Proposal for the Development of a Provincial Foot and Ankle Program

Submitted by:
Foot and Ankle Surgeons

Proposal Funded by:
Ontario Orthopaedic Association
Canadian Orthopaedic Association

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Ministry of Health and Long-Term Care

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1 ACKNOWLEDGEMENTS

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We also wish to acknowledge the members of the Orthopaedic Expert Panel and in particular Dr. James Waddell (Chair). Also the representatives from the LHIN Advisory Committee, who gave their time to review and provide feedback on the proposal.

2 EXECUTIVE SUMMARY

On November 17, 2004, the Minister of Health and Long-Term Care officially announced Ontario's Wait Time Strategy. The Strategy was designed to reduce wait times and thereby improve access to healthcare services for adults in Ontario. While hip and knee total joint replacements were a primary focus in the early stages of the strategy, it has since been expanded to encompass all orthopaedic surgeries with a view to improving access and wait times more broadly within the specialty. An Orthopaedic Expert Panel, chaired by Dr. James Waddell, was convened in spring 2008 to oversee and guide this expansion of scope. The Orthopaedic data that is analyzed through Wait Times on a monthly basis clearly identifies that there are significant issues with access to care for patients experiencing foot and ankle problems, and as well indicating that there is extensive variation in access to surgeons across the 14 LHINs.

The Foot and Ankle Program has been developed with the goal of improving access for patients to foot and ankle care across Ontario and includes:

- Timely referral for either surgery or medical management,
- Coordinated medical management,
- Improved access and shorter wait times for foot and ankle surgery in Ontario,
- Increased capability to link patients with other community-based programs and services, and
- Standardized educational toolkits for patients and community health providers.

The program will accomplish this goal using three solutions:

Solution #1

In collaboration with the Ministry of Health and Long term care a system will be developed to use ***targeted funding*** to manage surgical procedures that are responsible for the wait time for foot and ankle surgery within Ontario.

Solution #2

A ***triage and assessment programs*** will be developed to support equal distribution and access for foot and ankle care across the province. This will be a phased in project starting with five organizations in Phase 1, followed by refining and expanding the program to achieve implementation of a program across the province in Phase 2.

Solution #3

Within those LHINs where there is a current lack of access to foot and ankle surgery, surgeons and hospitals will collaborate to increase their capacity to manage this patient population through ***clinical education or the development of operational processes***. Increasing capacity can be managed through increasing the skill set of the current surgeons to manage complex and non complex foot and ankle conditions, hiring of additional specialized foot and ankle surgeons, or working with other LHINs to ensure patients access to all available resources.

These three solutions are mutually dependent and through a coordinated approach will result in increasing access to the specialty foot and ankle surgeons for patients who require their additional skills

and increasing access for the less complex surgical foot and ankle problems to the general orthopaedic surgeons who will have the training and ability to manage these conditions.

With respect to triage and assessment, these programs would be of benefit in the following organizations: St. Michael's Hospital, The Scarborough Hospital, Grand River/St Mary's General Hospital, Brampton Civic Hospital, The Ottawa Hospital and Queensway Carleton Hospital, Thunder Bay Regional Hospital, University Health Network, Strathroy Middlesex Hospital, Kingston General Hospital, Hamilton Health Sciences. As such it is recommended that the program be implemented in two phases. The first phase would include the implementation of five centres who have expressed interest in participating in Phase 1 and where commitment to participating has been confirmed by the CEO and the surgeon. Phase II would be a role out of this program to the additional centres noted. It is recommended on a long term basis that all LHINs have a triage and assessment centre to manage their local assessment needs.

The triage and assessment program would be set up with the following objectives:

1. Improve patient care and ensure efficient use of health care resources through a process of standardization and creating an inventory of resources available in local communities.
2. Redirect referrals back to their local communities thereby reducing the number of less complex referrals to foot and ankle specialists so that the specialists can concentrate on more complex procedures.
3. Build capacity in the communities to manage patients locally including access to resource such as the operating rooms and qualified orthopaedic care through trained surgeons.
4. Develop a simple yet effective data collection system to monitor and evaluate the program's performance including:
    a. Measurement of wait 1 in conjunction with the wait times system
    b. A system to follow patients who are referred back to their community to ensure they are still able to access the needed services.
    c. Volumes of patients to better measure the unmet need

This proposal is a request for funding to support an increase in surgical volumes through targeted funding including identifying a clinical method to determine those funding levels. The proposal also includes the budget for the implementation of triage and assessment programs across a number of sites within Ontario which would require an annual budget of $776,044 for 2009/10.

3 INTRODUCTION

On November 17, 2004, the Minister of Health and Long-Term Care officially announced Ontario's Wait Time Strategy. The Strategy was designed to reduce wait times and thereby improve access to healthcare services for adults in Ontario. The initial focus of the strategy was on five areas of care: cancer surgery, selected cardiac procedures, cataract surgery, MRI and CT scans, and hip and knee total joint replacements.

The success of the Wait Times Strategy prompted the government to expand the scope of services for which wait times were being tracked and reported. While hip and knee total joint replacements were a primary focus in the early stages of the strategy, the strategy has since been expanded to encompass all orthopaedic surgeries with a view to improving access and wait times more broadly within the specialty. An Orthopaedic Expert Panel, chaired by Dr. James Waddell, was convened in spring 2008 to oversee and guide this expansion of scope. The Orthopaedic data that is analyzed through wait times on a monthly basis clearly identifies that there are significant issues with access to care for patients experiencing foot and ankle problems and as well indicates there is extensive variation in access to surgeons across the 14 LHINs.

This proposal has been prepared by the Ontario foot and ankle specialists through funding provided by the Ontario Orthopaedic Association and the Canadian Orthopaedic Association. Specifically, this proposal presents a plan for a Foot and Ankle Program in Ontario, which will drive more efficient use of orthopaedic surgical resources in foot and ankle care. The Orthopaedic Expert Panel participated in the development of this proposal.

OVERVIEW OF THE REPORT

The remainder of this proposal is organized as follows:

- The proposal begins with a brief profile of the Foot and Ankle Program in section 4.
- Section 5 presents a profile of foot and ankle surgical activity, placing it in context within the orthopaedic specialty.
- Section 6 provides an analysis of foot and ankle activity in the province.
- Section 7 lays out the components of the proposed foot and ankle program.
- Section 8 presents a description of the activities to be undertaken to accomplish the objectives of triage and assessment component of the program through Phase I and
- Section 9 presents an implementation plan for the triage and assessment program.
- Section 10 provides the required annual budget for the project.

Accompanying appendices follow section 10.

4 THE FOOT AND ANKLE PROGRAM

PROGRAM OVERVIEW

The program that is being proposed to manage foot and ankle wait times in Ontario includes three solutions:

Solution #1

In collaboration with the Ministry of Health and Long term care a system will be developed to use ***targeted funding*** to manage surgical procedures that are responsible for the wait time for foot and ankle surgery within Ontario.

Solution #2

A ***triage and assessment programs*** will be developed to support equal distribution and access for foot and ankle care across the province. This will be a phased in project starting five organizations in Phase 1, followed by refining and expanding the program to achieve implementation of a program across the province in Phase 2.

Solution #3

Within those LHINs where there is a current lack of access to foot and ankle surgery, surgeons and hospitals will collaborate to increase their capacity to manage this patient population through ***clinical education or the development of operational processes***. Increasing capacity can be managed through increasing the skill set of the current surgeons to manage complex and non complex foot and ankle conditions, hiring of additional specialized foot and ankle surgeons, or working with other LHINs to ensure patients access to resources.

These three solutions are ***mutually dependent.***

PROGRAM GOALS

The overall goal of the proposed Foot and Ankle Program is to improve foot and ankle health in the province of Ontario. This project will accomplish that goal through:

- Timely referral to either surgery or medical management,
- Coordinated medical management,
- Improved access and shorter wait times for foot and ankle surgery in Ontario,
- Increased capability to link patients with other community-based programs and services, and
- Standardized educational toolkits for patients and community health providers.

PROGRAM DELIVERABLES

There are six primary deliverables of developing a provincial foot and ankle program:

1. Improved patient care and more efficient use of health care resources through appropriate triage of foot and ankle patients to the right provider for the right service at the right time across Ontario.

2. The development of a process to deal with referrals to foot and ankle specialists that could be managed by general orthopaedic surgeons.
3. The development of clinical competency through education where necessary, to effectively manage foot and ankle surgeries in local communities and thereby maximize as appropriate the current available surgeon capacity for both complex and less complex surgeries .
4. The development of hospital capacity through targeted funding, to deal with less complex foot and ankle surgeries.
5. Supporting specialty foot and ankle surgeons to manage the complex patient population through targeted funding where patients cannot be managed by a local surgeon.
6. Standardization in process to facilitate patient flow through improved clinical practice and efficiency.

INDIVIDUAL AND SYSTEM BENEFITS OF THE PROGRAM

The Foot and Ankle Program is based on a comprehensive approach to foot and ankle care within a chronic disease management framework. Using this framework, foot and ankle health will be improved by defining and promoting quality, safety, clinical standards and best practices in the treatment of foot and ankle pathologies. Individuals who need care will experience high quality and timely responses to their needs.

Implementation of this program will facilitate identification of the need for foot and ankle surgery in local regions and thereby contribute to the allocation of resources to support foot and ankle health in the province.

The program will contribute to achieving system goals and priorities such as improved access to higher quality care, while using limited health care resources more efficiently. Within this program, local planning of the provision of foot and ankle surgery will be facilitated at a LHIN level. Through the program, we will be able to capitalize on existing resources, especially specialist resources within each LHIN.

GUIDING PRINCIPLES OF THE PROGRAM

The Foot and Ankle Program was developed based on the following guiding principles:

- Improved access, quality and efficiency: The Foot and Ankle Program will focus on improved access to care for patients, enhanced quality of care, and improved efficiency of the care delivery process;
- LHIN led: The program will be driven at the LHIN level. Opportunities and challenges will be identified at a regional level, and local solutions will be developed and implemented;
- Leverage existing assets: Where possible, current regional and/or hospital specific initiatives (e.g., the existence of an assessment centre) will be leveraged and built upon in the development of the program;
- Accountability: Performance measurement practices will be put in place, and outcome measures will be developed and tracked in order to ensure accountability;
- Alignment: This initiative aligns with other similar initiatives such as the Hip and Knee Program.

5 BACKGROUND: FOOT AND ANKLE SURGICAL SPECIALITY

Development of the foot and ankle subspecialty of orthopaedics is an important component of this project. By developing this specialized area of practice, patient needs will be met through high quality care by the right clinician at the right time. System needs will be met through efficient use of system resources. Understanding what a foot and ankle specialist is and does and why patients need access to this resource is the first step in this development.

FOOT AND ANKLE SURGERY

Foot and ankle surgery as a subspecialty started to evolve in the mid 1980's. Until that time most foot and ankle problems were managed by a general orthopaedic surgeon. Over the past 30 years, the types of surgeries offered for foot and ankle pathologies have evolved, and the complexity of the surgery has increased. This has resulted in more reliable and better outcomes for the patient following foot and ankle surgery. Paradoxically, most orthopaedic residents graduate from programs with insufficient exposure to foot and ankle pathologies and thus do not manage these problems unless they have received additional training in the form of a Foot and Ankle Fellowship.

The numbers of Orthopaedic Surgeons in Ontario with a specific interest in foot and ankle surgery are few and the demand far exceeds the ability of the few to fulfill the needs of Ontario citizens. The interest amongst new trainees is increasing and as such, there will be Canadian trained foot and ankle subspecialists graduating. However, a current hiring practice of Ontario hospitals does not reflect the need of the surrounding community. This is to say, that there are a number of LHIN's within Ontario that do not have an orthopaedic foot and ankle specialist and rely on outsourcing foot and ankle surgeries to other LHINs. Most of the available foot and ankle surgeons are in other LHINs and have a waiting list of over one year and as a result severely restrict the number of new consults.

The current situation that exists is that the general orthopaedic surgeon has stopped performing many foot and ankle surgeries and the subspecialty supply of Foot and Ankle Surgeons has not increased to fulfill the needs of Ontario citizens. Some foot and ankle surgeries can be performed if the general orthopaedic surgeon is encouraged to increase surgical volumes; however, in spite of this change, the need for a greater number of Orthopaedic surgeons with foot and ankle subspecialty training will continue to grow.

WHAT IS A FOOT AND ANKLE SPECIALIST?

There are many surgeons within Ontario who complete surgery on the foot and ankle, and in fact it is quite acceptable for the less complex procedures to be completed by general orthopaedic surgeons with no specialty foot and ankle training. Recently, there have been significant increases in the sophistication of foot and ankle surgical techniques through improvements in technology and hardware, which has made some procedures more specialized than ever before. A group of specialty surgeons have chosen to specialize in these complex foot and ankle procedures and for the purpose of this project Orthopaedic Foot and Ankle Surgeon qualifications are described as:

- Completion of at least six months of an accredited foot and ankle fellowship;
- An elective practice with 50% of activity dedicated to surgical foot and ankle care;
- An ability to correct multidirectional structural abnormalities below the knee.

