes, and logs	29	Convenience sampling of 24 interdisciplinary Primary Care Network (PCN) teams	5 As Team (5AsT) design	Staff perception of effective interdisciplinary team care (qualitative outcome)
Asselin et al., 2017	Understand interdisciplinary health care providers perspectives of the intervention's impact on their clinical practices	Primary care providers do not feel equipped to address obesity prevention and management with their patients. Using the 5As Team intervention, the authors aim to increase the frequency and quality of obesity management in primary care by changing the behavior of interdisciplinary health care providers.	Qualitative semi-structured interviews, field notes, practice facilitator diaries, and questionnaires	29	Convenience sampling of 24 interdisciplinary Primary Care Network (PCN) teams. All practitioners from the intervention group of the 5As Team Study were included.	5 As Team (5AsT) design	Participant perceptions about how the intervention affected their management of obesity in clinical practice (qualitative outcome)
Campbell-Scherer et al., 2019	To assess whether a co-created educational intervention would increase the quantity of obesity visits conducted by family practice nurses	Whether a 6 month team based learning collaborative with educational components developed to specifically address nurse practitioners' perceived needs would be effective at changing their approach in obesity management	Randomized Controlled Trial with convergent mixed-methods evaluation. Allocation concealed and blinded and pragmatic design	n=24 distinct teams of nurses, dietitians, and mental health workers	Teams randomly assigned to educational intervention to include 5A's obesity management or theoretical domains framework or regular training	12 2 hour educational sessions on 5A's framework	Number of nurse visits related to adult obesity care

Author	Stats tests	Results	Strengths	Weaknesses	Quality
Asselin et al., 2015	Thematic analysis to determine themes in qualitative data using NVIVO software	Healthcare providers usually do not address obesity as a primary focus for a visit. Obesity is embedded in a wide range of primary care encounters for other conditions. Weight is seen as an issue within other types of medical visits rather than a presenting discreet issue.	Identified that approaches or interventions that assume a discreet weight management visit are unlikely to be successful.	No physicians were included in the study. Study only included clinics within the PCN, which may not be an accurate assessment of overall population.	IIIb: Qualitative study
Asselin et al., 2016	Thematic analysis to determine themes in qualitative data using NVIVO software	Clinic environments are key factors in interdisciplinary obesity management--communication between providers and ability to communicate new evidence or suggest trying new interventions (despite knowledge of intervention advantage, a provider may not communicate to other providers d/t feeling uncomfortable). Need to develop a shared messaging model of communication between specialties	Looked at how the environment can greatly impact the interdisciplinary team.	No physicians were included in the study. Study only included clinics within the PCN, which may not be an accurate assessment of overall population.	IIIb: Qualitative study
Asselin et al., 2017	Thematic analysis to determine themes in qualitative data using NVIVO software	Participants reported that they believed in and accepted the core program messaging. Increased participant willingness to ask their patients about obesity management. Increased interdisciplinary work among nurses, dietitians and mental health workers. Increased awareness of clinic practices that compromised patient dignity and comfort.	Facilitation of multi-faceted approach has a positive impact on communication and teamwork. Explored participant reported interactions with patients and allowed insights into better organizations in primary care clinics.	Physicians, reception staff, clinical assistants, clinic managers, and patients were not included in the study. Study only included clinics within the PCN, which many not be an accurate assessment of the overall population.	IIIb: Qualitative study
Campbell-Scherer et al., 2019	Mann-Whitney test, generalized estimating equation analyses with negative binomial distribution used to compare weight management encounters	No significant increase in obesity visits over 6 or 9 months. However, provider confidence, views of obesity management, role identity, and team and patient relationships were found to affect the individual nurse's uptake of the intervention	Conducted within a large primary care network-- representative of the population; participants blinded to primary outcome measure, data included 9 months post intervention to analyze sustainment	Power of 77%; statistically significant results not achieved between intervention and control arms, small sample size and large confidence intervals, large variation in clinical practice	Ib: RCT

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Iyer et al., 2018	To evaluate obesity counseling competence among residents in a primary care training program.	Teaching residents obesity counseling skill using the 5As framework will improve their obesity counseling competence and perception of their ability to counsel patients to lose weight.	Pre and Post education intervention survey	19	Convenience sampling of primary care residents	Nominal: Provider Obesity curriculum	Ordinal: Pre and Post educational surveys using 4-point Likert.
Jay et al., 2008	To determine the expressed needs of residents and faculty regarding obesity care training across three platforms.	Physicians must effectively evaluate and treat obesity. Design a needs-driven curriculum intended to improve patient outcomes, physicians were surveyed about self-perceived knowledge and skills.	Survey assessing physicians perceived competency in treating and preventing obesity through a review of comprehensive curriculum and clinical recommendations.	315	Convenience sampling of all senior residents at New York University SOM.	Online survey	Ordinal: competency - Likert 4 point scale; Interval/Ratio: Percentages of residents in various categories (e.g. training level, specialty)
Jay et al., 2010	To describe the quality of physicians' obesity counseling and to determine associations between the quality of counseling and obese patients' motivation and intentions to lose weight, key predictors of behavior change.	Physicians are encouraged to counsel obese patients to lose weight, but studies measuring the quality of physicians' counseling are rare	Post visit surveys with obese patients to assess physician's use of 5As counseling techniques.	137 patients of 23 primary care residents	Covenience sampling of all 23 primary care residents at New york University and their patients with identified through BMI screening.	5 hour obesity counsling training for primary care physicians/residency program that emphasized behavior change counseling	Interval/ratio: post visit survey of whether the physician perfomred 18 literature-derived 5A related counseling skills

Author	Stats tests	Results	Strengths	Weaknesses	Quality
Iyer et al., 2018	McNemar's or Fisher's exact tests; Paired T tests; Chi square	The curriculum had a positive impact on residents' ability to perform key obesity counseling skills. There was significant improvement in Assess, Advise, and Assist. The proportion of residents with a lowered level of self-assessed competence decreased post-curriculum from 75% to 37.5%.	Focus is specific to provider level, highlights need for education to improve competency.	Small sample size, residents were required to take training, no control group. Does not address patients perceptions or outcomes of obesity counseling.	IIb: Quasi-experimental study
Jay et al., 2008	ANOVA, Pearson correlations, t-tests, chi-squares were performed on continuous and categorical variables	The mean score for 'assist' (2.6) was significantly lower than all the other competencies, followed by 'agree' (2.7), which was significantly different from every category except 'arrange'. The repeated measures ANOVA analysis found an interaction between specialty and 5As competencies, with Psych reporting significantly lower competency in 'assess' and IM reporting significantly lower competency in 'arrange' than the other special- ties. Additionally, for the 'advise' category, an interaction between physician level (faculty vs resident) and specialty was identified, with IM faculty scoring higher than residents.	Identified important areas to focus for future curriculum development, implementation, and evaluation. With 1 in 5 rating themselves as inadequate in every item and the fact that 60% could not adequately use motivational interviewing to change behavior, indicates a clear need for targeted evidenced based-curricula.	Identified areas of need, further studies will be needed to determin efficancy of any curricula developed from these results.	IIIb: Non-experiemental study
Jay et al., 2010	Oneway ANOVA with Bonferroni post hoc analysis	Resident physicians counseled most of their obese patients about weight. However, they used only a handful of possible 5As skills as part of obe- sity counseling. Much of the focus of the counseling appeared to involve assessing rather than assisting or arranging. Patients with higher levels of motivation and intentions reported receiving more 5As counseling techniques than those with lower levels. Each additional counseling practice was associated with higher odds of being motivated to lose weight, intending to eat better and intending to exercise regularly. Patient cneteredness was also positively associated with intentions to eat better and exercise.	Indetified that a key areas of behavior change counseling is patient-centeredness.	Only 12 of the 23 residents received the obesity counseling training, therefore accurate correlations between training and outcomes cannot be established.	IIb: Quasi-experimental study

