Feasibility Study: Bariatric Telemedicine Between OHSU and MCMC
Kate Schlag, MPH

I. Executive Summary

The purpose of this feasibility study is to illustrate how instituting a telehealth contract between Mid Columbia Medical Center and OHSU for bariatric surgery candidates may reduce the burden of travel on rural patients, increase access to medical care for such patients, and reduce healthcare-associated spending.

II. Background Information

Telemedicine refers to the exchange of medical information from one site to another via electronic communications in order to improve a patient's clinical health. It has been used for over forty years in order to provide care to patients living in remote areas without access to hospitals and specialized providers.¹

Telemedicine can be divided into two broad categories, based on the timing of the information received and transmitted between health professionals and patient: store-and-forward or “asynchronous” and “real time” or “synchronous.” In store-and-forward telemedicine, data about the patient is sent to the health care provider, who then sends his own feedback (be it a diagnosis, opinion, or plan of care) at a later time. In real time or synchronous telemedicine, both the patient and health care professional are present for the immediate exchange of information.²

Research has shown that telemedicine can be a cost-effective strategy to improve quality of care to patients who do not have access to specialized health care providers; these studies have investigated the use of telemedicine in a number of clinical areas, including diabetes, heart disease, psychiatric illnesses, acute care, pediatrics, and diabetes.³ The use of telemedicine in nutrition, specifically in the treatment and care of obese patients, is relatively newer but also may be a cost-effective intervention. In a study based in Greece, patients who used a telemedicine program to exchange data and feedback about blood pressure and weight and to answer questions about their diet and exercise compliance showed greater decreases in body weight than those who did not have access to telemedicine.⁴

In another study based out of Colorado, participants who self-selected either a telehealth weight loss program or a traditional classroom program showed similar weight losses, while participants who did not choose either option gained weight. In addition, satisfaction levels were the same but the telehealth group was rated as more convenient.⁵ Further research has found that telemedicine saves patients, providers, and payers money.⁶,⁷,⁸ At OHSU alone, the Telemedicine Network is estimated to have saved patients more than $5.7 million in transport expenses.⁹
The use of telemedicine in pre- and post-bariatric surgery counseling has also been investigated, although this field is relatively new. In a smaller study based out of the UK, seven patients who had recently undergone bariatric surgery used a videolink consultation to follow up with a dietitian and clinical psychologist, both of which had prior experience with telemedicine. The videoconferencing was found to be acceptable to both patients and clinicians, indicating that video consultations can be a convenient and effective means for patients living in remote areas to access post-bariatric surgery care and follow-up.10

Another similar study evaluated the use of teleconferencing in evaluating and educating patients who were eligible for and underwent bariatric surgeries at VA Medical Centers. Patients attended either a face-to-face consultation or used telemedicine for a bariatric consultation with the surgeon and education with a NP; evaluation included a review of the patient’s clinical history, surgical options, risks and benefits, and postsurgical follow-up. 82% of participants chose teleconferencing, resulting in 19,000 miles and 69 travel days saved. In addition, surgical outcomes were equivalent between participants who received face-to-face consultations and those who received teleconference consultations, and in a telehealth satisfaction survey, respondents indicated excellent patient satisfaction. The study authors concluded that the use of telemedicine reduces the burden of travel and increases patient satisfaction without compromising weight loss results or patient safety.11

III. Proposal
A. Stakeholders

_Mid Columbia Medical Center and OHSU_

Mid Columbia Medical Center (MCMC) is a general medical and surgical hospital in The Dalles, Oregon with 43 beds. In 2015, its physicians performed 577 inpatient and 1,533 outpatient procedures. It provides a number of specialties, including cardiology, neurology, orthopedics. However, it does not have any bariatric surgeons. OHSU, located 90 miles west of MCMC and an hour and a half trip by car and three hour trip by bus, is one of the leading hospitals providing bariatric surgeries with a full staff of bariatric NPs, clinical dietitians, nurses, psychologists, and physical therapists. Many patients who live east of The Dalles do not have the financial or time resources to travel to OHSU for several consultations and follow-up visits; MCMC offers a more convenient solution to such patients.

At MCMC, OHSU bariatric surgery patients would use a clinical exam room set up with a video cart; the OHSU clinician could theoretically be anywhere with a web camera as long as the area is HIPAA-compliant. Handheld cameras are also available such that the clinician can get a close-up look at the patient’s eyes, nails, and skin. OHSU will pay for the use of MCMC’s space at the cost of $32 an hour. Clinicians must be credentialed at MCMC to practice telemedicine (Lovegren, personal communication, May 4, 2016). Both MCM and OHSU are accredited through the Joint Commission.
**Bariatric Surgery Candidates**

There are currently nine hospitals within Oregon that are accredited as Bariatric Surgery Centers by the American College of Surgeons and American Society for Metabolic and Bariatric Surgery Quality Improvement Program. Seven of these hospitals are located in Western Oregon along Interstate 5; one is also located in Coos Bay on Oregon’s coast and one is located farther east in Bend. There are no accredited bariatric surgery centers that serve Oregon’s eastern and rural residents. According to a 2006 study that analyzed 774,000 patients with morbid obesity and their likelihood of undergoing bariatric surgery, rural residents were 23% less likely to receive the surgery, even after controlling for patient-level characteristics. It is well documented that rural populations already face significant barriers to healthcare as well as increased rates of obesity and other chronic diseases. Establishing the use of telehealth between OHSU’s bariatric providers and patients who have access to MCMC is one way to bridge this gap.

