Implementing and Leveraging Patient Reported Outcomes in Value Based Healthcare

Business Plan

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PROJECT SUMMARY

The healthcare reimbursement landscape has undergone several changes over the last few decades. Cost control methods implemented through the Health Maintenance Organization Act of 1973, the Prospective Payment System and the introduction of DRG’s in the 1980’s have all attempted to curtail the continually rising cost of healthcare in the United States. As Medicare enrollment grows, the healthcare portion of the GDP is expected to rise to 19.4% by 2027.

With the end of the Sustainable Growth Rate legislation and the enactment of MACRA (Medicare Access and Chip Reauthorization), the shift to value-based healthcare has gained momentum. Through the implementation of the Quality Payment Program, providers have the option to participate in the MIPS (Merit Based Incentive Payment System) program or an AAPM (Advanced Alternative Payment Model) in order to receive bonus payments under the new law and avoid financial penalties. Through these programs, there is an opportunity to increase physician Medicare reimbursement. With this paradigm shift, the need to prove quality of care has become more important not only from a financial perspective but also because of the increase in the transparency of healthcare.

CMS’ push to engage patients in their own healthcare has led to increases in physician-patient communication through the use of patient portals as well as the publication of Providers’ Quality Measures results through Physician Compare, published by CMS (Centers for Medicare and Medicaid Services). Shared decision making is encouraged by Medicare as is the patient’s perspective of the care that is rendered. Additionally, CMS has demonstrated its focus on quality through the implementation of CAHPS and CG-CAHPS, which can be used for quality reporting. Through the use of validate surveys, functional assessments of hip and knee replacement surgery were part of the Physician Quality Reporting System and continue to be reportable quality measures under MIPS.

Commercial carriers typically and historically have followed Medicare guidelines so it is expected that they will eventually use quality methodology for reimbursement as well. As healthcare costs rise, commercial carriers also continue to look for ways to control their own spending. Prior authorizations for surgical procedures are increasingly harder to secure and medical necessity is often used as a denial mechanism in the commercial carrier world. Paying for value instead of volume will replace managed care in the longer term. As these commercial carriers progress toward bundled payment arrangements in the ambulatory setting, surgical outcomes will play an important role in determining success.

This proposal is two-fold: implement quality tracking and leverage it with commercial carriers and use in marketing initiatives to increase patient volumes by proving benchmarked quality outcomes. Specifically, this proposal focuses on the use of both PROMIS 10 General Physical Health and PROMIS 10 General Mental Health surveys for both surgical and non-surgical patients and Hoos, JR. and Koos Jr. outcomes surveys for knee and hip arthroplasty. Results from these validated survey tools can be benchmarked through clinical registries and used for increasing market share as well as negotiating contractual rates with commercial carriers.
Patient Reported Outcomes (PRO’s)

Over the last few years, there has been an increased focused on having patients more involved in their healthcare and using that involvement to evaluate clinical care. Patient Reported Outcomes (PROs) are directly reported by patients without external interpretation by a clinician. PROMs (Patient Reported Outcome Measures) are tools to measure these outcomes.

The PROMIS (Patient Reported Outcomes Measurement Information System) developed in 2004, is designed to measure specific patient reported outcomes such as pain, fatigue, emotional distress and physical functionality. Its purpose is to address the non-clinical outcomes of treatment in order to establish effectiveness of treatment through the patient’s perspective of day to day functionality which is sometimes best measured in changes in symptoms. PROMIS surveys use validated measures that apply to a wide range of disorders and chronic conditions with approximately 70 domains addressing various symptoms. Currently, the PROMIS 10, which is one 10 question survey that yields both Global Physical Health and Global Mental Health results, is used by the Clinic for both surgical and non-surgical treatment.

Because the Clinic is a predominately Orthopaedic surgery practice, the HOOS, Jr. (hip disability and osteoarthritis outcome score) and the KOOS, Jr. (knee injury and osteoarthritis outcome score) surveys are used for total hip and total knee surgical patients. They are short surveys, consisting of 6 questions with an estimated completion time of 3 minutes each. Developed at the Hospital for Special Surgery, they are intended to measure functionality and pain levels following those respective procedures.

