A Shared Medical Appointment Program for the UNC Lipid Clinic

By

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**Introduction and Background**

The purpose of developing this shared medical appointment (SMA) is to provide an alternative clinic visit option that will improve the delivery and quality of preventive health care services for patients with cardiovascular disease or risk factors for disease. This paper will provide an overview, outline, and rationale for the SMA plan and the steps that need to be taken to evaluate this program in the future.

**Traditional Appointments**

Traditional medical appointments occur in a “one-on-one” setting in which a single physician interacts with a single patient. While this traditional physician-patient dyad works well for many patients in many different clinical scenarios, some patients may benefit from an alternative clinic visit option that addresses some traditional appointment challenges. Traditional medical appointments sometimes have challenges in providing comprehensive care that include limited time available to be spent with an individual patient, difficulty in addressing all of a patient’s health care needs in a short visit, and inefficient clinic office structures that require physicians to spend a large portion of their time doing administrative requirements for patient care. These problems in traditional appointments become exacerbated in clinics dealing primarily with chronic disease patients and/or prevention.

The National Ambulatory Medical Care Survey (NAMCS) found that among primary care providers, the average clinic visit with a patient lasted 18.7 minutes in 2003.¹ This average visit length includes greeting the patient and making small talk to
build rapport, indicating that time spent actually addressing a patient’s health care concerns is shorter than the reported visit length. Most clinicians schedule patient visits to last 15 minutes. This short length of time may be sufficient for patients with acute problems, regular well-health check ups, or simple issues. Patients with chronic disease and complicated health problems, however, have health issues and questions that cannot be thoroughly and adequately addressed by a physician in a fifteen minute visit. Some studies have suggested that short visit durations lead to poorer quality of care, including increased physician mistakes and oversights.\textsuperscript{2} Short clinic visits have also been reported to result in low levels of patient satisfaction.\textsuperscript{1}

A study appearing in the Annals of Family Medicine in 2005 found that “nearly one half of a primary care physician’s workday is spent on activities outside the examination room, predominately focused on follow-up and documentation of care for patients not physically present.”\textsuperscript{1} The amount of time a physician spends in any given workday dealing with administrative issues has steadily increased over the last couple of decades. This swelling in “paper work” results in less time being physically spent with patients and increases the inefficiency of many clinics. A shared medical appointment program addresses some of the problems with traditional clinic appointments. Although the study referred to above in the Annals of Family Medicine examined primary care practices, the same finding can certainly be applied to specialty clinics as well due to the same basic patient care requirements that specialty and primary clinics share (provided care documentation, prescription writing, etc). Some examples of previous implementation of shared medical appointments in both specialty and primary care clinics will be discussed in the “Literature Review” section of this paper.
**Shared Medical Appointments (SMAs)**

In the SMA model, groups of ten to fifteen patients meet together with their physician and other health care providers like a nurse practitioner or pharmacist. The SMA visit takes approximately 90 minutes. The participating patients all have similar health conditions or problems that would share many of the same management and prevention strategies. During the visit, the physician addresses each of his or her patient’s individual appointment needs. A simple way of thinking about a SMA is that it is individual patient care with multiple, simultaneous observers.

The Cleveland Clinic has utilized a SMA model for a variety of its outpatient clinics and has published several studies and program commentaries on SMA implementation. Other studies have examined SMA programs based, at least in part, on the Cleveland Clinic’s SMA model to evaluate improvements in health outcomes, satisfaction, and clinic efficiency. These similar examples have been coined “cooperative health care clinics,” “drop in group appointments,” and group visits. These variations will be discussed in more detail in the “Literature Review” section.

In busy clinics throughout the United States where physicians spend on average around fifteen minutes with a patient, the SMA model allows for patients to receive attention from their physician for a much longer amount of time. This increased time spent with patients increases patient satisfaction with their health care. Several studies have also shown increased physician satisfaction with a SMA program compared to traditional appointments. The increase in provider satisfaction seems to result, at least in part, from improvements in clinic efficiency. The SMA allows physicians to utilize other support personnel involved in the group visit to expedite the logistics of patient
care. This allows more time to be spent on counseling and thoroughly managing patients’ health problems with the ultimate goal of improving patient health outcomes.

During a typical, traditional clinic workday, physicians often spend time repeatedly educating similar patients about the same prevention strategies. For example, in the UNC Lipid Clinic, most patients have some form of cardiovascular disease and share similar risk factors. Nearly all of these patients receive similar advice on cholesterol, smoking, diet, exercise, and medications. In the SMA setting, a physician can address all of these prevention and management strategies at the same time for similar groups of patients. Not only does this improve clinic efficiency, but it also allows for more time to be spent discussing health issues and answering patient questions or concerns. This SMA structure enables physicians to cover a broader range of patients’ health problems and to adequately cover topics of prevention. As a result, a SMA program may improve patients’ health outcomes by increasing patients’ health literacy, ensure that physicians have time to cover all of an individual patient’s health issues, and allow for substantial time to be spent on prevention. Several studies examining group visits for patients with type 2 diabetes have shown that improved health outcomes and increased health education are attainable; patients had improved diabetes control and clinic visits complied more with national guidelines for disease management compared to traditional appointments.13-17

This paper reflects the work that I will be doing this year with Dr. Ross Simpson and Dr. Phil Mendys to develop a program and create an evaluation plan for utilizing SMAEs in the UNC Lipid and Prevention Clinic. This SMA program is based on previous work by the Cleveland Clinic and similar group visit examples called Drop-In Group
Medical Appointments (DIGMAs) by Dr. Noffsinger for The Permanente Medical Group and cooperative health care clinics (CHCCs) by Dr. Scott for Kaiser Permanente of Colorado.\textsuperscript{6, 18} Previous studies and reports from these medical centers have shown improved patient health outcomes, increased patient knowledge about diseases and medications, and higher overall patient satisfaction with group appointments than traditional individual medical appointments.\textsuperscript{3, 8, 19} The UNC SMA model will attempt to achieve those same accomplishments by providing patients with an educational, peer supported, and engaging environment that allows for optimal patient care, increased clinic efficiency, and maximum time spent with a physician.
Literature Review

Introduction

The purpose of this section of the paper is to answer two questions about shared medical appointments using the evidence and information found in the available literature. The first question entails answering what examples of group visits in a clinical setting exist and how these types of visits differ from each other. This information will be useful in helping to identify specific aspects of some previous group visit examples that can potentially be incorporated into the UNC Lipid Clinic SMA. The second question addressed in this section of the paper examines what were the benefits and the challenges in other clinics that implemented shared medical appointments (or varied versions thereof) according to published data and studies. Examples from published literature demonstrating the effectiveness and benefits of shared medical appointments may prove advantageous in convincing various stakeholders in the value of the program. The information gleaned from this second question will serve a vital purpose for predicting possible advantages of the UNC SMA and will help to guide the evaluation of the program after implementation.

Literature Search Strategy

To find appropriate and relevant literature relating to shared medical appointments, I first searched www.pubmed.com using the following search terms: “Appointments and Schedules” [MESH] AND shared.” The search returned 49 matches. I excluded any literature matches that did not relate to shared medical appointments or group visits in any way and one article described as “a fictional reflection on shared
medical appointments.” After exclusions, six articles remained pertaining to shared medical appointments. I then searched PubMed again with the terms “group visits” and “cooperative health care clinics,” a term for a group visit model from Kaiser Permanente similar to a shared medical appointment. This segment of the search yielded 56 and 3 matches respectively. I excluded any literature matches that did not relate to shared medical appointments and excluded matches that were simply short commentaries or editorials.

I also searched Google Scholar (http://scholar.google.com) with the term “shared medical appointments.” This search yielded 53 matches. I again excluded any literature matches that did not pertain to shared medical appointments, resulting in 25 matches remaining. Five of these matches were also found in the PubMed search. I excluded six more of the Google Scholar matches because these were either PowerPoint presentations or short editorial style commentaries. My overall yield in literature pertaining to shared medical appointments from the described search strategy was 38 references. I also used additional literature listed in the references of background articles.

**Various Examples of Group Visits**

Three types of patient visits related to group clinical care predominately appear in the literature. These described patient care models are Drop-In Group Appointments (DIGMAs), Cooperative Health Care Clinics (CHCCs), and shared medical appointments (SMAs) that exist as varying degrees of combinations of DIGMA and CHCC characteristics. Based on the literature matches from the described search strategy, the basic DIGMA, CHCC, and SMA structures and characteristics will be described. It must
be noted, however, that different clinics and different groups utilizing a shared medical appointment style visit option have often adapted variations in structure to fit the specific needs of their patients and/or staff. We anticipate that the UNC Lipid Clinic SMA will do the same thing in adapting and altering certain aspects of group visit models found in the literature to meet the unique needs of the Lipid Clinic.

**Drop-In Group Appointments (DIGMAs)**

Kaiser Permanente first implemented DIGMAs in 1996 through the work of Dr. Noffsinger. The DIGMA model of patient care was developed with the objectives of reducing cost to the organization by increasing the number of patients seen in a visit using existing resources, increasing patient satisfaction, and increasing physician professional satisfaction. Dr. Noffsinger describes DIGMAs as “primarily medical visits with the patient’s own doctor held in a group setting with other patients from the physician’s own panel.” A health behaviorist and nurse help in providing the visit. The key feature of the DIGMA is the “drop-in” aspect of the visit. Patients join the DIGMA option by directly booking into the session instead of scheduling an individual return or by showing up and “dropping in” with no advanced appointment. This aspect of the program permits patients to be seen in clinic on a schedule suitable to them. In addition, Dr. Noffsinger suggests that DIGMA clinic visits should be overbooked, “similar to the airlines,” in order to ensure a profitable patient census in the DIGMA.