Furthermore, system efficiency depends on maximizing the access for patients to all surgeons who have the clinical ability and the appropriate resources to manage their condition. This means that general orthopaedic surgeons with an interest in foot and ankle should be able to maximize their activity in this area. For the Foot and Ankle specialized surgeon however this means utilizing their time and expertise to concentrate on more complex procedures and diagnoses that cannot be managed within the patient's local community.

Table 1 is a list of procedures that are undertaken by a foot and ankle specialist and may not be managed within the patient's local community.

Table 1: Procedures that should only be performed by an Orthopaedic Foot and Ankle Surgeon

Total ankle replacements
Severe pes planus deformities
Severe pes cavus deformities
Foot and ankle deformities requiring external fixation or tricortical bone graft for correction
Complex forefoot deformities requiring multiple metatarsal osteotomies
Hallux valgus deformities requiring biplanar or multiple 1st MT osteotomies
Complex Charcot reconstructions
Deformities requiring multiple tendon transfers
Deformities requiring multiple or biplanar osteotomies for correction
Conversions of fusions to Total ankle replacements
Take down of fusions or non-unions with repositioning – correction of malunions
Re-operation of a foot after failure of index procedure
Trauma requiring primary fusion of a joint or joint complex

Source: Orthopaedic surgeons contributing to this proposal.

WHY A PATIENT NEEDS A FOOT AND ANKLE SPECIALIST

The foot and ankle is a complex series of joints that has the flexibility to function as a shock absorber and adjust to uneven terrain but the rigidity to withstand the repetitive forces of everyday activity. For example, a 150 pound person walking one mile places 60 tons of accumulative force through their feet. In steady state walking up to 5 times the body weight is placed through the ankle joint with each step. As a result even subtle abnormalities can result in significant pain and morbidity due to the accumulative forces of daily activity and the condition can deteriorate quickly without appropriate care. Recent outcome studies have demonstrated that patients with end-stage ankle arthritis are as disabled as a person with end-stage hip arthritis (Comparison of Health – Related Quality of Life Between patients with End Stage ankle and hip arthrosis: M. Glazebook et al 2008:90:499-505). In addition, due to the fact that many foot and ankle problems are post-traumatic in origin, the majorities of patients are still in the prime of their life and require a good functional outcome in order to maintain gainful employment. Thus, a strategy to achieve early detection and treatment of foot and ankle conditions for patients within Ontario required.

6 CURRENT FOOT AND ANKLE CARE IN ONTARIO

Most patients with foot and ankle functional disability or pain will present to a primary care physician. The physician generally refers the patient to an orthopaedic surgeon who accepts referrals for foot and ankle. Without opportunities for a comprehensive assessment, no consideration is given as to whether the patient requires a non-surgical program of care or surgery. Most patients are referred to a foot and ankle specialist regardless of whether the patient case is complicated or a straight forward procedure (e.g., club foot and claw toe). For straight forward procedures a referral could be successfully managed through a general orthopaedic surgeon in their local region rather than a foot and ankle specialist. Within Ontario there are currently a limited number of approximately 11 foot and ankle surgeons who will perform complex foot and ankle procedures. These surgeons are located in the following hospitals and LHINs:

Hospital	**LHIN**
St Michaels Hospital	Toronto Central
UHN	Toronto Central
Grand River/St Mary's Hospital	Waterloo Wellington
The Ottawa Hospital	Champlain
Queensway Carlton Hospital	Champlain
William Osler, Brampton Civic Hospital	Central West
The Scarborough Hospital	Central East
Strathroy Middlesex Hospital	South West
Thunder Bay Regional Hospital	North West
Kingston General Hospital	South East
Hamilton Health Sciences Centre	HNHB

Performing a high proportion of less complex foot and ankle surgeries is not an efficient use of highly specialized foot and ankle surgeons. Because so many of cases are being referred to these specialists, many referrals, where it is clear there is no need for specialized care, are simply returned to the referring physicians and patients are not seen within the healthcare system. This means that many patients are unable to access care until their conditions becomes more severe. For patients that do present with a diagnosis that is accepted onto the foot and ankle specialist wait list, wait times data for foot and ankle surgeries continue to exceed the provincial target of performing 90% of these surgeries within 182 days for wait 2 (See Figure 5 and Figure 6.) There is no wait 1 data for these patients to reflect the wait from family physician to the surgeon.

Some LHINs do not have a foot and ankle specialist, and patients in these LHINs are typically referred to a neighboring LHIN for care (See Figure 7 and Figure 8 for a comparison of the number of people within a LHIN who require foot or ankle surgery and the number of surgeries that are performed in each LHIN.) These patients are sometimes not receiving care as close to home as possible, are waiting an inappropriately long time for surgery and having to travel extensive distances for consultation, pre operative preparation, surgical intervention and all follow up care.

Some foot and ankle specialists are reducing the number of less specialized foot and ankles surgeries they will perform, in some cases because operating room (OR) time is limited for these types of procedures.

There are a number of other issues with foot and ankle care in Ontario that could be addresses through a coordinated program including: the ordering of repeat tests that have already been ordered by the primary care physician which results in duplication and potentially extending the time required to complete the diagnosis, limited educational materials before or after surgery and access to post operative services.

CURRENT ONTARIO DATA

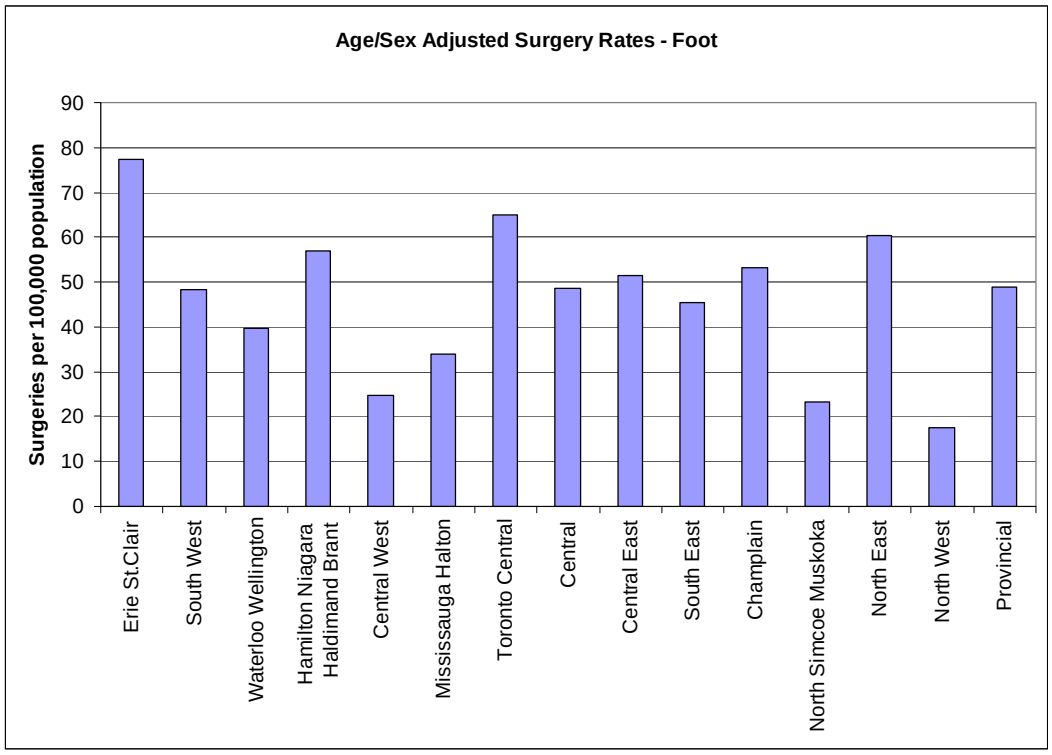
Data on volumes and wait times for foot and ankle surgeries in Ontario were retrieved from the Wait Time Information System (WTIS). These data are collected as part of the provincial initiative to improve access and wait times in orthopaedic surgery. The data available for foot and ankle surgery was for the period April 2008 to December 2008.

It should be noted that these data reflect completed procedures using existing resources and do not necessarily reflect demand or need in the province.

Foot and ankle surgeries were identified according to Canadian Classification of Health Interventions (CCI) codes (Appendix #1). The list of foot and ankle surgeries collected in WTIS includes the full range of less specialized to more complex surgeries. Some of the surgeries may be performed by general surgeons, some by orthopaedic surgeons and some by foot and ankle specialists.

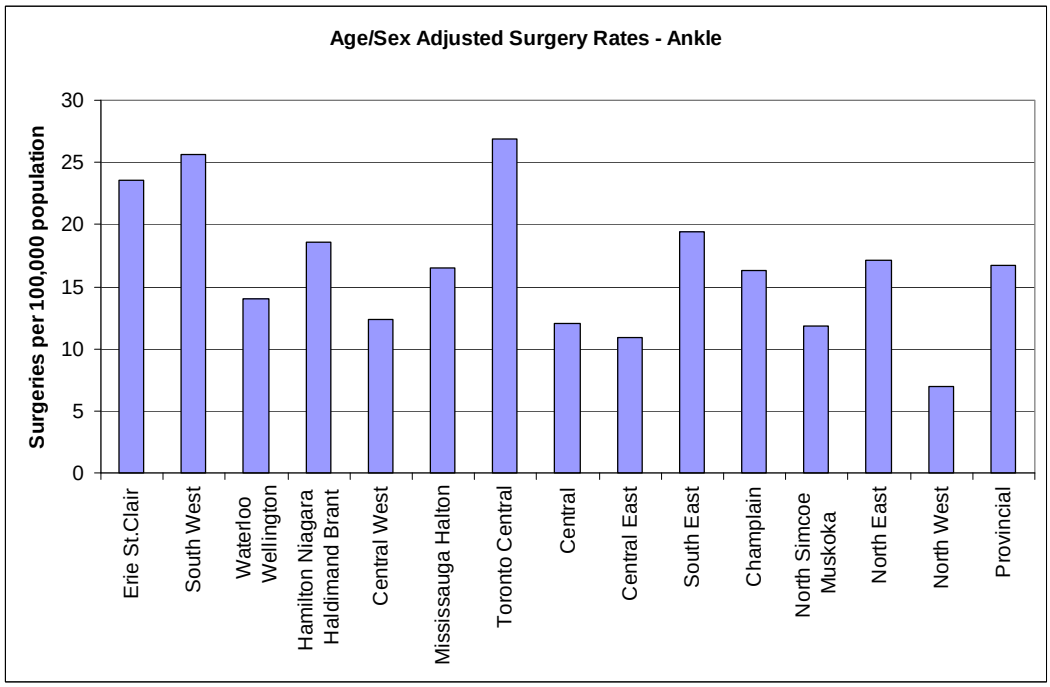
Figure 1 and Figure 2 below show the age/sex adjusted population rates of foot and ankle surgeries in Ontario. The overall provincial age/sex adjusted rates were 49 per 100,000 population for foot surgery and 16.7 per 100,000 population for ankle surgery. As shown in the figures, these rates vary significantly across the province. The Local Health Integration Networks (LHINs) with the lowest adjusted rates of foot surgery were North West, North Simcoe Muskoka and Central West. These LHINs were also among the lowest rates for ankle surgery. Erie St. Clair, Toronto Central and North East had the highest rates for foot surgery. The highest adjusted rates for ankle surgery were found in Toronto Central, South West and Erie St. Claire. The differences in these rates across LHINs can be attributed to the availability of resources to perform foot and ankle surgery.

Figure 1: Age/sex Adjusted Surgery Rates - Foot (April 08 – Dec 08)



Source: Wait Time Information System and Ontario 2007 population estimates

Figure 2: Age/sex Adjusted Surgery Rates - Ankle (April 08 – Dec 08)

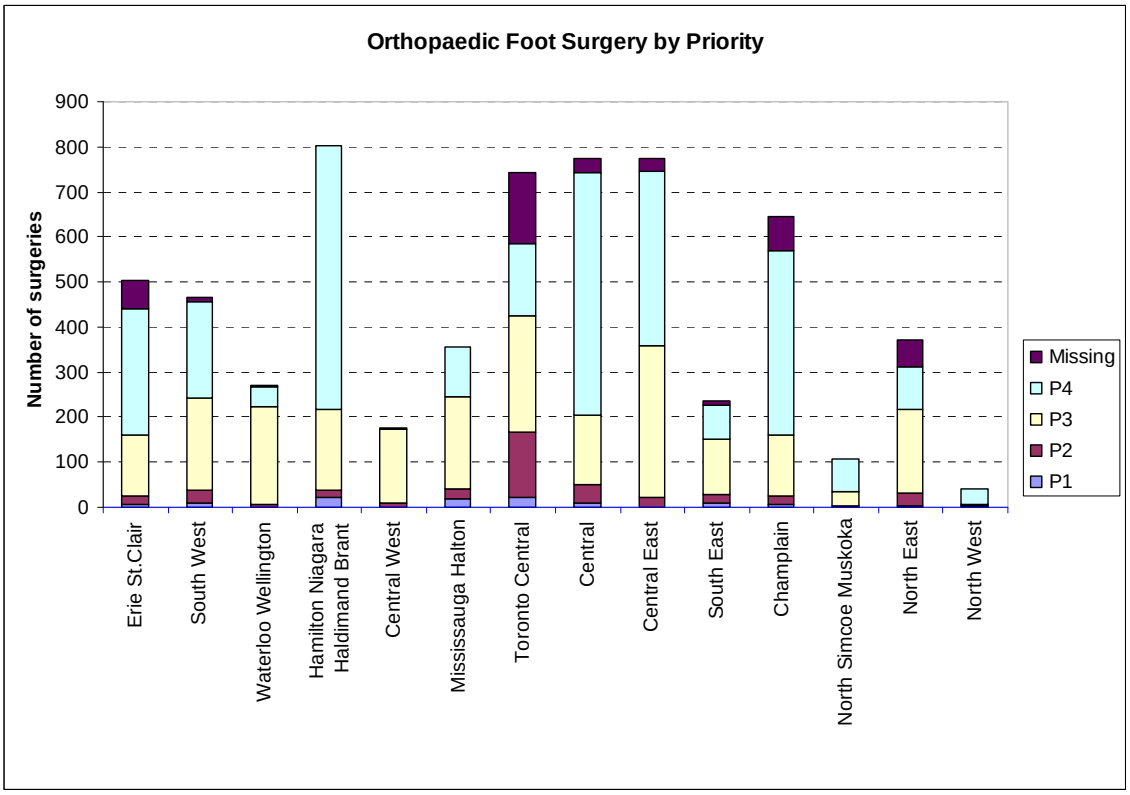


Source: Wait Time Information System and Ontario 2007 population estimates

Overall in Ontario, there are approximately 10,000 foot and ankle surgeries per year. Foot and ankle surgery represents approximately 10% of orthopaedic surgery in the province of Ontario. The highest

percent of orthopaedic surgeries were performed in the Champlain LHIN (12.6%) while Mississauga Halton (5.8%), North Simcoe Muskoka (6.6%) and the North West LHIN (1.3%) had the lowest. The distribution of these surgeries by LHIN and by surgical priority is shown in Figure 3 for foot surgeries and in Figure 4 for ankle surgeries.