Included are the PROMIS 10, HOOs Jr., and KOOS, Jr. questionnaires.
# Global Health

Please respond to each item by marking one box per row.

<table>
<thead>
<tr>
<th>Item</th>
<th>Excellent</th>
<th>Very good</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>In general, would you say your health is:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, would you say your quality of life is:</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, how would you rate your physical health?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, how would you rate your mental health, including your mood and your ability to think?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, how would you rate your satisfaction with your social activities and relationships?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>In general, please rate how well you carry out your usual social activities and roles. (This includes activities at home, at work, and in your community, and responsibilities as a parent, child, spouse, employee, friend, etc.)</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>To what extent are you able to carry out your everyday physical activities such as walking, climbing stairs, carrying groceries, or moving a chair?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

© 2008-2012 PROMIS Health Organization and PROMIS Cooperative Group
**PROMIS v 1.1 - Global**

**In the past 7 days...**

<table>
<thead>
<tr>
<th>Question</th>
<th>Never</th>
<th>Rarely</th>
<th>Sometimes</th>
<th>Often</th>
<th>Always</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often have you been bothered by emotional problems such as feeling anxious, depressed or irritable?</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>None</th>
<th>Mild</th>
<th>Moderate</th>
<th>Severe</th>
<th>Very severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>How would you rate your fatigue on average?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>No pain</th>
<th>Worst in ability to tolerate</th>
<th>pain</th>
</tr>
</thead>
</table>
HOOS, JR. HIP SURVEY

INSTRUCTIONS: This survey asks for your view about your hip. This information will help us keep track of how you feel about your hip and how well you are able to do your usual activities. Answer every question by ticking the appropriate box, only one box for each question. If you are unsure about how to answer a question, please give the best answer you can.

Pain
What amount of hip pain have you experienced the last week during the following activities?

1. Going up or down stairs
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □

2. Walking on an uneven surface
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □

Function, daily living
The following questions concern your physical function. By this we mean your ability to move around and to look after yourself. For each of the following activities please indicate the degree of difficulty you have experienced in the last week due to your hip.

3. Rising from sitting
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □

4. Bending to floor/pick up an object
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □

5. Lying in bed (turning over, maintaining hip position)
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □

6. Sitting
   None          Mild   Moderate   Severe   Extreme
   □             □  □  □  □  □
KOOS, JR. KNEE SURVEY

INSTRUCTIONS: This survey asks for your view about your knee. This information will help us keep track of how you feel about your knee and how well you are able to do your usual activities.
Answer every question by ticking the appropriate box, only one box for each question. If you are unsure about how to answer a question, please give the best answer you can.

Stiffness
The following question concerns the amount of joint stiffness you have experienced during the last week in your knee. Stiffness is a sensation of restriction or slowness in the ease with which you move your knee joint.

1. How severe is your knee stiffness after first waking in the morning?
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

Pain
What amount of knee pain have you experienced the last week during the following activities?

2. Twisting/pivoting on your knee
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

3. Straightening knee fully
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

4. Going up or down stairs
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

5. Standing upright
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

Function, daily living
The following questions concern your physical function. By this we mean your ability to move around and to look after yourself. For each of the following activities please indicate the degree of difficulty you have experienced in the last week due to your knee.

6. Rising from sitting
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

7. Bending to floor/pick up an object
   None  □  Mild  □  Moderate  □  Severe  □  Extreme  □

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EXECUTIVE SUMMARY

The Company:

Our Clinic was established in 1948 as the first Orthopaedic clinic in this municipality. It has grown from its original 4 founding Orthopaedic Surgeons to 16 Physicians. There is currently a combination of specialists, predominately Orthopaedic surgeons, who offer a variety of surgical and non-surgical treatment options. There is an ambulatory surgery center associated with the Clinic that offers patients outpatient surgical services. The Clinic’s main campus is located adjacent to the largest hospital system in the state. In 2015, a second location was established in an area with significant potential for growth. In 2017, a third satellite location was opened in a heavily populated suburb.