Variations of DIGMAs exist and include a “heterogeneous” option where the DIGMA is made available to all of the physician’s patients, regardless of health problem. Another DIGMA variation, called “homogenous,” involves partitioning the physician’s
patient panel “into large, relatively homogenous subpopulations, each of which attends a different session” based on health problem or disease.\textsuperscript{11} “Mixed DIGMAs combine some elements from both the heterogeneous and homogeneous designs” and consist of a patient census with the same health problems, but focusing each DIGMA on a different issue.\textsuperscript{11}

**Cooperative Health Care Clinics (CHCCs)**

The CHCC was developed in 1991 for Kaiser Permanente by Dr. John Scott in Colorado to provide health care to older patients in a group setting where more time could be efficiently devoted to patient care with the increasing demands of administrative work for physicians.\textsuperscript{21} CHCCs are described as “a model that increases patient and physician satisfaction, enhances physician-patient relationships, demonstrably improves patient outcomes, and costs less than the traditional model of care.”\textsuperscript{21} The CHCC is “a group outpatient visit model involving comprehensive care provided by an interdisciplinary team of health professionals” and occurs on a scheduled, monthly basis where twenty patients meet in an expanded doctor’s office visit to include “care delivery, education, socialization, and a question and answer session.”\textsuperscript{10} A specialty version of the CHCC also exists where specific diseases and specific problems are the sole focus of the visit and additional care must be sought in an individual, traditional appointment in the clinic.

DIGMAs and CHCCs, although similar in many regards, do have an important difference. According to Noffsinger, “CHCC models focus on patient populations, either by utilization behavior (e.g., the CHCC model for high-utilizing geriatric patients) or by diagnosis (e.g., the CHCC Specialty model for high-risk patient populations).”\textsuperscript{11} In
comparison, DIGMAs focus on the entire patient population of a physician’s practice with the ultimate goal of seeing more patients in a given time period using existing resources. As a result, DIGMAs may have different participants in each visit, while CHCCs and SMAs tend to have mostly the same participants at each visit.

Shared Medical Appointments (SMAs)

Some view SMAs as an overriding category for patient group visits, of which DIGMAs and CHCCs are simply variations. While DIGMAs, CHCCs, and SMAs share many similar features, this paper will propose that SMAs, and the UNC Lipid Clinic SMA in particular, are unique avenues of patient care that are separate from DIGMAs or CHCCs. Dr. David Bronson of the Cleveland Clinic Foundation, has proposed two types of SMAs that can be used in clinical practice. Bronson states:

“Shared medical visits are a new concept in patient care. Doctors perform a series of one-on-one patient encounters in a group setting during a 90 minute visit and manage and advise each patient in front of the others. Patients benefit from improved access to their physician and significantly increased education, while providers can boost their access and productivity without increasing hours. Such group visits are voluntary and for established patients only.”

The first type of SMA that the Cleveland Clinic has implemented is for follow-up care and has been used for cardiovascular disease risk factor follow-up, hypertension, diabetes, weight loss and lifestyle management, asthma, fibromyalgia and chronic pain, leukemia and lymphoma management, and bariatric surgery follow-up. In this type of SMA, comprehensive care for specific diseases is provided and “any physical examination needed takes place in the group setting, within the limits of patient comfort and privacy.” The physician provides patient care just as he or she would in a traditional
individual appointment and documents patient records as necessary. A health behaviorist provides discussion topics, counseling, and fields patients’ questions while the physician is occupied with other tasks like documentation or patient examination and evaluation. The health behaviorist also keeps the group on schedule and facilitates administrative aspects of the group such as ensuring patients have appropriate prescriptions and appointments. The UNC Lipid Clinic SMA will most closely resemble Bronson and the Cleveland Clinic’s follow up SMA model.

Bronson describes the second SMA type as “shared medical appointments for physical examinations…[This type is] similar to those for follow-up, but the physical examinations occur privately. Discussion and medical management still take place in the group…[This type of SMA] is designed for complete yearly physical examinations…and groups are usually about half the size of those for follow-up appointments.”

This type of SMA is also appropriate for use in clinics where private physical examinations are always needed (urological or gynecological specialty clinics for example).
The following table is an adaptation of a table presented to UNC cardiologists by Pfizer in the Fall of 2007. The CHCC and DIGMA columns have been copied from the presentation. The UNC Lipid Clinic SMA column is my own addition to the table.

Table One

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Cooperative Health Care Clinics (CHCCs)</th>
<th>Drop-In Group Medical Appointments</th>
<th>UNC Lipid Clinic SMA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency and Duration</strong></td>
<td>2 ½ hour monthly visit</td>
<td>1 ½ hour weekly visit</td>
<td>1 ½ - 2 hour weekly visit</td>
</tr>
<tr>
<td><strong>Number of patients</strong></td>
<td>15 to 20 patients plus caregivers</td>
<td>10 to 16 patients plus 2-6 caregivers</td>
<td>10 to 12 patients</td>
</tr>
<tr>
<td><strong>Group characteristics</strong></td>
<td>Homogenous group, share common characteristics</td>
<td>Heterogeneous group, may have varying health care needs</td>
<td>Fairly homogenous group with similar health care needs</td>
</tr>
<tr>
<td><strong>Patient attendance</strong></td>
<td>Same patients typically attend every session</td>
<td>Different patients with different conditions attend sessions only when they have a medical need</td>
<td>Same patients typically attend every session. Two spots reserved for drop-ins as medical need arises</td>
</tr>
<tr>
<td><strong>Group commitment</strong></td>
<td>Long term commitment to regularly scheduled meetings</td>
<td>Many patients attend by appointment but drop-in convenience is available</td>
<td>Long term commitment to regularly scheduled appointments ideal, but some drop-in spots allowed</td>
</tr>
<tr>
<td><strong>Providers</strong></td>
<td>Facilitated by a physician, a nurse, and other staff as needed</td>
<td>Facilitated by a physician with the assistance of a behaviorist, nurse, or medical assistant, and a scheduler</td>
<td>Facilitated by a physician, behaviorist, nurse, and other clinic support staff</td>
</tr>
</tbody>
</table>

The examples of group visits described on the previous page provide some applications of group clinical care that will be implemented into the UNC Lipid Clinic SMA. These previously established frameworks provide a structure from which our program will be developed.
Observed benefits and challenges from shared medical appointments

The second focus of this section of the paper is to examine what benefits and challenges resulted in other clinics with the implementation of a shared medical appointment (or a varied version thereof) according to published data and studies. Most of the literature I found concerning shared medical appointments consisted of narrative descriptions and program plans and recommended structures for clinic implementation. Few studies exist where thorough program evaluations or adequate assessments of program impacts have been performed. Some findings about the benefits of SMAs have been made by authors without high-quality evidence to support their conclusions. In addition, a large amount of heterogeneity exists in the literature concerning what impacts and program effects were assessed and the methods to assess them. A large amount of variation also exists in how various types of group clinical care were provided in terms of structure, focus, and clinic delivery as each program is molded and altered to fit the unique needs of a certain clinic, physician, or patient population. Despite the limitations of the available literature in making definitive conclusions about the benefits and impacts of SMAs, the evidence that does exist will prove helpful for organizing the evaluation plan of this program and to provide stakeholders of examples where similar programs have demonstrated successes in one manner or another.

The findings of studies evaluating the impacts of shared medical appointments or similar models, like DIGMAs and CHCCs, are provided in table format below. The findings of a qualitative review on group visit research are provided and summarized first. This review, by Jaber, Braksmajer, and Trilling, highlights that “despite the interest in group visits…rigorous evaluation has been limited to a few randomized trials targeting
high-utilizing older patients and those with diabetes, headaches, and cardiovascular
disease.” As this review suggests, more research and evaluation of SMA type
programs are needed to elucidate the potential benefits of program implementation.

The most common challenges identified in the literature for implementing shared
medical appointments or similar programs include concerns about patient confidentiality
and difficulty with maintaining adequate patient censuses for the programs. These
are not problems that seem to arise after program implementation; rather, these issues are
commonly perceived to be potential barriers to program success during the program
planning stages. While many articles in the literature acknowledge the potential for
difficulties with patient confidentiality, most studies have found that patients do not have
objections to sharing their medical information in front of others. Isler found that
“concerns regarding confidentiality are frequently raised by the [health care providers],
but rarely from patients.” Noffsinger also found that “initial concerns regarding
patients’ need for confidentiality [by the health care providers] and possible
unwillingness to discuss their medical issues in a group setting have proved unfounded.
In general, patients are surprisingly candid and open.” In addition, pre-implementation
concerns about maintaining high levels of patient attendance in SMA type programs have
not bore out. Much of the literature has found high levels of patient satisfaction with
these types of appointments and little difficulty in retaining patient participants. Most
examples of SMA or similar programs’ implementation have reported a successful and
sustainable patient program census. It must be acknowledged, however, that the
possibility exists that examples and descriptions of failed SMA or similar group visit
models do not appear in the literature.
**Literature Review Table 1**