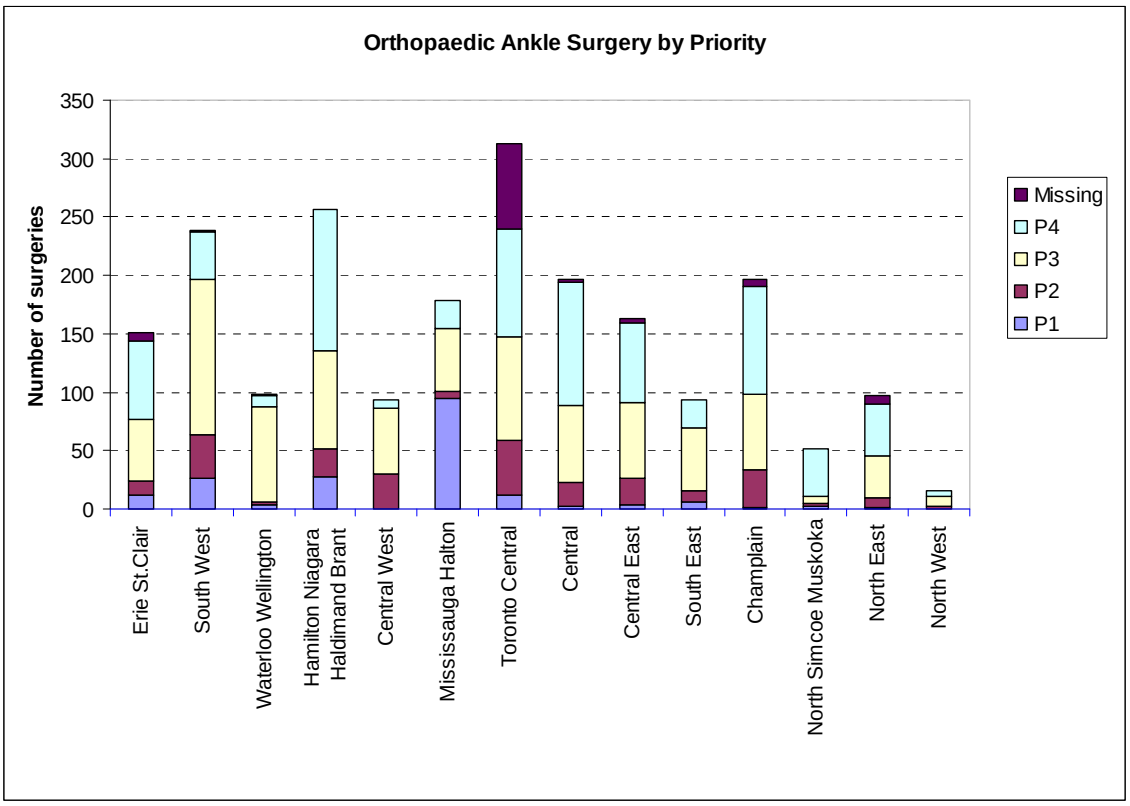
Figure 3: Number of Foot Surgeries, by Priority, by LHIN (Apr 2008 – Dec 2008)



Source: Wait Time Information System.

Figure 3 shows that Hamilton Niagara Haldimand Brant, Central, Central East and Toronto Central performed the highest number of foot surgeries in the province between April and December, 2008. Of all LHINs, Toronto Central performed more priority 1 and 2 surgeries. Toronto Central, Hamilton Niagara Haldimand Brant and Mississauga Halton performed the highest number of priority 1 and 2 surgeries. North West, North Simcoe Muskoka and Central West performed the lowest number of foot surgeries overall. Some LHINs performed very few priority 1 or 2 surgeries. North Simcoe Muskoka, Central West, North West and Waterloo Wellington performed 5 or fewer priority 1 or 2 surgeries between April 2008 and December 2008.

Figure 4: Number of Ankle Surgeries, by Priority, by LHIN (Apr 2008 – Dec 2008)



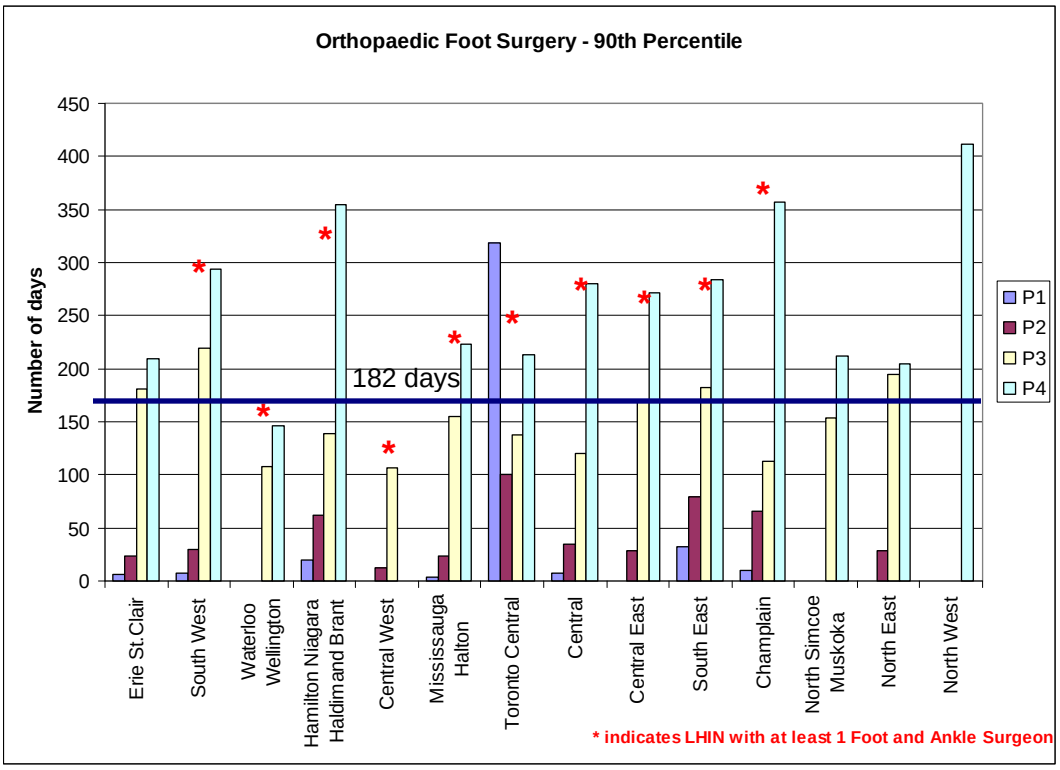
Source: Wait Time Information System.

The pattern of ankle surgeries was slightly different compared to foot surgeries (Figure 4). Overall Toronto Central performed more surgeries; however Mississauga Halton, Hamilton Niagara Haldimand Brant, and South West performed more priority 1 surgeries. Overall volumes of ankle procedures were much lower compared to foot procedures, and the resources to perform priority 1 surgeries appear to be fewer in some LHINs. There were fewer than 10 priority 1 and 2 procedures in North West, North Simcoe Muskoka, Waterloo Wellington and North East.

While Figures 3 and 4 show the volumes of foot and ankle surgeries by LHIN, Figures 5 and 6 show the 90th percentile wait times for those procedures by LHIN. The 90th percentile wait time is a measure of the days within which 90 percent of procedures were performed.

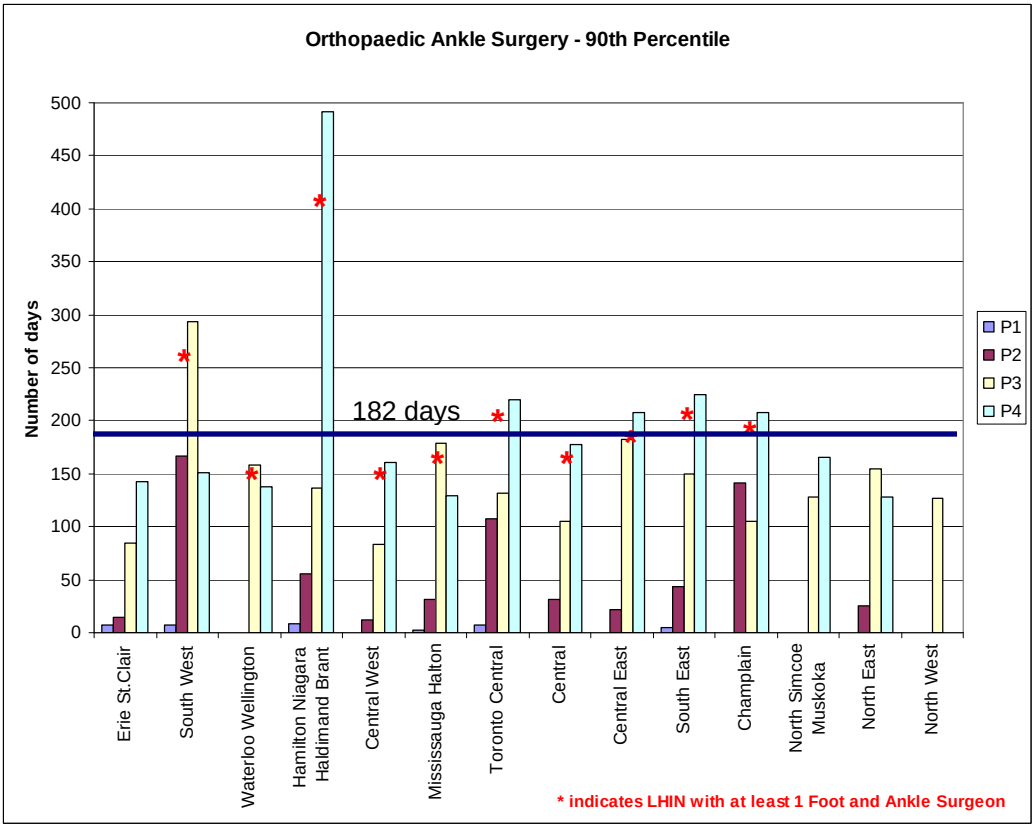
Overall there was a significant wait for foot surgery, particularly priority 4 surgeries (Figure 5). All but two LHINs have been unable to meet the target of performing 90 percent of priority 4 foot surgeries within 182 days. North West, Champlain and Hamilton Niagara Haldimand Brant had waits for priority 4 foot surgeries in excess of 350 days. There was a significant wait of over 300 days for priority 1 surgeries in Toronto Central.

Figure 5: 90th Percentile Wait Times (days), Foot Surgery, by LHIN (April 08 – Dec 08)



Source: Wait Time Information System.

Figure 6: 90th Percentile Wait Times (days), Ankle Surgery, by LHIN (April 08 – Dec 08)



Source: Wait Time Information System.

Overall the performance for ankles surgeries was better, with 6 LHINs not achieving the target of 182 days (Figure 6). The longest waits for ankle surgery were in Hamilton and South West. The wait for priority 4 surgeries in Hamilton was over 450 days and the wait for priority 3 surgeries in South West was almost 300 days.

Comparing the results from Figures 3 and 4 to those in Figures 5 and 6 helps to shed light on the understanding of wait times by LHIN. For example, those LHINs with the highest volumes also had significant wait times for both foot and ankle surgery. Some of the LHINs with the lowest volumes still had wait times above target. North West had the lowest foot surgery volumes but the highest wait time. South East was among the LHINs with the lowest ankle surgery volumes, but had a wait time 284 days for priority 4 surgeries. Between April 08 and December 08 the volume of foot surgery is 6271 which is significantly greater than ankle at 2144 and the wait time for foot surgery was consistently higher than that of ankle surgery.

