II. INTRODUCTION

The Gateway to Better Health (GBH) Demonstration Project, administered by the St. Louis Regional Health Commission (RHC), provides primary, specialty, and diagnostic healthcare services for nearly 25,000 low-income uninsured individuals in St. Louis City and County, MO annually. Approved in July 2010 by the Centers for Medicare and Medicaid Services, GBH has covered vital outpatient services for patients since July 2012.

GBH reimburses providers at 100% of Medicare, and coverage includes the following.

- Outpatient services for uninsured adults between the ages of 19-64 years old:
  - Primary care and dental services provided by the primary medical home
  - Specialty care services
  - Generic prescriptions and brand name insulin and inhalers
  - Outpatient labs, diagnostic tests, and procedures
  - Non-medical transportation to covered medical services
  - Up to 5 urgent care visits
- Specifically for the orthopedic population discussed in this report, GBH covers:
  - Outpatient orthopedic and pain management visits
  - Outpatient surgeries, diagnostic tests and labs
  - Generic prescriptions
  - Physical therapy post-orthopedic surgery
- GBH does not cover inpatient hospital costs, brand-name prescriptions, and non-operative physical therapy.

Since GBH was implemented on July 2012 until April 2017, the highest number of specialty care referrals was requested for orthopedic services. Review of diagnostic codes for these referrals revealed back pain and joint pain to be the most frequent reasons for referral. In 2016 some orthopedic providers in the GBH network expressed concern about certain referrals, citing questionable patient surgical candidacy and uncertainty about the scope of GBH coverage for orthopedic needs.

To better understand the orthopedic referral system, the Pilot Program Planning (PPP) Team, which oversees all operational and clinical features of GBH, approved the "Orthopedic Referral Study Proposal" in August 2016. The goal was "to better understand the reasons for referral by primary care providers, to identify specific concerns of specialty care providers, and to understand potential solutions." The RHC also requested that interviewees be queried about the prescribing of opioids within this referral system given the community feedback regarding the potential link between prescription opioid use and heroin addiction.

From August 2016 to June 2017, GBH analyzed orthopedic referral data and interviewed key stakeholders in three categories affiliated with GBH: patients, primary care providers (PCPs), and orthopedic specialists. Interview discussions explored experiences, challenges, and opportunities regarding orthopedic clinical needs. Prompts were derived from a comprehensive survey instrument created by GBH, and participants were encouraged to reflect beyond those questions to provide their earnest impressions and suggestions. Their feedback was recorded in detail, deidentified, and compiled into this report to share an assessment and provide recommendations regarding GBH orthopedic referrals in the St. Louis Safety Network.

III. ASSESSMENT

GBH orthopedic referrals were evaluated via two methodologies: stakeholder interviews and claims data analysis. The stakeholder discussions included 14 individual patient interviews, a focus group of 5 primary care providers, and 9 individual orthopedic interviews. Participants were asked to reflect on different aspects of orthopedic referrals, including the musculoskeletal ailments prompting the referral, the process of making the referral, the appropriateness of the referral, the adequacy of communications between providers and patient, the prescribing of chronic opioids for musculoskeletal pain, potential alternatives to addressing orthopedic problems, and recommendations for improvement. The summary of participants is listed in Appendix A. Questions posed to the patients, primary care providers, and orthopedic specialty providers were derived from the survey instrument designed by GBH, Orthopedic Referral Study Stakeholder Interview Guide, in Appendix B.

A. Patient Individual Interviews

Patient interviews were conducted by telephone between January 23, 2017 and February 14, 2017. Patients with GBH orthopedic claims in the last six months of 2016 and who had a phone number were contacted. Among these 55 patients, 14 completed interviews, with their orthopedic care distributed equally between Washington University (7 patients) and SLUCare (7 patients). The telephone interview consisted of 15 open-ended questions regarding the patients' perception of their orthopedic care experiences. Below is a summary of the patient responses.

1. *Reasons for needing orthopedic care*
    - Musculoskeletal pain:
        - The majority of patients mentioned accessing their PCP as the first step when in pain.
        - All patients mentioned pain as the primary reason for their PCP referring them to seek orthopedic care. The majority mentioned "extreme" pain in some form, including "tremendous" pain intensity, prolonged pain, and/or limited mobility due to the pain.
    - Employment and limited mobility:
        - Comments from three patients requiring orthopedic care for functional improvements:
            - "If I had surgery, I could live normally and go back to work."
            - "I can't work because I drive a truck, and I can't move my neck from side to side."
            - "My hip kept popping out."
    - Clinical needs exceed PCP scope of practice:
        - Patients noted the need for "extraordinary measures" to cure pain or when the "primary care doctor can't help."
        - 5 of the 14 patients noted the need for surgery as their primary reason.
        - The remaining 9 patients mentioned need for non-surgical needs, such as injections or the need for physical therapy (PT).

2. *Access to orthopedic appointment*
    - 12 of the 14 patients said it was relatively easy to get in to see an orthopedic specialist within one to two months. One patient stated "'It took a long time," and another said, "It took over six months."
    - 4 of the 14 patients reported going to the emergency department (ED) in the past for orthopedic issues that could have been handled in the outpatient setting if available.

3. *Treatment options*
    - The treatment options expected by patients from their orthopedic visit varied, with patients primarily hoping for a new and different intervention to relief pain and improve function. Some patients specifically anticipated potential joint injections, physical therapy instructions, or surgical correction. When asked about medication as a form of treatment:
        - One patient mentioned that the physician "didn't do anything to heal me; just gave me pain pills and said there was no need to for me to come back."
        - Many patients interviewed mentioned concern about taking opioids because of potential addiction.
    - Once connected with the orthopedic provider, interviewed patients mentioned, in one capacity or another, that they couldn't receive the recommended orthopedic treatment.
        - Regarding recommended surgery:
            - Coverage: Some patients for whom surgery was recommended mentioned their orthopedic provider told them that GBH didn't cover their surgery, and they would need Medicaid in order to get the surgery. None of the patients mentioned that they were given the option to apply for charity care to cover the needed services.
            - Work: Three patients mentioned not being able to return to work post-surgery as the main hurdle to receiving needed surgery.
            - Homelessness: One patient reported he was denied needed surgery because he does not have a permanent home and lives in a shelter.
        - Regarding recommended PT:
            - Some patients requiring PT were told that GBH would not cover it. (GBH only covers PT following an orthopedic surgery.)
            - Some patients did report receiving post-operative PT without any barrier.
            - Availability of PT: Most patients stated that they would attend PT sessions if it were an available option for them, with some specifically mentioning that they understand it is not currently covered by GBH. The majority also responded that they would have a hard time following home exercise recommendations without PT.

4. *Transition of care between PCP and orthopedics*
    - Patients reported a communication disconnect between PCP and orthopedist. No patients reported the orthopedist inquiring as to how the referring PCP had prepared the patient for their orthopedic appointment.
    - Multiple patients noted that it felt like the PCP had not communicated with the orthopedist before their appointment; some of these interviewees specifically mentioned that medical records should be shared between PCP and specialist. Patients seemed to assume the PCP office had not sent the records, with one patient suggesting, "Learn to communicate with the specialist." One patient's response to the question of what would help orthopedic patients the most was, "Doctors communicating with each other."

- Regarding the continuum of care, several patients mentioned that they would like their PCP to walk them through the process and tell them what to expect at each step so there are no surprises. They also mentioned a desire for PCPs to be involved in helping them "get what they need after" to ensure that patients receive the right care. One patient mentioned the need for his PCP to help him obtain DME, "Help me get crutches when I can't walk."

5. *Trust, respect, cultural competence, and health equity*
    - 12 of the 14 patients said their doctors and nurses were nice. One patient noted, "I am grateful for the care I have gotten and medical support."
    - 2 patients voiced anger and frustration at their doctors, and both stated the doctors "didn't care". One of these patients who expressed dissatisfaction with the care said, "Doctors are reluctant to treat certain kinds of patients." When questioned further about [certain kinds of patients], the patient responded, "Uninsured and black patients."
    - When patients were asked what would help patients with orthopedic issues, responses included:
        - "Look at patient's circumstances, and help them."
        - "Change socioeconomic status from doctor's mind. Care should be determined by medical need only."
        - "Treat all patients the same."

B. Primary Care Provider Focus Group

Invitations were extended via email to 23 primary care providers and staff from Affinia Healthcare, Betty Jean Kerr People's Health Centers, Family Care Health Centers (FCHC), Myrtle Hilliard Davis Comprehensive Health Centers, Saint Louis County Public Health Department, and SLUCare. Ultimately there were five PCP physicians (representing Affinia, FCHC, and SLUCare) who volunteered to join an evening dinner focus group to discuss their detailed experiences with orthopedic referrals and suggestions for improvements. The following is a summary of this in-depth discussion.