<table>
<thead>
<tr>
<th>STUDY: Group Visits: A Qualitative Review of Current Research</th>
<th>AUTHORS: Raja Jaber, Amy Braksmajer, Jeffrey Trilling</th>
</tr>
</thead>
<tbody>
<tr>
<td>FUNDING: None declared</td>
<td></td>
</tr>
<tr>
<td>DESIGN:</td>
<td>Study Design: systematic qualitative review of all group visit articles published from 1974 to 2004 Sample Size: 33 articles (18 after exclusions)</td>
</tr>
<tr>
<td>INTERVENTION (group visit structure):</td>
<td>All were group visits that included individual medical assessments and treatment in addition to group education in comparison to “usual care” (traditional one-on-one appointments). Group visit structures varied widely.</td>
</tr>
<tr>
<td>INCLUSION:</td>
<td>Articles between 1974 and 2004 examining group visits in one form or another that provided individualized health care in a group setting</td>
</tr>
<tr>
<td>EXCLUSION:</td>
<td>Articles excluded if: 1. not research studies (purely descriptive with no evaluation) 2. the group visit intervention was subsumed under larger primary or hospital-based interventions 3. two excluded because they were subanalyses of data that were covered in greater detail in other studies</td>
</tr>
<tr>
<td>STUDIES’ CHARACTERISTICS:</td>
<td>Authors admit being confronted with a large body of heterogeneous information, “including various chronic conditions, populations, program lengths, follow-up frequencies, study durations, group visit models used, research designs, and patient attendance rates.”</td>
</tr>
<tr>
<td>OUTCOME ASSESSMENT</td>
<td>Organized the qualitative review by “sequentially describing the effect of all programs on patient satisfaction, health services utilization, quality of care, health behaviors, physical function/depression/quality of life, disease-specific outcomes, physician satisfaction, and cost of care.” (If these factors were measured in the reviewed studies.)</td>
</tr>
<tr>
<td>RESULTS:</td>
<td>1. Most studies found increased patient satisfaction with group medical appointments. 2. Decreased utilization of some specific health services (ED visits, visits to specialists, and hospitalization rates) 3. Three studies examining diabetes management shared visit programs found higher rates of providing preventive procedures, lower medication dosages, lower HgA1C’s, and lower rates of microalbuminuria in the shared visit participants, indicating higher quality of care. 4. Mixed results for healthy behaviors and self-efficacy: Disease related knowledge and healthy behaviors increased in some studies with group visit participation, but some studies showed no difference between groups. 5. Mixed results for disease specific outcomes: LDL and triglyceride levels in cardiovascular disease patients, blood glucose control in diabetics, blood pressure control, and pain control, for example. Some studies showed improvements in these types of outcomes while others showed no difference. 6. Physician satisfaction, when measured, has been</td>
</tr>
</tbody>
</table>
shown to be high with group visit models.
7. Physician productivity, measured in various ways including number of patients seen and ability to spend adequate time with patients, has been shown to be increased with group visits.
8. Most studies did not show a decrease in cost of care.

<p>| QUALITY RATING: | Good (the only systematic review currently available) |</p>
<table>
<thead>
<tr>
<th><strong>FIRST AUTHOR</strong></th>
<th><strong>YEAR</strong></th>
<th><strong>TYPE OF GROUP VISIT</strong></th>
<th><strong>POPULATION</strong></th>
<th><strong>NUMBER</strong></th>
<th><strong>VISIT FREQUENCY</strong></th>
<th><strong>RCT /CONTROL GROUP</strong></th>
<th><strong>Analysis</strong></th>
<th><strong>DATA ASCERTAINED</strong></th>
<th><strong>OUTCOMES FOR GROUP VISITS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Beck 10</td>
<td>1997</td>
<td>CHCC</td>
<td>Older chronically ill HMO members</td>
<td>160 to CHCC, 161 control</td>
<td>2 hour visits, once a month for 1 year</td>
<td>Yes Traditional care, No significant differences btw groups</td>
<td>Intention to treat</td>
<td>Phone interviews, written surveys, chart review, clinic databases</td>
<td>-higher patient satisfaction -fewer repeated hospitalizations and specialty and ED visits -higher MD satisfaction -higher rates of flu and pneumonia vaccinations -cost of care per month was $14.79/month cheaper -no difference in self reported level of health</td>
</tr>
<tr>
<td>Clancy 16</td>
<td>2007</td>
<td>CHCC</td>
<td>Type II diabetics at the Adult Primary Care Center at MUSC</td>
<td>186</td>
<td>6 cohorts met once a month for one year</td>
<td>Yes Traditional care, No significant differences btw groups</td>
<td>Intention to treat</td>
<td>Blinded research assistants reviewed clinic medical records</td>
<td>At two measurement times, HbA1c, BP, and lipids did not differ significantly between groups -At 12 months, group visit patients showed greater concordance with ADA process of care indicators and higher screening rates for breast cancer (80 v 68%, p=0.006) and cervical cancer (80 v 68%, p=0.019) -Fewer emergency room visits and hospitalizations than traditional, one-on-one care patients</td>
</tr>
<tr>
<td>Coleman 25</td>
<td>2001</td>
<td>CHCC</td>
<td>Chronically ill elderly patients</td>
<td>295</td>
<td>2 hour visits, once a month for 1 year</td>
<td>Yes Traditional care, No significant differences btw groups</td>
<td>Intention to treat</td>
<td>Medical records review</td>
<td>-Patient satisfaction was high with the DIGMA group, but not significantly different from traditional care.</td>
</tr>
<tr>
<td>Fletcher 9</td>
<td>2006</td>
<td>DIGMA</td>
<td>Older patients with a variety of urological problems</td>
<td>279</td>
<td>1hr DIGMA with private 5 min physicals for 1 year</td>
<td>No. DIGMA pts more likely older, male, and higher education</td>
<td>Survey review</td>
<td>Anonymous patient surveys</td>
<td></td>
</tr>
</tbody>
</table>

**Evaluation Table**
<table>
<thead>
<tr>
<th><strong>FIRST AUTHOR</strong></th>
<th><strong>YEAR</strong></th>
<th><strong>TYPE OF GROUP VISIT</strong></th>
<th><strong>POPULATION</strong></th>
<th><strong>NUMBER</strong></th>
<th><strong>VISIT FREQUENCY</strong></th>
<th><strong>RCT/CONTROL GROUP</strong></th>
<th><strong>ANALYSIS</strong></th>
<th><strong>DATA ASCERTAINED</strong></th>
<th><strong>OUTCOMES FOR GROUP VISITS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Kirsh²⁶</td>
<td>2007</td>
<td>SMA based on chronic care model (CHCC)</td>
<td>Patients with diabetes with high cardiovascular risk at an academic medical center</td>
<td>112</td>
<td>1-2 hour visit with patients attending 1 to 7 visits</td>
<td>Quasi-experimental w/ concurrent but non-randomized controls</td>
<td>Initially a pretest- posttest design, but switched to quasi-experimental study</td>
<td>Medical records reviewed retrospectively for quantitative data.</td>
<td>-Reductions in A1C and SBP greatest for SMA group (1.44 v -0.30, p=0.002 for A1C) and (14.83 v 2.54mmHg, p=0.04 for SBP) -LDL-c reduction greater in SMA (16.0 v 5.37 mg/dl, but p=0.29) -No change in glycemic control following SMA attendance -Adherence to preventive guidelines improved (flu vaccine: 31% before SMA, 53% after, p=0.018) -CVD events decreased (2.20 v 1.88, p=0.014)</td>
</tr>
<tr>
<td>Manthira m²⁷</td>
<td>2007</td>
<td>SMA</td>
<td>Type II diabetics who attended at least 2 SMAs in a primary care clinic in Parkland Community</td>
<td>63</td>
<td>90 minute sessions offered for regular follow up care</td>
<td>No. Comparison to values before the SMA involvement</td>
<td>Pretest and posttest analysis of health outcome indicators</td>
<td>Medical record review</td>
<td>-Average attendance was 81% for pre-registered patients -Increased patient satisfaction -Increased physician satisfaction -Reduced waiting time for appointments -Improved A1C -Improved patient satisfaction -Increase in medication use -Increased blood glucose monitoring -Increase in self-efficacy (balancing one’s diet, ability to recognize and treat blood glucose, etc) -Lower hospitalization rates</td>
</tr>
<tr>
<td>Noffsinge r²⁰</td>
<td>2001</td>
<td>DIGMA</td>
<td>Unclear, but included all patients in 4 volunteer practices</td>
<td>Average of 41.8 pts per session</td>
<td>90 minute session offered weekly to all patients</td>
<td>No. No control group</td>
<td>Pretest and posttest comparison</td>
<td>Patient surveys, Attendance sheets</td>
<td></td>
</tr>
<tr>
<td>Sadur¹²</td>
<td>1999</td>
<td>SMA</td>
<td>Type I and II diabetics with A1C greater than 8.5%</td>
<td>142</td>
<td>2 hour visits once per month for 6 months. Telephone follow up to review</td>
<td>Yes. Traditional care comparison group</td>
<td>Intention to treat</td>
<td>Medical records review and patient surveys</td>
<td></td>
</tr>
<tr>
<td>FIRST AUTHOR</td>
<td>Year</td>
<td>TYPE OF GROUP VISIT</td>
<td>POPULATION</td>
<td>NUMBER</td>
<td>VISIT FREQUENCY</td>
<td>RCT (CONTROL GROUP)</td>
<td>ANALYSIS</td>
<td>DATA ASCERTAINED</td>
<td>OUTCOMES FOR GROUP VISITS</td>
</tr>
<tr>
<td>--------------</td>
<td>------</td>
<td>---------------------</td>
<td>------------</td>
<td>--------</td>
<td>----------------</td>
<td>---------------------</td>
<td>----------</td>
<td>----------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Scott¹⁹</td>
<td>2004</td>
<td>CHCC</td>
<td>Chronically ill, high utilizing older adults over age 60</td>
<td>294 (145 CHCC, 149 usual care)</td>
<td>90 minute visit with PCP once per month for 2 years</td>
<td>Yes Traditional care.</td>
<td>Intention to treat</td>
<td>Medical record review, patient survey</td>
<td>- Outpatient, pharmacy services, home health, and skilled nursing facility did not differ between groups. - CHCC had fewer hospitalizations (p=0.012) - Fewer ED visits (p=0.008) - Costs were $41.80 less per month for CHCC patients - Increased patient satisfaction and reported quality of life</td>
</tr>
<tr>
<td>Trento¹³</td>
<td>2001</td>
<td>SMA</td>
<td>Type II diabetics in a clinic in Italy</td>
<td>112</td>
<td>60 minute visits approx once every 3 months for 3 years</td>
<td>Yes Traditional care</td>
<td>Intention to treat</td>
<td>Medical records review, patient surveys</td>
<td>- Decreased A1C levels - Increased diabetes knowledge - Improved self reported quality of life - Less progression of diabetic retinopathy - Higher 4 year costs for group patients ($2.12 more per quality of life point gained) - No difference in blood pressure - Increased patient satisfaction</td>
</tr>
<tr>
<td>Trento</td>
<td>2004</td>
<td>SMA</td>
<td>Type II diabetics in a clinic in Italy</td>
<td>112</td>
<td>60 minute visits approx once every 3 months for 5 years</td>
<td>Yes Traditional care</td>
<td>Intention to treat</td>
<td>Medical records review, patient surveys. Different outcomes assessed</td>
<td>- No difference in BMI, body weight, HDL, use of antihypertensives, or lipid lowering meds, triglycerides, or creatinine - Increase in patient self-efficacy (ability to monitor and treat blood glucose) - Decrease use in hypoglycemic agents - Reductions in HbA1C that were observed were also more stable than controls</td>
</tr>
</tbody>
</table>
Summary