**OHSU Clinicians; specifically Outpatient/Bariatric Registered Dietitians**

According to the Joint Commission’s revisions related to the credentialing and privileging of telemedicine practitioners, clinicians must meet the following standards:

- All licensed independent practitioners who are responsible for the patient’s care, treatment, and services via telemedicine link are credentialed and privileged to do so at the originating site...the originating site privileges practitioners using credentialing information from the distant site if the distant site is a Joint Commission-accredited organization. The distant-site practitioner has a license that is used or recognized by the state in which the patient is receiving telemedicine services
- The originating site makes certain that all distant-site telemedicine providers’ credentialing and privileging processes meet, at a minimum, the Medicare Conditions of Participation at 42 CFR 485.616(c)(1)(i) through (c)(1)(vii).

As a result, OHSU RDs will need to also be credentialed through MCMC.

**OHSU and MCMC IT Services/Infrastructure**

In order to implement telehealth services between OHSU and MCMC, certain technical services and tools are required. In addition to a dedicated IT staff at both locations, these include:

- Access to sufficient broadband internet to transmit audio and video data
- Imaging technologies or peripherals
- Staff training

**Insurance Providers**

Telemedicine provides an opportunity for patients who live far from major medical centers or who are burdened by the financial and time costs of transportation to receive
optimal care. However, as in other areas of care, telemedicine is subject to the regulations of Medicare in terms of reimbursement and billing. According to the most recent guidelines, services that are eligible for reimbursement include individual and group medical nutrition therapy as well as face-to-face behavioral counseling for obesity (15 minutes). The locations of telehealth consultations are limited to the office of a clinician, a hospital, a rural health clinic, a federally qualified health center, a SNF, a hospital-based dialysis center, or a community mental health center; at this time, Medicare does not cover home telehealth services. Store-and-forward telehealth is not covered except in Alaska and Hawaii. Reimbursements are to be provided at the same current fee schedule for the provided service. In addition, the medical facility that hosts the patient may request a fee for facility use.  

Oregon’s parity law was enacted in 2009, which requires private insurers to cover telehealth services comparable to that of in-person services. In addition, legislation introduced in 2015 allows for telemedicine to be included in state employee health plans.  

Billing will be done through University Medical Group (UMG) instead of hospital-based billing.

B. Budget  
A projected budget is found in Appendix A. Costs associated with using UMG for professional billing are unknown and are thus not included. The cost of renting the clinical exam room at MCMC is based on an estimation of using it for two hours per week.

IV. Timeline  
A framework for implementing telehealth in larger urban hospitals and smaller rural hospitals has been developed in a partnership between Telligen and the Great Plains Telehealth Resource and Assistance Center. The guide identifies steps and best practices in implementing a telehealth program, outlined in Appendix B.

V. Conclusion  
Implementing telehealth services for bariatric surgery patients who do not have easy or convenient access to OHSU is a cost-effective strategy to improve access to medical care among such patients. Time and travel to OHSU can be a major barrier to accessing medical care and treatment for many rural patients in eastern Oregon; by providing access to OHSU bariatric clinicians and providers at Mid Columbia Medical Center, which is more accessible than OHSU, more bariatric surgery candidates will have access to care.
Appendix A. Projected Budget

## I. PERSONNEL

### A. Salaries and Wages

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<thead>
<tr>
<th>Employee</th>
<th>Salary</th>
<th>%FTE</th>
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<td>No new employees</td>
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Personnel Subtotal: $0

## II. OPERATING COSTS

### A. Consultant and Contract Services

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<td>Renting clinical exam room at MCMC</td>
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<tr>
<td>UMG Services</td>
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<td>Unknown</td>
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Renting clinical exam room at MCMC Total: $64

### B. Material and supplies

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Material and supplies Total: $160

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<th>Operating costs subtotal</th>
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<tbody>
<tr>
<td>Total Program costs</td>
<td>$224</td>
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</tbody>
</table>

*estimation
Appendix B. Summary of Best Practices in Developing Telehealth Programs

I. Step One: Needs analysis and environmental analysis
   A. Assess and confirm your organization’s readiness for telehealth
   B. Perform a needs analysis

II. Step Two: Define services, program model and technology models
    A. Develop preliminary goals and objects for service delivery
    B. Assure that the selected delivery model best suits your service goals and objectives
    C. Plan to incorporate Health Information Technology
    D. Know your geographic area; know the norms of policies of the locations with which you will be working remotely

III. Step Three: Business model development
    A. Perform a market analysis and write a business case report

IV. Step Four: Development of a detailed implementation plan
    A. Select the appropriate equipment for the chosen application and delivery mode
       1. Video equipment
       2. Communication systems
       3. Medical devices
       4. Software applications
    B. Plan for seamless integration of telehealth into your operation
    C. Know the law; identify legal and regulatory policies and requirements
    D. Plan for availability of strong IT support at all participating locations
    E. Plan to appoint a dedicated telehealth program manager
    F. Plan for backup systems to support telehealth infrastructure
    G. Plan for development of protocols, policies, and procedures

V. Step Five: Development of performance monitoring plan
    A. Establish short- and long-term performance goals
    B. Develop an evaluation and monitoring plan
    C. Develop quality improvement process

VI. Step Six: Program implementation
    A. Apply known principles of successful telehealth room design; create a convenient and effective care environment that mirrors a traditional care environment
    B. Select the right staff at both inpatient and provider sites; clearly define their roles and responsibilities
    C. Communicate regularly with remote partners

VII. Step Seven: Monitor and improve
    A. Implement your quality improvement process
    B. Regularly monitor performance and identify areas for improvement
    C. Present outcomes

Adapted from Telehealth: Start-Up and Resource Guide. October 2014.
References