PCP Perspectives on Current Status

1. *Acuity of orthopedic problems seen by PCPs*
    - Participants indicated that a broad range of orthopedic problems is encountered at their respective facilities – from acute/traumatic to chronic. Chronic or subacute cases are more common, as most with acute issues go to the ER. Chronic pain was considered a major clinical issue.

2. *Reasons for making orthopedic referrals*
    - PCP scope of practice:
        - While the PCPs expressed confidence in their knowledge of general orthopedic concepts, they acknowledged there is a natural variability among providers in their expertise with detailed challenging orthopedic exams (for example, performing a knee exam on a patient weighing over 300lb), musculoskeletal procedures, joint injections, etc.

    - Providers also noted that even if they were fully trained in an orthopedic skill, such as administering a joint injection, they would be apprehensive to use that skill if too much time had elapsed since last performing it.
- Lack of access to expert human resources for quick orthopedic inquiries:
    - The "curbside" consult is a common modality for medical collaboration; it involves an informal, casual, verbal or written question asked of a specialist, most often without the patient present. It is done as a courtesy, without documentation or billing, in the spirit of teaching colleagues and helping providers help their patients. It is most feasible and common in an integrated or co-located practice arrangement, or at minimum requires a relationship or connection between colleagues.
    - Providers reported that when they need help deciding whether a formal orthopedic referral is indicated, they lacked availability of connections with orthopedic specialists to have a quick curbside. This curbside consult could clarify if the referral is indicated, and/or provide advice that could be immediately implemented by the PCP.
- Time pressure:
    - During each encounter, PCPs must prioritize their limited time and focus on the most immediate, acute, or life-threatening concern, before addressing chronic pain. In addition they are tasked with addressing all health concerns of the patient, inclusive of all specialties.
    - Some providers felt that orthopedic procedures can be time-consuming, and that they don't have enough support staff to assist in managing these procedures efficiently. In general the less often a procedure is done, the longer the set-up and procedure tends to take. PCPs feel pressure to manage a patient's medical problem(s) and orthopedic problem(s) at the same visit. This risks a rushed visit with the patient and provider feeling overwhelmed. It is unclear how often providers choose to schedule multiple visits for the same patient and explicitly divide them into medical-management encounters and procedure encounters (designated to perform a joint injection, for example).
    - PCPs indicated the time pressure is a constant for all patient encounters, and that just "running out of time" was not the reason behind their orthopedic referral requests; rather they indicated a need for orthopedic expertise.
- Maximizing the utility of each provider's expertise:
    - One PCP articulated that she is best equipped to manage multiple complex chronic medical issues, and her limited time with patients would best be utilized deploying her greatest expertise. Performing detailed orthopedic assessments and procedures are within her scope of practice, but these skills would be more expertly handled by an orthopedic specialist. She explained that to optimize high-quality efficient care, patients should receive treatment from the provider most adept at delivering that particular therapy.
- Lack of understanding of relative reimbursements for orthopedic procedures:
    - CPT codes for "Evaluation and Management" encounters (as most medical-management primary care visits are billed) versus "Procedure" encounters (such as a joint injection) have different reimbursements.
    - Some providers thought the procedure CPT codes earned far less, and they "couldn't afford" to do them. Other providers, however, thought the procedure CPT codes earned more. PCPs reported minimal transparency or knowledge of relative reimbursement for these different types of visits for the providers and patients.
- Patient-initiated requests:

    - Some PCPs noted that they might feel pressure from patients to refer them to an orthopedic specialist, though this is rarely the sole reason behind a referral.
- Entry point to other specialties:
    - On some occasions, PCPs noted they refer patients to orthopedics so that patients may be referred on to other areas, such as PT, pain management, and neurology.
- Role of narcotic pain medications:
    - The complexity of pain prescription requests also contributed to PCPs seeking orthopedic expertise specifically in order to pursue non-narcotic solutions to musculoskeletal pain.
- Asking for help:
    - Not to be overlooked, a dominant theme throughout the discussion was that every orthopedic referral was based on a genuine plea for help. PCPs reported they ask for orthopedic referrals because they need orthopedic expertise. In addition, there are often multiple reasons feeding into the PCPs request, including diagnostic and treatment questions, among others.
    - They indicated that an orthopedic referral is often considered the last resort. These referrals are not made in haste, or without thoughtful regard to a patient's surgical fitness. Rather, when PCPs have hit the boundary of their knowledge or have exhausted treatment options, an orthopedic referral is a veritable request to help them help their patient. At this stage, an orthopedic referral is what the PCP considers to be best option.

3. *Radiological studies*
    - Given the variability and complexity of orthopedic ailments and sub-specialties, there was no overriding consensus about the sequencing of orthopedic referral requests and radiological studies.
    - PCPs noted that for some orthopedic complaints and/or particular facilities, starting with a radiological study that confirms orthopedic pathology would serve as the ticket to securing an orthopedic referral.
    - PCPs were grateful that GBH covers imaging. They acknowledged that plain x-rays did not require prior approval, but MRI and ultrasound did. When they thought an MRI was clinically indicated, it was most often covered. Only rarely did they need the orthopedist referral first to provide sufficient justification for the MRI to be approved. As stewards of limited GBH funding, the participants also expressed concern that perhaps a minority of orthopedic MRI requests could be avoided if an orthopedic expert was more readily available to provide advice about whether it was needed.

4. *Orthopedic scheduling in response to initial referral requests*
    - Participants noted that most orthopedic requests were honored, however:
        - PCPs noted some intermittent, prolonged delays in scheduling. Some reported experience with facilities reportedly scheduling appointments several months to a year into the future, or declining to accept new patients. It was not clear if this was specific to GBH.
        - PCPs reported that only sometimes patients were outright denied orthopedic referrals for not being a suitable surgical candidate.
        - The participants were concerned that delayed referrals for orthopedic ailments risks patients becoming disabled, but no specific examples were raised.

5. *Relation of orthopedic referrals and narcotic prescriptions*
    - The challenge and complexity of addressing chronic pain and the role of narcotic pain remedies were discussed.
    - Participants considered the approach to this issue largely provider-driven. Some participants noted that they or their colleagues were trained to not give narcotics, while others were comfortable giving them – but only certain kinds, predicated on knowing the patient and details of their ailments.
    - The patient requesting or needing narcotics was not considered the primary driver for an orthopedic referral. PCPs seek orthopedic expertise for multiple reasons, as described above, including their desire to pursue non-narcotic solutions to their patient's refractory musculoskeletal pain

PCP Recommendations for Improvement and Innovation

1. *Guiding principles:*
    - Optimize quality care for our patients with musculoskeletal (MSK) ailments.
    - Increase communication and collaboration between PCPs and orthopedic specialists.
    - Foster stewardship of orthopedic specialty referrals:
        - Support timely access to needed orthopedic referrals
        - Reduce unnecessary orthopedic referrals

2. *Innovating the system*
    - Improve communication and relationships:
        - Curbsides: As noted above, the ability to curbside an orthopedist for a quick informal consultation with an orthopedic specialist would allow the PCP to make a more appropriate referral or proceed with an immediate line of treatment. Developing relationships with orthopedists, a means to ask quick questions electronically, an available consult phone line, or having a part-time orthopedist co-located at a primary care center could make this feasible.
        - Co-locating: CHCs already have differing specialties under one roof, allowing them to quickly consult and learn from specialized colleagues. PCPs enthusiastically explored the option of having orthopedics on site, even if just one session every 1-4 weeks.
        - E-consults: If co-locating is not possible, e-consults would be a helpful alternative. This system, implemented in other cities, could electronically connect PCPs directly to orthopedists, for consultation on diagnosis and treatment options.
    - Policy and protocols:
        - Regarding opioid pain prescriptions, PCPs felt that a common regional medication protocol, backed by regional support and with voluntary adoption by providers, would facilitate safe consistent prescribing between providers and patient. PCPs noted this would take the pressure off physicians and allow them to have a more open dialogue with patients. Citing the protocol would reduce the risk of a patient perceiving the provider's decision-making as distrust or personal suspicion. In addition, creating a regional standard would decrease the ability of patients to "shop around" to find a physician to prescribe their desired medication. Emergency department doctors, other providers caring for patients with MSK pain, and pharmacists could be engaged in regional planning and implementation of this. One PCP noted that STLCOP would be a great potential resource to help develop such a regional protocol. PCPs also noted it would be prudent to develop an

informational handout to educate patients about the potential risks and benefits of opioid prescriptions and to explain the regional prescribing policy.