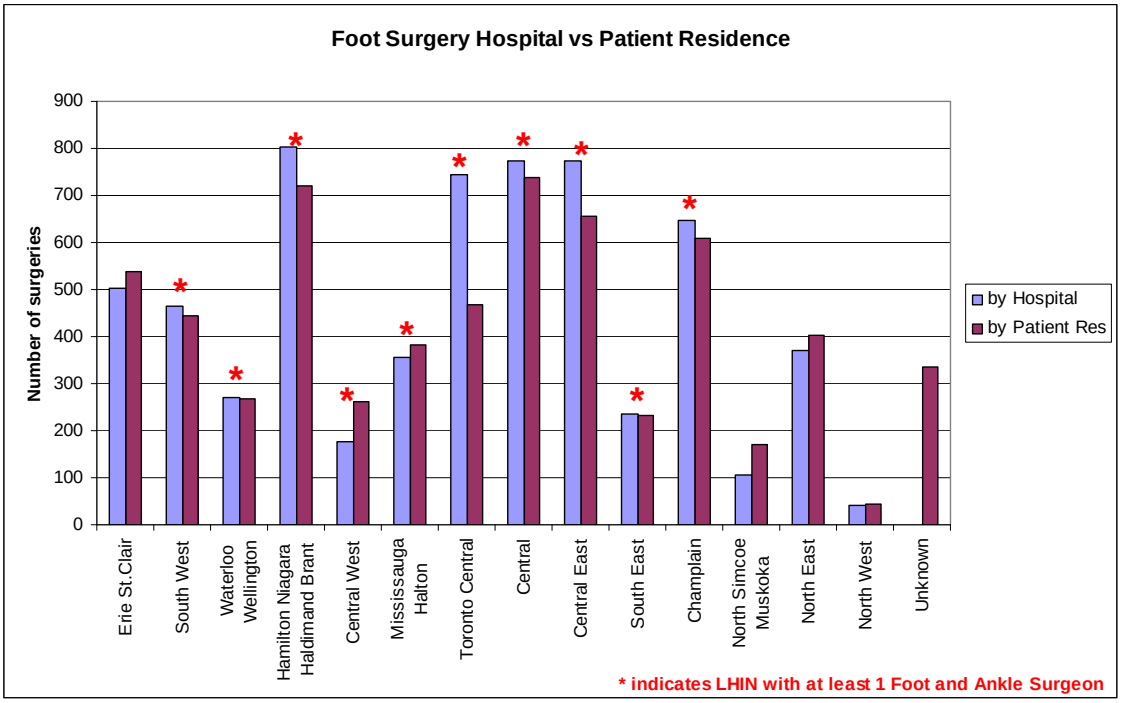
Understanding the cross-LHIN movement of patients for foot and ankle surgeries further helps to understand the system issues related to foot and ankle care.

The following two figures compare the number of residents within a LHIN that had foot or ankle surgery, regardless of where the surgery was performed (i.e., "by Patient Residence) and the number of surgeries that were performed in each LHIN (i.e., "by hospital"). As shown in the Figures 7 and 8, in some LHINs, residents received their surgery outside their home LHIN.

Looking at Figure 7, where the first bar (by Hospital) was higher than the second bar (by Patient Residence), hospitals within the LHIN performed more surgeries than the demand from residents of the LHIN. For example, 774 foot surgeries were performed in Toronto Central hospitals between April and December 2008, but only 383 of these surgeries were performed on Toronto Central residents. In addition to Toronto Central, Hamilton Niagara, Haldimand Brant, Central, Central East and Champlain LHIN were LHINs that performed surgeries on residents outside of their home LHIN. These LHINs also had significant wait times.

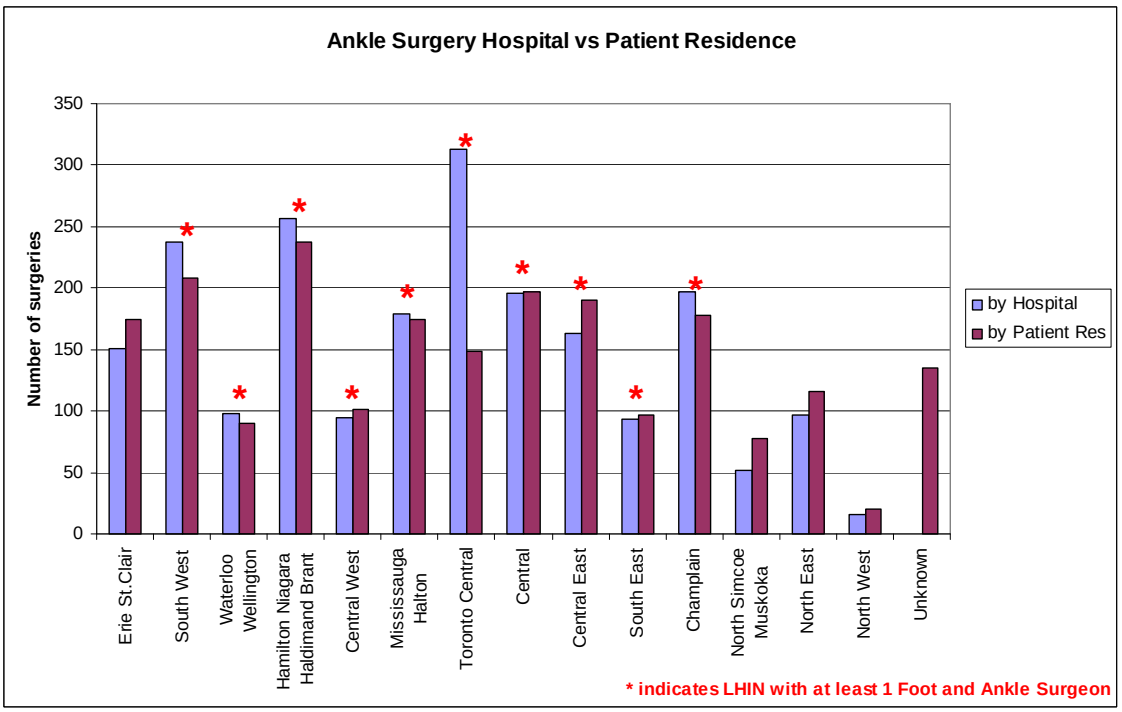
By comparison, some residents from Erie St. Clair, Central West, Mississauga, North Simcoe Muskoka and North East received their surgeries outside of their home LHIN. Central West had no wait time problems, while there was a limited wait time above target in Erie St. Clair. Mississauga Halton, North Simcoe Muskoka and North East were all above target on wait time for priority 4 foot surgeries. Therefore, despite referring patients out of the province for foot surgeries, resources within these LHINs was not enough to meet wait time targets.

Figure 7: Foot Surgeries by LHIN and Patient Residence (Apr 2008 – Dec 2008)



Source: Wait Time Information System.

Figure 8: Ankle Surgeries by LHIN and Patient Residence (Apr 2008 – Dec 2008)



Source: Wait Time Information System.

Figure 8 shows the cross LHIN movement of patients for ankle surgery. South West, Hamilton, Toronto Central and Champlain LHINs performed surgeries on residents from other LHINs. All of these LHINs also showed wait time problems, with Hamilton having the most significant problem for priority 4 ankle surgeries. Erie St. Clair, Central East, North Simcoe Muskoka and North East transferred patients out of

the LHIN to receive ankle surgery. Most of these LHINs did not have a wait time problem for ankle surgeries, except Central East whose 90th percentile was just of 200 days.

7 THE PROPOSED FOOT AND ANKLE PROGRAM

7.1 SOLUTION 1: TARGETED FUNDING MODEL

- The first solution will be to work with the Ministry of Health and Long term care in developing a system to use ***targeted funding*** to manage surgical procedures that are responsible for the wait time for foot and ankle surgery within Ontario.

  The targeted funding model will encourage the surgeons and hospitals to manage the patients serviced within their hospitals: both for the general orthopaedic surgeons and specialized foot and ankle surgeons to meet the needs of the foot and ankle patients.

From the wait times data for foot and ankle the total volumes of surgery that were complete between April 2008 and December 2008 were 2144 ankle procedures and 6271 foot procedures. Wait times for foot procedures are also significantly higher consistently across the province.

Due to the complex anatomy of the foot and ankle there are significant variations in the surgeries that are completed therefore the identification of targeted funding for specific diagnoses or surgical procedures would not have the necessary effect on reducing the overall wait times for patients. There are, however, a number of operational parameters that are used in booking cases that significantly influence a hospitals and surgeons decision on managing a case. These parameters include: length of time that the surgery takes, hardware required and post operative care as inpatient or outpatient. The following chart references how these parameters could be used in defining case costs for foot and ankle patients.

Area	Procedure	Time	Hardware	Post operative
Forefoot	Soft tissue	1 hour	Minimal	Outpatient
	Bone	1.5 hours	Moderate (approx 50%)	Outpatient
Hind foot (mid foot to ankle) Includes fusion and osteotomy	Soft tissue	1 hour	Minimal	Outpatient
	Bone	2 hours	Moderate (approx 75%)	Inpatient Occasional outpt
Total Ankle Replacement	Arthroplasty	2 hours	Extensive	Inpatient Occasional outpatient

The funding that could be considered for foot and ankle would therefore include potentially four different funding amounts which would account for the majority of foot and ankle cases which are outlined below from the least expensive to the most expensive:

1. Soft tissue (include forefoot and hind foot)
2. Bone
    a. Forefoot
    b. Hind foot
3. Total Ankle Replacement

During foot and ankle surgeries there are some patients who require a soft tissue and a bone procedure. It is recommended that this count as a single procedure and be allocated to the greatest amount (bone).

7.1.1 Volumes

Wait times data clearly demonstrates that the volumes of patients being treated within the healthcare system at the present time is not managing the surgical need for forefoot or ankle surgery within the province of Ontario. As many patients are currently unable to access care within the healthcare system the absolute volume of surgeries required is not known. It is anticipates however that the following procedure volumes would make a significant impact in the wait time for patients across Ontario.

Figure 9: Volumes for Foot and Ankle Surgeries

Area	**Current volumes (April – Dec 08)**	**Annualized volumes**
Soft tissue (forefoot and hind foot)		
Forefoot	6271	8360
Forefoot - Bone		
Ankle*	2144	2852
Hind foot* – Bone Includes fusion and osteotomy		
Total Ankle Replacement		Approx 100
Total	**8415**	**11,312**

*This includes procedures only and not investigations such as arthroscopy

Based on this current volume it is recommended that the volumes to decrease the wait list are calculated and supported through targeted funding.

7.1.2 Patient volume distribution

The distribution of these procedures across Ontario would need to consider the patient volumes within each LHIN or local community. There would need to be a transition process to ensure that the communities where patients are currently unable to access care were able to increase their clinical skill set and access to resources to increase patient flow. Many soft tissue and forefoot boney surgeries can be managed by general orthopaedic surgeons and as such these should be distributed to the LHINs and hospitals that have the capacity and interest to manage their local patient volumes. With respect to the hind foot surgeries and Total Ankle replacement, (of which there is likely only a few hundred required)

to ensure clinical skill set and associated quality, the distribution process would need to ensure the volumes were allocated to foot and ankle specialty surgeons. At the present time this would mean the distribution to the hospitals identified above where there are foot and ankle surgeons.

7.1.3 Improved data collection

It is evident from the data received from the hospitals (Appendix #3) that there are significant differences in the ways data are being coded within the hospitals. Through standardization this program would ensure accurate data for future planning.

7.2 SOLUTION 2: TRIAGE AND ASSESSMENT MODEL

- The second solution will focus on the development of ***triage and assessment programs*** to support equal distribution and access for foot and ankle care across the province. This will be a phased in project starting with a number of organizations in Phase 1, followed by refining and expanding the program to achieve implementation of a program in all LHINs across the province in Phase 2.

Based on the current challenges in accessing timely and appropriate care for foot and ankle patients, the following components were identified as essential to a more organized and efficient approach to meeting the surgical and non-surgical needs of these patients:

A triage and assessment system that includes:

1. A ***referral process*** and standardized intake.
2. ***Triage and assessment*** to ensure the most appropriate care provider, care setting and geographic location.
3. ***Standard protocols*** to ensure that each patient is referred to the most appropriate surgeon (i.e., general orthopaedic surgeon versus specialist surgeon).
4. Coordinated post-operative ***follow-up*** services.

7.2.1 Referral Process and Standardized Intake

In response to the issues identified in the current processes for early identification of foot and ankle health issues and referrals to appropriate care, the following resources and supports will be provided to primary care physicians:

- **Educational** materials will be developed and provided to primary care providers so that they can in turn provide this information on foot and ankle health to their patients. This will include both written materials and web based materials where appropriate.
- Primary care providers will also be provided with a **standard referral form** for a surgical consultation. The form will be designed to assist the physician in determining whether the patient should be referred to a foot and ankle specialist by listing the **criteria for referral** to the specialists in their local communities and across Ontario. Patients who do not fall within these criteria will be referred to a general orthopaedic surgeon.