Author	Stats tests	Results	Strengths	Weaknesses	Quality
Jay et al., 2010	T-tests and chi-square to assess differences between groups; multivariate analysis (logistic regression/linear regression) to assess impact of curriculum	No differences in counseling rates—all residents counseled a large percent of patients (72%). While the intervention group consistently used more 5As counseling practices, these differences were not statistically significant. Being seen by a resident in the curriculum group was associated with receiving higher quality of counseling, 5% increase.	Provided evidence that obesity counseling is being conducted, but also provided evidence that with more formal education regarding counseling that quality of counseling can be impacted.	Small sample size, not controlled/blinded leading non-education group to have learned or been assisted by intervention group residents.	IIb: Quasi-experimental study
Jay et al., 2013	Independent t-tests, Fisher's exact	Patients of residents who completed 5As based obesity counseling curriculum lost more weight than patients of residents who had not completed the curriculum.	Shows that there is value in evaluating the impact of provider training interventions on physician behavior and patient outcomes.	The amount of weight loss was small, may not be clinically significant. Nearly half of the patients did not follow up, leading to their inclusion to mean no statistical significance.	IIb: Quasi-experimental study

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Jay et al., 2010	To assess the impact of an obesity counseling curriculum for residents.	It is uncertain whether training improves physicians' obesity counseling. When combined with office management strategies, training physicians to perform the 5As produced greater lipid control and weight loss9 in patients. The authors therefore, used the 5As framework to design and evaluate their obesity curriculum.	Non randomized, 12 residents received training 11 did not receive training	23 residents; 158 patients	Convenience sampling of all residents in the New York University School primary care internal medicine residency program. Sampling of their patients with BMI >30 seen between 1 and 8 months after intervention.	Nominal: 5hr, multi-modal obesity counseling curriculum based on the 5As framework	Interval/ratio: rate of obesity counseling, quality of counseling, advanced skill score
Jay et al., 2013	To assess whether a 5 hour multimodal longitudinal obesity curriculum for residents on the basis of the 5As was associated with weight loss for their obese patients	Providers frequently fail to effectively counsel their obese patients to lose weight. To address lack of training and lack of skills the authors developed a multimodal curriculum to improve their obesity counseling skills.	Quasi-experimental; After only non-equivalent control group	23	Convenience sampling of all residents in the New York University School primary care internal medicine residency program	Nominal: 5 hours counseling curriculum vs standard residency training	Interval/ratio: Mean patient weight change

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Lichwala-Zyla et al., 2009	Identified psychiatrists perception and practices regarding advising and treating obese patients	People with psychiatric problems are typically not targets for health promotion programs, thus psychiatrists are disproportionately facing problems of obesity management with many of their patients.	Survey	236	National random sample of 500 members of APA.	Perceptions and practices in treating obese patients questionnaire	Ratio: 10 point scale ranging from 0-100% in 10% increments
Luig et al., 2013	Present findings of the 5AsT that illuminate the gap in knowledge of implementation processes	To use these insights to reflect on theoretical understanding of complex interventions implementation, and identify key components to implementation	Qualitative- semi-structured interviews and different types of documentation analysis	n=28	Any information relevant to the implementation process was taken note of and analyzed as data to include semistructured interviews, field notes taken during intervention sessions, log book of the clinical champion, and documentation of all project materials, resources, and communications.	5AsT educational intervention	Themes on implementation development

Author	Stats tests	Results	Strengths	Weaknesses	Quality
Lichwala-Zyla et al., 2009	Descriptive statistics, Independent group t-test, ANOVA, chi-square, Pearson correlations, and logistics regression	65.2% of psychiatrists did not receive formal training in weight loss for obese patients. 68.7% gave a clear, strong, and personalized message to lose weight. 68.2% assessed whether their patients were willing to make an effort to lose weight. 66.5% assisted patients by changing psychiatric medications. 49.6% used behavioral counseling for their obese patients. 27.3% provided and/or arranged for social support. 27.7% referred patient to outside services. 31.8% scheduled follow up visits.	Identified key areas in which psychiatrists are failing to address weight issues.	As this is a survey no causation between variables can be determined.	IIIb: Non-experimental study
Luig et al., 2013	Thematic analysis with material inductively coded and reviewed for recurrent themes	3 themes found: (1) collective sense-making, (2) dynamic evaluation and implementation process adaption, and (3) consistent engagement with stakeholders. Found cruical for implementation success	Completed in real world practice setting with empiric data	Qualitative approach- may not be readily generalizable	IIIb: Qualitative study

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Ogunley et al., 2015	To provide a detailed overview of the 5AsT intervention to support complete reporting and replication.	Despite opportunities for didactic education on obesity management, we still observe low rates of weight management visits in primary care. 5AsT is a pragmatic study that seeks to work in real world context, and to create an intervention that works in this setting. Thus, context, and the end-user's input is crucial in creating the intervention.	Members of primary care clincis were randomized to the 5AsT intervention.	29 = intervention group	Convenience sampling of providers that work in PCN network in Alberta.	5AsT intervention	Field notes, semi-structure interviews (qualitative outcome), and questionnaires (ordinal: Likert scale)
Pollack et al., 2016	Examine the effect of a tailored online intervention in increasing physician use of 5 A's during weight-related counseling with adolescents.	Developed an online intervention to demonstrate and give feedback to pediatricians and family physicians about how to use the 5 A's when discussing attaining a healthy weight with overweight and obese adolescents.	Randomized controlled trial	n=49 providers	Convenience sampling of providers from academically affiliated institutions or community-based practices	Intervention of viewing online video clips	Composite score of the amount of 5A's used during encounter and individual use of 5 A variables
Rueda-Clausen et al., 2013	Evaluate the impact of an obesity management tool in primary care settings and to determine its impact on weight and health	Obesity is poorly managed in primary care. Implementation of the 5As of Obesity Management tool in primary care will: increase the number and quality of interactions regarding weight management between HCPs and patients with overweight and obesity and improve patient motivation and intentions to better manage their weight.	Non-controlled quasi-experimental, before and after design	51	Convenience sampling of patients seen through the South Calgary Primary Care Network.	Nominal/Categorical: Obesity management tool with HCP education intervention (Intervention given to all, no control group)	Interval/ratio/nominal: Pre and post-test changes in the patient assessment of chronic illness care (PACIC) scores