- Expanding reach/accessibility to other existing services:
    - PCPs highlighted existing services and potential partnerships that could be leveraged to help patients with MSK pain. Suggestions included: utilizing on-call residents for consultations, mobile vans for physical therapy, partnership with chiropractic providers, chronic pain support groups, fluoroscopy suites within health centers or within a mobile van, behavioral health counseling to manage patient's pain expectations, and placement of orthopedic providers within health centers.
- Providers did not think that an algorithmic clinical decision-support tool would be worthwhile. Reasons cited include the lack of national guidelines on orthopedic referrals, insufficient evidence for orthopedic referral decision-support tools, the initial referral to PT in current algorithms (an option unavailable to new patient GBH orthopedic referrals), and the complex multi-morbidity of our safety network patients.

C. Orthopedic Provider Individual Interviews

Orthopedic interviews took place between November 2016 and April 2017. Of the 9 individual interviews, 5 were with SLUCare orthopedics and 4 were with Washington University orthopedics. One interview was in person, and the remaining eight interviews were held by phone. The interviewees represented general orthopedic surgery, subspecialty orthopedic surgery, physical medicine and rehabilitation, operative and non-operative sports medicine, and operations administration. The reflections and responses from the orthopedic interviewees are compiled below.

Orthopedic Perspectives and Requests

1. *"Appropriateness" of orthopedic referrals*
    - The majority of orthopedic providers indicated that currently most GBH orthopedic referrals are appropriate, and this was attributed to some form of case review prior to assigning a patient to the provider. At WU, the physical medicine and rehabilitation (PM&R) providers often see the patient first and only refer cases to their surgical colleagues when surgery is indicated; this has worked well for them. At SLUCare, their recently implemented call center to appropriately assign patients to providers has been very well received by their orthopedic staff; in addition they are all grateful for the recent expansion of their department to include additional non-operative orthopedic clinicians. A long-term provider there noted, "I have not noticed as many problems with referrals."
    - Chronic pain, particularly in the back or legs, was an extremely common reason for referral. One provider noted that if three months have elapsed since the onset of pain, the ailment is then considered "chronic," and the treatment is subsequently more complex and challenging. This provider encouraged sooner referrals but also noted that the wait time until a new orthopedic consult appointment may contribute to additional passage of time.
    - Some orthopedists questioned the appropriateness of PCPs seeking orthopedic referrals when the orthopedic provider did not consider them a surgical candidate due to obesity

or smoking. It wasn't clear that orthopedic surgeons valued their role in educating patients about this, or if they were aware of how their advice, depending on how it was delivered, could make the patient feel either rejected from surgery or motivated to finally make a change. Orthopedic surgeons underestimated their impact on the patient in this realm, and yet had really helpful additional evidence-based information to share with patients that even their primary care doctor many not realize. Examples:
    - For those patients who are overweight and are waiting for their surgery as a means to start losing weight, one orthopedist clarified, "No one loses weight after knee replacement surgery… they don't get pain free and then lose weight."
    - For patients who smoke and have chronic pain, one orthopedist noted, "Nicotine decreases blood flow" which impairs healing, and data shows that "smoking is an independent risk for chronic pain with or without surgery."
- All orthopedic providers from one facility labeled patients needing orthopedic surgeries with overnight hospital stays inappropriate referrals by PCP "because GBH doesn't cover that." Another provider stated, "Joint replacement… you guys don't pay for that ... I may have old information … no inpatient stay ... those referrals aren't useful … sort of a waste." [See below: 2. *Misconceptions of GBH coverage and providers*]

2. *Misconceptions of GBH coverage and providers*
    - Surgeries:
        - For one facility, there was no reported barrier for orthopedic surgery to be covered, regardless of whether or not the procedure required an overnight hospital stay.
        - For the other facility, however, there seemed to be uniform ongoing confusion between the orthopedic clinicians and their billing department about GBH coverage of orthopedic surgeries, when a hospital overnight stay is required. "You guys [GBH] don't pay for that."
            - An overnight hospital stay is required for certain surgeries including total hip replacement or revision, total knee replacement or revision, and total shoulder replacement. Usually 1-2 nights is needed. One orthopedist added, "If the patient is heavy or chronically ill, then it's more like 2 nights."
            - One provider at this facility noted, "Joint replacement has been on again and off again with Gateway patients… the last time we were [routinely] doing joint replacement for Gateway was in 2012." [When interviewer explained that GBH didn't exist in 2012, provider indicated that he meant "ConnectCare" patients.] "My personal experience… if a patient really needs a joint replacement and they have GBH… they somehow manage to get another insurance to cover this."
            - When interviewer explained to each orthopedic provider at this facility that GBH does cover these orthopedic surgeries, just not the hospital overnight stay because DSH is supposed to cover that, each interviewee indicated some level of confusion on the policies. One responded, "I'm not in charge of finances." Another responded, "To be perfectly honest I don't know… when I try to get a surgery approved … my biller comes to me to say 'I can't get it authorized' then I think, 'Okay I guess I can't help that person.' There is a roadblock around that. The honest answer is I haven't pushed it as hard as I could…. That may be something we need some education on…. You're labeled X, no overnight stay, next time, I won't try."
    - PT: Some providers are not aware of the fact that PT coverage is only limited to post-op care, so a visit in which the PT order is the only intervention essentially becomes a "wasted visit."

- There is a need to update current and annually incoming new orthopedic fellows, residents, and staff about GBH covered services.
- In addition, multiple providers from one of the orthopedics facilities asserted their assumption that they were the only ones in the region providing orthopedic care to GBH patients. And then one provider suggested that because his facility now offers "prompt patient appointments" their facility may "end up with more of these patients."

3. *Triaging patients to the appropriate level of treatment and orthopedic provider*
    - Multiple providers emphasized appropriate sequencing of care. In particular, the surgeons were eager for all "conservative" measures to be addressed first before referral for possible surgery. These measures include rest, icing, PT, anti-inflammatory medicine, as well as steroid joint injections.
    - Orthopedic surgeons expressed frustration with referrals for patients for whom surgery is not indicated. One surgeon humbly admitted, "It's annoying to see so many patients who are not surgical candidates." Another orthopedic surgeon noted that peers use the unfortunate term "surgical hit rate" to describe the portion of clinic patients ultimately going to the operating room, with the goal of having as high a percentage as possible. He added, "Ideally an orthopedic practice … most of them are surgical. A perfect practice [outpatient clinic] has 80% surgical cases … [I know] that's kind of selfish to say." And then he added that his current practice has ~8% surgical cases, as most patients encountered need conservative management.
    - Orthopedic surgeons and their non-operative orthopedic colleagues prefer when patients are appropriately assigned according to their treatment needs. One surgeon noted, "In my dream world, everyone who comes to my office for a chronic issue would have already had an injection, PT, and icing. That's why we've expanded our primary care [non-operative orthopedic care] offering." In addition, the non-operative providers expressed interest in a broader holistic approach to the patient's MSK pain, chronic symptoms, multi-morbidity, and overall health.

4. *PCP and orthopedic provider communications*
    - Most orthopedic surgeons expressed that for a variety of reasons, the only information they view from the PCP at the start of the visit is one or two words, ex: "Knee pain." The PCP records and detailed referral request is either not available or not routinely reviewed.
        - One exception was spinal surgery, in which the provider's medical assistant compiles all records, radiology reports, and previous operative reports for the surgeon to review before the visit.
        - For other orthopedic providers, it is unclear if this is due to time limitations (providers are seeing up to 30-50 patients per day), the hindrance of chart reviews when the patient's PCP does not share the same EHRs, or if it is not valued. One young orthopedist trained in a different country where pre-visit chart review was standard; he described the "painful" adjustment to starting his orthopedic fellowship in the United States. During one of his first clinics, he was rushing to review the patient's chart before entering the exam room, and his preceptor impatiently scolded him, "He's here for 'shoulder pain.' What are you waiting for?!"
    - Multiple orthopedic providers noted that they are absolutely happy to talk to and teach PCPs, but noted it is much easier when the PCP is on site, and realistically it only occurs under those circumstances.

5. *Whose job is it to make the correct orthopedic diagnosis?*
    - A couple of orthopedists expressed frustration if patients were referred to them under the wrong diagnosis. This was especially true for orthopedic surgeons who specialize in one body part.
        - Example 1: Shoulder pain can be due to shoulder joint problems or cervical spinal pathology. The shoulder surgeons expressed a preference that the PCP figure this out correctly before referring.
        - Example 2: It is technically challenging for any clinician to evaluate an extremely obese patient with knee pain. With the anatomical landmarks concealed behind fatty tissue and with the patient's weight sometimes exceeding the maximum allowed for the MRI table, the PCP may request an orthopedic referral to first identify the etiology of the pain. Multiple orthopedic surgeons expressed frustration at being referred a patient whose high BMI precluded their surgical candidacy.
    - When the interviewer explained to multiple orthopedists that PCPs refer patients for their diagnostic expertise as well as treatment, there was an element of surprise. Two orthopedists responded, "I didn't think about that."