Market Opportunity:

Currently, there is limited focus on quality outcomes in this market with the exception of the presence of a large Accountable Care Organization. While this ACO has several Orthopaedic surgeons in its network, there is currently no focus on the use of PROMIS 10, HOOS, Jr and KOOS, Jr. surveys for measuring quality. No other Orthopaedic practice in immediate area has implemented PROs using these specific validated surveys with an established vendor that interfaces with a Practice Management system.

Capital Requirements:

Because the Clinic already has electronic medical records and a practice management platform, there will be little capital required upfront. To engage an established vendor for patient reported outcomes collection, a contract will be required. The Provider licensing will be based on the level of registry reporting, surgical outcomes vs. general quality of life outcomes and reporting capabilities. This outcomes collection software will access the practice management system through an HL 7 (Health Level Seven is used for clinical data transfer) interface and will send required information through the electronic medical record system back to the outcomes collection vendor portal. Information included will be patient demographics and surgical and non-surgical appointments. There should only be a nominal cost for the HL 7 and any related professional services fees on the part of the EMR vendor. The only other cost is a tablet computer (based on Physician’s discretion as to quantity) to collect baseline surveys for surgical procedures. All other surveys are emailed to patients. The outcomes platform should be directly available through the EMR with a single sign on so Providers can access their patients’ survey results without having to log onto another system. There will be no charge for this interface as it will be part of a test initiative that our EMR will make available to all of clients that will be collecting outcomes.

Mission Statement:

The mission of this endeavor to collect outcomes stems from the Physicians’ dedication to treatment outcomes and patient satisfaction. Through validated health surveys, general patient satisfaction surveys and peer benchmarking, the opportunity for improvement will be well documented.
**Competitors:**

There is a large Orthopaedic presence in this area, almost to the point of saturation. The majority of the patient population is derived from our immediate and suburbs in close proximity of our area. There are three large hospital systems in the immediate vicinity that employ various physician specialties but only one has a small orthopaedic presence.

**Competitive Advantages:**

The Clinic has been involved in ongoing clinical research for almost 10 years. We have a dedicated Clinical Research Department that is managed by a Clinical Research Director, which allows us the ability to explore new and more advanced treatment protocols. However, there hasn’t been a way to measure treatment success until the introduction of PRO’s. With the implementation of validated surveys for PRO’s, we should be able to compile the results and patient satisfaction of specific surgical procedures and successful treatment options for patients with actual data. Through increased patient engagement, the physician-patient relationship is enhanced for improvement in the quality of treatment. Documented superior clinical outcomes will help build patient trust and increase patient volumes. Benchmarking will be used generically for publication on Clinic web site and with other marketing methods.

**Financial Projections:**

The goal is to increase patient volumes. Even with a modest increase of 20 new patients per Physician per month, there could be significant revenue generated annually. If each Physician sees an additional 240 new patients per year, this would result in a total of 3840 new patients Clinic wide, based on the current number of Clinic Physicians. The following graphs use only E&M codes 99202,99203 and 99204 for new patient encounters over 3 years with a conservative increase of 20 new patients per month per physician for each year. No increase is expected in the first year since these PRO’s are longitudinal and surveys are sent out over the course of a year after the initial encounter. These projections also do not include potential revenue from residual imaging, casting, injections or surgical procedures. However, these should be considered as potential revenue streams depending on the treatment required.

The Clinic will use existing employees to monitor patient compliance, so no additional employee expense will be incurred. Additionally, there is an established research department in the Clinic that can help with implementation and maintenance of the program, so no additional resources will be needed. All reporting will be performed through the vendor portal and can be aggregated or otherwise prepared by the Data Science department of the vendor at no additional cost.