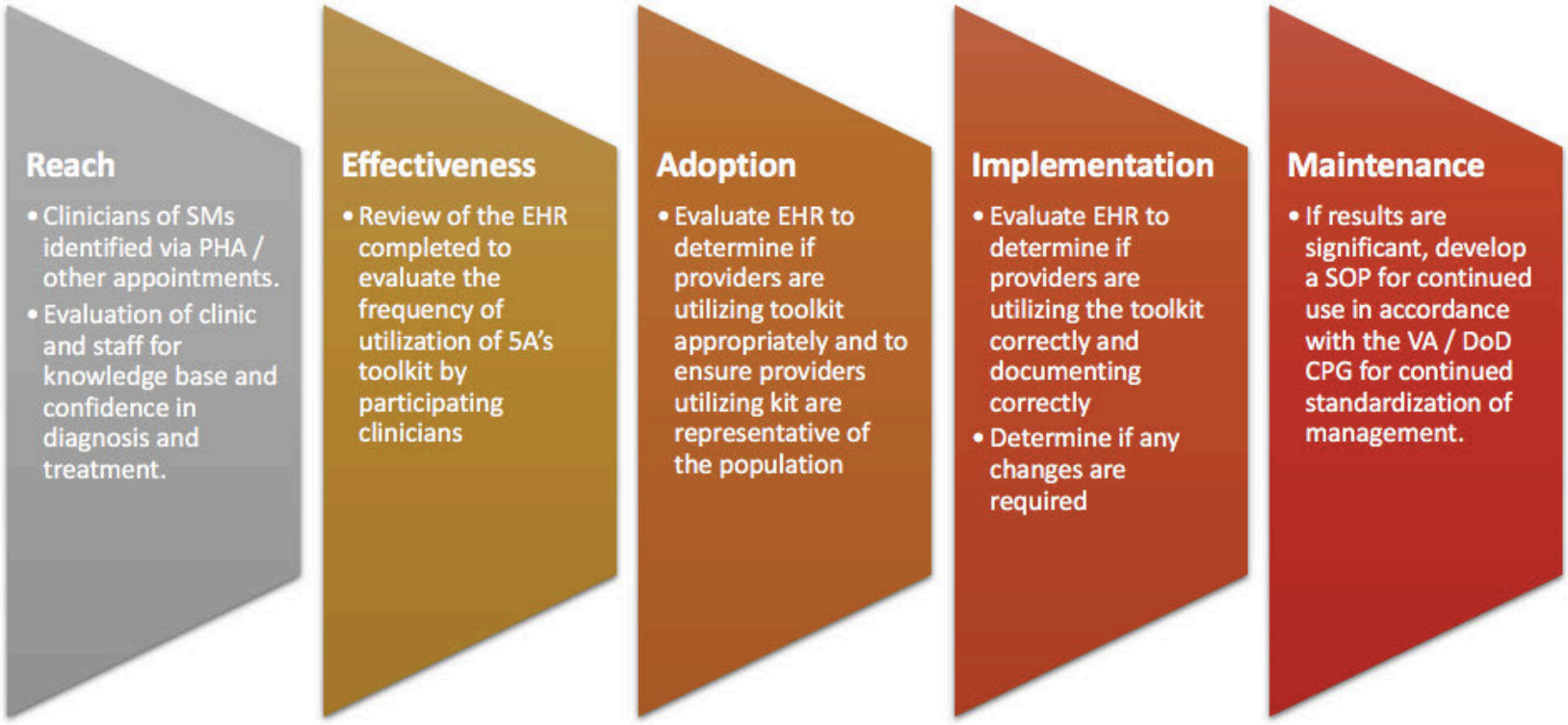
Author	Stats tests	Results	Strengths	Weaknesses	Quality
Ogunley et al., 2015	Thematic analysis (NVIVO) and descriptive statistics (Excel, SPSS)	43 topic were identified as helpful in patient conversations, these were grouped in 13 themes (cultural identity and body image, emotional and mental health, motivation, setting goals, managing expectations, weight-bias, caregiver fatigue, clinic dynamics and team based care). Intervention was rated as either very good/excellent (83%) or good (17%). The intervention was well received and field note data strong intervention values fit and self-reported behavior change.	Well-developed thorough evaluation of the 5AsT was conducted, showed that training for healthcare providers was valuable and well accepted.	No physicians were included in the study. Study only included clinics within the PCN, which may not be an accurate assessment of overall population.	II/IIIb: Mixed-methods
Pollack et al., 2016	To examine arm differences, multilevel linear mixed-effects models for sum of 5 A's and generalized estimating equations (GEE) models with a logit link for each of the A's separately.	The individual use of 5 A's at baseline were: Ask 89%, Advise 73%, Assess 10%, Assist 24% and Arrange 16%. In the Intervention Phase, estimated mean number of 5 A's was 0.6 higher in the intervention arm than in the control arm. No difference in Ask or Advise components. After intervention, Assist and Arrange components were two times higher in the intervention group	Participant (patient and provider) blinded, discussion regarding inter-rater reliability (20% of charts audited twice to determine)	Highly motivated patients who agreed to be in the study and showed up to their appointment on time so we could audio record them. Also, with a small sample of physicians, we were unable to control for any individual level factors in our analyses. We asked physicians to choose one of the 5 A's to incorporate rather than asking them to include all five	Ib: RCT
Rueda-Clausen et al., 2013	Significance of the effect of the intervention in these parameters was tested using Student's t-test and chi square.	19% of patients with obesity reported that their HCP initiated a conversation about their weight. Implementing the 5As tool and training, the HCP did not affect the frequency of some standard practices such as measuring blood pressure, body weight or waist circumference. However, it did cause a significant increase (19–39%, P = 0.03) in the number of subjects reporting a dialogue about weight management. Training HCPs in the use of the 5As tool also improved the follow-up/and coordination activities during the interaction with the HCP (Fig. 1), and increased the use of all the obesity management 5As components during interaction with HCPs. This change in HCPs behaviors was statistically significant for both Assess and the Assist components.	Provided HCP education on use of tool prior to implementation. The implementation of this tool allows for increase patient-physician interaction.	Quasi-experimental design, lack of randomization and blinding. There was also a short time period between intervention and follow-up, possible making findings appear more significant.	IIb: Quasi-experimental study

Author	Study Purpose	Research Problem and Hypotheses	Study Design	Total Sample Size	Sampling Plan	IV level of measurement	DV level of measurement
Schwenke et al., 2019	The aim of this study was to assess the psychometric properties of the German adaptation of the PACIC-5A questionnaire in a sample of patients with obesity.	Little is known about the psychometric quality of the PACIC-5A used in patients with obesity.	Data taken from the INTERACT study; cluster randomized control trial	117	Cluster sampling of 160 patients in which 43 subjects were excluded for various reasons	Standardized self-rating questionnaires	Ordinal: 26 item 5 point Likert scale; Nominal/Ordinal/Interval/Ratio: Age, weight, height, education level, gender, number of comorbidities
Torti et al., 2017	Explore patient needs and experience with Primary Care Network (PCN) weight management resources to inform the results of the provider study, and to begin the process of designing an intervention. Lay the foundation for co-creation with patients of an intervention for a planned randomized control trial.	To understand patients' expectations and experiences of healthcare services. They conducted a study answering the questions 1) From the perspective of patients who seek primary care support for weight management, what role do clinicians play in their efforts? 2) How do re-sources offer meaningful support and satisfy patients' needs? Research such as this is needed to develop effective and sustainable interventions.	Qualitative	28	Purposive sampling of individuals that participated in a group program to support weight management at least 6 months prior.	5AsT longitudinal patient cohort individuals who received care of a PCN dietician or participated in a group program to support weight management at least 6 months prior.	patients' perceptions of if, when, and how primary care clinicians and resources can support weight management

Author	Stats tests	Results	Strengths	Weaknesses	Quality
Schwenke et al., 2019	Pearson correlation, Spearman's rank correlation, Cronbach's alpha, Descriptive statistics	Descriptive analyses revealed a mean PACIC score of 2.33 and 5A sum score of 2.29. Notable floor effects were found. PACIC-5A showed high level of internal consistency (Cronbach's alphas > 0.9) and exploratory factor analyses resulted in a unidimensional structure.	Focus was on psychometrics of the PACIC-5A scale, which is valuable in assessing primary care structure and self-management support from the patients perspective.	Did not answer Glasgow et al. (developed the tool) hypotheses regarding the tool. Only one other study evaluated the structure of the PACIC 5A, therefore some aspects of this could not be confirmed/explained by factor analyses.	Ib: RCT
Torti et al., 2017	Thematic analysis and iteratively coded data revising the list of codes continuously based on emergent patterns. To ensure validity analyst triangulation was used that included the development of a coding scheme between three investigators.	Four Themes: Coordinated and person-centered care: Patients emphasize the need for coordinated, whole-person approaches to address the multiple conditions and drivers that affect weight and weight management; (2)The role of family physicians: Patients have clear expectations of their primary healthcare clinician to initiate a discussion around weight concerns; (3)Primary Care Network resources for weight management: PCN programming and services meet patients' expectations for weight management support by being accessible, providing accountability, and contributing to consistent weight management messaging; (4)Patients' weight management needs: Patients express further needs for weight management supports that are individualized to their medical, socio-economic, and educational needs, better linkages to available resources and programs, and further follow-up.	Extremely relevant for clinicians, as there is high percentage of patient with overweight or obesity related issues. As clinicians it is imperative to understand expectations and identify barriers that may be present in current healthcare.	Sample may not be generalizable to overall population, as the sample only included those in the primary care network and those of similar background, age, sex, etc.	IIIb: Qualitative study