The evidence tables highlight the heterogeneity of the available literature assessing shared medical appointments or similar versions of group visits. The scarcity of empirical research combined with the differences in what group patient care programs were offered and how they were offered, differences in outcome measures, and varying population or disease targets for the group visit programs poses a problem for evaluating the benefits of shared medical appointments. Some improved factors appear more clear, however, including the ability of SMAs and similar group visit models to increase patient and physician satisfaction, to increase the number of patients seen during a clinic schedule, and consequently, to reduce physician backlogs. Nearly all of the empirical studies and descriptive program literature have all indicated these types of benefits have occurred in their clinics after a SMA type program implementation. Other factors, however, like improvements in health risk factors or indicators of disease control or management, are not as clear in the available literature. As shown in the evidence tables, a few studies have shown improvements in health outcomes or other factors while other studies have found no improvement with program implementation compared to traditional patient-physician dyad care. The various outcomes that were improved with a group visit type program, even with considering the limitations of heterogeneity in the studies, at least indicate the potential for the UNC Lipid Clinic SMA to improve patient health outcomes and other factors like health literacy.

The descriptive examples of DIGMAs, CHCCs, and SMAs in the literature will provide a springboard upon which to base the UNC Lipid Clinic SMA. Certain aspects of each type of group visit example will be utilized, however, other aspects will be
excluded from incorporation into the program. The UNC SMA overall will most closely resemble that of the homogenous DIGMA in that enrolled patients will have similar health problems with similar disease management strategies. The no advanced appointment feature of the DIGMA will be employed in the UNC Lipid Clinic SMA, but instead of this option being open to the whole census of patients, it will be reserved for two or three slots in each scheduled SMA. In this way, a couple slots in the UNC Lipid Clinic SMA will be open for those who need or desire an unscheduled appointment as soon as possible. All other patient slots in the SMA will be scheduled prior to the clinic visit on a regular health maintenance basis.

In addition, the UNC Lipid Clinic SMA will differ from the CHCC visit model in that patients will not need to schedule an individual appointment in addition to the SMA unless an unforeseen circumstance arises; for instance, the patient has a private matter that they do not wish to discuss in the presence of other patients. Some need for private physical examination may also arise during the UNC Lipid Clinic SMA and patients will be offered a private exam after conclusion of the SMA for those who need it. Most patients in the UNC SMA will only require auscultation of the heart and lungs and other simple procedures like checking distal pulses that will not require a private room; however, private exam needs will be addressed as required. While DIGMAs, CHCCs, and other SMAs provide some insight into how to structure our program, the UNC Lipid Clinic SMA will be designed and tailored to the specific needs of the clinic staff and the patient census.
Program Context

Why the UNC Lipid and Prevention Clinic?

The UNC Lipid and Prevention Clinic is a component of UNC Hospital’s Heart Center at Meadowmont in Chapel Hill. Dr. Ross Simpson and Dr. Phil Mendys co-direct the clinic with a focus on prevention for patients with diagnosed cardiovascular disease or significant risk factors for disease such as elevated LDL cholesterol, elevated triglycerides, hypertension, obesity, smoking, and family history of disease. The clinic also offers advanced therapy and management for patients with familial hypercholesterolemia, a genetic condition that predisposes patients to higher risks of cardiovascular disease, including myocardial infarction (heart attack) and stroke, compared to the general population.28 The large majority of the patients seen in this clinic are referred from outside medical providers.

Many of the patients share similar cardiovascular disease risk factors described above and take similar medications, as might would be expected with a subspecialty chronic disease outpatient clinic. Because of the similarities between patients, the providers in the UNC Lipid Clinic often give the same advice, counseling, answer the same patient questions, and manage similar health issues repeatedly throughout the clinic day. In addition, waiting lists for new patients to see Dr. Simpson, known as a “physician’s backlog,” reached two months at the beginning of 2008. Based on the current UNC Lipid Clinic structure, a shared medical appointment program serves as the
necessary intervention to improve clinic efficiency and accessibility while also providing patient health benefits.

**Need for a SMA Program**

The practice of medicine constantly changes and improves as research finds new therapeutics, diagnostics, and methods for disease management. A new medication that improves the treatment of a specific health condition provides physicians with a new option to improve the medical care of their patients. Shared medical appointments can be viewed in this same light, as a new option or strategy for physicians and patients to utilize in treatment and prevention. The SMA program is not meant to substitute the traditional medical practice of one-on-one patient encounters, rather it is an alternative clinic visit option that can be used to subsidize current practice. Providers in the UNC Lipid and Prevention Clinic seek to improve the care of their patients while making disease prevention an important priority. The UNC Lipid Clinic currently sees all patients in a traditional one-on-one setting. Studies have shown that a SMA program can increase patient and provider satisfaction, improve disease management and outcomes, increase health care access, and improve clinic efficiency.\(^3\), 8, 29, 30 Based on this information and the need to provide the best care possible to patients, a SMA program in the UNC Lipid Clinic can potentially improve the health and prevention efforts of its patients.

A formal needs assessment for implementing a SMA program in the UNC Lipid Clinic was not performed. The decision to pursue this program implementation was based on the information above. A needs assessment could involve, however, the
following items if conducted in the future in other clinics contemplating SMA implementation.

1. Patient and physician satisfaction surveys comparing results to those of traditional clinics and other programs utilizing SMA programs. Lower satisfaction scores may indicate that a SMA could be needed for improvement.

2. Adherence to clinical guidelines scores as developed in “pay for performance” systems could be used to monitor if clinics are adequately and thoroughly addressing all of a patient’s health issues. Some studies have suggested that shorter clinic visit times lead to increased physician mistakes and oversights. Lower scores may indicate that a SMA could be needed to increase time spent with patients in order to more fully address patients’ problems.

3. Long waits to be seen in clinic (increased physician backlogs) may indicate that a SMA could be used to increase patient access to their provider.

4. Patient surveys examining health literacy and treatment adherence may be used to gauge how well patients’ understand their disease and health management. A SMA program could be needed to increase patients’ knowledge about their health.

Program Acceptability

The SMA program in the UNC Lipid Clinic must be acceptable to three different groups of participants: supporting clinic staff, patients, and cardiology department administrators. As target recipients of the shared medical appointment, patients play the most important role in the acceptability of the program. Advertisement campaigns using posters, flyers, and active patient recruitment will be used as strategies to introduce the clinic patient population to the idea of a SMA. In the Fall of 2007, a dinner meeting hosted by Pfizer and initiated by Dr. Phil Mendys was used to introduce the idea of using SMAs in clinical practice to members of the cardiology department at UNC. Alternative patient group visits, including SMAs used in the Cleveland Clinic and DIGMAs (drop-in
group medical appointments), were discussed to present program foundations. Clinic program staff, including nurses and schedulers, will need training in how SMAs operate and the goals of the program in order to ensure adequate participation and enthusiasm for the program. Adequate education about the SMA program and its benefits to all three groups will enhance acceptability prior to program implementation.

Financial Resources and Administrative Framework

The SMA program will utilize existing clinic staff and providers and currently available resources (including an adequately sized group conference room for the SMA) for program implementation. Because the program will be initiated into existing clinic structures, little additional financial resources will be needed. The only additional costs that will be incurred compared to traditional clinic environments will include finances for program advertisement and training program materials for clinic staff. Thus, this program will have small financial startup costs.

Stakeholders

The stakeholders in the UNC Lipid Clinic SMA program will include the co-directors of the clinic, Drs. Mendys and Simpson to serve as “champions” of the program. Integration and involvement of other cardiology department physicians and staff at UNC will be vital for the program’s long term success. Long term commitments from staff willing to serve as SMA health behaviorists (described in the implementation section) and assistants for the logistics of group visit care will be important for maintaining the structuring of the program. Patients involved in the SMA are key
stakeholders as well. The encouragement of these participants to continue utilizing the program and to create an environment that proves a viable, beneficial, educational, and engaging way to receive their health care will help to ensure that attendance remains adequate. Early identification and recruitment of a patient interested in joining the SMA to serve as a “patient to patient” advocate for the program may serve as a valuable asset.