For quality reporting purposes, the collection of PROMIS, HOOS & KOOS Jr. can be used in MIPS reporting. In 2019, quality measures account for 45 points out of 100. eCQM’s 56 & 66 are high priority measures and have not topped out in the decile scoring methodology used by CMS. Depending on scores in these measures, there is the opportunity for up to 10 points in each measure. This could significantly impact the total MIPS score. Further, there is the opportunity for more points based on improvement scoring. This is calculated by a comparison of the performance category achievement percent score from the previous year to the one in the current year. The potential bonus increase is capped at 10% but that is still a substantial increase per year.
Projected 99202 Visits

Year 1: 1000
Year 2: 4840
Year 3: 8680

Projected 99203 Visits

Year 1: 10,000
Year 2: 13,840
Year 3: 17,680

Projected 99204 Visits

Year 1: 700
Year 2: 4540
Year 3: 8380
PART 1

Description of Business

The Clinic is a mid-sized, predominately Orthopaedic Surgical practice with 16 Physicians and 13 Midlevel providers. A well-established practice in this area, it has a solid reputation in the community.

The mission of the Clinic is to render high quality care while maintaining a familial environment.

ORGANIZATIONAL CHART

Key Decision Makers: Board of Directors which is comprised of all Shareholder Physicians.

Key Stakeholders: Patients, Physicians, Employees

After a recommendation by the Chief Operating Officer and the Director of Research, the Board of Directors should vote to implement PROMs using a qualified vendor that can easily interface with current EMR and PM systems. Various proposals and software/portals from different outcomes collection vendors will be reviewed and one with a significant Orthopaedic customer base should be chosen. This vendor should be one that already engages large Orthopaedic practices in the United States. It should also be a QCDR (qualified clinical data registry) that is able to share data with large registries for benchmarking. Some of these registries should include AO Foundation, Shoulder JAM, PROMIS, Regenerative Orthobiologics Registry and the American Joint Replacement Registry.

The initial baseline survey will be captured via iPads at the pre-surgical visit or by emailing the questionnaire to the patient prior to the visit. Depending on the surgical procedure, the remaining surveys will be emailed to patients or collected at subsequent visits during the post-operative visits. General quality of life surveys should also be sent to all new patients (for non-surgical outcomes purposes) and at subsequent time periods throughout their treatment.
Summary Description of PRO’s Proposal

**Mission:** To continually improve treatment pathways and patient satisfaction. We should strive to become known as the providers with proven, validated and benchmarked outcomes.

**Business Model:** To employ measures to ensure quality treatment with definitive results through ongoing outcomes research. Other than ACO’s, few (if any) entities in this area have begun the process of using validate patient outcomes surveys to potentially shape treatment pathways. To survive in this new era of value-based healthcare, good outcomes are vital. We will become known as the Clinic that can prove that it renders effective treatment.

**SWOT ANALYSIS**

**Strengths:**
- This is a well-established practice with a long history in this community.
- We have a variety of Physician Providers/Specialties
- We have multiple locations to reach patients in surrounding areas
- The practice is mid-size and is not overwhelming to patients
- We have an established Research Department that understands the process of collecting outcomes surveys

**Weaknesses:**
- Not the largest practice of its kind in this immediate area
- There could be ongoing issues with workflow adjustments as new procedures are established, minimizing the effectiveness
- There could be a lack of participation and buy in by Physicians and staff
- Patients may not want to participate

**Opportunities:**
- Increase in patient volumes
- Increase in patient satisfaction and communication
- First practice to implement PRO’s in this area
- Gain reputation as outcome-s based practice

**Threats:**
- Other practices begin PRO’s before we fully implement
- Lack of patient and Physician commitment
- Lack of patient participation
**Strategy:**

Through the use of PRO’s, the Clinic will be at the forefront of competing in the value over volume environment. But it also has the capability of improved treatment plans as any changes in these outcomes can identify addressable issues. The American Academy of Orthopaedic Surgeons believes that this is not a research initiative but rather one that has the goal of practice improvement. These validated tools can continually help physicians to improve the care they render to their patients.

The emergence of web-based platforms for practice management and medical records has made the measurement of outcomes a much more feasible endeavor than it has been historically. As outcomes become more important in the value-based landscape, the role of a streamlined data collection process will prove invaluable. Because the initial implementation process itself can be complicated due to changing workflows and behavior modification, it is important to choose a PRO’s collection software vendor that has specifications that allow a smooth interface with the PM and EMR software.