6. *Severe variety of advice on sequencing radiology tests before or after orthopedic consult*
    - Two spinal surgeons specifically insisted that PCPs *should order* a spinal MRI to be completed before the orthopedic visit; otherwise it is a wasted visit.
    - One non-operative orthopedic provider said that PCPs *should not order* x-rays for back pain because, "only 4% of x-rays show the diagnosis of back pain," except for extenuating emergency situations.
    - One knee and hip orthopedist insisted that PCPs *should not order* x-rays or MRI before the orthopedic consult because it's a waste of resources.
    - One sports medicine orthopedist recommended that a PCP only order radiology tests before the orthopedic visit "if they are trying to rule-out" a specific diagnosis.

7. *Physical therapy*
    - All orthopedic providers mentioned the lack of comprehensive physical therapy coverage to be the most significant barrier in treating GBH patients (and Medicaid patients for the same reason).
    - Some mentioned that although PT is covered by GBH only as part of surgical recovery, it is still limited in duration, meaning that some patients do not receive the complete post-surgical PT that they need.
    - One shoulder surgeon explained, "Degenerative rotator cuff injury in a 55 year old patient – the standard is to do a [shoulder] injection, trial of PT 6-8 weeks, and then if that conservative approach fails and patient is still symptomatic, then surgery. Then they need PT after surgery for 3-4 months minimum. In Canada it's 6 months. … By the way, 80% [of patients with rotator cuff] upfront do better with PT [and never need surgery]."
    - Another orthopedic surgeon articulated how difficult it is for him and his colleagues to decide whether or not to operate on a patient when that patient never accessed the requisite attempt at conservative therapy with PT.

8. *The role of opioid prescriptions for musculoskeletal (MSK) pain*
   - Orthopedic providers denied any excess of opioid prescription problems with referrals. One specialist noted this happens rarely, and multiple specialists referred to this scenario using the unfortunate colloquial term "narcotics dump."
   - When discussing the PCP recommendation to have a regional protocol for opioid prescribing, orthopedic providers were receptive. And one orthopedic provider noted use and potential sharing of the *CDC Guideline for Prescribing Opioids for Chronic Pain – United States 2016* as a starting point: https://www.cdc.gov/mmwr/volumes/65/rr/rr6501e1.htm.
   - One of the non-operative orthopedic providers also noted the need for comprehensive pain approaches to seek non-opioid treatments, including nutritional therapies among others.

9. The need for pre-operative clearance should be collaboratively decided
   - One orthopedist noted that orthopedic surgeons should inform the PCP of the complexity, risks, and duration of proposed surgical procedures in order to figure out if a time-consuming pre-operative evaluation is indicated. He expressed a desire to save the patient and the PCP time and resources if it is unnecessary in the case of an extremely brief and minor operative procedure. Likewise, he would want information from the PCP about the patient's chronic multi-morbidity to contribute to that decision.

10. *Proposed innovations in collaborating*
   - Co-location: One orthopedic provider enthusiastically discussed the potential concept of orthopedics being on-site at a CHC, even if for just a half-day per week. This was also stated as a potential teaching site for orthopedic residents and fellows.
   - Fostering multi-disciplinary approaches to MSK pain and exploring group PT as a cost-effective approach were additional ideas well received.

11. *Perceptions of GBH patients*
   - One orthopedic surgeon noted, "Gateway patients tend to have chronic disease and social issues and needs that need to be addressed … Over the last several years, patients with Gateway who are healthy, who have their social issues under control, they manage to get in" the operating room. Also, "If I happen to notice that a patient has GBH, my antennae goes up for co-morbid conditions and social issues."
   - One provider conflated "Gateway" and "ConnectCare" patients and policies.
   - One facility had multiple orthopedic providers imply that taking GBH patients was akin to providing charity care, despite the fact GBH reimburses at a rate equal to 100% Medicare.
   - Regarding the appropriateness of referrals and where they were assigned, multiple providers at one facility used the terms "screening" or "filtering" patients. With regard to disability cases, one provider noted, "we kick people out right away for disability cases."
   - At one facility, complaints about GBH patients have mirrored complaints from surgeons about seeing so many non-surgical cases. All providers at this site implied overall greater satisfaction with all patients due to recent expansion of clinical nurse phone triage and non-operative orthopedic providers doing the conservative management for the patients first.

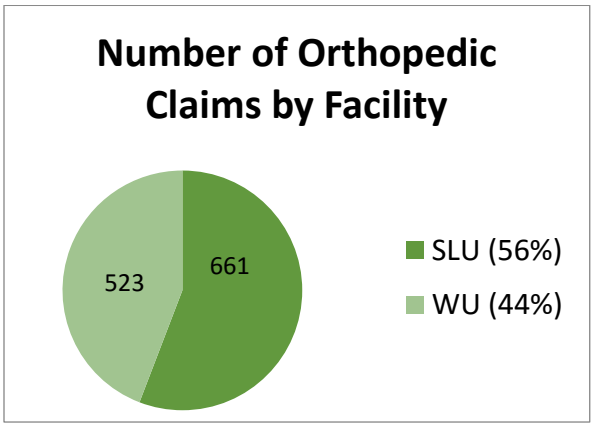
D. Orthopedic Claims Data Review

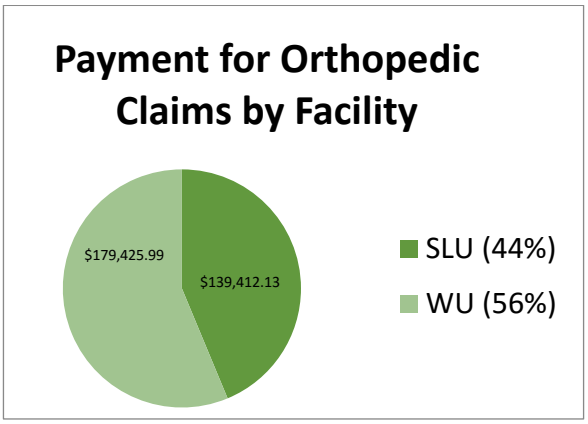
Since its implementation, GBH has processed from 7/1/2012 to 6/30/2017:

- **7,845 orthopedic referrals** (2891 SLUCare, 2734 WU, 546 BJC, with the remaining at previously used facilities St. Alexius and Connect Care)
- **5,989 orthopedic paid claims** (3126 SLUCare, 2863 WU), which includes the following:
  - **2310 unique users**
  - **894 surgeries**

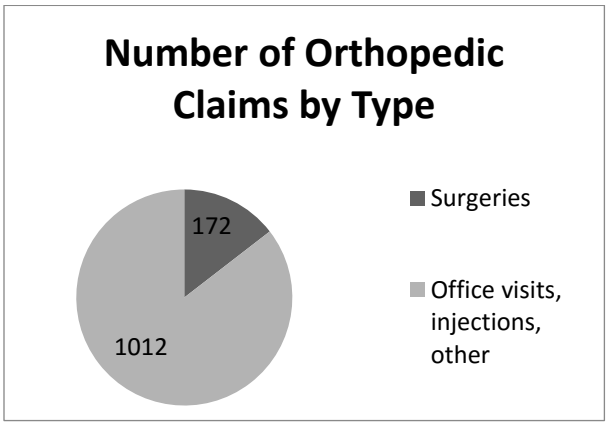
In an effort to better understand orthopedic referrals made for GBH patients, claims data were analyzed for GBH orthopedic consults at SLUCare and Washington University (WU). The only other provider of orthopedic services, BJC Medical Group, was not included in the paid claims analysis because they take less than ten percent of orthopedic referrals and because there is no way to differentiate their orthopedic claims from any other specialty service rendered due to combined billing across all departments.

