



Health System Improvement Guide

# FEET FOR LIFE



**KO AWATEA**  
HEALTH SYSTEM INNOVATION AND IMPROVEMENT

  
**COUNTIES  
MANUKAU**  
HEALTH

## ACKNOWLEDGEMENTS

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Foot lesions or ulcers are a preventable, but frequently mismanaged, complication of diabetes and associated renal disease. Diabetic-related foot disease and associated complications, including eventual amputation, have a significant impact on a patient's quality of life and mortality. These problems are particularly prevalent among Maaori and Pacific peoples. They also carry a substantial cost to healthcare providers.

Feet for Life is a multidisciplinary collaborative project comprising nurses, a podiatrist, a renal physician, a renal technician, patient and whaanau (family) advocates, service managers and project management support staff. It was developed in 2013 in one of the dialysis units at Counties Manukau Health (CM Health). The project was part of the Beyond 20,000 Days campaign, which aimed to keep people healthy and well in the community.

The aim of the Feet for Life project was to reduce the number of lower limb amputations in diabetes patients on dialysis by at least 10% by 30 June 2015.

To achieve this, the Feet for Life team established a permanent on-site renal podiatry service for diabetic patients in the dialysis unit. Using Model for Improvement methodology, the team developed a change package based on four key drivers:

1. Identification of patients who would benefit from an on-site renal podiatry service.
2. Improving the accessibility of renal podiatry services.
3. Interventions to improve the scheduling process for renal podiatry appointments and to educate patients and their families/whaanau about foot complications resulting from renal failure and diabetes.
4. Effective multidisciplinary collaboration.

By the end of June 2015, the Feet for Life project had achieved its aim of reducing diabetic-related lower-limb amputations.

Other highlights include:

- » A reduction in the average time patients wait to see a podiatrist following referral from an average of 42 days to an average of five days.
- » An 81% reduction in patient did-not-attend rates for appointments.
- » Proven cost savings of \$440,000 from avoidable below-knee amputations, and \$105,950 from reduced did-not-attends.
- » Improved health literacy among patients receiving diabetic-related dialysis.

Since its development and testing was completed in the Rito Unit, the Feet for Life model of care has spread to include Ward 1 of the Adult Medical Centre at CM Health. The intention is to roll it out across the remaining dialysis units.



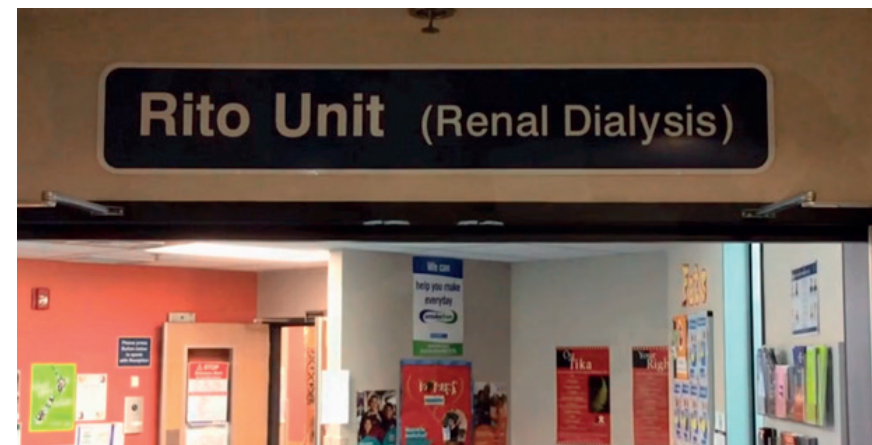
Feet for Life is a multidisciplinary collaborative project that improves access to podiatry services for diabetic patients receiving dialysis in Counties Manukau, New Zealand, by incorporating palliative podiatry care into dialysis units.

Preventive programmes, such as locating podiatry services within a renal dialysis setting, are inexpensive to establish and produce very effective results.<sup>1,2</sup> Podiatry services located within renal dialysis units enhance the identification of gaps, reduce inequalities and disparities by improving access to necessary health care, prevent hospitalisation for diabetic foot complications or related symptoms, and reduce overall healthcare costs.

Feet for Life was developed in 2013 in the Rito Unit of Counties Manukau Health (CM Health). CM Health is the district health board that serves the Counties Manukau region of Auckland, and the Rito Unit is one of its six dialysis units.

The project was developed, funded and implemented as part of Beyond 20,000 Days. This was an umbrella campaign run by CM Health that supported a range of projects aimed at keeping people well in their communities. The campaign used the Breakthrough Series (BTS) approach to train and support participating teams in improvement methodology and collaborative working. The BTS was structured as four learning sessions interspersed with action periods.<sup>3</sup> During action periods, project teams in Beyond 20,000 Days used Model for Improvement methodology to develop 'packages' of change ideas to meet specific goals which related to the overall campaign aim.<sup>4</sup>

The Feet for Life working group comprised nurses, a podiatrist, a renal physician and a renal technician. An expert group of service managers, consultants and patient and whaanau (family) advocates met monthly to provide guidance to the working group. In addition, a project manager and improvement advisor were added to the project team through Beyond 20,000 Days to assist with the planning and implementation of the project.