To effectively prove superior outcomes, there must be sufficient and easily translated data. The collection process is long in the initial phases as conditions improve over time following surgery or other treatment protocols.

**Short term goals:**

- Implement easy to use software with the least disruption to workflows, one that is commonly used in the specialty of the practice
- Ensure that integration with existing software/platforms is seamless
- Train employees on software
- Start with one surgical procedure per Physician to collect outcomes data
- For general quality of life outcomes, start with new appointment types for collection of surveys

**Long term goals:**

- Continually gather statistically valid data on large patient population
- Improve Physician-Patient communication
- Improve shared decision making
- Leverage consistently good outcomes data in contractual negotiations with commercial payors
- Use consistently good outcomes results in marketing initiatives
- Build reputation as the Practice with superior outcomes
- Increase market share
Strategic Relationships:

These outcomes statistics could be used in contractual negotiations with commercial carriers. CMS has already begun the push for quality over quantity and is targeting specific treatment procedures that were identified as the most expensive. This includes total joint replacement surgery. More than 1,000,000 total joint replacement surgeries are performed each year and it is estimated that by 2030, the demand for total joint surgery will grow by 174% for hips and 673% for knees. Under the CCJR (Comprehensive Care for Joint Replacement) program, which is mandated in certain parts of the U.S., CMS ties the hospital’s incentive or penalty to different scoring methodologies, including PRO’s. CCJR could potentially be mandated in this area at some point.

Commercial carriers have been engaged in Medical Shared Savings programs with ACO’s for the last few years. These programs usually include quality reporting using CMS’ defined quality metrics. Typically, CG-CAHPS and CAHPS are employed for outcomes data collection. Using benchmarked data that shows superior outcomes could be a powerful tool in contractual negotiations. Additionally, it could strengthen relationships with Accountable Care Organizations and encourage referrals.

For over a decade in Orthopaedic surgery, the trend has been to move surgical cases that were traditionally performed in the inpatient setting to the outpatient setting. Although CMS does not allow total joint arthroplasty procedures to be performed in an ambulatory surgery center, it did remove total knee replacement surgery from the inpatient only list in 2016. In 2014, Medicare paid $50,000 per hospitalization on average for total joint arthroplasties. This totaled around $7 billion. Because total joint replacements are some of the costliest surgical procedures, CMS initiated bundled payment programs in order to reduce costs and waste. The bundled payment arrangement model has not been implemented with commercial carriers yet as a standard payment structure in this market but there is the potential for negotiation in the physician owned ASC setting. Typically, reimbursement rates for outpatient surgery centers are substantially lower than those of hospitals. Over 200 ambulatory surgical centers in the country offer outpatient joint replacement surgery.

A bundled arrangement can look similar to the CJR (Comprehensive Care for Joint Replacement) program in that part of the reimbursement can be partially linked to quality metrics, specifically patient reported outcomes using PROMIS 10, HOOS Jr and KOOS Jr. surveys. Benchmarked data could be used during negotiations as well as built into the reimbursement contract itself. Whether that is in the form of bonuses or incremental increases in reimbursement, it has the potential to engage commercial carriers. PRO’s in addition to clinical risk factors help to identify risk factors in patients which could help manage the postoperative period better, which is where much of the cost of the episode is accrued. Having a solid database of outcomes results could give the Physician an optimal negotiating position. The key is to make the data collection straightforward and easily translatable into meaningful information.

There is also a large population of Primary Care Providers in the immediate area. There is an opportunity to encourage referrals through marketing of good outcomes.

Key Decision Makers: The Physicians of the Clinic will decide in the long term whether to continue to use PRO’s.
**Administrative Plan:**

- Chief Operating Officer and Director of Clinical Research will meet with all Physicians in order to determine which surgical procedures they want to collect outcomes on.

- COO and Director of Clinical Research will train Medical Assistants on how to enter surgical data into Practice Management system, which interface with outcomes platform.

- Accounts are created in outcomes platform for all employees who are responsible for collecting baseline surgical surveys.