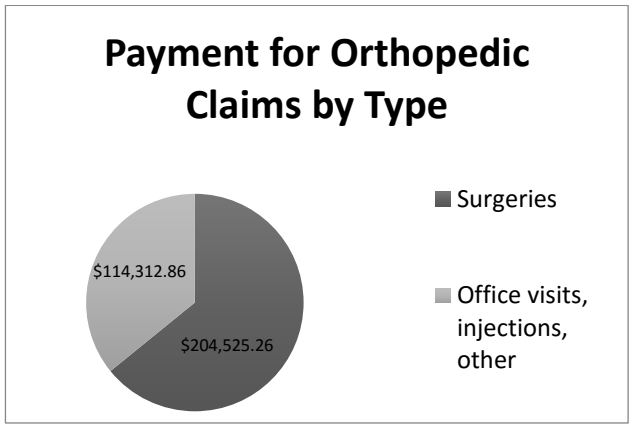
GBH claims data for SLUCare and WU reviewed over a one-year interval, July 1, 2015 to June 30, 2016, revealed 1,184 paid claims for orthopedics. Of these claims, 661 (56%) were submitted by SLUCare and 523 (44%) were submitted by WU. The amount paid for these 1,184 claims was $318,838.12, of which $179,425.99 (56%) was paid to WU and $139,412.13 (44%) was paid to SLUCare. While SLUCare had a higher number of claims, WU, on average, provided more complex, and therefore more costly, services. Reimbursement rates for GBH are the same across different facilities.





Of the 1,184 orthopedic claims during the period, 172 were surgeries while 1,012 were office visits, injections, or other. WU physicians performed 99 surgeries and SLUCare physicians performed 73 surgeries. Of the $318,838.12 paid for orthopedic claims during the period, $204,525.26 was paid on surgery claims. The services categorized as "other" (186 paid in the period) include nerve conduction studies, application of casts, radiology billed directly by the department, as well as anything else that does not fit into the category of surgery, office visit, or injection.



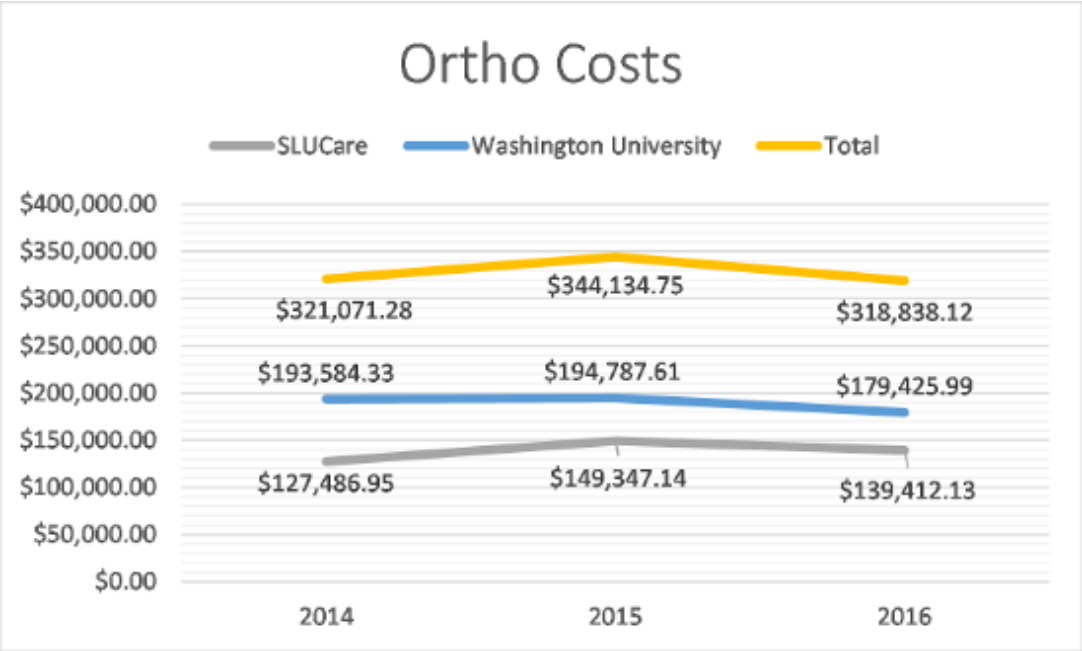


SLUCare had a few of the most expensive claims, such as those for discectomies and laminectomies, but on average provided fewer moderately priced services such as arthroplasties of which WU performed 9 and were paid $10,414.04 compared to zero provided by SLUCare physicians. WU treated more fractures (46) during the period and were paid $45,539.37 for those fracture-related claims, compared to SLUCare physicians who treated 17 fractures and were paid $18,131.23 for fracture-related claims. SLUCare provided more joint injections (122) compared to WU (71).

The top diagnosis codes on orthopedic claims during the period were as follows, in order of frequency, starting with the highest:

- Pain in joint, shoulder region [719.41]
- Pain in joint, lower leg [719.46]
- Osteoarthrosis, localized, primary, lower leg [715.16]
- Carpal tunnel syndrome [354.0]
- Lumbago [724.2]
- Thoracic or lumbosacral neuritis or radiculitis, unspecified [724.4]
- Traumatic arthropathy, ankle and foot [716.17]
- Other joint derangement, not elsewhere classified, shoulder region [718.81]
- Cervicalgia [723.1]
- Pain in joint, pelvic region and thigh [719.45]

Total claims paid to orthopedic departments for the years of 2014, 2015, and 2016 are as shown in the chart below:



IV. ADDENDUM: Initial Responses and Next Steps

The preceding findings were shared with:

- The Pilot Program Planning Team, which oversees all aspects of GBH for the St. Louis Regional Health Commission (RHC), 6/6/17
- The GBH Operations Team, 7/13/17
- The Provider Services Advisory Board of the RHC, 8/1/17
- All orthopedic providers interviewed for this study
- All primary care providers from the focus group for this study
- Local experts in behavioral health, physical therapy, community health centers, pain management, and trauma-informed care.

Discussion, reflections, and recommendations from these aforementioned recipients are listed below. This updated draft will be presented to the following to determine next steps.

- The St. Louis Regional Health Commission Board Meeting, 8/16/17

As of 8/9/2017, initial feedback includes the following guiding principles and recommendations below. The recommendations in greater favor are listed first, but no prioritization has been finalized. This is a working document meant to share concepts, foster discussion about next steps, and solicit additional feedback and suggestions.

Guiding Principles:

1. Recognize that the critical focus of this study is how we address: "Musculoskeletal pain and functional limitations"
This "Orthopedic Referral Study" essentially revealed how our safety network is addressing patient suffering related to musculoskeletal (MSK) pain and functional limitation. As one provider noted, "It's not just about getting the [orthopedic] appointment." Focus next steps on reducing the burden of MSK pain and functional limitations, including but not limited to orthopedic services. Using the nomenclature "MSK pain and functional limitations" helps keep the following relevant patient-centered goals at the forefront of next efforts: • Alleviate suffering • Maximize function and employability • Prevent progression from acute to chronic • Prevent and/or treat the manifestations of prolonged MSK pain, including but not limited to immobility, depression, and opioid use disorder.
2. Prioritize MSK care in regional efforts to advance health and wellbeing.
Given the prevalence, consequences, and implications of MSK ailments, there was concurrent feedback that further exploring and improving MSK care is extremely valuable and relevant.
3. Discern the fundamental distinction between "acute" vs. "chronic" (> 3 months) MSK issues
Next efforts to alleviate MSK suffering will have to account for acute vs. chronic timing, because effective approaches differ, especially to prevent an acute ailment from becoming chronic.
4. Remember that "access to orthopedic care" requires two steps: 1) Access to the initial orthopedic consult appointment, 2) Access to the recommended treatment
This study revealed that accessing the first orthopedic consult appointment was essential but insufficient if the patient was unable to access the treatment recommended by the orthopedic provider, such as PT or joint replacement surgery. Focus further orthopedic referral improvement efforts by keeping in mind that "access" to care for MSK pain and functional

limitations should account for both the initial consult appointment and then for the recommended treatment.
5. Apply the findings and lessons of this study to other specialty referral processes across our regional healthcare continuum
Efforts toward improving referrals and coordination go beyond just the orthopedic specialty.
6. Acknowledge current expectations and cultural assumptions regarding MSK ailments
It is important to recognize and respond to preset expectations for the following: chronic pain management, prioritizing improvements in function vs. pain, quality of life goal-setting, current routine referral patterns, team-based care, inter-disciplinary care, the differing contributions of each provider, the continuum of care from the patients' perspective, etc.

Recommendations for Potential Implementation:

A. Preserve GBH until another sustainable coverage arrangement is secured
GBH has provided 7,845 orthopedic referrals including 894 orthopedic surgeries to uninsured patients who would otherwise have no access to this orthopedic specialty care. Gratitude for this critical accomplishment was acknowledged among all stakeholders. The majority of interviewed patients and PCPs indicated that access to GBH orthopedic referral appointments was unhindered. The majority of patients were pleased and grateful for their orthopedic care.
1. Secure ongoing access to orthopedic care via GBH or another sustainable coverage model.
2. Promote stewardship of our limited healthcare resources and explore ways to further refine our approach to orthopedic referrals in order to maximize their utility and impact.
3. Explore option for PCP to refer GBH patients to same-day walk-in orthopedic injury clinic for acute injuries, when appropriate.