Rito Unit

## THE PROBLEM

An estimated 42,000 people in Counties Manukau live with diabetes. Patients with diabetes are at high risk of foot disease and associated complications due to early and ongoing damage to the circulatory system by long-term hyperglycaemia. Long-term hyperglycaemia also slows the healing process, and continued uraemia worsens this delay.<sup>1,5,6</sup>

In addition, Counties Manukau has a high proportion of Maaori and Pacific peoples, who have higher rates of diabetic neuropathy than New Zealand Europeans.<sup>7,8,9</sup> Diabetic neuropathy is the main cause of end-stage renal failure (ESRF), and both long-term and end-stage renal disease are key risk factors associated with diabetes-related amputations. Diabetic patients who receive renal replacement therapy or dialysis experience foot complications 2.5 times more often than diabetic patients with normal liver function. The risk of mortality following amputation among diabetic patients rises from 13% in the first year to 80% after five years.<sup>10</sup>

Over the last three years, patients receiving dialysis treatment have been over-represented in diabetic-related amputations at CM Health. The delivery of podiatry care contributes to the widening gap of health disparities in this population. There are three main barriers to the access of podiatry services:

1. Multiple specialist clinic appointments resulting in high podiatry clinic did-not-attend rates.
2. Low engagement with primary health care.
3. Absence of integrated consistency in podiatry services across the healthcare system.

To reduce the risk of amputation, renal patients with diabetes need timely assessments, treatments and care planning. Best practice suggests assessment within one week from referral. Current practice at CM Health is to see high risk patients within four weeks, on average. This is often too late and results in delays in appropriate treatment and care planning.

In addition to the high risk of mortality and reduction in patient quality of life associated with amputation, there is a substantial cost to the healthcare provider. CM Health spends over \$2 million per year on diabetes-related amputations. With the number of diabetic patients who need dialysis growing every year, this cost is expected to increase.

*...It's a major problem...We identified patients with active foot wounds who on average had to wait 4 to 6 weeks to be seen by a podiatrist...at the same time, large numbers of patients had poor or no attendance to hospital or clinic appointments...because of un-wellness, transport issues, appointment scheduling errors....They just struggle to keep up with so many appointments.*

Lawrence Kingi  
Renal Podiatrist



## THE AIM

The aim of the Feet for Life collaborative was to reduce the number of lower limb amputations in diabetes patients on dialysis by at least 10% – a reduction from 42 per year to 37 per year.

This would be achieved through:

- » identification of patients who would benefit from an on-site renal podiatry service
- » improving the accessibility of renal podiatry services
- » interventions to improve the scheduling process for renal podiatry appointments and to educate patients and their families/whaanau about foot complications resulting from renal failure and diabetes
- » effective multidisciplinary collaboration.



Dr Ajith Dissanayake (Endocrinologist) presenting during renal/diabetes multidisciplinary meeting



Outcome, process and balancing measures were identified to monitor the collaborative's progress. In addition to the measures given below, the team considered measuring referrals to other services and follow-up rates (see Figure 1, p. 10), but these were not included in the final set of measures.

## Outcome measures

- » Number of amputations
- » Number of hospitalisations
- » Patient experience
- » Staff satisfaction

## Process measures

- » Number of patients identified as high risk
- » Patients referred
- » Wait time for podiatry clinic
- » 'Did-not-attend' rates to renal podiatry clinic