Primary care physicians will be supported in their efforts to educate patients on foot and ankle health. The standard referral form will help the primary care physician to decide whether the patient needs surgery and, if so, ensure that patients are referred to the appropriate surgeon (i.e., a general surgeon or a foot and ankle surgeon).

7.2.2 Triage and Assessment

In the proposed Foot and Ankle Program, patients referred to a foot and ankle specialist will be assessed by a triage clinician (i.e., an advanced practice clinicians with expertise in musculoskeletal assessment of the foot and ankle) before seeing the surgeon. The triage clinician will:

- Use a standardized tool to assess and triage patients as candidates for surgical or non-surgical care.
- For non-surgical patients, refer the patient to appropriate resources where available. If resources are not available in the patient's home LHIN, this service gap will be noted and brought to the LHIN's attention. The Foot and Ankle Program will then work with the LHIN to determine strategies to close this gap.
- For surgical patients, either order diagnostic and imaging tests or request previous tests ordered by the primary care physician.
- For surgical patients with less specialized diagnoses (i.e. not in the list of surgeries managed by the foot and ankle specialist) refer the patient on appropriately either to a Central Intake, another surgeon in the area or back to referring physician who will arrange a referral to a local surgeon.
- For surgical patients with a complex condition requiring the care of the foot and ankle specialist, book an appointment.

The triage clinician will have an independent practice. Even if the foot and ankle surgeon is unavailable (e.g., on vacation, in surgery, or has a very long wait time for a consult), the triage clinician will still be able to assess the patient.

The introduction of a triage clinician will deliver benefits to the patient, the surgeons and the health care system:

- By identifying and using test results that are already available, the cost to the health care system of duplicate tests will be reduced. Further, the time to diagnosis can be shortened as the surgeon will have all the necessary test results for the first surgical consultation.
- By identifying in a timely manner when a patient should not have been referred to a foot and ankle specialist, the patient can be quickly redirected to a more appropriate care provider (e.g., for surgical or non-surgical care). Although the standardized referral form will help to prevent inappropriate referrals, some cases that could be managed locally might still be misdirected.
- By reducing the burden on the foot and ankle surgeon to screen for referrals that could be managed locally, the surgeon's time will be used more efficiently. This will ultimately result in a reduced workload for the surgeon and reduced wait times for consultations and potentially also for surgery. For patients who are appropriately referred to the foot and ankle specialist, the standardized referral form will provide the complete medical history and allow the surgeon to make the best use of the time with the patient in the first consultation.
- By ensuring that patients are referred to the most appropriate surgeon – within their LHIN wherever possible – this program will ensure that patients receive care as close to home as possible.

The triage clinician will also have more formal communications with the referring physicians, which will help the referring physicians to better plan their patients' care – from community to hospital settings.

7.2.3 Standard protocols

As noted earlier, patients are often referred to a foot and ankle specialist, even if surgery is not indicated (i.e., they are candidates for medical management) or the surgery could be performed by a local general orthopaedic surgeon.

Under the proposed Foot and Ankle Program:

- Non-surgical patients will be triaged to other care providers and care settings (e.g., for medical management of their condition).
- Patients needing surgeries that could be provided locally will be referred to a general orthopaedic surgeon.
- Only patients requiring more complex surgeries (see Table 1) that cannot be managed locally will be treated by the foot and ankle specialist.

By ensuring that the patient is always referred to the most appropriate care provider for treatment, specialized and scarce resources will be used as efficiently as possible. This approach will contribute to shorter wait times and to care being provided closer to home for many patients.

As noted earlier, where service gaps are identified within a LHIN, this situation will be brought to the LHIN's attention. The Foot and Ankle Program will work with the LHIN to find a solution to close the gap.

7.2.4 Follow-up

The availability of patient education before surgery and post-operative services is inconsistent across the province.

The Foot and Ankle Program is proposing to establish an educational program for patients that will address these pre- and post-operative needs. Once it is determined that the patient requires surgery, the Program will:

- Provide the patient and family with educational materials related to the treatment (e.g., surgical or medical) so that they are prepared for the surgery and post-operative care.
- Identify any services that will be required post-operatively (e.g., private home care, community care access centre services, rehabilitation) and arrange for referrals at the same time as the surgery is booked.
- Coordinate post-operative services when the patient is discharged post surgery.

These services will help the patient and family to be better prepared for the surgery. As well, the improved coordination of post-operative services even before the surgery occurs will contribute to decreased time to recovery for the patient.

7.3 SOLUTION 3: INCREASE CLINICAL AND OPERATIONAL CAPACITY

- The third solution will be to work with surgeons and hospitals within the LHINs where there is current lack of access to increase their capacity to manage this patient population through ***clinical education or the development of operational processes***. Increasing capacity can be managed through increasing the skill set of the current surgeons to manage complex and non complex foot and ankle conditions, hiring of additional specialized foot and ankle surgeons, or working with other LHINs to ensure patients access to resources.

There is significant variation in access to care across the LHINs in Ontario for patient presenting with foot and ankle issues. These access issues have been created through a number of factors including training for foot and ankle surgery for surgeons within Ontario has been limited at the resident level for a number of years. This has been compounded by the potential lack of surgeon experience in treating these conditions within their local practices due to lack of resources available to treat these patients surgically within the hospital. Also of note there has been significant upgrading in the technology for the more complex surgeries which has increased significantly the expense of the program as well as reducing the ability of surgeons to perform sufficient surgeries to retain quality as it becomes more specialized.

The third solution within the foot and ankle program is therefore to provide assistance in working with the surgeons to upgrade their clinic skills where necessary to perform the surgery whether the interest is for better management of non complex surgeries or an interest in upgrading to perform more of the specialized foot and ankle surgeries. This program will need to be completed in conjunction with the hospitals as therefore will need to be a defined plan and commitment to the amount of access that can be provided and supported through the local community including both funding and access to the OR. However it must be noted that the vast majority of these surgeries can be provided through an outpatient setting and as such there should be little impact on inpatient resources.

8. FOOT AND ANKLE TRIAGE AND ASSESSMENT PROGRAM

With respect to the triage and assessment program, as noted above foot and ankle specialists have been identified in eleven organizations: As such it is recommended that the program be implemented in two phases. The first phase would include the implementation in five centres who have expressed interest in participating in Phase 1 including: St. Michael's Hospital, The Scarborough Hospital, Brampton Civic Hospital, Champlain LHIN including The Ottawa Hospital and Queensway Carleton Hospital. Commitment to participating has been confirmed at both the CEO level and at the surgeon level with the support of this proposal. Phase II would be a role out of this program to the additional centres.

Phase I of the triage and assessment would have the following objectives:

1. Improve patient care and ensure efficient use of health care resources. This will be achieved within a defined geographical area, involving a limited number of foot and ankle specialists to develop and refine the desired processes before a provincial roll out of the program. (Phase II)

2. Reduce the number of referrals to foot and ankle specialists so that the specialists can concentrate on more complex procedures. Wait times for these surgeries are expected to decrease.
3. Build capacity in the community to manage patients locally, so that patients who are referred back to their community can still access timely and quality care. This would include access to:
   d. Less complex surgeries through the general orthopaedic surgeons
   e. Foot and ankle specialist surgeons where there is an identified volume

      (It is possible that wait times for less complex surgeries might increase in some LHINs during this transition period as more patients receive care in their local community.)
4. Develop a simple yet effective data collection system to monitor and evaluate the program's performance including:
   f. Measurement of wait 1 in conjunction with the wait times system
   g. a system to follow patients who are referred back to their community to ensure they are still able to access the needed services.
   h. Volumes of patients to better measure the unmet need

Our proposed approach to achieving each of these objectives is described in the following sections.

IMPROVE PATIENT CARE AND ENSURE EFFICIENT USE OF HEALTH CARE RESOURCES

Phase I will provide an opportunity to develop and test the tools and processes needed to ensure more appropriate referrals and triage.

Specifically, in Phase I we will develop the tools and processes for:

- Appropriate referral of foot and ankle patients to the right provider to get the right service at the right time. This will involve the development of a ***standardized referral form***, including ***criteria for referral to medical management***, a general surgeon or a foot and ankle specialist. This step will also include the development of an ***inventory of specialized foot and ankle physicians and surgeons*** who will accept referrals for complex foot and ankle patients.
- Appropriate triage of patients. The introduction of the triage clinician role will help to ensure ***standardized assessment*** of all patients referred to a foot and ankle surgeon, and that only those patients needing specialized care are seen by the specialist. Those patients needing medical management of their condition will be ***referred to medical resources*** that are local to their home community. The triage clinician will also create the ***inventory of resources*** available in the patient's community to ensure timely referrals.

As noted earlier in this proposal, the triage clinician will have an independent practice and will be able to assess patients even when the foot and ankle specialist is not available. This should improve the timeliness of the initial assessment for all referred patients.

REDIRECT REFERRALS THAT CAN BE MANAGED WITHIN THEIR LOCAL COMMUNITIES

As part of the triage clinician's role (described in the preceding section), a process will be developed for dealing with the referrals to foot and ankle specialists that can be managed within their local communities.

Every patient who is referred to a foot and ankle specialist will be assessed and triaged by the triage clinician. The clinician will need a process for the redistribution of these referrals which will be developed in Phase I. This process will be developed in consultation with the local LHIN and regional care providers (e.g., primary care practitioners, general surgeons) and will include an assessment of the capacity of these local resources to meet the needs of these patients in a timely manner.

This triage process will capture and redirect referral; however, it would be even better for the patient to be referred to a more appropriate care provider in the first place. As part of Phase I, we will develop an educational strategy and supporting materials for primary care physicians who are making these referrals. This strategy will be developed in consultation with the Ontario Medical Association (OMA) to educate both physicians and surgeons in the community on appropriate referrals for this patient population as well as creating a method to access information on foot and ankle surgeons across Ontario.

BUILD CAPACITY IN THE COMMUNITY

When developing the triage process, it is likely that there will be two significant capacity issues which will need to be addressed in some communities:

1. capacity to accept the less complex surgeries either because there are no surgeons with this particular area in the community or there is not enough operating room (OR) time available.
2. specialty foot and ankle surgeons to manage the complex surgeries.

The LHINs have been given a mandate to deliver care close to home. Where this care is not available, we will work with the LHINs to develop a plan to build this capacity as needed, based on the unique characteristics of the LHIN and its healthcare community. This will also be assisted by the additional funding available through the targeted funding initiative, and the proposed educational initiative support surgeons in their wish to upgrade their skills.

DEVELOP A DATA COLLECTION SYSTEM

In Phase I, a simple, yet effective data collection and information system will be developed to track program performance through the measurement and reporting of indicators of efficiency, patient throughput, and outcomes.

Proposed performance indicators might include the following measures:

- Proportion of referrals for specialized surgeon services that are deemed appropriate according to the established criteria
- Percent utilization of the triage assessor(s)
- Functional workload (e.g., triage assessors available 85% of time for clinical work)
- Evidence of independent practice (e.g., proportion of patients that are being seen without a surgical consultation)
- Medical management of patients (e.g., average number of visits per patient)
- Patient satisfaction
- Access to diabetes and wound management and treatment services (e.g., number of patients who would benefit from these services who a) are referred and b) receive the service).

In addition to supporting the Foot and Ankle Program, this information system will support the broader planning of foot and ankle care in Ontario:

- The data collected will help to define the scope and scale of foot and ankle activity in Ontario and will help to identify the need for specialized foot and ankle care.
- The data collection processes will build on the data available through the Wait Time Information System (WTIS) and support the Ministry's strategy to provide equitable access to care across Ontario.
- The Ministry will be able to identify and quantify the need for targeted support of foot and ankle activity through the access to care strategy (e.g., identifying the need for ankle replacements in the province so that funds can be allocated accordingly).

Phase II

Phase II of the project would include the expansion of the Foot and Ankle Program including the triage and referral system as well as the data collection system to the other hospitals that are currently completing complex foot and ankle surgeries through a trained foot and ankle specialty surgeon. These hospitals currently include: Grand River/St Mary's Hospital, Thunder Bay Regional Hospital, Strathroy Middlesex, Kingston General Hospital, Hamilton Health Sciences. The program would also continue to work with the LHINs where there is an identified lack of access to a foot and ankle surgeons to manage their complex foot and ankle patients and facilitate patient access through increasing the skill set and access to currently employed interested surgeons, hiring surgeons where appropriate or ensuring plans are developed for patients to access care in other LHINs.

9. TRIAGE AND ASSESSMENT PROGRAM IMPLEMENTAITON

PARTICIPATING ORGANIZATIONS

Five organizations have volunteered to participate in Phase I of the triage and assessment component of the program:

- St. Michael's Hospital
- The Scarborough Hospital
- William Osler, Brampton Civic Hospital
- Champlain LHIN including
    - The Ottawa Hospital
    - Queensway Carleton Hospital

The scope of setting up the triage and assessment program will be limited to these surgical centres.

PROGRAM GOVERNANCE AND ACCOUNTABILITY

Phase I will be governed by a Steering Committee with a mandate to provide high-level guidance, direction and decision making for implementation and operational activities of the triage and assessment program. The committee will be accountable to the Assistant Deputy Minister of Health System Accountability and Performance through the Ministry of Health Implementation department.