**Challenges**

The most significant challenge facing the implementation of the SMA program for UNC’s Lipid Clinic is the acceptance and adoption of an alternative, nontraditional clinic visit by both patients and providers. The structure and utilization of a SMA in clinical practice differs significantly from what most people are familiar with. As discussed above, training sessions for clinic providers and advertising targeted to patients will help potential participants gain a better understanding and appreciation for SMA programs. Another challenge involves the idea of “duplication of efforts.” The Cleveland Clinic, Kaiser Permanente, and other centers have developed group visit programs whose basic structure serves as a foundation for the UNC SMA model.\(^3\, 6\) It is important to recognize, however, that the contexts of these programs at other centers may differ significantly from the UNC Lipid Clinic. The literature review section of this paper serves as a guide for understanding what aspects may have worked well in other settings and what have not and how the UNC SMA program can apply that knowledge towards creating its own, more effective program.
## Logic Model

The following logic model’s outline is adapted from a sample model appearing in a UNC program planning and evaluation course.\(^ {31} \)

<table>
<thead>
<tr>
<th>Resources/Inputs</th>
<th>Activities</th>
<th>Outputs</th>
<th>Short and Long Term Outcomes</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>In order to accomplish our set of activities we will need the following:</td>
<td>In order to address our problem or asset we will conduct the following activities:</td>
<td>We expect that once completed our underway these activities will produce the following evidence of service delivery:</td>
<td>We expect that if completed or ongoing these activities will lead to the following changes in 1-3 then 4-6 years:</td>
<td>We expect that if completed these activities will lead to the following changes in 7-10 years:</td>
</tr>
<tr>
<td>-Initial identification of 15-20 patients in the UNC Lipid Clinic who could benefit from a SMA</td>
<td>-Patients will be actively recruited by providers in the clinic to participate in the SMA</td>
<td>-Patients will enroll in the SMA option and the group census will be maintained at a sustainable level, with at least 8 patients attending each session</td>
<td>Short term</td>
<td></td>
</tr>
<tr>
<td>-Materials and funding for patient advertising</td>
<td>-Advertisements, including posters, fliers, etc, will be used to promote the SMA</td>
<td>-100% of clinic staff will have received SMA training</td>
<td>-Decreased physician backlogs</td>
<td></td>
</tr>
<tr>
<td>-Outline for a SMA training session for clinic staff</td>
<td>-Lipid clinic staff will attend SMA training sessions</td>
<td>-The SMA option for patients will be available on a regular basis (at least biweekly)</td>
<td>-Improved patient access to care</td>
<td></td>
</tr>
<tr>
<td>-Identification of an employee to serve as a “health behaviorist” in the SMA</td>
<td>-A SMA role-play practice session will be held by clinic staff to “test run” the logistics of the program</td>
<td>-Clinic health care providers will spend time during the SMA to discuss prevention and disease management strategies more thoroughly</td>
<td>-Higher overall clinic patient census</td>
<td></td>
</tr>
<tr>
<td>-Identification of an adequately sized room for conducting the SMA in clinic</td>
<td>-Meetings with departmental administrators to discuss potential benefits of the program</td>
<td>-Increased patient satisfaction</td>
<td>-Increased patient satisfaction</td>
<td></td>
</tr>
<tr>
<td>-Cooperation with and support from UNC administrators in implementing the SMA program</td>
<td>-Baseline disease severity, risk factor control, and satisfaction assessed in SMA patients</td>
<td>-Ability to focus more thoroughly on prevention for SMA patients</td>
<td>-Program implementation and dissemination in other clinics (both primary and specialty care)</td>
<td></td>
</tr>
<tr>
<td>-Set a start date for the SMA program</td>
<td></td>
<td></td>
<td>Long term</td>
<td></td>
</tr>
</tbody>
</table>

-Initial identification of 15-20 patients in the UNC Lipid Clinic who could benefit from a SMA:
-Materials and funding for patient advertising:
-Outline for a SMA training session for clinic staff:
-Identification of an employee to serve as a “health behaviorist” in the SMA:
-Identification of an adequately sized room for conducting the SMA in clinic:
-Cooperation with and support from UNC administrators in implementing the SMA program:
-Set a start date for the SMA program:
Goals and Objectives

UNC Shared Medical Appointment Goal: To provide an alternative clinic visit option that will improve the delivery and quality of preventive health care services for patients with cardiovascular disease or risk factors for disease.

Short Term Objectives (1-3 years)

- The SMA program will improve access to care by the second month of implementation through reducing physicians’ backlogs and increasing the number of patients seen in a clinic day by 30-40%.
  
  a. Several “drop-in” slots will be reserved for patients to be seen in the SMA without an appointment.
  
  b. Approximately 12 patients will be seen in a weekly 90 minute session.
  
  c. The census of patients utilizing the SMA will be maintained at a sustainable level through individual patient recruitment by the physician and through various promotional techniques (clinic posters, flyers, and other advertisements).

- Patients will become more active participants in their own care compared to traditional one-on-one appointments within the first six months of their involvement as discussed in the “Literature Review” section.
  
  a. Patients will be able to interact with each other and the physician as a group in a peer-supported setting.
  
  b. Patients will utilize the SMA on a volunteer-basis, enabling patients to become more active participants in their own care if they wish to do so.

- Within 6 months, the SMA program will increase patients’ health literacy and knowledge about their disease and risk factors.
  
  a. More time in the SMA will be permitted to counseling and health/disease education than a traditional one-on-one clinic visit.
b. A health behaviorist will be utilized to provide health counseling and education.

c. A closing 15 minute question-answer session in the SMA will allow patients to ask clarifying or explanatory questions.

● The SMA program will increase patient satisfaction with their doctor’s visit by the patient’s 4th visit.

a. The SMA will be a 60 to 90 minute clinic visit, allowing patients to spend more time with their personal physician.

b. The structure of the SMA will allow time for most concerns and questions of the patients to be addressed by a health care professional.

● Physician productivity will increase within six months of program implementation.

a. More patients will be seen in the SMA than individual visits in a comparable amount of time.

b. Utilization of multiple staff in the SMA will allow patient notes, orders, and prescriptions to be completed in a timely and thorough fashion.

● By month three, 100% of support staff will have received training in the structuring and functioning of the SMA.

a. A training program will be developed to instruct staff to be involved in the SMA.

b. All clinic staff will attend the training session for the SMA program.

Long Term Objectives (4-6 years)

● Patients utilizing the SMA will show improved cardiovascular disease health outcomes over the next five to ten years.
a. Covering a more full breadth of patients’ issues in the SMA, due to increased time with patients, will ensure fewer health related topics are skipped or forgotten by the physician.

b. SMA providers will address prevention more thoroughly than an individual appointment.

c. Patient adherence to medications and healthy behavior will increase in the SMA setting.

- Following successful SMA implementation in the UNC Lipid and Prevention Clinic, the SMA program will be disseminated to other specialty chronic disease and primary care clinics.

a. The structure of the SMA can be readily applied to other clinical programs other than cardiovascular disease management.

Program Theory

Two program theories, the social learning model and the organizational change model, will help to guide the development of the UNC SMA program plan. These theoretical frameworks also serve to establish the strategies for the program’s evaluation based on the outlined objectives and goals.

Interpersonal Level

The social learning theory operates at the interpersonal level. This theory “assumes that people exist within environments where other’s thoughts, advice, examples, assistance, and support, affect their own feelings, behaviors, and health.”

The social learning theory will be applied in planning the SMA program so that an appropriate environment will be created to facilitate positive change in individual health behaviors and improvement in individual health outcomes through group dynamics. Key
concepts of the social learning theory include reciprocal determinism, behavioral capability, expectations, self efficacy, observational learning, and reinforcement. Some of these concepts will be discussed specifically as they relate to the implementation of the shared medical appointment program.

The concept of reciprocal determinism stipulates that individual behavior changes occur from interactions with their environment. Reciprocal determinism will allow the SMA program to change individual health behaviors through facilitation of patient group interactions. Behavioral capabilities will center on patients increasing their health literacy and understanding about their disease through a portion of the SMA time being spent on discussing certain aspects of the patients’ care. Observational learning in the SMA program will occur on two different levels. Patients in the SMA program will observe the interactions of the physician and other health providers with individual patients in the group. In addition, patients will interact with each other to share successful strategies for disease management and prevention. Positive reinforcement of health behavior change will be facilitated using patient progress charts for markers of successful cardiovascular disease control; cholesterol and triglyceride levels, blood pressure, weight, etc.

Community and Organizational Level

The SMA program consists of a very different type of patient care compared to the traditional patient-physician dyad. Utilization of the organizational change stage theory will help to enable administrative and clinical acceptance of this program and better ensure implementation. The stages of organizational change include problem
definition, initiation of action, implementation of change, and institutionalization of change. The UNC SMA program problem definition includes increased physician backlogs, limited patient access, short traditional clinic visit durations, and a need to focus more on prevention. These issues have been previously described in this paper under the section “Program Context.” Initiation of action will include partnering with all Lipid Clinic staff and UNC Cardiology administrators to promote support in utilizing the SMA in clinical practice. Implementation of change will involve providing the option of the SMA to patients and taking efforts to ensure the success and viability of the program. Maintaining an adequate patient census participating in the SMA with continued advertising and promotion, continuing to involve the clinic staff, and providing the SMA on a regular basis will help to ensure the success of the program and lead to institutionalization of change. In other words, the success in implementing the program will aid in making the SMA option a regular and common component of health care at UNC.

**Program Implementation**

**Resources/Inputs and Activities**

The SMA program will be the first of its kind at UNC. As such, no existing programs at UNC provide an example from which to frame the program structure. Other related group visit models at the Cleveland Clinic and Kaiser Permanente are available as reference points for the UNC Lipid Clinic program; however, these other models will be used primarily to identify basic program features that could be efficiently and easily
integrated into the UNC Lipid Clinic. Certain activities need undertaking before
implementation of the SMA program in the Lipid Clinic. These activities will serve to
provide an organizational framework for the program with the ultimate goal of helping to
meet the objectives outlined in the Goals and Objectives section above.

Recruitment

One of the most important activities to initiate will involve recruiting patients into
the SMA program. This activity is certainly vital for the early stages of program
implementation, but will also need to be continued after program initiation in order to
maintain an adequate patient census. Some of the individual patient recruitment for the
SMA program will occur through physician suggestion during a patient’s traditional
clinic appointment. Patients who meet some or most of the criteria described in Table 1
below could be offered the option of joining the SMA for routine care in the clinic.