## Balancing measures

- » Mortality
- » Quality of life



# THE DRIVERS OF CHANGE

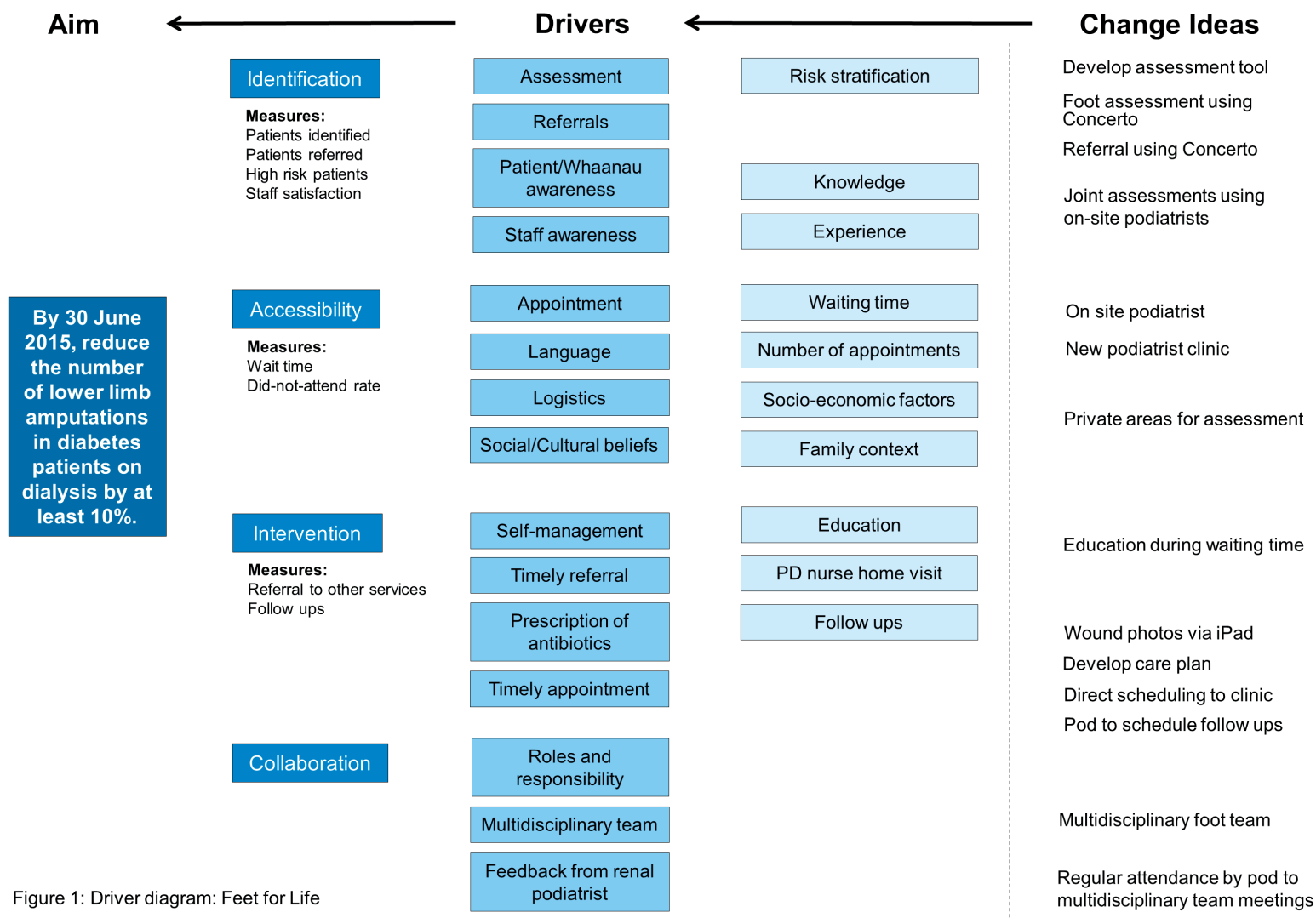


Figure 1: Driver diagram: Feet for Life

The Feet for Life team believed that the establishment of a permanent on-site renal podiatry service would provide a patient-centred, efficient, effective, timely, and accessible service.

The on-site podiatrist would provide appropriate intervention through:

- » timely screening, assessments and risk stratification
- » timely treatment and appropriate referrals to other services and care planning
- » participation in multidisciplinary team meetings to build and strengthen relationships across the sectors
- » fast track referral and intervention
- » mobility and flexibility to move between all dialysis units
- » ongoing educational support to dialysis staff, patients and family/whaanau
- » increased self-management support for patients and their family/whaanau
- » participation in ongoing quality improvement of the service.

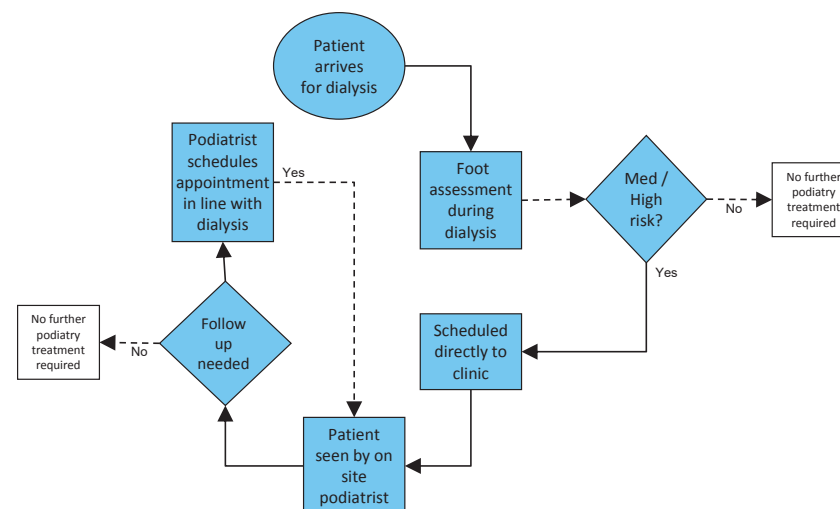
The team identified four key factors, or 'drivers', to focus on:

1. Identification of patients who would benefit from an on-site renal podiatry service.
2. Improving the accessibility of renal podiatry services.
3. Interventions to improve the scheduling process for renal podiatry appointments and to educate patients and their families/whaanau about

foot complications resulting from renal failure and diabetes.