B. Augment physical therapy services.
The one topic of greatest consensus among all interviewees and reviewers was the criticality for all patients, including GBH and Medicaid, to have more access to PT beyond the limited post-op sessions.
1. Integrate PT into primary care. Explore innovative approaches to PT integration and co-location within primary care. Leverage the current multi-disciplinary team-based approach of the patient-centered medical home within community health centers. Distinguish between the ability of a PT to provide diagnostic as well as therapeutic services. Investigate options for PT treatment modalities that are immediate, brief, focused, and high-yield.
2. Evaluate the cost-effectiveness of sequencing PT before orthopedic consultation, with the potential to avoid the need for surgical intervention.
3. Increase orthopedic providers access to PT, beyond the limited post-op sessions. Explore different modalities of doing this most cost-effectively.
4. Advocate at the state level for greater access to PT.
5. Explore charitable and academic sources of PT services.
6. Promote interdisciplinary collaboration with PT, with explicit sharing of a common mission to care for the PT needs of the safety network.

C. Explore alternatives to orthopedic referrals, including the training and leveraging of primary care teams to further manage complex MSK ailments.
Targeting MSK pain and functional limitations requires a multifaceted approach. When possible, empower primary care teams to address MSK pain and functional limitations within the context of the patient-centered medical home, with emphasis on utilizing all team members to their

maximum skill set.
1. Avoid overemphasis of the orthopedic appointment, to the exclusion of other service lines capable of helping patients with MSK pain; this is especially relevant for patients with chronic MSK pain, debility, and limited surgical options.
2. Seek out more PT, as noted above.
3. Secure access to Pain Management for intervention procedures such as epidural steroid injections. Consider a protocol for referral and feedback to prevent any unintentional rejection, such as the declined referrals from comprehensive pain management programs based on GBH not being able to cover behavioral health.
4. Support chronic pain management groups and other behavioral health interventions for MSK pain, within GBH capabilities.
5. Recognize the key roles of nurses, social workers, medical assistants, and other clinical support staff to help patients with MSK problems.
6. Provide access and coverage for chiropractic care.
7. Consider innovative comprehensive multidisciplinary approaches to chronic MSK pain.

D. Help PCP and orthopedic collaboration/communication in transitions of care.
Both PCPs and patients expressed concern about insufficient communication from the PCP being accessed and reviewed by the orthopedist. PCPs and orthopedists were eager to interact with each other, but stated that working in different facilities and in different EHRs are significant barriers.
1. Improve all aspects of transitions of care for patients between PCP and orthopedic provider.
2. Promote care coordination and patient navigation through the continuum of care for MSK issues.
3. Help PCPs access orthopedic expertise quickly via **curbsides** made formally available. Foster an increase in face-to-face, written, electronic, telephone, and/or telemedicine communications between PCPs and orthopedists sharing the same patient.
4. Integrate or co-locate orthopedic provider and/or PT within primary care at CHCs. For example, consider a half-day orthopedic clinic within the CHCs.
5. Provide guidance to PCPs regarding orthopedic referrals. This study revealed a lack of national guidelines on adult orthopedic referrals, evidence-based algorithms, and even inter-orthopedic consensus on ordering films before the consult. Nevertheless interviewees were hopeful that at least some limited guidelines relevant to our local providers be provided. This could take the form of orthopedic departments requesting pre-visit radiologic testing specific to individual patients, as is currently done with other specialty departments such as rheumatology.
6. Visit each other's provider meetings. Consider GBH staff and/or PCPs presenting at orthopedic provider meetings to clarify exact coverage features and primary-care perspectives. Invite an orthopedist to teach at PCP provider meetings.
7. Verify that clinical records can be shared, ideally via the EHR.

E. Match patients to the right type of orthopedic provider
Surgical orthopedists seeing nonsurgical patients resulted in frustration for all involved. Nonsurgical orthopedic providers seem adept at focusing holistic care on the patient's MSK pain, chronic symptoms, multi-morbidity, and overall health. Surgical orthopedic providers are grateful to see patients for whom they can use their surgical expertise.
1. Sequence care so that conservative treatment measures are taken before a patient is considered for orthopedic surgical repair unless it is an emergency.
2. Triage patients first to a non-operative orthopedic provider (ex: physical medicine and rehab physician) for diagnosis and conservative management, before referring to a surgeon for orthopedic repair.
3. Recognize that any orthopedic referral that seems "inappropriate" may be a red flag for one

the following correctable issues:

- Patient mismatched with a surgical orthopedist instead of a nonsurgical provider
- Misconception of what orthopedic services GBH covers
- Timing of the referral (For example, if too much time elapsed for effective early intervention)
- Transition of care communication/collaboration limitations between PCP and orthopedist
- Misunderstanding of complimentary roles of PCP and orthopedist – regarding diagnosis, multifaceted approaches to MSK ailments, and the fact the referral reflects the PCP's plea for help regardless of the patient's circumstances

F. Clarify misconceptions of GBH coverage
This study revealed confusion about GBH coverage that may have resulted in some missed treatment opportunities or "wasted" orthopedic visits. At minimum, the following can be elucidated: (1) Joint replacement surgery is covered by GBH, (2) Physical therapy is currently only available to GBH patients for a few sessions post-op, (3) GBH does not cover DME, (4) GBH has Medicare-reimbursement rates and is not charity-care, and (4) there are three orthopedic provider options for GBH patients.
1. Clarify GBH coverage directly with front-line orthopedic clinicians, perhaps via faculty/department meetings or other means.
2. Continue to teach GBH patients about their coverage benefits.
3. Clarify GBH coverage with orthopedic billing offices. In addition, consider discussion with facility operations/financial staff to consider a service agreement between GBH and the facilities.
4. Foster a GBH expert/liaison within each orthopedic clinical department. (Perhaps similar to the preceding ConnectCare chief resident role.)

G. Incorporate trauma-informed care in musculoskeletal care
MSK ailments and personal suffering are inseparable. Etiologies and exacerbating factors are multifold and interconnected. As astutely summarized by one patient, "Look at patient's circumstances, and help them." The astounding level of MSK suffering parallels the suffering of patients with a history of multifaceted trauma. There is synergy between the findings/efforts of this study and the Alive and Well STL initiative.
1. Teach trauma-informed care to all providers helping patients with MSK ailments. This education can be incorporated into any shared learning by orthopedists and PCPs.
2. Design next steps for MSK systemic care with a trauma-informed approach, including all established principles of trauma-informed care, including sensitivity to culture, race, social determinants of health, and issues of health equity.
3. Learn about orthopedic facility policies regarding care for homeless patients.

H. Align efforts to thwart the opioid epidemic
Although opioid prescriptions were not the key element of orthopedic referral discussions in this small study, interviewees of all categories (patients, PCPs, orthopedists) expressed apprehension about and a desire to minimize opioid prescriptions.
1. Prioritize access to treatments of MSK ailments, including orthopedic referrals and other modalities, in order to avoid or minimize the use of opioid pain medication.
2. Explore the potential for a regional opioid-prescribing protocol to promote uniformity in safe prescribing and monitoring practices. This regional protocol would need to be designed and supported by regional input, with voluntary adoption by PCPs, orthopedic, and ED providers.
3. Explore synergistic intersections between this work and current regional, state, national efforts to address opioid use disorder. This could provide a powerful contribution to such efforts.