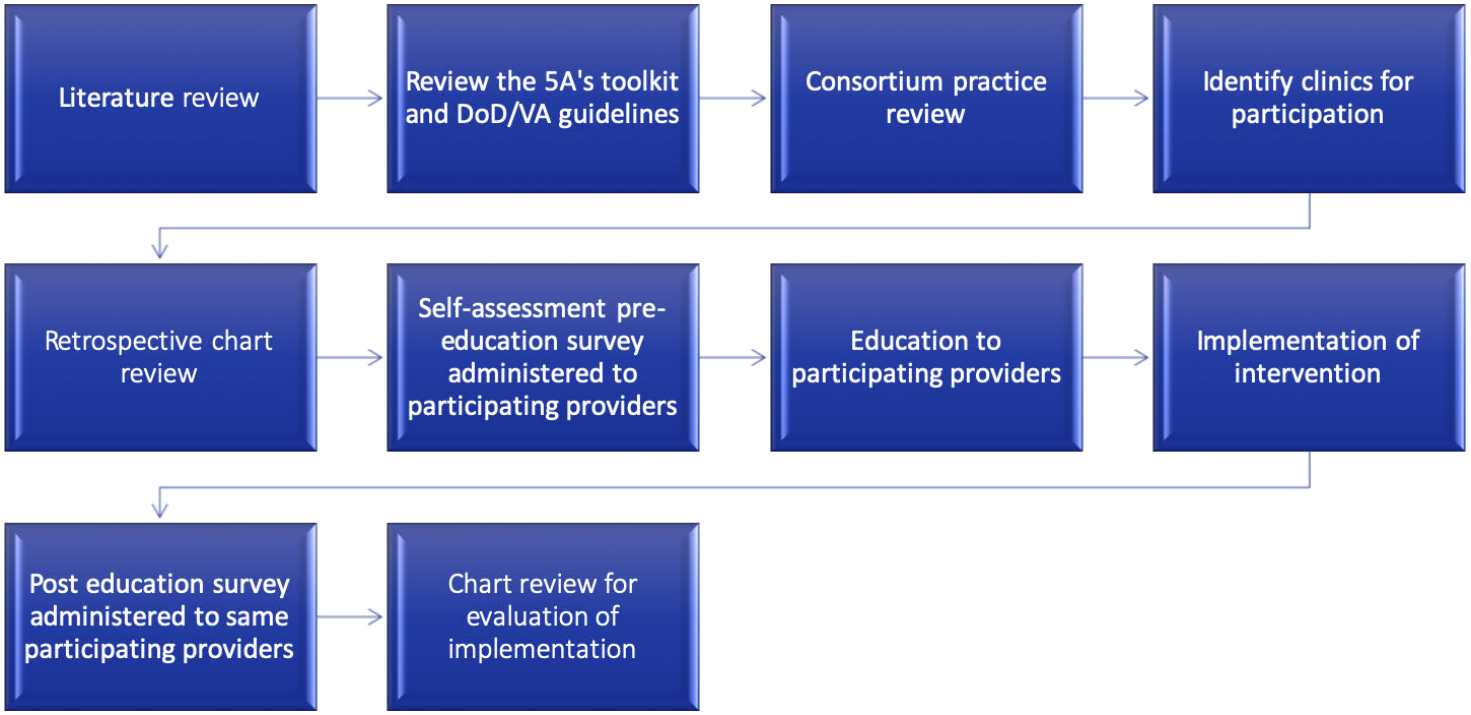
Appendix C

RE-AIM Model



Appendix D

Procedural Steps



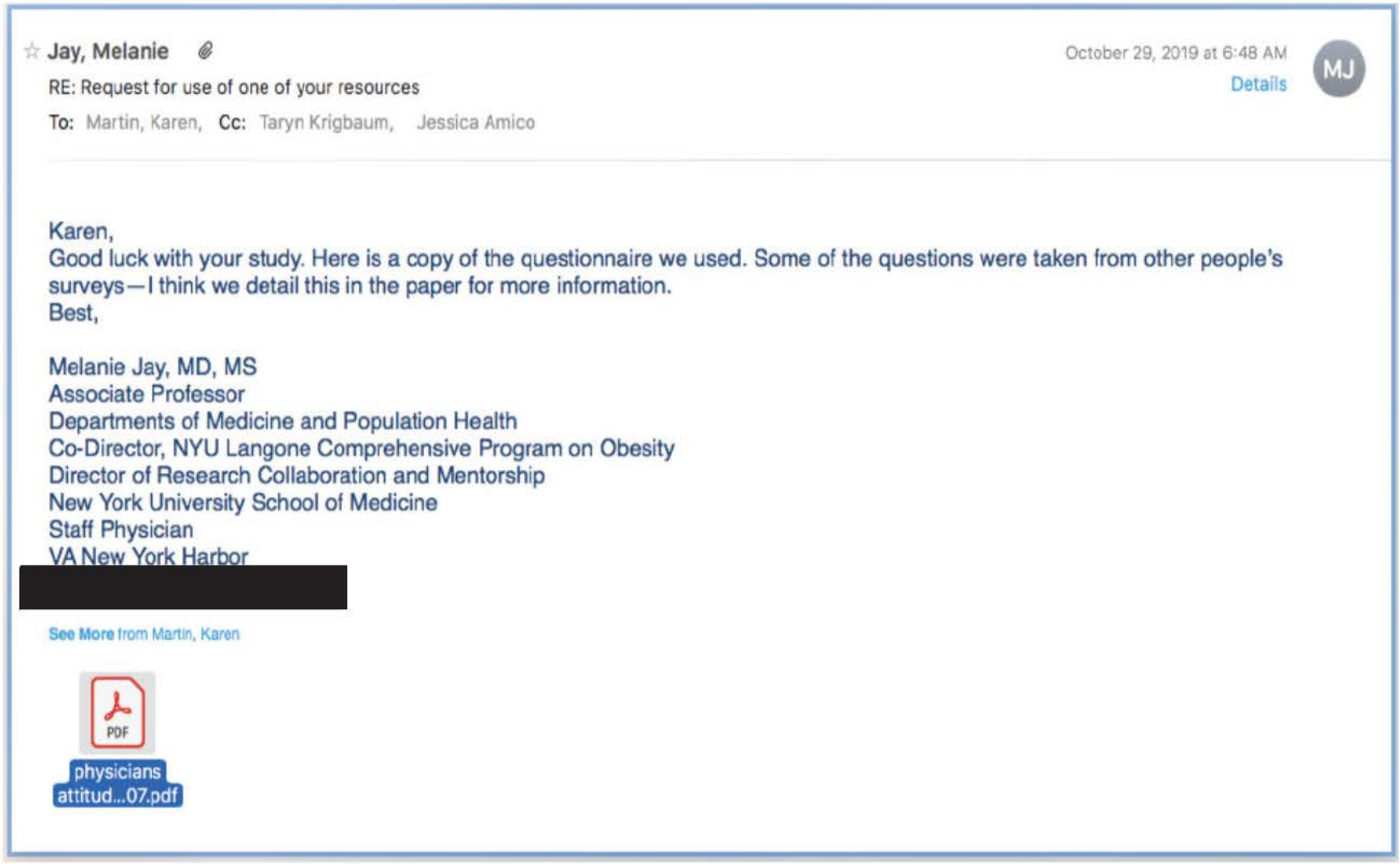
Appendix E

Project Timeline

Project Timeline											
		Jun-2020	Jul-2020	Aug-2020	Sep-2020	Oct-2020	Nov-2020	Dec-2020	Jan-2021	Feb-2021	Mar-2021
Literature Review	Apr-Nov 2019										
Review 5As Toolkit & Guidelines	Apr-Nov 2019										
Consortium Practice Review											
Identify clinics											
Chart review (retrospective)											
Self-assessment pre-education survey											
Educate providers											
Implement intervention											
Post education survey											
Chart review for evaluation of implementation											

Appendix F

Survey Use Permission



☆ **Jay, Melanie**

October 29, 2019 at 6:48 AM
Details

MJ

RE: Request for use of one of your resources

To: Martin, Karen, Cc: Taryn Krigbaum, Jessica Amico

Karen,
Good luck with your study. Here is a copy of the questionnaire we used. Some of the questions were taken from other people's surveys—I think we detail this in the paper for more information.
Best,