4. Effective multidisciplinary collaboration.

Figure 2: Future state process map



## The problem

Foot lesions or ulcers are potentially the most preventable but also the most frequently mismanaged complication of diabetes and associated renal disease. Far too often, the mismanagement leads to lesions and/or ulcers worsening to the point where amputation is necessary.

## The change idea

The Feet for Life team developed a foot assessment form to identify patients who have existing foot complications or are at high risk of developing them (Appendix A). This form enables the team to put in place timely and appropriate interventions that have a direct impact on reducing rates of amputation and hospitalisation. The form summarises patient complications and co-morbidities and stratifies the risk involved for ongoing management.

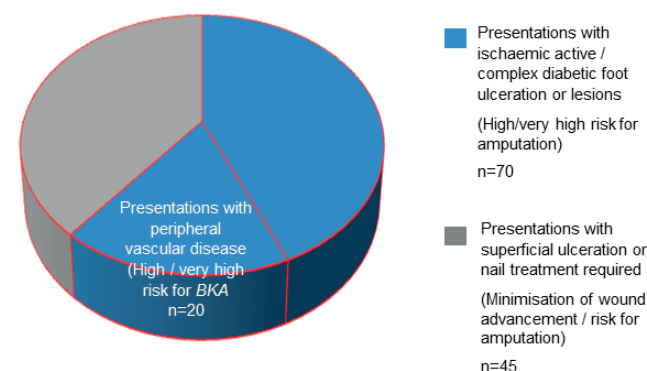
Patients who are identified with foot wounds are assessed and treated for infection by renal physicians and then managed by the on-site podiatrist.

The foot assessment form is referred on Concerto, the CM Health electronic clinical records system, directly in to the renal podiatrist clinic at the Rito Unit.

## The outcome

With the development of the foot assessment form the team are able to identify any patients who develop a foot complication or are in the initial stage of foot complications. The team have identified more than 70 patients in the Rito Unit with foot complications.

Figure 3: Patient assessments for Rito Unit



### The problem

Prior to the Feet for Life project, the average waiting time to see a podiatrist was 42 days. This delay led to wounds progressing further with higher risks of below-knee amputations. At the same time, a large number of patients had high did-not-attend rates for podiatry appointments. Both of these factors significantly worsened foot complications.

### The change idea

The Feet for Life team redesigned the foot care process for diabetic patients by incorporating a podiatry services clinic into the dialysis unit. The clinic provides early wound debridement and wound care management, wound offloading, on-site footwear assessment, correct footwear advice, training and up-skilling of staff, patients and family/whaanau.

Having a podiatrist onsite decreases the time patients spend travelling to appointments, and minimises transportation costs for patients and their families/whaanau. Additionally, the team expected to see a decrease in did-not-attend rates as a result of combining renal and podiatry appointments.

### The outcome

#### Less wait time to see a podiatrist

Improvements to accessibility contributed to a reduction from 42 days to five days in the average wait time to see a podiatrist. Less wait time indicates a timely intervention that ensures proactive management of the patient's feet.

#### Did-not-attend rates

The rates reduced significantly as patients were seen during the dialysis instead of going to a clinic sometime after. This is an example of taking healthcare to the patient.



## The problem

There were delays with renal patient referrals, which could take between three to five days before patients were put into the system and then triaged or prioritised. Once prioritisation was completed, it would take a further two days to be entered in to the appropriate renal podiatry clinic. In total, it took between five and seven days before the patient was given an appointment.

In addition, several patients and family/whānau had little knowledge about the complications of having renal failure and diabetes. Many patients had never seen the wounds on the underside of their feet. Similarly, few family/whānau members were fully aware of what to look for when examining the patient's foot. Eighty per cent of foot ulcerations within the project were related to trauma around the home. This opportunity to identify ulcerations early and implement self-care management plans led to the importance of planned ongoing patient education.

## The change idea

The Feet for Life team designed an e-referral form that removed the triaging process. All referrals made using this form were immediately inserted into the onsite podiatry clinic. Renal dialysis nurses e-refer patients with active foot ulcerations to the Manukau Surgery Centre's Referral and Assessment Centre, which arranges and schedules appointments for all clinics including the renal podiatry clinic.

To improve patient and family/whānau knowledge of foot complications associated with renal failure and diabetes, the on-site podiatrist discusses self-management and foot education with patients and family/whānau while performing foot care. To support discussions, all wounds are photographed using smart phones, iPads or tablets during every consultation to show patients and family/whānau effective healing times and to provide important information for clinical staff, patients and family/whānau.