V. APPENDICES

Appendix A: GBH Interview Participants

Patients: Individual Phone Interviews - January 23, 2017 – February 14, 2017

Patients	#
GBH patients with orthopedic claims in the last 6 months of 2016 and who had a phone number	55
Resulting phone interviews	14
Patients interviewed who were seen by SLUCare Orthopedics	7
Patients interviewed who were seen by Washington University Orthopedics	7

Primary Care Physicians: Focus Group - October 27, 2016

Primary Care Providers	Facility
Family Medicine Physician	Affinia Healthcare
Internal Medicine Physician	Affinia Healthcare
Family Medicine Physician	Family Care Health Centers
Family Medicine Physician	Family Care Health Centers
Family Medicine Physician	SLUCare

Orthopedic Providers: Individual Phone Interviews - November 23, 2016 – April 13, 2017

Orthopedics	Facility	Orthopedics Department Subspecialty	Surgeon?
Family Medicine Physician	SLU	Sports Medicine	No
Orthopedist Physician	SLU	Shoulder and Sports Medicine	Yes
Orthopedist Physician	SLU	Sports Medicine	Yes
Orthopedist Physician	SLU	Joint Reconstruction/Replacement, General Ortho	Yes
Orthopedist Physician	SLU	Spinal	Yes
Orthopedist Physician	WU	Spinal	Yes
Orthopedist Physician	WU	Shoulder and Elbow	Yes
PM&R Physician	WU	Physical Medicine and Rehabilitation (PM&R)	No
Operations Director	WU	Clinical Orthopedics	N/A

Appendix B: Orthopedic Referral Study Stakeholder Interview Guide

Orthopedic Referral Study 2016-2017, Gateway to Better Health, St. Louis Regional Health Commission
Stakeholder Interview Guides:

I. Adult Patients: Orthopedic Needs
II. Community Health Centers: Primary Care Adult Clinical Providers and Staff
III. Orthopedic Departments: Orthopedic Adult Clinical Providers and Staff

I. Adult Patients: Orthopedic Needs	
Interview Questions: *(NOTE: Reword as needed for clarity)*	Additional Prompts:
1. In general, when and why do patients need an orthopedic specialty appointment?	A. For example: low back pain, frozen shoulder, meniscal tear, hip osteoarthritis, etc. B. What are some reasons that you, your family members, or friends have needed an orthopedist appointment?
2. How do you know when/whom to ask for help when you have pain – your PCP, orthopedist, other?	A. Explain
3. What was your orthopedic referral and appointment like for you?	A. Explain B. How has your orthopedist helped you the most? With decreasing pain or increasing function or both or non-medical reasons (work, disability, etc.)? C. Was there anything about your orthopedic referral that did not meet your expectations?
4. Did your orthopedic provider recommend or prescribe something that was not covered by insurance or just unaffordable?	A. Explain B. Examples: PT referral, medication Rx, MRI, DME, etc.
5. Do you ever wish you had access to someone else instead of or along with your orthopedist for your orthopedic problem?	C. Examples i. Physical therapy ii. Exercise program or physical trainer iii. Pain doctor for injection therapies iv. Comprehensive multidisciplinary pain management program v. Massage therapist, Chiropractor, Acupuncture, etc. vi. Weight loss management vii. Other
6. Did your orthopedic provider ever comment on what your primary care provider did or didn't do to prepare for your orthopedic visit?	A. Explain
7. Have you ever been turned down by an orthopedist?	A. Why? B. When – before the first appointment, or for follow-up?
8. How long have you needed to wait for an orthopedic referral appointment?	A. Explain B. Were there any medical or nonmedical consequences of waiting?
9. Have you ever gone to the ED for an issue that could be handled by an outpatient orthopedist if you had timely access?	A. Explain
10. Were you ever given home-exercises (without PT) for an orthopedic problem?	A. Explain. B. What was this like? C. Did you understand how to do them? Did you understand why you were doing them?

	D. Was it helpful? E. Did you continue the exercises?
11. Were you ever prescribed pain medication for an orthopedic problem?	A. Explain B. Ever prescribed medication by both your PCP and orthopedic provider for the same orthopedic problem?
12. If you needed physical therapy and it was affordable:	A. Would you be able to attend treatment (Ex: often 2 hours twice per week, usually during regular business hours, for up to 8 weeks)? B. Would you be inclined to continue the recommended home exercises after the formal PT treatment was over?
13. What do you wish your primary care provider understood and would do for your orthopedic problem(s)?	A. Explain B. Do you ever feel blamed for your own orthopedic problem?
14. What do you wish your orthopedist understood and would do for your orthopedic problem(s)?	A. Explain B. Do you ever feel blamed for your own orthopedic problem?
15. What do you know now about your orthopedic problem that you wish you knew when you first developed it?	A. Explain
16. If you had the power to change the healthcare system, what change could help patients with orthopedic problems the most?	A. Explain
17. Other questions?	A. Comments? Reflections?

II. Community Health Centers: Primary Care Adult Clinical Providers and Staff

Interview Questions:	Additional Prompts:
1. What are the <u>most common diagnoses</u> (or patient chief complaints) for which you seek orthopedic consultation?	A. For example: low back pain, frozen shoulder, meniscal tear, hip osteoarthritis, etc.
2. Estimate the <u>acuity</u> of the orthopedic problems prompting the referral.	A. Estimate the percentage of your referrals that are acute versus chronic. B. Examples i. Acute: twisted ankle, recent skeletal fracture, or new back pain after lifting something heavy at home, etc. ii. Chronic: knee pain or low back pain lasting more than a few months, etc.
3. What are the most compelling reasons for the referral <u>from your patient's perspective:</u> pain, decreased function, both, or other?	A. Examples i. Primary pain issue: • Ex: Hip aches, but gait is intact. • Ex: Lower back hurts, but patient can move around regardless. ii. Primary function issue: • Ex: Knee seems weak and gives way, but doesn't usually hurt. • Ex: Hand intermittently drops things, but it doesn't usually hurt. iii. Combined: • Ex: Hip aches, and patient can't walk without a limp. • Ex: Shoulder hurts and this pain prevents patient from reaching. iv. Other intertwined reasons:

	• Ex: Pending application for disability benefits. • Ex: Work absence note, FMLA, other. B. Estimate a rough percentage of the above categories.
4. What are the reasons <u>why you refer</u> to orthopedics?	A. List all reasons B. Attempt to order the list starting with most common C. Possible answers/prompts: i. I need help making/confirming the <u>diagnosis.</u> ii. I know the diagnosis, but I need help with <u>treatment</u> specifically by an orthopedic provider: • Patient likely needs an <u>injection</u>, and that is not within my scope of practice. • Patient may need orthopedic <u>surgery</u>. • Patient may need medication best prescribed by an orthopedic provider. iii. I ran out of <u>time</u> during a demanding primary care visit with multiple complaints. • If yes, would you bring back your patient for another appointment just for that orthopedic problem, or why not? Is your schedule so full that the wait would be too long? Other reasons? iv. I refer to orthopedics as my <u>2nd choice</u>, because my 1st choice is not accessible. Examples of what primary referral destination would optimal for my patient: • Physical therapy • Exercise program or physical trainer • Radiology testing, such as an MRI, but need orthopedist to order it • Pain doctor for injection therapies • Comprehensive multidisciplinary pain management program • Massage therapist, Chiropractor, Acupuncture, etc • Weight loss management • Other v. I refer to get my patients <u>off opioid medications</u> currently prescribed for pain due to orthopedic problems. vi. I refer as a <u>follow-up for previous orthopedic</u> specialty care. Ex: patient had prior orthopedic surgery and now has problems with the same joint. vii. I can manage the orthopedic problem, but <u>patient insists</u> on specialty consult. viii. I need orthopedic consultation to determine FMLA or other <u>work absence</u>. ix. Other medical or non-medical reasons?
5. Do you know if/when to <u>order radiology studies</u> for the orthopedic problem?	A. For example, do you order radiology studies (xray, etc) before an orthopedic appointment, or do you prefer for the orthopedic providers to choose their preferred imaging modality and order it themselves the same day as the appointment? B. Estimate prevalence of not knowing. C. Would it be helpful to have guidelines regarding the selection and timing of orthopedic imaging?
6. Do you <u>learn</u> more orthopedics from your patients' <u>orthopedic consult notes</u>?	A. Explain. Give an example. D. Do these notes help you manage future patients with the same orthopedic problem on your own?
7. Have your patients been <u>turned down</u> by orthopedics for clinical reasons?	A. If so, was it <u>before</u> the first appointment? Explain. B. Or was it <u>after</u> the first appointment, in which no orthopedic intervention was performed and patient was referred back to PCP or to another specialist? Explain. C. Regarding acute fractures: have you had any particular challenges or patient experiences with follow-up care for fractures?
8. How long do your <u>patients have to wait</u> for an orthopedic referral appointment?	A. Clarify by subspecialty if needed (hand, spine, etc.) B. If you have had to wait an extended period of time for an orthopedic referral, what are the most extreme consequences you've witnessed: i. To your patient (ex: surgical problems no longer surgically correctable due to deterioration of the internal structures, such as a torn rotator cuff) ii. To you and your clinical team
9. Have you ever <u>referred patients to the ED for a non-emergent issue</u> that could be handled by an outpatient	A. Describe and quantify