Melanie Jay, MD, MS
Associate Professor
Departments of Medicine and Population Health
Co-Director, NYU Langone Comprehensive Program on Obesity
Director of Research Collaboration and Mentorship
New York University School of Medicine
Staff Physician
VA New York Harbor
[redacted]

See More from Martin, Karen

PDF
physicians attitud...07.pdf

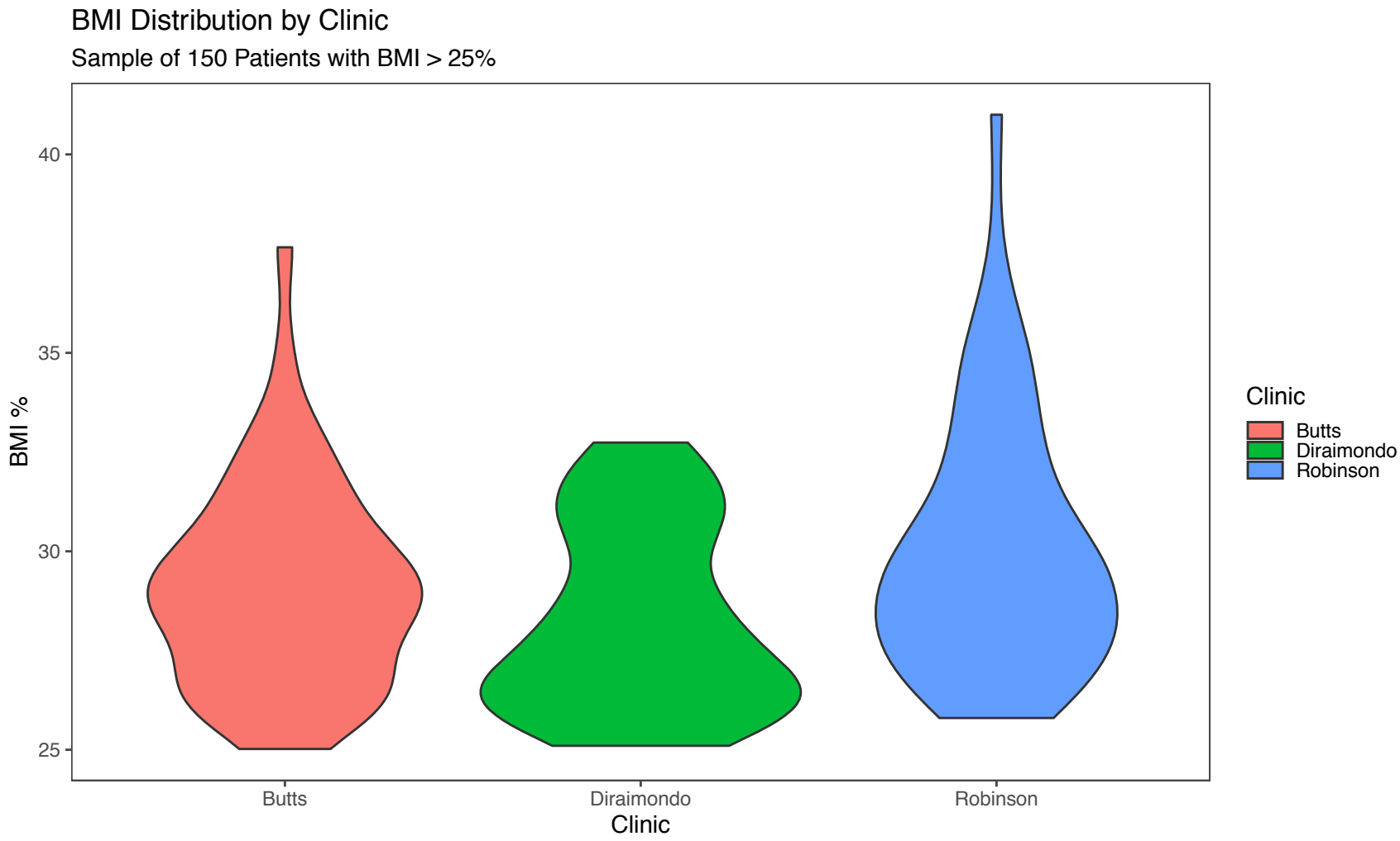
Appendix G

Data Analysis Plan

		Variable Name	Variable description and type of measure	Data Source	Possible range of values	Level of measure-ment	Time frame for collection	Statistical test	Decision Rule
Event	**IV**	Provider education training	Education provided on 5As toolkit to primary care providers in June/July 2020. *Process measure*	HR and senior / clinic leadership	0 = not trained 1 = trained	Nominal	January 2021	N/A	N/A
	DV	Provider confidence/self -efficacy	Self-perceived confidence using 5As toolkit in managing patients with obesity. Measured using pre- and post- survey. *Outcome measure*	Survey	Likert Scale: 1-poor confidence through 4-high confidence	Ordinal	January 2021 pre-survey, March 2021 post-survey	Mann-Whitney U test	Clinically significant in the Assess and Assist components. Improved follow-up and coordination activities.
		Documentation compliance	Use of 5As tool, appropriate ICD-10 code, and plan of care follows VA/DoD CPG. *Outcome measure*	EHR	0 = not utilized 1= utilized	Normal	Monthly	Fisher's exact test	Gap in literature about what is significant for documentation adherence.

Appendix H

BMI Distribution by Clinic



Appendix I

Documentation Compliance

Variable	Pre		Post		Fisher's Exact Test	
	No	Yes	No	Yes	p-value	Alternative
Proper ICD-10.Coding	73	2	72	3	1	two sided
Interventions	73	2	71	4	0.6811	two sided
5As.Toolkit	75	0	75	0	DNR	DNR