## The outcome

### Reduced scheduling time

The time taken from referral to scheduling of an appointment was significantly reduced from between five and seven days to between one and three days.

### Less wait time to see a podiatrist

In conjunction with the improvements to accessibility, these change ideas contributed to a reduction from 42 days to five days in the average wait time to see a podiatrist.

### Improved patient interest and understanding of foot complications

Patients and family/whānau appreciated the podiatry education support given during dialysis. They became more interested in their foot care and understood more about 'what they were looking at'. These discussions also reinforced the complex management required to heal foot ulcerations.

A close up wound picture can explain a thousand words. Most patients have the diabetic comorbidities of poor eyesight and reduced mobility, so it is common for patients not to understand 'what all the fuss is about'. Consequently, it is a hard reality for patients to accept seeing their own wound photos. However, patients like to see their photos and the progress they are helping to achieve.



## The problem

Diabetic foot disease requires ongoing support from a number of services at any one time. Prior to the project there was no renal pathway or governance in place to manage diabetic foot complications except through the diabetes podiatry clinic – a clinic located in the community and subject to scheduling delays.

This led to wound deterioration due to long waiting times and limited wound management knowledge and resources used.

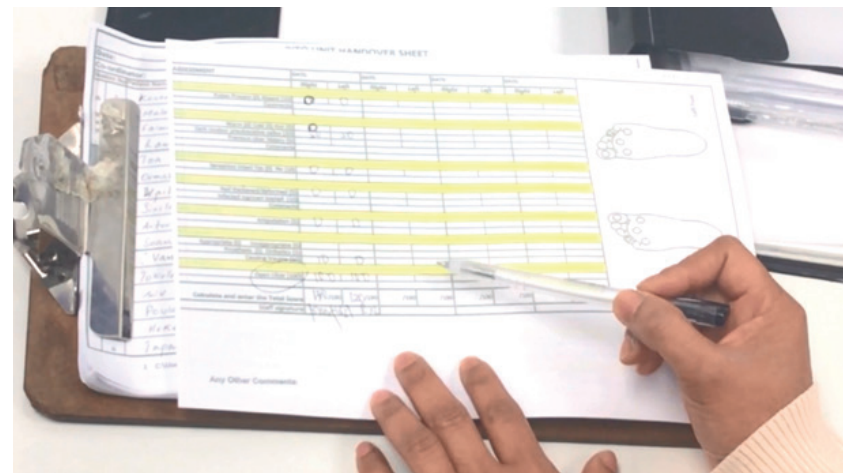
## The change idea

In addition to developing a foot assessment form (Appendix A), emphasis was placed on creating or using forums to share information about new knowledge of processes, updates of outcomes and lessons learnt with other disciplines involved in the care of renal patients with diabetes. Forums used to share this information were team meetings, workshops, monthly interdisciplinary presentations.

## The outcome

The involvement with teams such as vascular, orthopaedic, external podiatry service, diabetes, renal nurses and district nurses has led to faster referrals and earlier intervention.

An external collaboration with the Orthotic Centre has seen all patients monitored for footwear and insoles each year for five years. This has reduced patient risk of recurrence of trauma and plantar pressure as a result of ongoing diabetes foot complications.

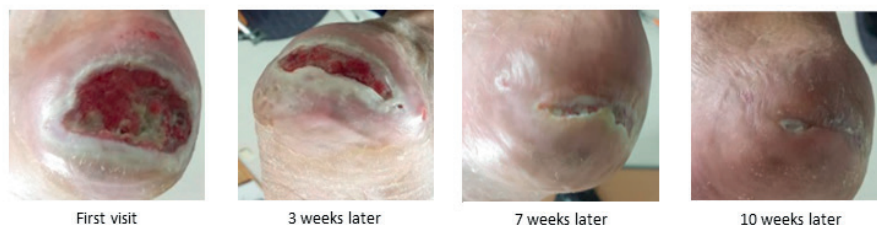




The Feet for Life preventive intervention model of care is now well established as part of the Rito Unit within Middlemore Hospital. The regular (opportunistic) management of diabetic-related foot complications during dialysis on a weekly basis has been a key driver in the success in reducing lower limb amputation.

Complex wounds have been effectively managed in the outpatient renal podiatry clinic at the Rito Dialysis Unit. The images below show an example of wound healing (Figure 4). The patient was referred for specialist podiatry intervention by his vascular surgeon, who advised below-knee amputation. Podiatrist interventions involved regular wound debridement and complex dressing management.