orthopedist if you had timely access?	
10. For our entire local safety network, what do you think is the main reason why orthopedic referral rates exceed that of any other specialty?	A. Does this surprise you, or do you consider this acceptable and typical? B. Reflections?
11. What do you think would reduce the need for so many orthopedic referrals?	A. List all. B. Examples/prompts: i. Access to the primary preferred service, such as PT or other (see list above)? ii. Use of an orthopedic electronic-consult (interviewer to explain) or help-line? iii. Use of a clinical decision support tool (interviewer to show example)? iv. PCP continuing education focused on orthopedic issues. Ex: reviewing the knee exam, or learning shoulder injections. v. Other?
12. What percentage of your opioid prescriptions is designated specifically for orthopedic pain?	A. Estimate total percentage B. Of these opioid prescriptions for orthopedic pain, estimate the percentage of your prescriptions that are continued chronically (ex: with refills, for more than two months) C. How are these prescriptions most helpful to your patients? (ex: for full pain relief, for partial pain relief, for increased function, for ability to get back to work, etc) D. How often would you be able to avoid an opioid prescription if you were able to access another service for your patient? Explain.
13. If you think your patient primarily needs physical therapy and if they had access to physical therapy, then:	A. Are you comfortable writing the referral/order for PT? Or do you much prefer that orthopedic providers write that order with their specifications? B. What percentage of your patients do you think would show up for treatment (Ex: often 2 hours twice per week, usually during regular business hours, for up to 8 weeks)? How would this compare to their show-rate for an orthopedic referral? C. With proper encouragement and counseling before the PT referral, what percentage of your patients do you think would continue the therapeutic PT exercises at home on a regular basis?
14. Have any of your patients had an untreated orthopedic problem that resulted in disability?	A. Describe and quantify.
15. What do you wish your orthopedist colleagues understood about your primary care role with these shared patients?	A. Do you think there any misconceptions about primary care management of orthopedic problems? B. Do you ever feel blamed by the specialist for your patients' problems? C. What would you request from your orthopedic colleagues to have an optimal partnership in caring for your shared patients?
16. If you could redesign our system of helping patients with musculoskeletal problems, what high-quality, cost-effective changes would you recommend?	A. Describe. B. For example, regarding PT coverage: i. Physical therapy costs at least $100+ per visit, with at least 2-8 or more visits needed, dependent on the issue ii. With a limited coverage plan, if PT services were added, what other services could be spared? iii. For what clinical indications would PT be most impactful? iv. If you had immediate access to a PT in your health center to teach patients during the visit exercises for them to do alone at home, do you think that would be effective? C. Other?
17. Other questions?	D. Comments? Reflections?

III. Orthopedic Departments: Orthopedic Adult Clinical Providers and Staff

Interview Questions:	Additional Prompts:
1. What are the most common diagnoses (or patient CC) for which you receive referrals?	A. For example: low back pain, frozen shoulder, meniscal tear, hip osteoarthritis, etc.
2. Estimate the acuity of the orthopedic problems prompting the referral.	A. Estimate the percentage of your referrals that are acute versus chronic. B. Examples i. Acute: twisted ankle, recent skeletal fracture, or new back pain after lifting something heavy at home, etc. ii. Chronic: knee pain or low back pain lasting more than a few months, etc.
3. What are the most compelling reasons for the referral from your patient's perspective: pain, decreased function, both, or other?	A. Examples i. Primary pain issue. Ex: Hip aches, but gait is intact. Ex: Lower back hurts, but patient can move around regardless. ii. Primary function issue. Ex: Knee seems weak and gives way, but doesn't usually hurt. Ex: Hand intermittently drops things, but it doesn't usually hurt. iii. Combined. Ex: Hip aches, and patient can't walk without a limp. Ex: Shoulder hurts and this pain prevents patient from reaching. iv. Other intertwined reasons. Ex: Pending application for disability benefits. Ex: Work absence note, FMLA, other. B. Estimate a rough percentage of the above categories.
4. What do you think are the main reasons why primary care providers choose to refer to orthopedics?	A. List all reasons B. Attempt to order the list starting with most common C. Possible answers/prompts: i. They need help making/confirming the diagnosis. ii. They know the diagnosis, but they need help with treatment specifically by an orthopedic provider: • Patient likely needs an injection, and that is not within my scope of practice. • Patient may need orthopedic surgery. • Patient may need medication best prescribed by an orthopedic provider. iii. They ran out of time during a primary care visit. iv. They refer to orthopedics as a 2nd choice, because they don't have access to what they really want for the patient. Examples of what primary referral destination would optimal for my patient: • Physical therapy • Exercise program or physical trainer • Radiology testing, such as an MRI, but need orthopedist to order it • Pain doctor for injection therapies • Comprehensive multidisciplinary pain management program • Massage therapist, Chiropractor, Acupuncture, etc. • Weight loss management • Other v. They refer to get patients off opioid medications currently prescribed for pain due to orthopedic problems. vi. They refer as a follow-up for previous orthopedic specialty care. Ex: patient had prior orthopedic surgery and now has problems with the same joint. vii. They can manage the orthopedic problem, but patient insists on specialty consult. viii. They want orthopedic consultation to determine FMLA or other work absence. ix. Other medical or non-medical reasons?
5. What do you consider an inappropriate referral to orthopedics?	A. List all. B. Put in order starting with most common
6. What do you think would prevent what you consider inappropriate orthopedic referrals?	A. List all. B. What do you wish PCPs knew regarding these orthopedic requests? C. What do you wish PCPs would do before referring to you, taking into account limited resources (for example, if the patient has no access to PT)?
7. Are there some ortho referrals that are considered	A. Give examples B. What would help PCPs take care of these orthopedic complaints themselves?

appropriate but could potentially be taken care of by PCP?	
8. What do you think of orthopedic e-consults?	A. (Interviewer to explain) B. Responses, reflections.
9. How often do you read the PCP request for help on the orthopedic complaint?	A. Do you prefer one-line reason for referral, or the PCP full note or both? B. Is the one-line reason for referral immediately available to you? If it is, how often do you review it, versus just asking the patient directly? C. Is the PCP note available to you? If it is, how often do you stop to read this?
10. Do you want radiology studies ordered before your appointment, or do you prefer to order them yourself on the day of the visit?	A. State preference and caveats. B. If the PCP ordered radiology tests prior to your appointment: i. How often do you think you would have ordered radiology tests differently? • Do you often find that excessive tests have been ordered? • Do you often find that you wish more tests had been ordered in advance? ii. How often are those results available to you? By report or by CD? iii. Do you always prefer radiology results by printed report, CD, or both? C. Would you recommend radiology-ordering guidelines be given to PCPs to review before orthopedic referral? Do you have suggestions? There are currently no adult orthopedic referral national guidelines.
11. Do you understand which of your patients have or do not have access to other services, such as PT, DME, etc.?	A. Explain. B. Examples: do you know if Medicaid and GBH cover PT? C. If you knew at the start of the visit that PT was not available, would you manage the patient differently? Would the orthopedic appointment be more productive? D. How do you handle patients who need PT and don't have access to it? What are your options? How effective are there? Do you have a PT in the office to teach home exercises?
12. If you think your patient primarily needs physical therapy and if they had access to physical therapy, then:	A. Do you prefer to be the one to evaluate the patient and write the PT order, or do you think all PCPs can do this on his or her own? B. In general, what percentage of your patients with access to PT shows up for treatment? C. With proper encouragement and counseling before the PT referral, what percentage of your patients continues the therapeutic PT exercises at home on a regular basis?
13. Have patients waited so long first orthopedic appointment that the surgical window was missed?	A. Explain B. Examples: rotator cuff tear too late to repair
14. Have any of your patients had lack of treatment result in disability?	A. Describe and quantify.
15. For our entire local safety network, what do you think is the main reason why orthopedic referral rates exceed that of any other specialty?	A. Does this surprise you, or do you consider this acceptable and typical? B. Reflections?
16. How often do you use opioid prescriptions for non-post-op orthopedic pain?	A. Estimate total percentage B. Of these opioid prescriptions for orthopedic pain, estimate the % of your prescriptions that are continued chronically. By you or by PCP? C. How are these prescriptions most helpful to your patients? (ex: for full pain relief, for partial pain relief, for increased function, for ability to get back to work, etc) D. How often would you be able to avoid an opioid prescription if you were able to access another service for your patient? Explain.
17. If you could redesign our system of helping patients with musculoskeletal problems, what high-quality, cost-effective changes would you recommend?	A. Describe. For example, regarding PT coverage: Physical therapy costs at least $100+ per visit, with at least 2-8 or more visits needed, dependent on the issue. With a limited coverage plan, if PT services were added, what other services could be spared? For what clinical indications would PT be most impactful? If you had immediate access to a PT in your health center to teach patients during the visit exercises for them to do alone at home, do you think that would be effective?
18. Other questions?	A. Comments? Reflections?