The committee will have equal participation from the administration of each participating hospital, with representative members who have sufficient authority to commit their respective organizations to program activities. It will also have representation from the working groups that will be responsible for the direct implementation of the program at the local level including the Orthopaedic Expert Panel through the Bone and Joint Health Network (as project coordinators), representation from a surgeons working group, a triage clinician from a operational working group and a data expert from a standards, quality and efficiency working group assigned to develop the data management program. There will also be LHIN representation on the Steering committee to ensure alignment with the mandate of the LHINs.

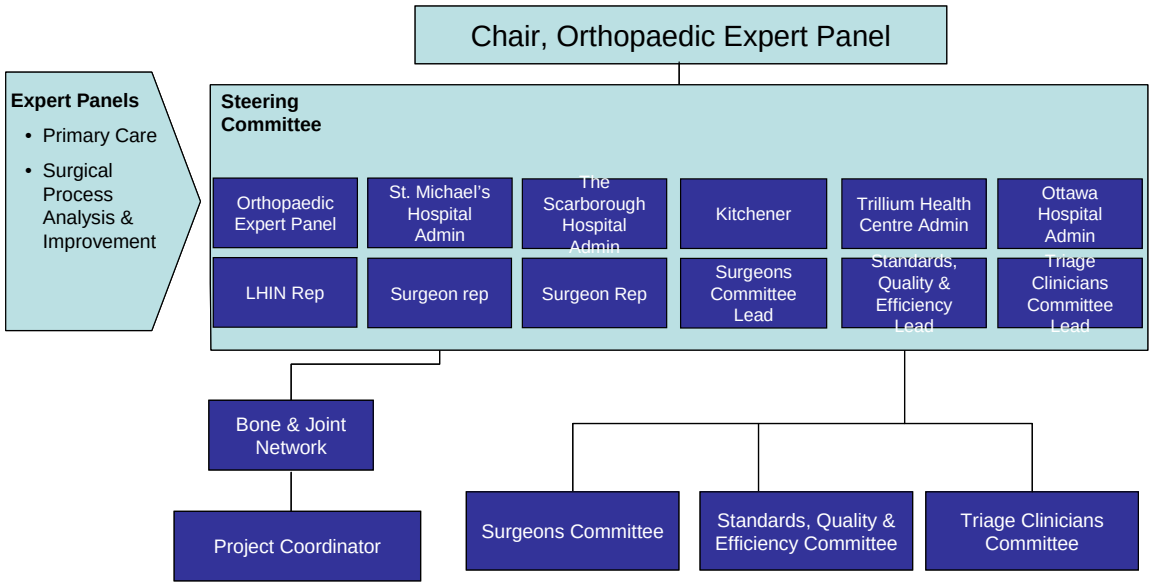
The Steering Committee will meet monthly during Phase I to:

- Review the progress of the implementation.
- Propose and oversee program changes
- Make key decisions relating to implementation, operation and communication of the program.

The Steering Committee and all implementation activities will be supported by the Bone and Joint Network and a project coordinator assigned to the Program.

The governance structure for Phase I is shown graphically in Figure 10.

Figure 10: Foot and Ankle Program Governance Structure and Accountability



9.1Implementation Activities

Each participating organization will commit to the following Phase I activities:

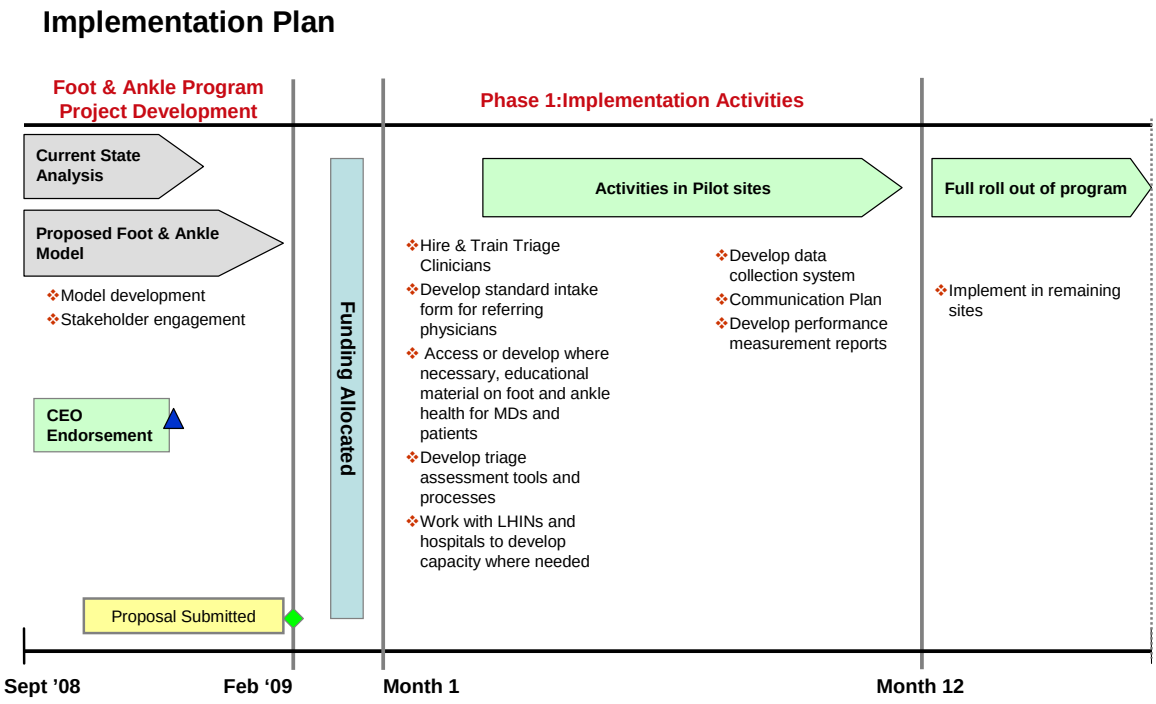
- Hire a triage clinician. This position could be filled by a podiatrist, chiropodist or advanced practice physiotherapist or nurse, depending on the preference of the foot and ankle surgeon with whom the triage clinician will be working.
- Develop and disseminate education material on foot and ankle health. This material will be developed by the triage clinicians working together across the five organizations. The Ontario Orthopaedic Association has agreed to assist in the dissemination of this material to primary care

physicians and patients through its internal and external communication vehicles, including, for example, a letter to physicians or other communications from the Association, and/or posting of information on the Association's website.

- Develop and use a standard intake form for referring physicians. The triage clinicians will also work together to develop the referral form.
- Develop and use standard criteria for referral to a specialist foot and ankle surgeon. Participating surgeons will work together to develop preliminary criteria that will most likely be refined over the course of the program.
- Develop and use a standardized assessment. The triage clinicians will develop a process to assess referred patients, with input from the participating surgeons.
- Identify resources in the local community. Each triage clinician will need to identify the resources available in their communities to support the medical management of patients. A process for referral and coordination with those services will also need to be developed.
- Develop and use a system for data collection. For Phase I, it is most likely that data collection will be a manual, paper-based system.

The timelines for program development and implementation are shown in Figure 11.

Figure 11: Implementation Timelines



10. BUDGET

1. Targeted funding

Case costing is required to estimate the targeted funding to improve the access to care.

2. Triage and assessment program 2009/10

This budget is the proposed budget for one year for the Phase 1 development of the triage and assessment programs.

Budget Item	Description	Total
Human Resources		
Triage Clinician	Base salary @ $80,000 /yr, benefits @ 25%, Implementation in 6 sites (Grand River is using alternate existing resources)	$500,000
Administrative support	2.5 day per week per site. Based on hourly rate of $25 plus 25% benefits	$152,344
Information Management		
Data management	Data entry, data quality	$10,000
Performance measurement	Data analysis and report writing	$15,000
Miscellaneous		
Office services	Telephones, fax, teleconference, internet services (300 / month) in 5 sites	$18,000
Supplies	Office supplies, education materials, postage and computer supplies for 5 sites	$35,700
Communications	(Including Newsletter, Physician mailings, web site development)	$45,000
Clinic supplies	$5,000 per site	$25,000
Project Coordination	To be provided through the Expert Panel	
	Total	**$776,044**

11. APPENDIX #1: CCI CODES FOR FOOT AND ANKLE SURGERY IN WTIS

CCI Code	CCI Code Description
1.WV.80.^^	Repair, soft tissue of the foot and ankle
1.WV.56.^^	Removal of foreign body, soft tissue of the foot and ankle
1.WV.52.^^	Drainage, soft tissue of the foot and ankle
1.WT.79.^^	Repair by increasing size, tendons of ankle and foot
1.WV.72.^^	Release, soft tissue of the foot and ankle
1.WV.59.^^	Destruction, soft tissue of the foot and ankle
1.WT.72.^^	Release, tendons of ankle and foot
1.WV.87.^^	Excision partial, soft tissue of the foot and ankle
1.WT.80.^^	Repair, tendons of ankle and foot
1.WA.74.^^	Fixation, ankle joint
1.WA.55.^^	Removal of device, ankle joint
1.WA.87.^^	Excision partial, ankle joint
1.WA.80.^^	Repair, ankle joint
1.WA.75.^^	Fusion, ankle joint
1.WA.03.^^	Immobilization, ankle joint
1.WA.73.^^	Reduction, ankle joint
1.WA.53.^^	Implantation of internal device, ankle joint
1.WA.52.^^	Drainage, ankle joint
1.WA.57.^^	Extraction, ankle joint
1.WA.72.^^	Release, ankle joint
1.WA.93.^^	Amputation, ankle joint
1.WA.05.^^	Manipulation, ankle joint
1.LZ.58.^^	Procurement, circulatory system NEC
1.BX.87.^^	Excision partial, peripheral nerves NEC
1.BX.72.^^	Release, peripheral nerves NEC
1.BX.59.^^	Destruction, peripheral nerves NEC
1.BX.80.^^	Repair, peripheral nerves NEC
1.WV.80.^^	Repair, soft tissue of the foot and ankle
1.WV.56.^^	Removal of foreign body, soft tissue of the foot and ankle
1.WV.52.^^	Drainage, soft tissue of the foot and ankle
1.WT.79.^^	Repair by increasing size, tendons of ankle and foot
1.WV.72.^^	Release, soft tissue of the foot and ankle
1.WV.59.^^	Destruction, soft tissue of the foot and ankle
1.WT.72.^^	Release, tendons of ankle and foot
1.WV.87.^^	Excision partial, soft tissue of the foot and ankle
1.WT.80.^^	Repair, tendons of ankle and foot
1.WJ.80.^^	Repair, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WJ.87.^^	Excision partial, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WJ.75.^^	Fusion, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.75.^^	Fusion, interphalangeal joints of toe
1.WJ.93.^^	Amputation, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WJ.74.^^	Fixation, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WJ.55.^^	Removal of device, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.80.^^	Repair, interphalangeal joints of toe
1.WL.87.^^	Excision partial, phalanx of foot
1.WL.93.^^	Amputation, phalanx of foot
1.WM.93.^^	Amputation, interphalangeal joints of toe
1.WJ.53.^^	Implantation of internal device, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WL.80.^^	Repair, phalanx of foot
1.WL.55.^^	Removal of device, phalanx of foot
1.WL.75.^^	Fusion, phalanx of foot
1.WM.87.^^	Excision partial, interphalangeal joints of toe
1.WL.74.^^	Fixation, phalanx of foot
1.WJ.52.^^	Drainage, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.53.^^	Implantation of internal device, interphalangeal joints of toe
1.WJ.73.^^	Reduction, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.72.^^	Release, interphalangeal joints of toe
1.WM.73.^^	Reduction, interphalangeal joints of toe
1.WJ.72.^^	Release, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WJ.56.^^	Removal of foreign body, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.55.^^	Removal of device, interphalangeal joints of toe
1.WL.03.^^	Immobilization, phalanx of foot
1.WM.52.^^	Drainage, interphalangeal joints of toe
1.WJ.82.^^	Reattachment, tarsometatarsal joints, metatarsal bones and metatarsophalangeal joints [forefoot]
1.WM.05.^^	Manipulation, interphalangeal joints of toe
1.WV.80.^^	Repair, soft tissue of the foot and ankle
1.WV.56.^^	Removal of foreign body, soft tissue of the foot and ankle
1.WV.52.^^	Drainage, soft tissue of the foot and ankle
1.WT.79.^^	Repair by increasing size, tendons of ankle and foot
1.WV.72.^^	Release, soft tissue of the foot and ankle
1.WV.59.^^	Destruction, soft tissue of the foot and ankle
1.WT.72.^^	Release, tendons of ankle and foot
1.WV.87.^^	Excision partial, soft tissue of the foot and ankle
1.WT.80.^^	Repair, tendons of ankle and foot
1.WE.74.^^	Fixation, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.75.^^	Fusion, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.87.^^	Excision partial, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WB.80.^^	Repair, foot ligaments
1.WE.80.^^	Repair, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.55.^^	Removal of device, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WG.03.^^	Immobilization, foot
1.WE.89.^^	Excision total, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.73.^^	Reduction, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.52.^^	Drainage, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.93.^^	Amputation, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.53.^^	Implantation of internal device, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.83.^^	Transfer, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WB.87.^^	Excision partial, foot ligaments
1.WE.57.^^	Extraction, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.WE.04.^^	Mobilization, tarsal bones and intertarsal joints [hindfoot, midfoot]
1.YW.53.^^	Implantation of internal device, skin of foot
1.LZ.58.^^	Procurement, circulatory system NEC
1.BX.87.^^	Excision partial, peripheral nerves NEC
1.BX.72.^^	Release, peripheral nerves NEC
1.BX.59.^^	Destruction, peripheral nerves NEC
1.BX.80.^^	Repair, peripheral nerves NEC

12. APPENDIX #2: PARTICIPATING SITES

The Ottawa Hospital

At The Ottawa Hospital foot and ankle surgery is part of the work of the Orthopaedic Surgery Clinic. The clinic is staffed by orthopaedic surgeons, including one foot and ankle specialist, and registered nurses, registered practical nurses and clerks. All foot and ankle patients are seen on an outpatient basis as a consult or as a follow-up visit after surgery. Patients are first seen at the clinic through physician referral. Other resources available to support this project include the Orthopaedic Assessment Clinic and the Chiropody Clinic. Currently, the Orthopedic Assessment Clinic provides standardized assessment to triage patients toward the most appropriate and timely management for arthritic knees. The clinic is staffed by specially trained general practitioners, a registered practical nurse and clerical staff. Current space, staff and processes available in this clinic can be used to support this project. At both The Ottawa Hospital Rehabilitation Centre and at the Civic campus of The Ottawa Hospital, there are very active chiropody clinics. Within these clinics, chiropodists provide specialized foot care through assessment, treatment, prescription of foot orthoses and/or footwear and education. These services will be available to the Foot and Ankle Program.