Figure 4: Wound healing following referral for podiatry intervention



## Summary of outcomes

### The patient cohort

All patients who required renal dialysis (and also had the added complication of diabetes) were included in the Feet for Life project. There were 137 patients in total. Ninety patients were identified as 'high to very high risk' for amputation; of these, 70 had reduced blood flow and complex diabetic foot ulceration or lesions, and 20 had ischaemic foot disease – a circulation disorder that affects blood vessels outside of the heart and brain. The remaining 47 patients were identified as low risk and had superficial ulceration or only required nail treatment.

### Significant prevention of amputations

All patients were offered the preventive intervention model of care. Of 93 possible amputations, 76 were saved with reduced blood flow, of which 32 were ischaemic. This represents an 82% amputation prevention rate. The 12 patients who did undergo amputation had ischaemic complications with a number of comorbidities that delayed healing.

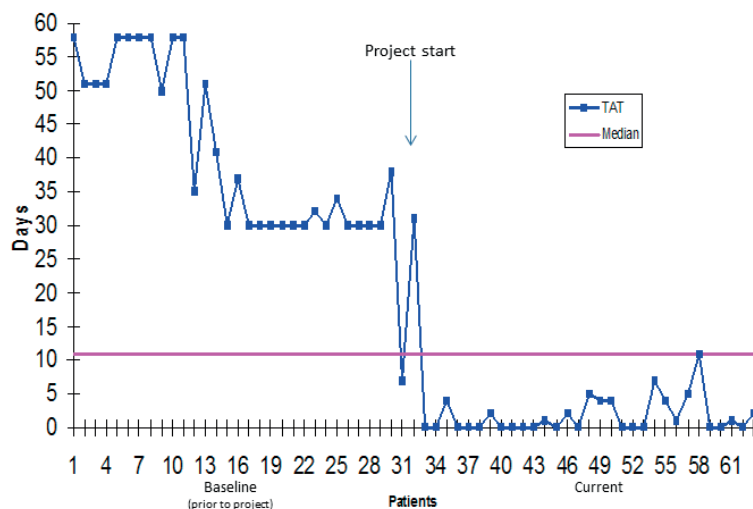
While the reduced occurrence of amputations in this high risk group is a significant achievement, a main focus of the project has been to promote clinical access and appropriate podiatric management of wounds to improve patient care.

## Waiting time

Baseline data revealed that patients waited to see a podiatrist for an average of 42 days from the point of referral. The lengthy delay in accessing necessary foot care led to the further deterioration of patients' wounds, especially for those with high risk of amputation.

The location of a podiatrist within the Rito Unit resulted in patients receiving foot care within five days, at the same time as their dialysis treatment (Figure 5). The significant decrease in waiting time had direct effects upon did-not-attend rates and amputation rates. The results from service data also demonstrate increased timeliness and improved patient flow, which are core goals of this process improvement.

Figure 5: Average wait time: Patients seen by renal podiatrist (days)

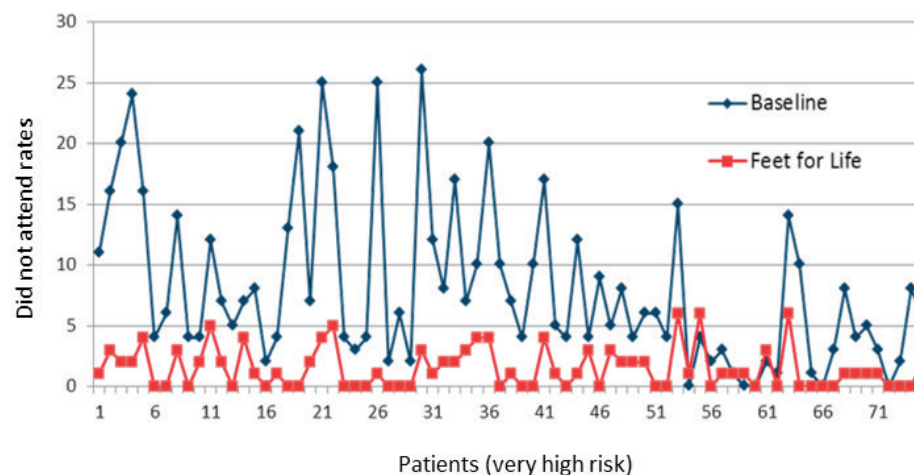


## Did-not-attend rates

Did-not-attend rates were very high for the group of patients identified as high or very high risk. The patients were unlikely to attend regular foot screening or treatments in the community clinics even though they had 'high risk' feet. This was due to the large amount of time they had already spent attending dialysis appointments, in addition to transport, affordability and appointment scheduling issues.

The provision of a podiatry clinic within the Rito Unit provided convenient access for patient foot care. Results show that the clinic is effective in improving foot health and is acceptable to both patients and haemodialysis staff. Did-not-attend rates reduced by 81% (Figure 6).