- At the pre-surgical visit, Medical Assistants will have the patient complete the initial PROMIS 10 survey.

- Patients’ email addresses are entered into the EMR by Front Desk employees.

- Remaining surveys will be emailed to patients.

- Research Assistant and Administrative Assistant will monitor patient compliance with remaining surveys through the use of the outcomes software platform.

- Nurse Case Manager or Medical Assistants will contact patients with incomplete surveys to encourage them to complete remaining surveys. They may also be collected at subsequent clinic visits.

- Data is compiled by outcomes survey vendor.

- Reports are continually available to be reviewed with Physicians. It can also be accessed in patient’s EMR account through single sign on.

**Operational Plan**

After one year of consistently collecting outcomes surveys, there should be statistically valid data illustrating both patient satisfaction and success of treatment protocols. This data should be used for improvement purposes. Within that initial time period, results should be reviewed with Physicians so any necessary adjustments to treatment pathways can be made, if indicated.

During the first year, staff and patient compliance will have to be monitored. As workflows are adjusted, compliance could be affected. If patients are not encouraged to complete all surveys, data will be insufficient.

By the second and third years, benchmarking will be valuable for marketing purposes. National benchmarking should be used to market the focus on quality. At the end of three years, if either compliance has dropped significantly and outcomes are not as expected, the contract with the vendor will have expired and can be terminated at the request of the Clinic.
Part II:

The Marketing Plan

Marketing Goal: To use good, validated outcomes data to capture a larger part of the market. To become known as the Clinic with documented, superior treatment outcomes.

Market Analysis: Market size: Population of 235,542 in the immediate area with three major suburbs. Suburb 1 has an estimated population of 138,038 with a growth rate of -1.38%. Suburb 2 has an estimated population of 123,028 with an estimated growth rate of 1.24%. The third major suburb has an estimated population of 26,427 with a growth rate of 1.16%. Excluding the suburbs, the median age is 32.5 and the median household income is $38,103. There are, however, segments within the population that have higher income earning potential with a median household income of $65,600. Socioeconomic traits range from traditional to liberal values.

There is a limited orthopaedic presence in the suburban areas with most people coming into the larger market for treatment. There are no major hospitals in the suburban areas. There are three hospital systems in the immediate area, all of which employ Physicians but only one has employed Orthopaedic Surgeons.

Competition: A potentially saturated market with a relatively low patient population.

Marketing strategy: Focus should be that we are the Providers who can statistically prove good outcomes. Since we already pay a monthly fee for general marketing initiatives, there is very little cost for including outcomes results on our website and through the use of marketing brochures and the referring provider community.
PART III

Financial Documents

Financial Needs:

There is nominal capital required upfront. The contract for services from the vendor is based on a 3-year commitment and is based on licensing, almost like a subscription. The majority of the upfront costs are derived from the interface between the outcomes vendor and the EMR and PM software. It uses the typical HL7 interface so there is a cost for the initial set up between all systems. The remaining costs come from the ongoing interface and license fees, which are billed monthly. License costs will be allocated to each Physician and supplemental costs for implementation and interfaces will be broken out evenly in the general computer maintenance allocation between all Physicians. No additional employees are needed as workflows only need to be minimally adjusted.

COSTS FOR IMPLEMENTATION OF PRO’s QUESTIONNAIRES

<table>
<thead>
<tr>
<th></th>
<th>Set Up Fee Total (all Physicians)</th>
<th>Physician License Fees Total for 3 year contract – all Physicians</th>
<th>HL 7 Export-Outbound</th>
<th>VPN setup &amp; real time ADT/SIU Integration</th>
<th>Cost of iPads for 16 offices excl. tax</th>
<th>General Professional Services Total</th>
<th>TOTAL Including 3 year license fees</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>$16,500.00</td>
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<td>$2500.00</td>
<td>$6000.00</td>
<td>$1974.00</td>
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Upfront costs:

- Set up fees
- HL 7 interface
- VPN & ADT/SIU integration
- iPads
- General professional services from vendors