William Osler

At the William Osler Health Care Center (specifically the Brampton Civic Hospital) there is one subspecialty orthopaedic Foot and Ankle surgeon, Dr Alexander, and several Orthopaedic surgeons at the Etobicoke General Hospital who do some basic forefoot surgery.
The current focus of Dr Alexander is to provide immediate care for urgent limb threatening foot care for the Brampton Civic, Etobicoke General, Georgetown and Headwaters Hospital (Orangeville). Over the last few months, referrals have been received from other Orthopaedic surgery colleagues from Windsor, Cambridge, Mississauga, Oakville, Toronto, Owen Sound and all the way to Belleville and beyond. The referral flow is extensive within the Central West LHIN and Dr Alexander experiences an extensive wait list for wait 1 (family physician request to surgeon consultation).
William Osler hospital is in an excellent position to implement a wait time initiative as there is a newly established wound clinic scheduled to begin taking patients in February 2009, and a diabetic outpatient clinic already in place. A cross referral process between these clinics and the fracture clinic has already been established so that urgent patients can be seen quickly. William Osler is also in the process of setting up an assessment program for hip and knee replacement patients to manage the wait times therefore there is the experience within the hospital in using health practitioners to manage wait times. In order to ensure the success of a foot and ankle program, it is vital that there is additional human resource capacity in the form of extremely well-qualified practitioners able to deal with the assessment and non surgical volumes. William Osler is interested in hiring a Podiatrist who would best be suited for this role since they are well-versed in Non-operative and Operative Foot and ankle care. The person in this assessment role is vital to the success of the program through their competence to manage patients and make clinical decisions in the surgeon's absence. Dr Alexander is committed to working with this individual to provide training and support. Given the need in the Central West LHIN, William Osler is in a position to hire someone over the next few months and hopefully open a center sometime in the spring 2009 with appropriate funding.

St Michaels Hospital

St Michaels Hospital currently has one foot and ankle subspecialty surgeon, Dr Tim Daniels. Dr Daniels currently received referrals from across Ontario and as such patients currently experience a significant wait for his consultation and treatment.

Many of the patients who present with foot and ankle problems also have significant medical issues such as diabetes and wounds. To deal with these issues at St. Michael's Hospital (SMH) has a multidisciplinary Wound Care team where chiropodists play a significant role. The Wound Care Team which began in 1998 has grown from one nurse practitioner, to include a resource nurse, an occupational therapist, a research coordinator, Clinical nurse specialists/Nurse practitioners and 2.5 Chiropodists. Services are provided to all inpatients and four out-patient clinics including:

- Foot Treatment and Assessment
- Wound Clinic
- High Risk Foot
- Fracture Clinic
- Available to other Specialty Clinics

Plans are currently underway to begin a Lower Extremity Amputation Prevention (LEAP) clinic in March 2009.

St Michael's Hospital is therefore in a position to implement a new model of care for foot and ankle patients by adding a chiropodist to the wound care team to assess and triage patients Dr Daniels referred patients in an ambulatory setting to ensure patients access to services is equitable based on urgency including referral to:

- Fast track to LEAP (lower extremity advanced practice) clinic
- Emergency Services +/- hospitalization
- Facilitation of non-urgent patients to receive best practice care in their local community
- Surgical screening and referral to appropriate level surgeon in their local community where able
- Assess ER patients presenting with acute foot related soft tissue complications, navigating patient to correct service (vascular, ortho, plastics, medicine, infectious diseases)

With respect to surgery available through Dr Daniels, St Michael's Hospital is one of the only hospitals in Ontario that supports the use of ankle arthroplasty however due to budgetary restrictions has to limit the number of surgeries completed per year to 70 in 2008/09.

Queensway Carleton Hospital

The Queensway Carleton Hospital is interested in implementing a program for foot and ankle care as it aligns with the mandate of the Orthopedic Surgery Department. Queensway Carleton Hospital recruited an orthopedic surgeon (Dr. M. Di Silvestro) in September 2008 in response to an identified gap in resources and capacity in the local community for this type of service. Dr. Di Silvestro specializes in foot and ankle care having recently completed a one year fellowship program at the University of British Columbia. In the five months that Dr. Di Silvestro has been practicing at QCH, his wait time for consultation has rapidly grown to eight months. Queensway Carleton Hospital is in an exceptional position to implement this program as demonstrated by the success in the hip and knee replacement

Assessment Clinic. The total joint assessment central intake clinic (operational since November 2007) has been instrumental in decreasing the wait time for hip and knee replacement patients to below the provincial target of 182 days. QCH would expand this assessment model to manage referrals for diseases of the foot and ankle streaming surgical candidates to the appropriate surgeon and building on the capacity for non surgeon health professionals to assess and triage the non surgical foot and ankle patients. Non surgical candidates would be managed through referral to the appropriate care provider as described below. It is noted that patients referred from outside the Ottawa area who are managed by health care providers in their community, will continue to be managed by their primary health provider with advice/consultation in written form provided from the Foot and Ankle Assessment Clinic.
For wound management, patients will be referred to one of the following:

- QCH-based wound care specialist if funding permits
- CCAC Case Manager who will assess and organize home based wound care
- QCH based 'cellulitis clinic' managed by Department of Medicine
- QCH Surgical Consultation provided by 2 orthopedic surgeons who will provide surgical consultation to the cellulitis clinic if surgical interventions or procedures are required
- QCH based Orthopedic Clinic where wound assessment, treatment and follow-up will be provided by the appropriate health care provider

For diabetic consultation and care, patients will be referred to one of the following:

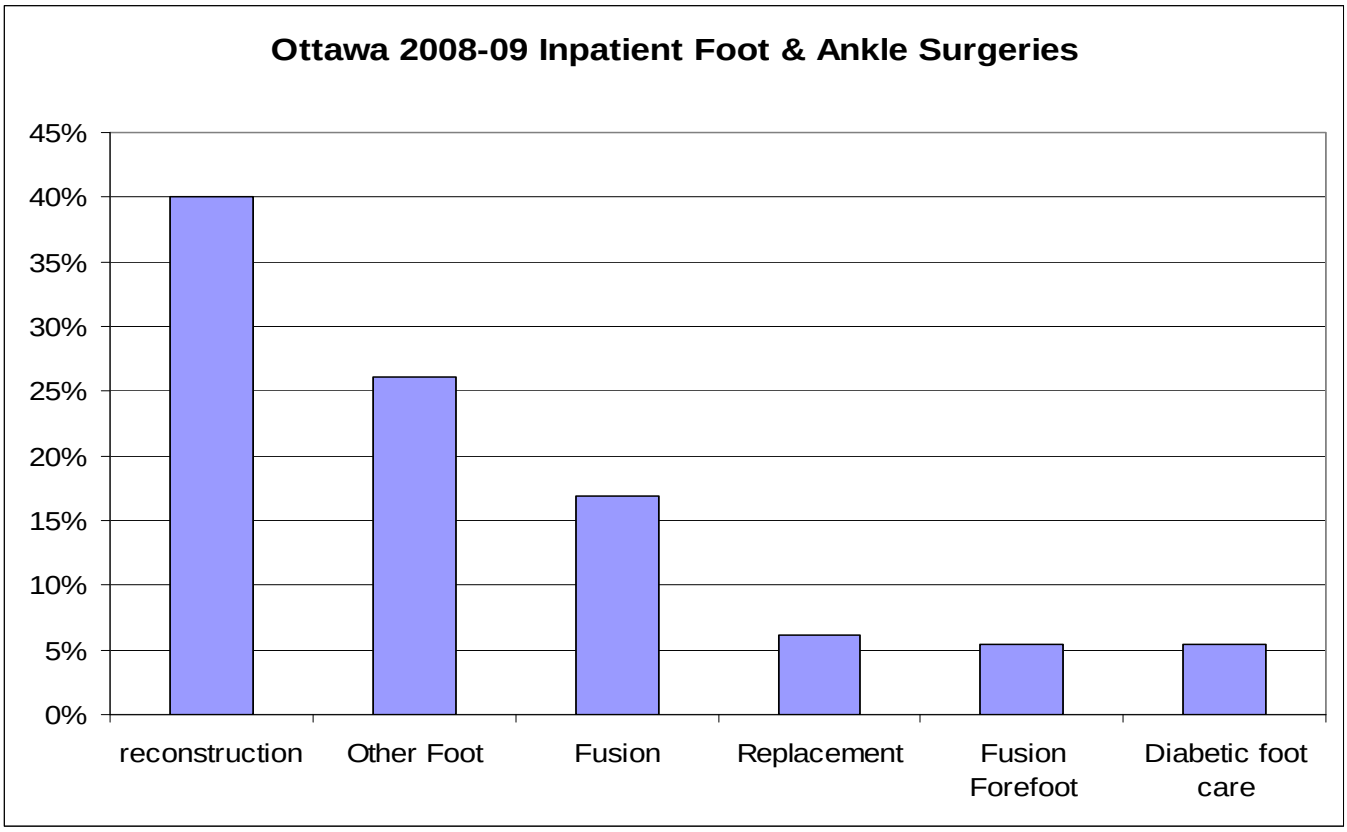
- QCH based Diabetic Educator and/or Diabetes Education program
- QCH based outpatient Endocrinologist consultation
- QCH based outpatient Dietitian consultation
- Community based Diabetic education program

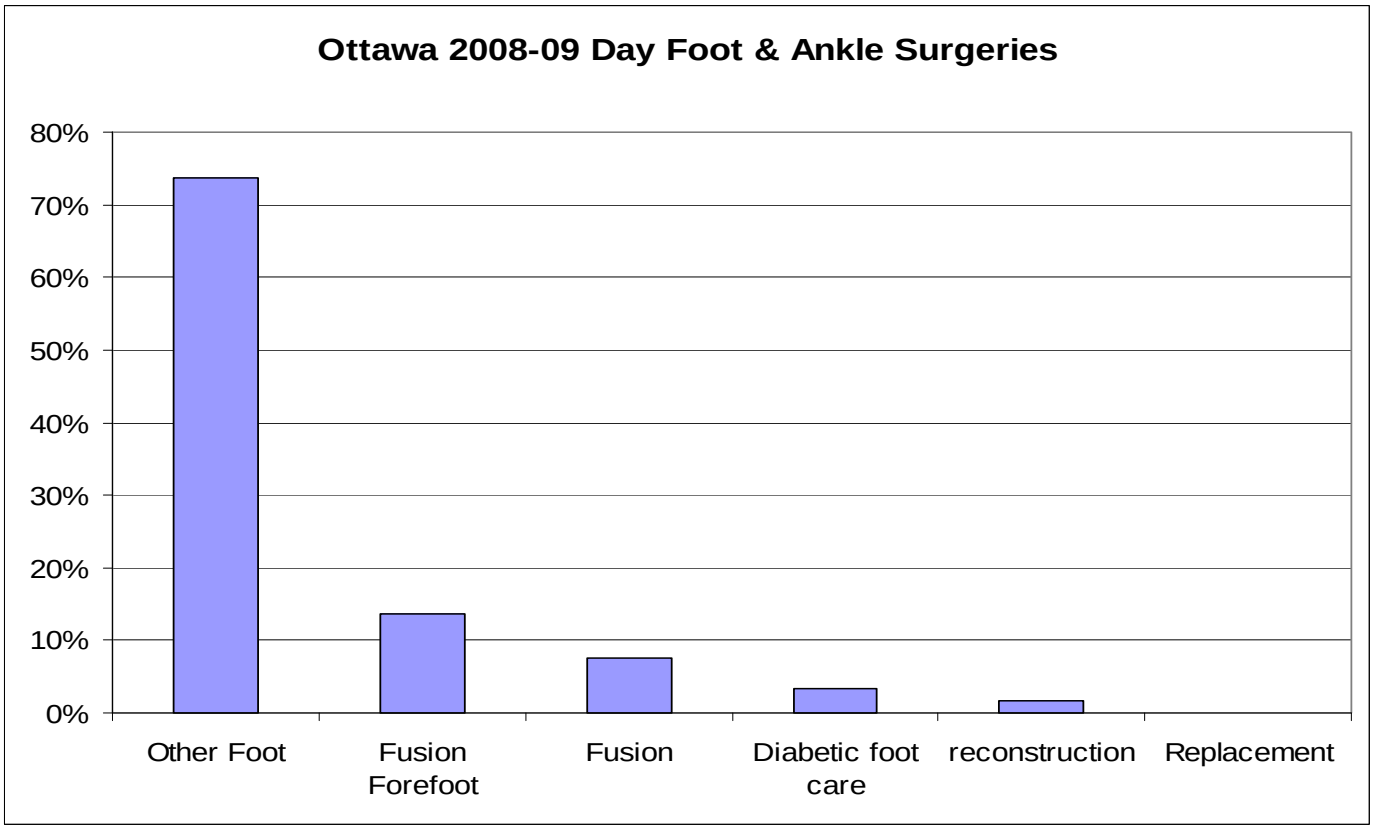
For Chiropody services, patients will be referred to community based Chiropody clinics which are available in the area. An inventory of other simple foot care services will be developed and provided to patients as required.