Appendix J

Survey Analysis

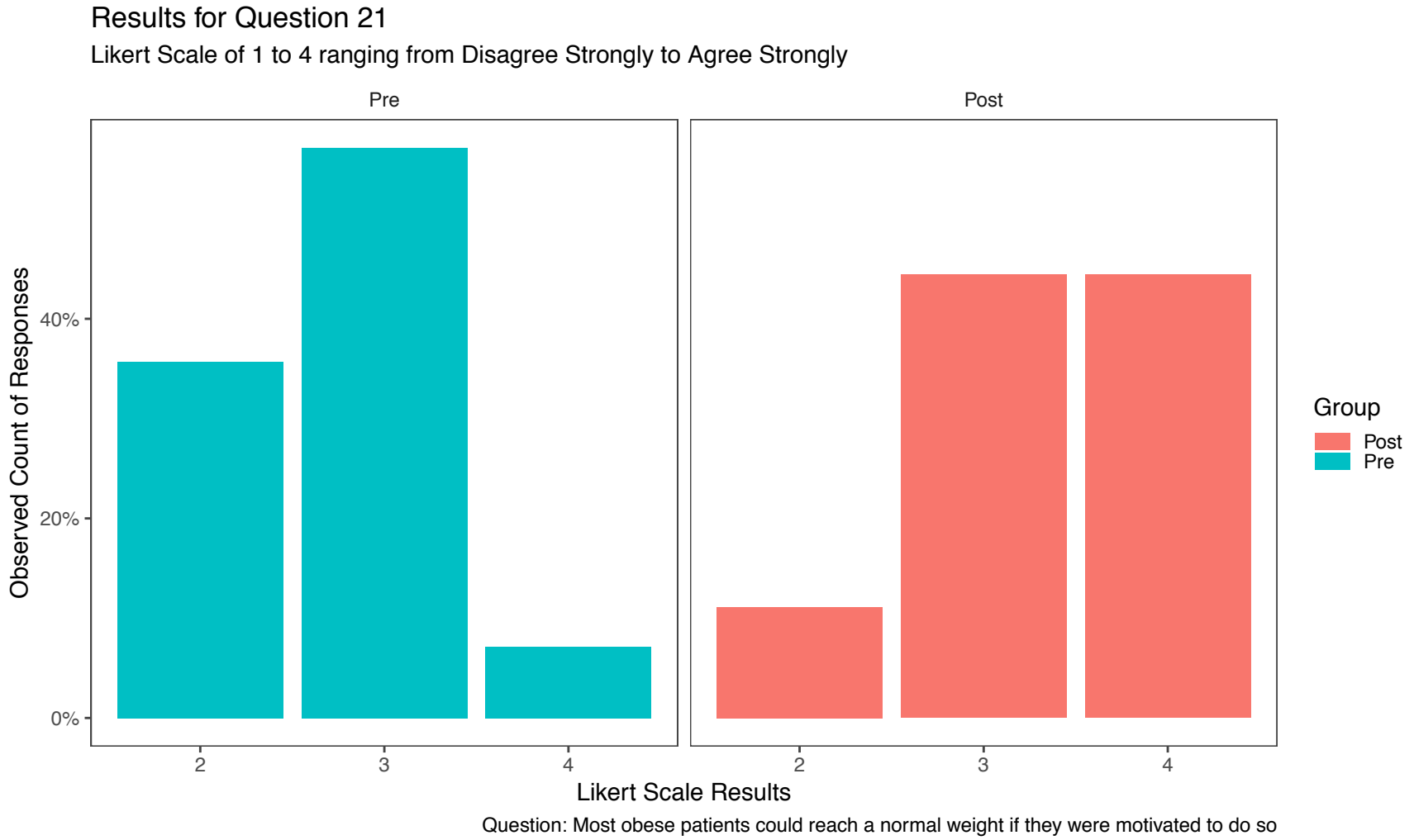
Question		Pre-Survey Likert Results				Post-Survey Likert Results				Mann-Whitney U			
#	Survey Question	1	2	3	4	1	2	3	4	N (pre)	N (post)	U	p-value
1	Use 24-hour recall, food record, or food frequency to obtain diet history	2	3	6	3	0	4	4	2	14	10	69	0.9753
2	Choose medications that are less likely to cause weight gain in individuals at risk for obesity or who are already obese	2	6	5	1	1	1	7	1	14	10	47	0.1528
3	Choose alternate medicines in patients having adverse metabolic effects or weight gain due to their current medications	2	5	6	1	1	1	7	1	14	10	51	0.2328
4	Determine body mass index (BMI) from weight and height measurements	0	2	6	6	0	0	4	6	14	10	54	0.3113
5	Assess diet for common unhealthy behaviors associated with obesity	0	1	4	9	0	0	4	6	14	10	71	0.9725
6	Discuss the effect of obesity on present and future health and personalize risk to each patient	0	2	7	5	0	0	6	4	14	10	61	0.5753
7	Ascertain each patient's readiness and ability to work on weight loss according to health beliefs and stage of behavior change	0	4	8	2	0	1	8	1	14	10	61	0.5502
8	Assess current level of physical activity and provide guidance for setting physical activity goals for optimal health	0	3	9	2	0	1	6	3	14	10	54.5	0.3084
9	Assist patient in setting realistic goals for weight loss based on making permanent lifestyle changes	0	4	7	3	0	2	5	3	14	10	61	0.5883

10	Prescribe plan for exercise / physical activity	2	6	3	3	0	1	6	3	14	10	40.5	0.07472
11	Recognize and refer patients with eating disorders	1	4	7	2	0	2	6	2	14	10	57	0.4195
12	Collaborate with Registered Dieticians and refer to community nutrition resources when appropriate	1	2	9	2	1	1	8	0	14	10	77.5	0.6091
13	Respond to a patient's question regarding treatment options including behavior change, medications, and surgery	2	6	4	2	1	2	7	0	14	10	59	0.5087
14	Recognize and screen for common psychosocial problems in obese patients including depression, emotional eating, binge eating	1	4	8	1	1	4	5	0	14	10	82.5	0.4335
15	Use motivational interviewing to change behavior	1	8	3	2	0	5	5	0	14	10	62.5	0.6477
16	Provide brief counseling intervention to help patient lose weight	0	3	10	1	1	1	7	1	14	10	69	0.9708
17	Take a targeted history and conduct a physical examination to identify common co-morbidities	2	1	8	3	0	1	7	2	14	10	63.5	0.6844
18	Recognize which patients should be sent for a bariatric surgery evaluation based on the NIH Conference Criteria	4	8	1	1	1	4	4	0	14	9	42	0.1586
19	Counsel patients about the risks and benefits of the different procedures for weight loss surgery	5	6	2	1	2	5	3	0	14	10	59	0.5101
20	Most obese patients are well aware of the health risks of obesity	1	6	6	1	0	7	2	1	14	10	78.5	0.6016
21	Most obese patients could reach a normal weight (for height) if they were motivated to do so	0	5	8	1	0	1	4	4	14	9	33.5	0.04514
22	I have negative reactions towards the appearance of obese patients	4	6	4	0	2	3	4	1	14	10	53	0.3074
23	I feel uncomfortable when examining an obese patient	9	5	0	0	4	5	1	0	14	10	50.5	0.2049
24	It is difficult for me to feel empathy for an obese patient	6	6	2	0	3	3	2	1	14	9	50	0.4003

25	Obesity is primarily cause by behavioral factors	2	2	8	2	0	2	8	0	14	10	70	1
26	Treating obese patients is very frustrating	2	7	5	0	2	3	5	0	14	10	64	0.7272
27	Obesity is a treatable condition	0	2	9	3	0	0	6	4	14	10	51	0.2054
28	I have been successful in treating obese patients for obesity	2	7	4	1	0	2	7	0	14	9	38	0.09055
29	The best role for a physician in weight management is to provide referral rather than treatment	0	12	2	0	0	7	3	0	14	10	59	0.3825
30	Most obese patients will not lose a significant amount of weight	0	8	6	0	0	7	3	0	14	10	79	0.5532
31	I feel qualified to treat obese patients	1	4	7	1	1	2	7	0	13	10	64	0.9716
32	Bariatric surgery is a SAFE option for weight loss in patients with class III (extreme) obesity	0	3	10	1	0	2	7	1	14	10	67.5	0.8833
33	Bariatric surgery is an EFFECTIVE option for weight loss in patients with class III (extreme) obesity	0	2	11	1	0	2	7	1	14	10	72	0.9077
34	I feel comfortable referring patients for bariatric surgery	2	5	5	2	0	5	4	1	14	10	66.5	0.8509
35	Bariatric surgery is an appropriate option for adolescents with class III (extreme) obesity	2	6	5	0	1	6	3	0	13	10	67.5	0.8907
36	When there are alternatives available, it is important to choose medications that are less liekly to cause further weight gain in obese patients	1	0	8	5	0	0	8	2	14	10	77	0.6444
37	Medications can play a significant role in a patient's risk of becoming obese	0	4	9	1	0	2	8	0	14	10	68	0.9119

Appendix K

Results for Question 21



Appendix L

Provider Barrier Word Cloud

Appendix M

Author CITI Certificates

CITI PROGRAM

Completion Date 26-Aug-2018
Expiration Date 25-Aug-2021
Record ID 28312542

This is to certify that:

Taryn Krigbaum

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Good Clinical Practice (U.S. FDA Focus)
(Curriculum Group)
GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus)
(Course Learner Group)
1 - GCP
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wda9ff682-0d6b-4bfc-b574-9deb3b7d4b33-28312542

CITI PROGRAM

Completion Date 26-Aug-2018
Expiration Date 25-Aug-2021
Record ID 28312541

This is to certify that:

Taryn Krigbaum

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

OUSD P&R Human Research
(Curriculum Group)
Biomedical Investigators and Research Study Team
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w4467ebfb-af9e-4abf-a861-3472ada975ae-28312541

CITI PROGRAM

Completion Date 26-Aug-2018
Expiration Date 25-Aug-2021
Record ID 28312543

This is to certify that:

Taryn Krigbaum

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w5b4ffcef-05c4-4dea-932b-2effd0cd9201-28312543

CITI PROGRAM

Completion Date 27-Aug-2018
Expiration Date 26-Aug-2021
Record ID 28301958

This is to certify that:

Jessica Amico

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Good Clinical Practice (U.S. FDA Focus)
(Curriculum Group)
GCP for Clinical Trials with Investigational Drugs and Medical Devices (U.S. FDA Focus)
(Course Learner Group)
1 - GCP
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wae29bb83-e64b-4c55-bba9-ec1a4fa8f3e9-28301958

CITI PROGRAM

Completion Date 27-Aug-2018
Expiration Date 26-Aug-2021
Record ID 28301957

This is to certify that:

Jessica Amico

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

OUSD P&R Human Research
(Curriculum Group)
Biomedical Investigators and Research Study Team
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?w90c7a0ee-1dbd-4193-8b46-a9a8d8590e4d-28301957

CITI PROGRAM

Completion Date 29-Aug-2018
Expiration Date 28-Aug-2021
Record ID 28301959

This is to certify that:

Jessica Amico

Has completed the following CITI Program course:

Not valid for renewal of certification through CME.