Figure 6: Did-not-attend rates for high and very high risk patients

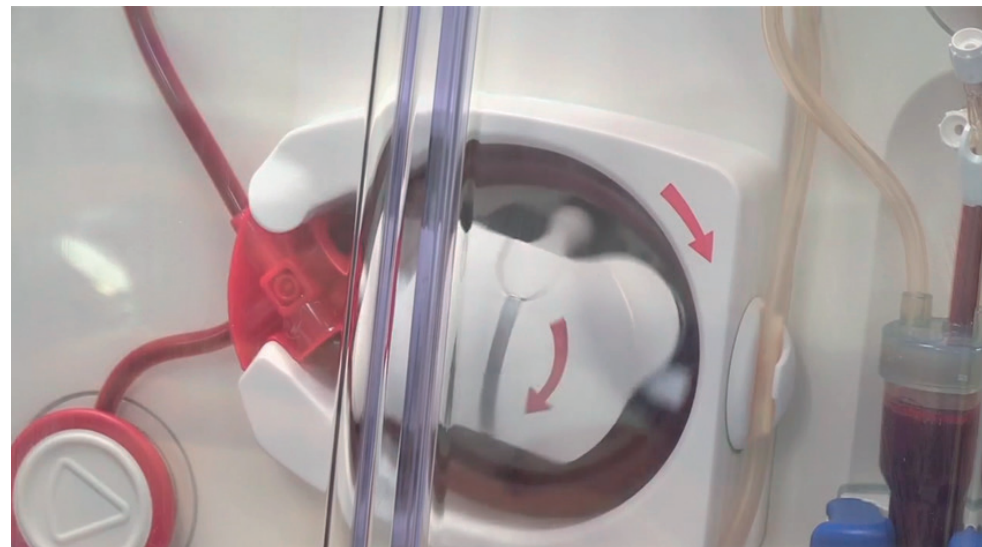
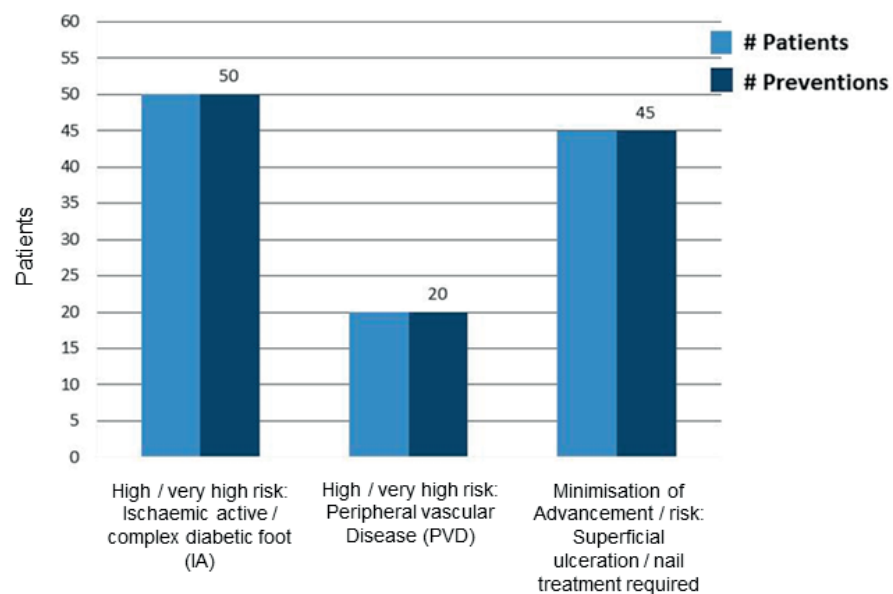


## Reduced amputation

Prior to Feet for Life, preventive measures to minimise the risk of amputation were ineffective. For the period 2012-2013, CM Health reported 67 lower limb amputations for diabetic patients on dialysis. Importantly, high numbers of patients have died since undergoing amputation. Nineteen per cent of patients died within eight weeks of amputation for the period January 2012 to August 2013.

Since Feet for Life, all 137 patients have had a preventive intervention model of care that has brought about success in preventing amputations.

Figure 7: Intervention results of renal patients on dialysis



## Cost savings

The establishment of an on-site renal podiatrist delivers substantial cost savings through the reduction in diabetic-related amputations and hospital admissions.

### Counties Manukau Health

From below knee amputations:

- » Known savings: \$440,000\* (n=20)
- » Probable savings: \$1,100,000 Other high risk (n=50)

\* Based on average total cost per BKA amputation: \$22,000<sup>11</sup>

Did-not-attends:

- » Known savings \$105,950 (n=468 x \$226.39\*)
- » 81% reduction (Baseline n=577. Feet for Life n=109)

\* Based on average cost per attendance (labour and facility): \$226.39<sup>11</sup>

## Health literacy

Poor health literacy has been identified as a risk factor for diabetic-related amputation, and is prevalent among the Feet for Life patient cohort. The team developed patient education videos to be played during dialysis. There is anecdotal evidence of increased awareness of foot care among patients and families, such as patients and their families sharing foot care information during dialysis.