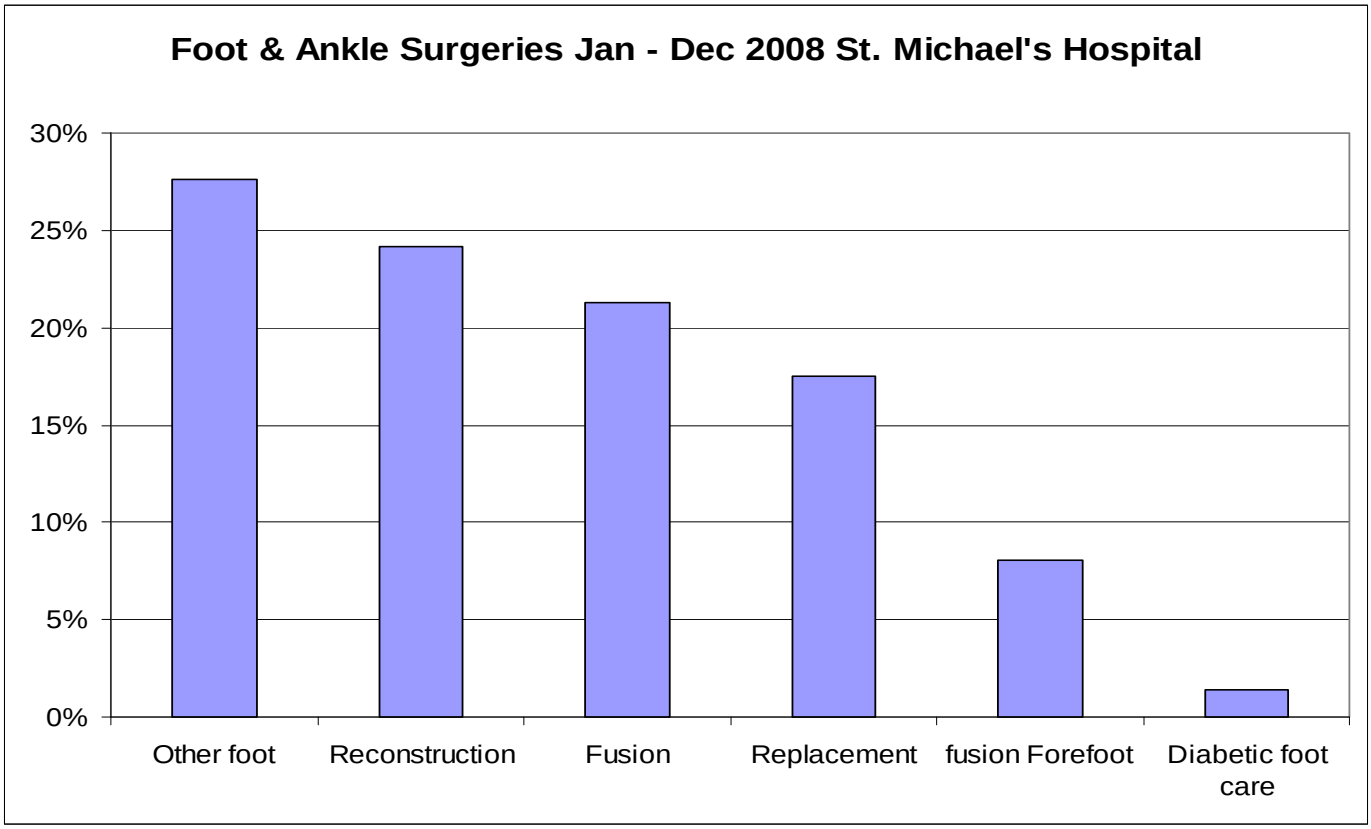
Other services available (if resources and capacity permit) at QCH to support the Foot and Ankle Assessment Clinic include:

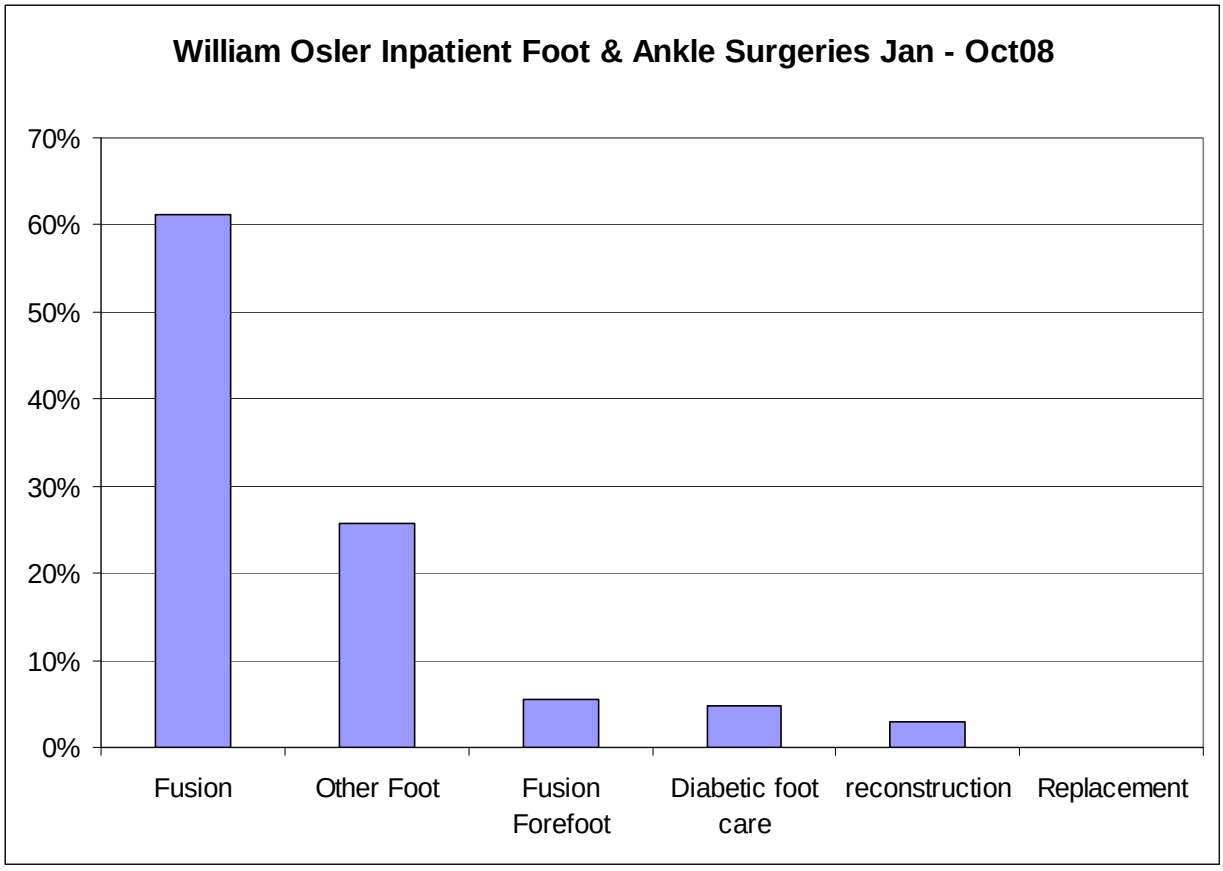
- Occupational Therapy – for bracing, devices
- PICC (peripherally inserted central catheters) Program for long term antibiotic treatment
- Diagnostic Imaging for required radiological requirements (eg bone scans for osteomyelitis)
- Orthopedic Procedure Room for minor orthopedic procedures which do not require a surgical suite environment

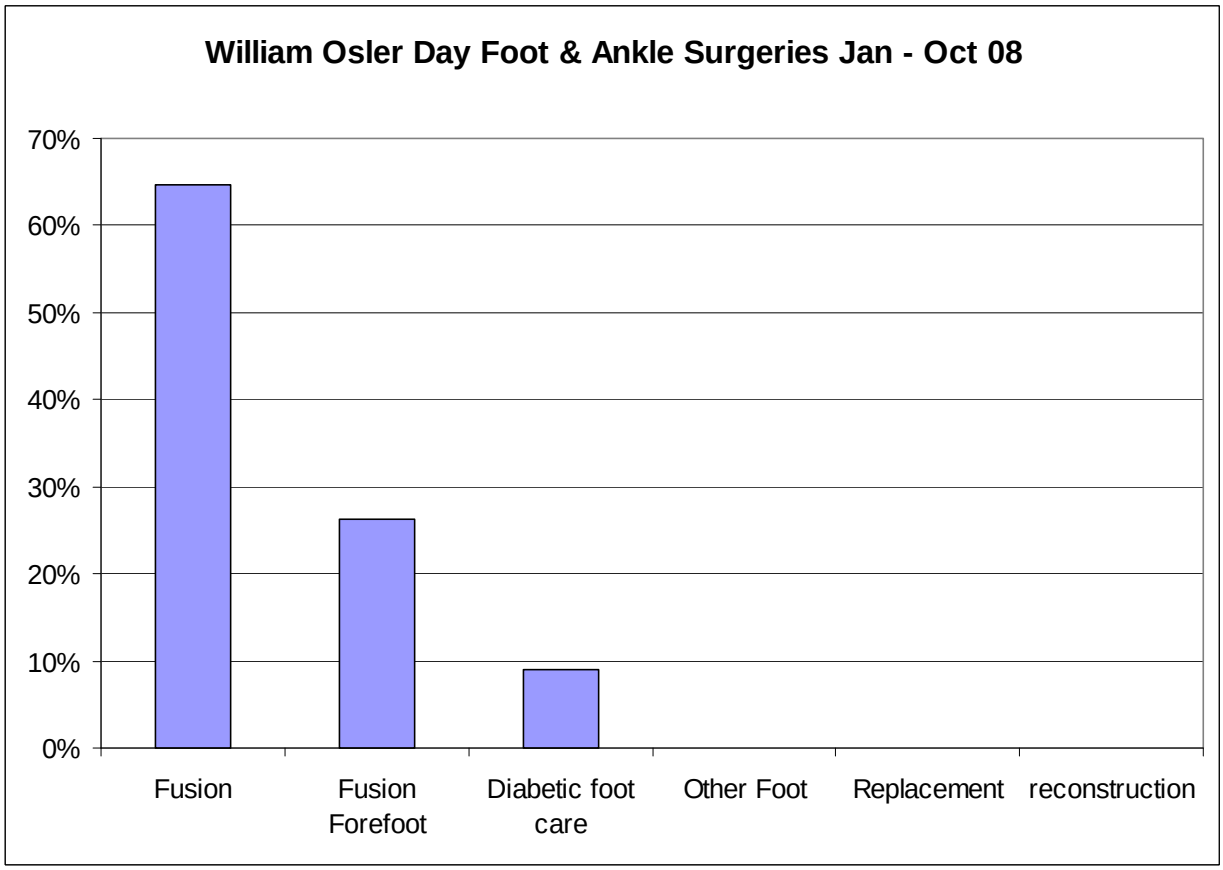
13 APPENDIX #3: DATA FROM PARTICIPATING SITES






Foot & Ankle Surgeries Jan - Dec 2008 St. Michael's Hospital
30%
25%
20%
15%
10%
5%
0%
Other foot
Reconstruction
Fusion
Replacement
fusion Forefoot
Diabetic foot care


William Osler Inpatient Foot & Ankle Surgeries Jan - Oct08
70%
60%
50%
40%
30%
20%
10%
0%
Fusion
Other Foot
Fusion Forefoot
Diabetic foot care
reconstruction
Replacement


William Osler Day Foot & Ankle Surgeries Jan - Oct 08
70%
60%
50%
40%
30%
20%
10%
0%
Fusion
Fusion Forefoot
Diabetic foot care
Other Foot
Replacement
reconstruction