Responsible Conduct of Research (RCR)
(Curriculum Group)
Responsible Conduct of Research (RCR)
(Course Learner Group)
1 - Basic Course
(Stage)

Under requirements set by:

Office of the Under Secretary of Defense (Personnel and Readiness)

CITI
Collaborative Institutional Training Initiative

Verify at www.citiprogram.org/verify/?wfd51910d-0e0d-4618-8852-d4b30236ebf3-28301959

Appendix N

USU Form 3202N

USU
Uniformed Services University

OFFICE OF RESEARCH
4301 JONES BRIDGE ROAD
BETHESDA, MAYLAND 20814
PHONE: (301) 295-3303; FAX (301) 295-6771

NOTICE OF PROJECT APPROVAL
Change Number: Original

VPR Site Number:	GSN-61-11385
Principal Investigator:	Krigbaum, Taryn
Department:	Graduate School of Nursing
Project Type:	Student
Project Title:	Management and Treatment of Adult Obesity Within Primary Care at the Consortium in Colorado Springs.
Project Period:	7/8/2020 to 4/30/2021

Assurance and Progress Report Information:

Name	Sup	Approval Type	Status	Approved On	Forms Received
Progress Report	0			To be Submitted	N/A

Remarks:
This Notice Of Project Approval has been reviewed and approved. Please remember that you must submit a final Progress Report (Form 3210) upon completion of this project.

Questions regarding this approval should be directed to the following person in the Office of Research:
Sharon McIver, (301) 295-9814.

[redacted]

Toya V. Randolph, Ph.D., MSPH Date
Acting Vice President for Research
Uniformed Services University of the Health Sciences

cc: File
Radford, Kennett
Taylor, Laura

Appendix O

Evans Community Hospital Letter of Determination

DEPARTMENT OF THE ARMY
UNITED STATES ARMY MEDICAL DEPARTMENT ACTIVITY
1650 COCHRANE CIRCLE
FORT CARSON, CO 80913-4604

REPLY TO
ATTENTION OF:

MCXE-QSD-HPA 18 December 2020

MEMORANDUM FOR RECORD

SUBJECT: Rev ew and Determ nat on of eIRB Protoco Subm ss on

1. Project Deta s:
   a. T t e: “Boost ng the Pr mary Care Prov ders Conf dence n the Management of Overwe ght and Obese Act vy Duty Serv ce Members Us ng the 5As Too k t”
   b. Pr nc pa Invest gator(s): Maj Ke e D. Bond; Capt Taryn Kr gbaum; CPT Jess ca Am co; CPT Karen W thers.
   c. eIRB Reference Number: 929700
   d. Determ nat on: Not research

2. The Evans Army Commun ty Hosp ta (EACH) Human Protect ons D rector (HPD) comp eted the OUSD(P&R) Exempt on Determ nat on Rev ew Check st and conc uded the aforement oned act v ty s not research.

3. Conf rmat on of the qua f cat ons of Maj Bond, Capt Kr gbaum, CPT Am co, and CPT W thers were documented through the r CVs attached to the r respect ve eIRB prof es.

4. P ease copy the EACH HPD on correspondence for nst tut ona v s b ty.

5. POC for th s act on s Dr. Anna M. Aragon, EACH HPD, 719-524-4266 or anna.m.aragon.c v@ma .com.

ANNA M. ARAGON, DHEd
CIV, Human Protect ons D rector

Annexes:
A. Comp eted OUSD(P&R) Exempt on Determ nat on Rev ew Check st
B. eIRB Packet

Appendix P

PAO Clearance

PENDING

Appendix Q

Data Collection Forms (Blank)

Physician's Attitudes Towards Obesity

1. Introduction

Welcome to the Obesity Knowledge and Attitudes Survey! Please take a moment to answer our brief set of questions.

This survey is designed to assess physicians' attitudes and experiences in treating obese patients and may be used for research purposes. All the data will be presented in aggregate form, and all responses will be kept confidential.

We appreciate your valuable time. Thank you for completing this short survey.

Sincerely,

Melanie Jay, MD
Clinical Assistant Professor
Division of General Internal Medicine
[redacted]

Michelle McMacken, MD
Clinical Instructor
Division of General Internal Medicine
[redacted]

Physician's Attitudes Towards Obesity

2. Obesity Prevention and Treatment

1. Please choose the response which best characterizes your CURRENT ABILITY TO PERFORM (OR TEACH) each of the following tasks:

	Know very little about it and NOT ABLE TO PERFORM IT AT ALL	Know something about it and SOMEWHAT ABLE TO PERFORM IT	ABLE TO PERFORM IT WELL	ABLE TO TEACH OTHERS HOW TO DO IT
Use 24-hour recall, food record, or food frequency to obtain diet history	○	○	○	○
Choose medications that are less likely to cause weight gain in individuals at risk for obesity or who are already obese	○	○	○	○
Choose alternate medicines in patients having adverse metabolic effects or weight weight gain due to their current medications.	○	○	○	○
Determine body mass index (BMI) from weight and height measurements	○	○	○	○
Assess diet for common unhealthy behaviors associated with obesity (e.g., high intake of sweetened beverages, nutritional quality of snacks, frequent meals from fast food restaurants, etc)	○	○	○	○
Discuss the effect of obesity on present and future health and personalize risk to each patient	○	○	○	○
Ascertain each patient's readiness and ability to work on weight loss according to health beliefs and stage of behavior change	○	○	○	○
Assess current level of physical activity and provide guidance for setting physical activity goals for optimal health	○	○	○	○
Assist patient in setting realistic goals for weight loss based on making	○	○	○	○