Posters and promotional pamphlets advertising the SMA option will be made available
for patients as well to view in the UNC Heart Center at Meadowmont (where the Lipid
Clinic is located). This advertising strategy will allow patients who are interested in the
SMA style of patient care to inquire about and join the program. Patients who have long
wait times to be seen in clinic (more than a couple of weeks) and who have non-acute
medical problems, will also be given the option of joining the SMA program to see a
cardiologist sooner. At least fifteen patients should be enrolled in the program before the
first SMA is performed in clinic. This will help to ensure adequate attendance, at least in
the initial period, for the SMA program.
**Staff Training Sessions**

In conjunction with the identification of patients willing to participate in the program, UNC Lipid Clinic staff will need to attend training sessions explaining the structure, logistics, and goals of the SMA. Drs. Simpson and Mendys, as “champions” of the program, will lead these training sessions with the purpose of describing the potential benefits of the SMA and how it differs from traditional, one-on-one patient visits. These sessions will also provide details about specific actions staff will need to take to facilitate the incorporation of the SMA visit option into the UNC Lipid Clinic. For example, front desk patient schedulers will be instructed to tell patients requesting a future appointment that they may be seen sooner by a cardiologist if they wish to “drop-in” to the SMA.

**Practice Run**

After the clinic staff have attending a training session on the SMA, a “practice run” SMA should be performed with staff and volunteers role-playing as patients. This practice run will be important in familiarizing the staff with the actual conduction of the SMA and to identify potential problems and inefficiencies in the clinical aspect of the program before implementation for actual patients. The practice run SMA should be performed with a “real” program start date in mind. At least one month should separate the practice run from the real SMA so that another practice run can be appropriately scheduled if needed to test adjustments to the SMA visit.
**Clients/Patients**

The patient characteristics in Table 1 serve as a general guide for what type of patients with what health problems would most likely benefit from the SMA option. This table is not meant to be fixed and unalterable; in practice, patients utilizing the SMA will certainly vary in some of these categories. The initial census of patients identified to use the startup SMA should have around fifteen patients. These patients will use the SMA for routine, preventive, and non-acute health care and will likely be seen once every few months. As more patients become enrolled in the program, more SMA appointments will become available with the goal of providing an SMA option at least every other week.

**TABLE 2**

**PATIENT CHARACTERISTICS FOR CHOOSING THE SMA OPTION**

<table>
<thead>
<tr>
<th>Patients Who Should Use the SMA</th>
<th>Patients Who Should Not Use the SMA</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Non-acute health problems (high cholesterol or triglyceride management for example)</td>
<td>-Patients with acute health problems, including chest pain, syncopal episodes, or other potentially emergent conditions</td>
</tr>
<tr>
<td>-Those referred from outside providers for cardiovascular disease prevention or lipid management</td>
<td>-Those with special needs more appropriate for individual care (hearing impaired, dementia, mentally impaired, etc)</td>
</tr>
<tr>
<td>-Those who want to be seen in a “drop-in” fashion so that they will not have to wait several weeks for an individual appointment</td>
<td>-Patients uncomfortable or unwilling to have others hear their medical information</td>
</tr>
<tr>
<td>-Those with multiple risk factors for cardiovascular disease</td>
<td>-Those with complicated medical problems that may require longer individual attention from a physician</td>
</tr>
<tr>
<td>-Those interested in a new option for seeing their physician within a group of other similar patients</td>
<td></td>
</tr>
</tbody>
</table>
**Personnel**

The SMA program in the UNC Lipid Clinic will almost entirely utilize current staff in providing this visit option. Nearly all of the staff will work in their current capacity in providing the SMA. One staff member, however, will need to be identified to serve as what the Cleveland Clinic calls a “health behaviorist.” The health behaviorist facilitates discussion topics and fields questions from the group while the physician is attending to individual patients. Ideally, the health behaviorist has training as a pharmacist, nurse, or nurse practitioner and will have experience in dealing with patients with cardiovascular disease. Selection of the health behaviorist will need to be one of the first steps undertaken for program implementation.

**SMA Organization**

The Lipid Clinic in the UNC Heart Center at Meadowmont will house the SMA program. A currently unused conference room adjacent to physician workrooms and patient clinic rooms will be used for the space to provide the SMA. The following framework in Table 3 provides a general outline for how the SMA will be conducted.
### TABLE 3
**GUIDE FOR TIME APPROPRIATION IN THE SMA**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 minutes</td>
<td>- An average of 10 patients gather and have refreshments in the SMA room.</td>
</tr>
<tr>
<td></td>
<td>- Nursing staff bring patient charts into the room.</td>
</tr>
<tr>
<td>30 minutes</td>
<td>- Nursing staff gather patient vitals and medication information (including refill needs).</td>
</tr>
<tr>
<td></td>
<td>- Point of care tests (serum cholesterol, lipids, etc) are obtained by the lab technician for appropriate patients.</td>
</tr>
<tr>
<td>45 minutes</td>
<td>- Physician sees patients sequentially to address individual problems.</td>
</tr>
<tr>
<td></td>
<td>- Health behaviorist gives counseling talk on medications, side effects, disease management, and other health topics.</td>
</tr>
<tr>
<td></td>
<td>- Physician leaves at the end to write patient notes and prescriptions.</td>
</tr>
<tr>
<td>15 minutes</td>
<td>- Appropriate additional lab work is gathered for select patients who need it.</td>
</tr>
<tr>
<td>15 minutes (can occur simultaneously with above 15 minute block)</td>
<td>- Question and answer session led by health behaviorist.</td>
</tr>
<tr>
<td>15 minutes</td>
<td>- Reserved at the end of the SMA visit for patients with individual private concerns or needs.</td>
</tr>
</tbody>
</table>

### Timeline

*Establish a program start date (at least 3 months out)*

↓

*Identify person to serve as health behaviorist and develop program promotional materials*

Initiate staff program training and identify staff responsibilities

*Begin patient recruitment*

↓

*Plan on practice run SMA one month before start date*
Conduct more practice SMA runs if necessary

Program start (hold session at the end of the first SMA to ask patients for feedback)

Schedule regular SMA appointments with the goal of providing an appointment at least once every other week

Evaluation Plan

Approach to Evaluation

The purpose of developing the shared medical appointment (SMA) is to provide an alternative clinic visit option that will improve the delivery and quality of preventive health care services for patients with cardiovascular disease or risk factors for disease in the UNC Lipid Clinic. The aim of the program is to ultimately improve the clinical health outcomes of patients while simultaneously improving patient satisfaction and health literacy. The SMA program primarily targets the Lipid Clinic’s patients in terms of improving patient care, but the program will also improve the administrative functioning of the Lipid Clinic itself by providing a method to see more patients in a given day and to improve staff efficiency.

An evaluation of the SMA program at UNC’s Lipid Clinic will need to be conducted in the future to identify areas for program improvement and to assess the value of the program for involved stakeholders. The evaluation of how the program has
impacted patient outcomes and clinic efficiency will be of the utmost importance in
determining the program’s success and will serve as a basis for initiating efforts to
disseminate the SMA program to other clinics.

Overview of Evaluation

Evaluator Role

At least one person involved in the implementation of the SMA program in the
UNC Lipid Clinic should serve as an evaluator. Either the program director/physician
champion or the health behaviorist would serve this role well. One of these program
providers will need to be involved in the evaluation process in order to ensure that
someone with in-depth knowledge about the organization, structure, and goals of the
program will permit an adequate and accurate assessment of the value of the program.
This internal evaluation should be sufficient for determining the benefits of the program
and what shortcomings need addressing. An external evaluator likely will not provide
additional input beyond what an internal evaluation of the SMA program will reveal due
to the nature of the outcomes being examined (many will be objective measures of
success like SMA enrollment over time). External evaluators may prove beneficial in
assessments that involve subjective input from the patient stakeholders, but program
patient outcome assessments, like patient satisfaction levels, will be ascertained using
anonymous surveys.
**Stakeholder Input**

The various groups of stakeholders involved in the SMA program must be included in all stages of the program evaluation. Patient participants will provide feedback and input on levels of satisfaction with the program, value of health behaviorist topics, self reported levels of improvement in health literacy, and other useful information about areas to improve the SMA. As targets of the SMA program and the ultimate beneficiaries of the intervention, the patient participant group is the most important group involved in the evaluation. Patient participant input about the SMA program will be collected using anonymous patient surveys and active interaction with open-ended interviews in a SMA Focus Group and during some sessions of the SMA visit itself.

The SMA program and Lipid Clinic co-directors are important stakeholders in the evaluation as well and will evaluate the effects of the program on patient health outcomes over the long term. In cooperation with other clinic support staff and administrators, the co-directors will also assess how the SMA program has affected clinic efficiency; for example, examining the volume of patients seen in a given day and reductions in physician back logs compared to before SMA implementation. UNC Lipid Clinic staff will provide input on SMA attendance and repeat visits and information on the effectiveness of recruitment materials (how many patients have called in requesting an appointment through the SMA). Clinic support staff, administrators, and the co-directors of the clinic will provide feedback on possible ways to improve patient recruitment, attendance, and participation.
Evaluation Design and Methods

Evaluation Design

The SMA program will be implemented in the UNC Lipid Clinic and will be made available as a chronic care visit and have no acute medical problems. This type of patient comprises the majority of the clinic’s census; thus, the opportunity for patient involvement in the SMA will encompass many of the patients seen in the UNC Lipid Clinic. For those patients enrolled in the SMA, we hope to see an improvement in patient care, increased patient satisfaction, better long term health outcomes, and increased health literacy. In order to assess these potential SMA program impacts, a “one group, pre-test and post-test” evaluation design will be utilized as described by Issel. Issel describes the one group, pre-test and post-test design as “an evaluation that collects impact data only on or from participants before receiving the program and again after receiving the program...[and] can readily be implemented by many direct services programs that collect data on a set of indicators at baseline and again at exit.”

This type of evaluation design will allow the SMA program evaluators to assess levels of patient satisfaction, patients’ beliefs about health literacy, clinic patient volumes, and other indicators associated with the program’s objectives before the SMA program implementation. The evaluators will then directly compare those same objective indicators some time after the SMA program has been in place to assess whether the program objectives have been met. This type of evaluation design is advantageous
because of its ability to analyze the amount of change in program participants, simplicity of administering the design, and intuitive interpretation of the results.