ROI projections are based on an increase in patient volumes. Using very conservative numbers, each Physician is expected to have an increase of 20 patients per month. Of course, these numbers could increase over time. The most appropriate way to measure this potential is by using the most generally used CPT codes for new patients: 99202, 99203 and 99204.
### Pro Forma

**Assumptions**

- ROI projections correlate to increase in new patient volumes due to marketing
- CPT codes 99202, 99203 & 99204 are most commonly used for new patient visits
- Revenue projections from CPT codes use average reimbursement rates from various commercial carriers
- Highest compliance is expected among Physician offices
- Marketing expense is modest due to low cost of web site modification and printed material
- Onetime costs are associated with initial set up and establishment of HL 7 interface between outcomes collection vendor, Practice Management software and EMR
- Incremental costs are for ongoing license fees and monthly marketing fees
- Not accounted for in this proforma is potential bonus for increasing Quality score in MIPS performance using eCQM’s 56 and 66, functional assessments for total joint arthroplasty. Bonus percentages depend on results of measure and other factors that affect the total MIPS score and are thusly too variable but worth noting as potential positive adjustment to Medicare reimbursement.

<table>
<thead>
<tr>
<th>Increase in revenue from 99202,99203,99204</th>
<th>Initial costs</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ _____ -</td>
<td>$ 268,800.00</td>
<td>$ 384,000.00</td>
<td>$ 537,600.00</td>
<td>$ 1,190,400.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Costs</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Set up fees- total all physician</td>
<td>$ 16,500.00</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 16,500.00</td>
</tr>
<tr>
<td>HL 7 export-outbound</td>
<td>$ 2,500.00</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 2,500.00</td>
</tr>
<tr>
<td>VPN setup &amp; real time ADT/SIU integration</td>
<td>$ 6,000.00</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 6,000.00</td>
</tr>
<tr>
<td>iPads w/out tax</td>
<td>$ 1,974.00</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 1,974.00</td>
</tr>
<tr>
<td>General professional services</td>
<td>$ 1,800.00</td>
<td>$ -</td>
<td>$ -</td>
<td>$ -</td>
<td>$ 1,800.00</td>
</tr>
<tr>
<td>Marketing costs $500 per month/36 months</td>
<td>$ -</td>
<td>$ 6,000.00</td>
<td>$ 6,000.00</td>
<td>$ 6,000.00</td>
<td>$ 18,000.00</td>
</tr>
<tr>
<td>Monthly license fees</td>
<td>$ -</td>
<td>$ 37,440.00</td>
<td>$ 37,440.00</td>
<td>$ 37,440.00</td>
<td>$ 112,320.00</td>
</tr>
<tr>
<td>Total incremental costs</td>
<td>$ 28,774.00</td>
<td>$ 43,440.00</td>
<td>$ 43,440.00</td>
<td>$ 43,440.00</td>
<td>$ 159,094.00</td>
</tr>
</tbody>
</table>

| Incremental revenue over incremental costs | $ (28,774.00) | $ 225,360.00 | $ 340,560.00 | $ 494,160.00 | $ 1,031,306.00 |
Part IV

Innovation

There will be challenges with workflows which will need to be reevaluated as the program progresses. There will probably be patient compliance issues which will have to be addressed by having staff consistently follow up with patients who do not complete all surveys. It is also important to provide patients with information about why these surveys are being collected and why they are important. The Physicians need to understand the importance of outcomes data and should be committed to helping engage both patients and employees. Existing quality payment programs focus heavily on increasing patient engagement and proving quality of care.

Through increased patient-physician engagement, the quality of care is enhanced. Being able to compare results from patient reported outcomes to nationally benchmarked data can be used in shared decision making. The ability to assimilate and translate this data is now more streamlined that it has been historically with the advent of electronic medical records. Through these validated measures, health insurers can compare quality among Physicians, something that has already begun with CMS. Being the first practice in this area to implement PRO’s on this level will mean that we are the first to have actionable data. As patient centered care and engagement become the norm, implementing PRO’s now could mean increased patient satisfaction, increased patient volumes, increased reimbursement and a solid foundation in the value-based landscape.
Bibliography

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