Physician's Attitudes Towards Obesity

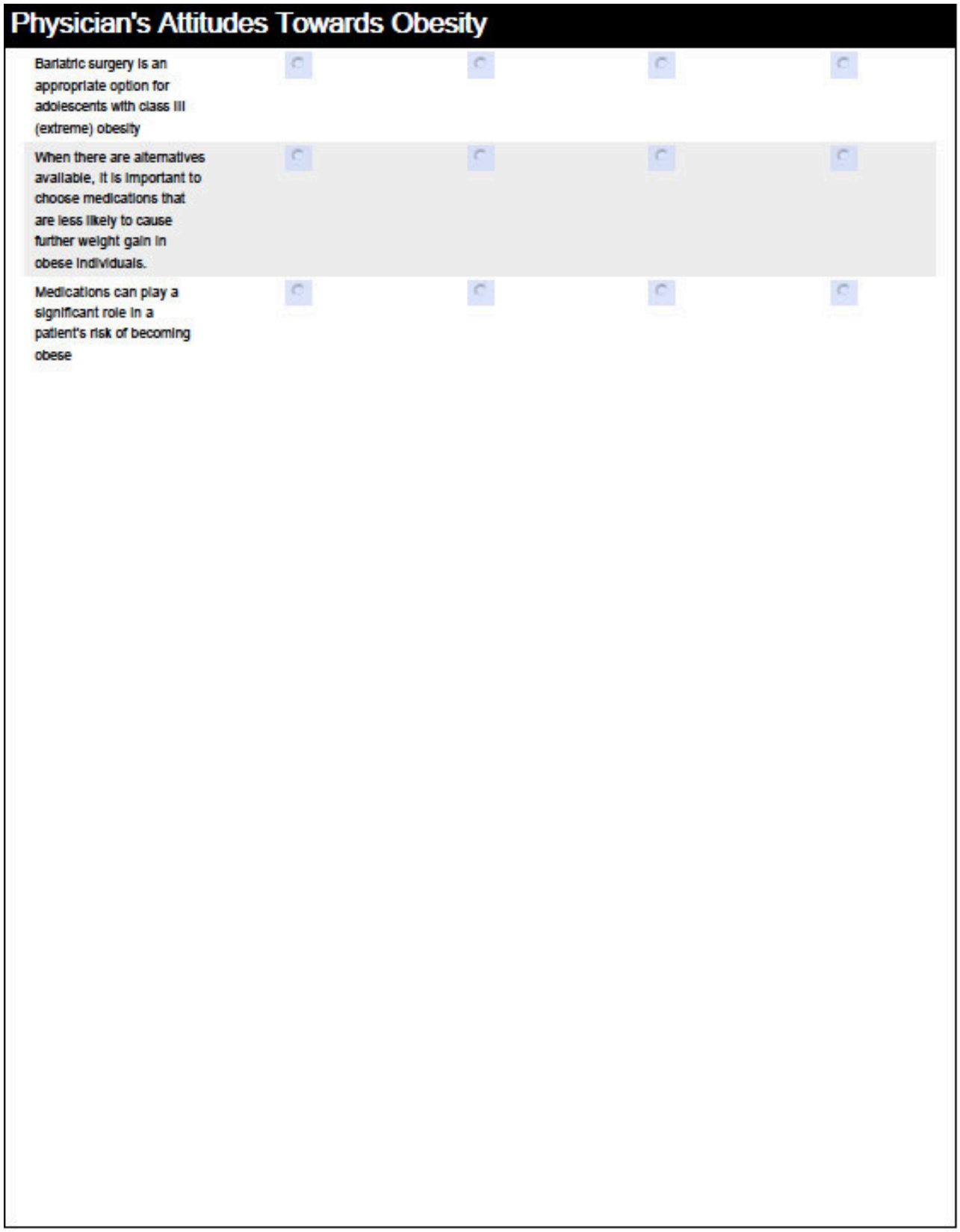
permanent lifestyle changes				
Prescribe plan for exercise/physical activity				
Recognize and refer patients with eating disorders				
Collaborate with Registered Dieticians and refer to community nutrition resources when appropriate				
Respond to a patient's question regarding treatment options including behavior change, medications, and surgery				
Recognize and screen for common psychosocial problems in obese patients including depression, emotional eating, binge eating				
Use motivational interviewing to change behavior				
Provide brief counseling intervention to help patient lose weight				
Take a targeted history and conduct a physical examination to identify common co-morbidities (e.g., arthritis, diabetes, PCOS, sleep apnea, cardiovascular disease) in an obese patient				
Recognize which patients should be sent for a bariatric surgery evaluation based on the NIH Conference Criteria				
Counsel patients about the risks and benefits of the different procedures for weight loss surgery				

Physician's Attitudes Towards Obesity

3. Attitudes

2. Please indicate how much agree or disagee with each of the following statements:

	Disagree Strongly	Disagree Somewhat	Agree Somewhat	Agree Strongly
Most obese patients are well aware of the health risks of obesity				
Most obese patients could reach a normal weight (for height) if they were motivated to do so				
I have negative reactions towards the appearance of obese patients				
I feel uncomfortable when examining an obese patient				
It is difficult for me to feel empathy for an obese patient				
Obesity is primarily caused by behavioral factors				
Treating obese patients is very frustrating				
Obesity is a treatable condition				
I have been successful in treating patients for obesity				
The best role for a physician in weight management is to provide referral rather than treatment				
Most obese patients will not lose a significant amount of weight				
I feel qualified to treat obese patients				
Bariatric surgery is a SAFE option for weight loss in patients with class III (extreme) obesity				
Bariatric surgery is an EFFECTIVE option for weight loss in patients with class III (extreme) obesity				
I feel comfortable referring patients for bariatric surgery				


Physician's Attitudes Towards Obesity
Bariatric surgery is an appropriate option for adolescents with class III (extreme) obesity
When there are alternatives available, it is important to choose medications that are less likely to cause further weight gain in obese individuals.
Medications can play a significant role in a patient's risk of becoming obese
Page 5

Physician's Attitudes Towards Obesity

4. Background

3. What is your Gender?

- Male
- Female

4. What race do you consider yourself?

5. What year were you born?

6. What year did you finish your residency training?

7. What is your specialty?

- Medicine - Subspecialty
- Medicine - General Internist
- Emergency Medicine
- Pediatrics
- Psychiatry
- Surgery
- Other (please specify)

8. If you have a subspeciality, please specify:

Physician's Attitudes Towards Obesity

9. Patient care responsibilities

	No Time Spent	<25% Effort	25-50% Effort	50-75% Effort	>75% Effort
Direct Patient Care- Inpatient private setting	○	○	○	○	○
Direct Patient Care- outpatient private setting	○	○	○	○	○
Direct Patient Care- Inpatient public setting	○	○	○	○	○
Direct Patient Care- oupatient public setting	○	○	○	○	○
Teaching	○	○	○	○	○
Administrative Duties	○	○	○	○	○
Research	○	○	○	○	○
Other	○	○	○	○	○

10. What are your teaching roles (check all that apply)

- ☐ Preceptor
- ☐ Lecturer
- ☐ Evaluation
- ☐ Section Leader
- ☐ Course Director
- ☐ I don't teach

Physician's Attitudes Towards Obesity

5. Patient Care

11. On average, how many hours per week do you spend seeing patients in outpatient practice?

12. Where is your main outpatient practice?

- ☐ Bellevue
- ☐ Gouverneur
- ☐ VA
- ☐ Private Practice-Tisch Faculty Practice
- ☐ Private Practice-other
- ☐ Other (please specify)

13. What % of your patients are obese?

14. What % of patients lose weight under your care?

15. What % of your patients are eligible for bariatric surgery?

Physician's Attitudes Towards Obesity

6. Additional Information

16. What are the most important barriers to caring for obese patients in your practice?

17. What did you think of this questionnaire?

Thanks so much for helping us out by completing the questionnaire!

Clinic	Appt Type (24HR, FTR, PHA)	BMI	Proper ICD-10 Coding	Intervention	5As Toolkit	Comorbidities
Clinic Name	*24HR*	*32.5*	*YES*	*NO*	*NO*	*HTN, LBP*

Appendix R

DNP Project Completion Verification Form

Appendix G: Daniel K. Inouye Graduate School of Nursing
DNP Project Completion Verification Form

DOCTOR OF NURSING PRACTICE PROJECT
Completion Verification Form

The DNP Project titled: *Addressing Primary Care Providers' Confidence in the Management of Overweight and Obese Active-Duty Service Members Using the 5As Toolkit* was completed at Butts Army Airfield Clinic, DiRaimondo Clinic, and Robinson Clinic Ft. Carson, Colorado by the following student(s):

Capt Taryn Krigbaum [redacted] _____ _____

CPT Jessica Amico _____ _____

The DNP Practice Project Team verifies that the following components of the DNP project, accomplished by the above students, is of sufficient rigor and demonstrates doctoral level scholarship to meet the requirements for USUHS GSN graduation:

- Presentation of DNP project to the leadership/stakeholders at the Phase II Site,
- Abstract/Impact Statement (*Appendix F*), and
- DNP Project written report.

Verified by:

MAJ Holly Archer [redacted] _____ _____ Senior Mentor

Maj Kellie Bond _____ _____ Team Mentor & Phase II Site Director

Form Version: 26 Aug 2017