Issel describes other evaluation designs that also include a comparison group of program non-participants. Theoretically, patients in the UNC Lipid Clinic who do not participate in the SMA program could be used as a comparison group to help determine the program’s association with patient improvements in objective indicators. As Issel describes, the one group, pre-test and post-test design “can answer the question of whether there was any noticeable change or difference but [this design] cannot attribute the change to the intervention.” So utilizing an evaluation design that included a comparison group would aid in determining the causality of the SMA program in reaching the program goals and objectives. The SMA program, however, will only involve patients who wish to participate and is simply a clinic visit option, limiting our ability to ensure similarities between program participants and non-participants. The high potential for selection bias that would be present in examining the outcomes of a comparison group would severely limit our ability to make any accurate conclusions about the effects of the program on patient outcomes. In addition, many of the SMA program objectives focus on potential impacts of the program on the Lipid Clinic’s administrative functioning where no appropriate comparison can be made to other clinic operations. Because of these limitations in using a comparison group, the chosen evaluation design examining the program participatory group alone should be sufficient for determining the value of the SMA program itself for patients and the Lipid Clinic’s specific objectives (increasing the number of patients seen in a day and reducing physician backlogs with the SMA for example).
A “descriptive evaluation design” will also be employed for this SMA program. This type of design entails the ascertainment of quantitative, and in some cases like patient feedback, qualitative data through patient surveys, open ended question-answer sessions, and other similar modalities. This descriptive design coalesces well with the “one group pre-test, post-test” design referred to on the previous page. Information gleaned from descriptive methods can be used to evaluate the impacts of the program as well as allow for areas for program improvement to be acknowledged and addressed. As will be discussed below, answers to specific questions in addition to open-ended stakeholder responses will be utilized to conduct pre-test and post-test program evaluations.

**Evaluation Methods**

The following section (IV) includes evaluation planning tables that outline the questions the SMA program evaluators will ask to help determine program success. Several methods will be utilized to answer the various evaluation questions. Pre and post program data will include information on patient attitudes and behaviors as well as objective data examining outcome indicators like program attendance, overall clinic census, physician backlogs, etc.

All of the evaluation questions addressing objective, quantitative program data will be assessed using document review. The document review may vary based on what question is being asked and will include review of patient scheduling and clinic records, program attendance sheets, and patient electronic records. These reviews will help to determine patient health outcomes, clinic efficiency improvements, increases in patient
volumes seen in a day, and other objective markers of program success. This data should all be readily available and easily accessible with the electronic system of records at UNC. Open-ended interviews with clinic staff will also help to assess whether program objectives are being met and how problems or inefficiencies in the program should be addressed.

The most important potential beneficiaries of the SMA program are the patients themselves. It will be vitally important in evaluating the program to include the input of the patients in the program in answering many of the evaluation questions. Patient feedback and input concerning the SMA program will be collected in two ways. The first will involve using open-ended interviews during early implementation of the SMA program by reserving allotted time at the end of the SMA for patient input. A SMA Focus Group that will include the program champions, volunteer clinic staff, and patient advocates will meet on a periodic basis after program implementation to discuss ways to improve the program and permit patient feedback in an open setting. The second method for collecting patient feedback and input about the program will involve using anonymous patient surveys. These surveys will assess levels of patient satisfaction and health literacy, suggestions for program improvement, and the effectiveness of program recruitment materials. These surveys will allow patients to freely respond to some evaluation questions without concerns for feeling uncomfortable in providing feedback to the clinic staff. Sustaining the SMA Focus Group and encouraging patient feedback and involvement will help to ensure that patients are engaged in their own care and that their concerns about ways to improve their health are heard and addressed.
### Evaluation Planning Tables

**Short Term Objective 1:** The SMA program will improve access to care by the second month of implementation through reducing physicians’ backlogs and increasing the number of patients seen in a clinic day by 30-40%.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the average wait to be seen in clinic, either as a new patient or an established patient seeking a nonscheduled return visit, been decreased?</td>
<td>-Clinic staff- schedulers and administration -Patients in the program</td>
<td>-Open-ended interviews -Document review (patient scheduling)</td>
</tr>
<tr>
<td>Are more patients being seen in clinic on a given day compared to before implementation of the SMA?</td>
<td>-Clinic staff- schedulers and administrative staff</td>
<td>-Document review (patient scheduling and clinic records)</td>
</tr>
<tr>
<td>How many patients are utilizing the “drop-in” feature of the SMA?</td>
<td>-Clinic staff- schedulers and administrative staff</td>
<td>-Document review (patient scheduling and clinic records)</td>
</tr>
<tr>
<td>Is the census of the SMA being maintained at a sustainable level?</td>
<td>-Physician program director (“champion”) -Clinic schedulers.</td>
<td>-Document review (attendance records)</td>
</tr>
<tr>
<td>Were SMA recruitment materials made and distributed for view in the lipid clinic? If not, why?</td>
<td>-Physician program director (“champion”) -Clinic administrative staff</td>
<td>-Open-ended interviews</td>
</tr>
<tr>
<td>How many patients sought joining the SMA through recruitment methods other than direct physician suggestion?</td>
<td>-Patients in the program</td>
<td>-Document review (patient survey)</td>
</tr>
<tr>
<td>Are there ways to improve the methods for expanding access?</td>
<td>-Physician program director (“champion”) -Clinic staff- schedulers and administrative staff</td>
<td>-Open-ended interviews</td>
</tr>
</tbody>
</table>

**Short Term Objective 2:** Patients will become more active participants in their own health care compared to traditional one-on-one appointments within the first six months of their involvement as discussed in the “Literature Review” section.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
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</thead>
<tbody>
<tr>
<td>Are patients more participatory in their health care compared to before joining the SMA program?</td>
<td>-Physician program director (“champion”) -Patients in the program</td>
<td>-SMA Focus Group, Open-ended Interviews -Document review (patient survey)</td>
</tr>
</tbody>
</table>
If so, how?

<table>
<thead>
<tr>
<th>Question</th>
<th>Participants</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do patients feel that they have the ability to support each other in the SMA? If not, why?</td>
<td>Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews, Document review (patient survey)</td>
</tr>
<tr>
<td>Do patients feel that they are able to contribute useful experiences or information to their peers in the SMA?</td>
<td>Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews, Document review (patient survey)</td>
</tr>
<tr>
<td>Are patients offering health related advice or information to their peers during the SMA?</td>
<td>Nursing staff, Health behaviorist, Physician program director (&quot;champion&quot;)</td>
<td>Open-ended Interviews</td>
</tr>
<tr>
<td>In what ways can patient involvement in their care be improved?</td>
<td>Nursing staff, Health behaviorist, Physician program director (&quot;champion&quot;); Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews</td>
</tr>
</tbody>
</table>

**Short Term Objective 3:** Within 6 months, the SMA program will increase patients’ health literacy and knowledge about their disease and risk factors.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does the health behaviorist have an organized set of health related topics to discuss during the SMA?</td>
<td>Health behaviorist, Physician program director (&quot;champion&quot;)</td>
<td>Open-ended Interviews</td>
</tr>
<tr>
<td>Do patients feel that they have enough time during the last portion of the SMA to have their health related questions answered?</td>
<td>Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews, Document review (patient survey)</td>
</tr>
<tr>
<td>Do patients feel that their understanding and knowledge of their disease, treatment, and prevention issues has increased? Have their health related behaviors changed as a result?</td>
<td>Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews, Document review (patient survey) Pre and post-test</td>
</tr>
<tr>
<td>Is an allocated amount of time being consistently spent on discussing issues of prevention and disease management?</td>
<td>Health behaviorist, Physician program director (&quot;champion&quot;)</td>
<td>Open-ended Interviews</td>
</tr>
<tr>
<td>What do patients suggest</td>
<td>Patients in the program</td>
<td>SMA Focus Group, Open-ended Interviews</td>
</tr>
</tbody>
</table>
could be done to improve the effectiveness of time spent on counseling or health education? What topics were the most informative and beneficial? What additional topics should be discussed?

Short Term Objective 4: The SMA program will increase patient satisfaction with their doctor’s visit by the patient’s 4th visit.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do patients report higher levels of satisfaction with their clinic visit as compared to satisfaction before utilizing the SMA? If not, why?</td>
<td>-Patients in the program</td>
<td>-Pre and post test (patient survey)</td>
</tr>
<tr>
<td>Do patients feel that more time is available in the SMA visit to fully address their health care issues?</td>
<td>-Patients in the program</td>
<td>-SMA Focus Group, Open-ended Interviews -Document review (patient survey)</td>
</tr>
<tr>
<td>What do patients recommend could be done to improve the SMA program?</td>
<td>-Patients in the program</td>
<td>-SMA Focus Group, Open-ended Interviews -Document review (patient survey)</td>
</tr>
<tr>
<td>Are patients returning for additional SMA visits after their initial involvement with the SMA? If not, why?</td>
<td>-Patients in the program</td>
<td>-SMA Focus Group, Open-ended Interviews -Document review (patient survey)</td>
</tr>
<tr>
<td></td>
<td>-Clinic staff- schedulers and administration</td>
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</table>

Short Term Objective 5: Physician productivity will increase within six months of program implementation.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the SMA been organized to allow physicians to use time during the scheduled appointment to write patient notes and prescriptions?</td>
<td>-Physician program director (“champion”) -Health behaviorist</td>
<td>-Open-ended interviews</td>
</tr>
<tr>
<td>Has the physician been able to complete all required patient “paper work” during</td>
<td>-Physician program director (“champion”)</td>
<td>-Open-ended interviews</td>
</tr>
</tbody>
</table>
the SMA? If not, why?

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are more patients being seen in the clinic in a given day than before the SMA was implemented?</td>
<td>-Physician program director (“champion”)  -Clinic staff- schedulers, nurses, and administration</td>
<td>-Open-ended interviews  -Document review (patient scheduling and clinic records)</td>
</tr>
<tr>
<td>Does the physician feel that their time in clinic is more efficient and effective with the SMA program?</td>
<td>-Physician program director (“champion”)</td>
<td>-Open-ended interviews  -Document review (patient scheduling and clinic records)</td>
</tr>
<tr>
<td>Does the nursing staff believe clinic is more productive with the SMA? What suggestions do the nurses have for the physician to help facilitate improving clinic efficiency?</td>
<td>-Clinic staff- nursing and lab technicians</td>
<td>-Open-ended interviews</td>
</tr>
<tr>
<td>Are there other ways to improve clinic efficiency with this program?</td>
<td>-Physician program director (“champion”)  -Clinic staff- schedulers, nurses, and administration</td>
<td>-Open-ended interviews</td>
</tr>
</tbody>
</table>

**Short Term Objective 6:** By month three, 100% of support staff will have received training in the structuring and functioning of the SMA.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
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</thead>
<tbody>
<tr>
<td>Was a staff training session about the SMA developed and provided in clinic?</td>
<td>-Physician program director (“champion”)  -Clinic staff- schedulers and administration</td>
<td>-Open-ended interviews</td>
</tr>
<tr>
<td>Did all staff involved in the SMA attend the training session? If not, why?</td>
<td>-Physician program director (“champion”)  -Clinic staff- schedulers, nurses, and administration</td>
<td>-Open-ended interviews  -Document review (training program attendance sheet)</td>
</tr>
<tr>
<td>Did the training session adequately explain the SMA and what roles individual staff would have in the program? Does the staff understand the concepts of the SMA?</td>
<td>-Physician program director (“champion”)  -Clinic staff- schedulers, nurses, and administration</td>
<td>-Open-ended interviews</td>
</tr>
<tr>
<td>Was the staff satisfied with the SMA training program? If not, what were the problems with the training?</td>
<td>-Clinic staff- schedulers, nurses, and administration</td>
<td>-Open-ended interviews</td>
</tr>
</tbody>
</table>
**Long Term Objective 1:** Patients utilizing the SMA will show improved cardiovascular disease health outcomes over the next five to ten years.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Has the SMA allowed more time to be spent in the patients’ visits to address prevention issues?</td>
<td>Physician program director (“champion”)</td>
<td>Open-ended interviews</td>
</tr>
<tr>
<td></td>
<td>Health behaviorist</td>
<td></td>
</tr>
<tr>
<td>Has the SMA allowed for more aspects of a patient’s care related to the clinic’s focus (lipids and cardiovascular disease management) to be more thoroughly addressed?</td>
<td>Physician program director (“champion”)</td>
<td>Open-ended interviews</td>
</tr>
<tr>
<td></td>
<td>Health behaviorist</td>
<td></td>
</tr>
<tr>
<td>Has the SMA allowed for more time to be spent advising patients on the importance of medication adherence and lifestyle improvements?</td>
<td>Physician program director (“champion”)</td>
<td>Open-ended interviews</td>
</tr>
<tr>
<td></td>
<td>Health behaviorist</td>
<td></td>
</tr>
<tr>
<td>Has patient adherence to medications and healthy behavior increased?</td>
<td>Physician program director (“champion”)</td>
<td>Document review (patient records and patient survey)</td>
</tr>
<tr>
<td></td>
<td>Health behaviorist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursing staff</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patients in the program</td>
<td></td>
</tr>
<tr>
<td>Have patient risk factors for cardiovascular disease improved (lower serum LDL cholesterol, lower triglycerides, lower rates of smoking, etc) with the SMA?</td>
<td>Physician program director (“champion”)</td>
<td>Document review (patient records)</td>
</tr>
<tr>
<td></td>
<td>Health behaviorist</td>
<td></td>
</tr>
<tr>
<td>Have patient events of myocardial infarction, anginal episodes, and/or death decreased after implementation of the SMA?</td>
<td>Physician program director (“champion”)</td>
<td>Document review (patient records)</td>
</tr>
</tbody>
</table>

**Long Term Objective 2:** Following successful SMA implementation in the UNC Lipid and Prevention Clinic, the SMA program will be disseminated to other specialty chronic disease and primary care clinics.

<table>
<thead>
<tr>
<th>Evaluation Question</th>
<th>Participant</th>
<th>Evaluation Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the SMA successfully implemented in the UNC</td>
<td>Physician program director (“champion”)</td>
<td>Open-ended interviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Document review (clinical records)</td>
</tr>
</tbody>
</table>
**Dissemination Plan**

Shared medical appointments have been utilized by other centers and other clinics in both primary and specialty care settings.\(^4,9,34-36\) The UNC Lipid Clinic SMA will be the first example of this type of patient care at UNC Hospitals, and to our knowledge, the first in a cardiovascular specialty clinic. We believe this program will be useful to other
clinics and specialties at UNC and may serve as a viable option for patients to be seen in a health care setting. Following evaluation of the SMA program, a written report will be developed to highlight the successes of the program and to identify areas where improvements or adjustments should be made. This report can serve as a basis and the groundwork for other clinics and specialties to establish their own adapted form of SMA. Ideally, both quantitative and qualitative data on the program will be available for assessment. The quantitative data will include information about patient health outcomes with involvement in the program, attendance, reductions in physician backlogs and other indicators of improved clinic efficiency. Qualitative data will mostly be ascertained from patient survey data and open-ended interviews concerning topics like patient satisfaction and views about the helpfulness of health behaviorist teaching topics. This data may aid in the dissemination of the SMA program to other clinics.

In the Fall of 2007, Dr. Phil Mendys, with the support of Pfizer, held a meeting to discuss the concept of utilizing a SMA with various members of UNC’s cardiology department (under section IC. Program Acceptability). This meeting served as an initiating point for program dissemination throughout the department. The SMA program we developed has been intended for the Lipid Clinic, however, heart failure and electrophysiology clinics within the cardiology department are likely to benefit from the program as well. We anticipate that the SMA program would first be implemented in other UNC cardiology clinics with the eventual goal of disseminating the program to other chronic care clinics outside of the cardiology department. Another meeting, similar to the one conducted in the Fall of 2007 with the addition of information gleaned from
the evaluation plan for the Lipid Clinic’s SMA, for other interested physicians in other departments may prove beneficial for program dissemination.

Conclusion

This program plan and evaluation plan serves as a guide for the development and implementation of a shared medical appointment in the UNC Lipid Clinic. The goal of the SMA program is to provide an alternative clinic visit option that will improve the delivery and quality of preventive health care services for patients with cardiovascular disease or risk factors for disease. The SMA visit option will provide patients with an educational, peer supported, and engaging environment that will allow for optimal patient care, increased clinic efficiency, and maximum time spent with a physician. In utilizing this program plan and evaluation plan, we hope to develop a viable SMA program that will be valuable for the UNC Lipid Clinic, its health care providers and ancillary staff, and most importantly, the patients.

Based on the results found in the literature in implementing a SMA, or similar group visit model, it can be expected that the UNC SMA may improve physician and patient satisfaction, increase the number of patients seen in a day, improve access to care, and lead to improved patient health outcomes as compared to traditional medical appointments. The heterogeneity of group visit programs and the differences in what program outcomes were assessed in the available literature is problematic in making definitive predictions about possible program outcomes. These studies and examples of program implementations, however, have demonstrated that SMA type programs are
sustainable options for patient care in many cases. As of the completion of this paper, the UNC SMA was still in the early stages of development and had not been implemented in the clinic as a visit option; thus, comparison of program short term outcomes, problems, or implementation methods to other examples in the literature cannot currently be made. The design of the evaluation plan and the program objectives will serve, however, as a basis for later comparison to other similar programs and studies currently available.

There are several important public health implications applicable to the implementation of a program like the UNC Lipid Clinic SMA. First, shared medical appointments allow physicians to spend more time with patients (albeit shared group time). As discussed in the introduction of this paper, increasing administrative and “paperwork” demands of physicians have led to increasing amounts of time being dedicated towards non-patient care requirements. This places a strain on the amount of time a physician can spend with an individual patient, leading to lower quality care, increased patient health oversights, and potential mistakes. Shared medical appointments may help to alleviate some of the administrative paperwork burden currently placed on physicians by improving clinic efficiency in utilizing shared time for patient care. In addition, disease prevention, whether primary or secondary, has increasingly been recognized as an important aspect of public health that should be emphasized in patient care. The amount of time available in a SMA to dedicate towards patient health education and prevention efforts makes this type of clinic visit an attractive option for focusing on these types of public health initiatives. The final impact that a SMA may have on public health is in addressing one barrier to access to care, long waiting times to be seen in clinic. Utilizing the SMA to increase the number of patients seen in a given
clinic day and the drop-in feature of the visit option will provide patients with an avenue to be seen by their physician without waiting for weeks or months for a routine visit.

As mentioned earlier, the UNC Lipid Clinic SMA program has yet to be implemented as a visit option. Several unexpected barriers to implementation have arisen, including staffing changes and the need to address other higher priority problems and issues in the clinic. As soon as these other issues are resolved and staffing becomes a little more stable, the focus on clinic improvement can shift towards the implementation of the SMA option. In this way, the work environment in the clinic will be most readily primed to ensure the success and viability of the SMA program. Based on the departmental meeting in 2007 addressing this type of group visit option and verbal communication with some of the physicians and nurses in the cardiology department, interest in the program is high. This paper may serve as an appropriate framework from which to communicate the goals, objectives, and plan of the SMA program to administrative staff and other stakeholders vital for the support and execution of the program.

Shared medical appointments are a valuable, sustainable, and patient centered supplement to traditional medical care that has the potential for successful implementation in the UNC Lipid Clinic. This type of visit option can provide benefits to the clinic employees through improved efficiency while at the same time affording patients with engaging, peer supported, and high quality medical care that leads to higher patient satisfaction and improved health outcomes. As the implementation of the UNC Lipid Clinic SMA goes forward, this paper can be used to serve as a guide to help insure the success of the program.
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