*"We are able to manage the foot ourselves at home now and we are learning so much about foot care from other patients as well".*

Gina Wetera, Whaanau

## Engaged workforce

Anecdotally, nursing staff reported feeling more engaged in the support of patients who require complex management as a result of Feet for Life. Staff can also see the positive impact of this initiative on patient outcomes and recognise the importance of early identification and intervention.

Anecdotal feedback from patients reflects improved quality of life.



### Shannon (63 year old Maaori male)

Shannon has had no feeling in his feet since 2004 and has been a dialysis patient since 2011. In January 2013, Shannon was advised by his orthopaedics specialist that he would need to undergo a below-knee amputation due to diabetes complications and osteomyelitis in his right heel. He underwent a calcaneotomy – surgery to remove a portion of his heel bone due to infection.

In October 2013, Shannon was referred by his surgeon for podiatry input and joined the Feet for Life collaborative for specialist podiatric treatment. The opportunity to manage his complex wound on a weekly basis was crucial in the healing of his (now) deformed heel. Prior to receiving specialist podiatry care in conjunction with his weekly dialysis, Shannon and his whaanau relied heavily upon clinicians to guide his healthcare, and had to navigate multiple appointments and different information received from several health professionals.

While dialysing, podiatrist and nursing staff would talk with Shannon and his whaanau about his condition and give him self-management education to support his ongoing care. For the period July 2012 to January 2014, Shannon spent 141 days in hospital from a total of six hospital admissions related to foot complications. Since February 2014, Shannon has not had any hospital admissions.

Table 1: Pre- and post-Feet for Life intervention data for Shannon  
Period: Jan 2010 to July 2014

	Baseline data	Cost	Since podiatrist intervention	Cost
Number of DNAs	13	\$2,943*	0	\$0
Risk of foot amputation	Advised amputation	BKA	Low risk with ongoing management	Increased quality of life

\* Based on average cost per attendance (labour and facility): \$226.39<sup>11</sup>





### Marlene (57 year old Maaori female)

Marlene's surgeon had concerns with the duration of her wounds and osteomyelitis. He advised amputation and referred her for podiatry input in July 2014. She underwent specialist podiatric treatment within the Rito Unit.

Marlene's wound management was altered and scheduled in conjunction with her regular weekly dialysis treatment. Marlene has had 30 did-not-attends (including podiatry appointments) during the past five years that have contributed to complications to her feet. Marlene acknowledged that she knew very little about her condition and was not made aware of the implications of missing appointments, despite sometimes having valid reasons for not attending.

The weekly intervention minimised her non-attendance at podiatry appointments and has proved crucial, saving her toe from being amputated. For the period December 2010 to July 2014, Marlene spent 21 days in hospital from a total of 10 hospital admissions related to foot complications. Since August 2014, Marlene has not had any hospital admissions.

Table 2: Pre- and post-Feet for Life intervention data for Marlene  
Period: Jan 2010 to Sep 2013

	Baseline data	Cost	Since podiatrist intervention	Cost
Number of DNAs	15	\$3,396*	0	\$0
Risk of foot amputation	Advised amputation	Trans-metatarsal amputation	Low risk with ongoing management	Increased quality of life

\* Based on average cost per attendance (labour and facility): \$226.39<sup>11</sup>



### Not just another number

On-site podiatry offers the opportunity to form a bond of trust with each patient – a bond that had proven crucial to healing rates, and where compliance has also shown improvement.

Patients have endorsed the ability to view their 'results', with the use of a mobile phone to take images of wound conditions before, during and after podiatry interventions. In conjunction with a regular foot assessment, these comparisons have increased health literacy; patients can actually see for themselves how a skin lesion can become ulcerated in a short time due to simple things like not wearing the correct footwear or not keeping the wound clean and dry.

Patients with neuropathy struggle with foot ulceration management because they have lost the ability to feel pain. This has a major impact on individuals with foot deformity and high plantar foot pressures. Over time, lower limb mobility restrictions increase, causing gait compensations and increased foot pressures. Eventually, this non-sensate foot breaks the skin, causing a diabetic ulceration.

The education patients receive during their renal podiatry consultation involves their entire diabetes management. I talk regularly with the patients while treating their feet about the interrelationship of their diabetes foot complication and their renal disease. Patients have become more knowledgeable on the impact poor blood glucose levels have on their major organs of the body – heart, eyes, kidneys, blood flow and nerve damage. This is where podiatric specialist management is critical in the prevention of lower limb amputation.

Diabetes foot complications require early intervention, which involves regular wound debridement and complex dressing management. This treatment plan

is prescribed at each appointment and supported by members of the multi-disciplinary team.

The general consensus among most patients is that they come to dialysis to eventually die and that they are just another number. It doesn't have to be this way. The compulsory foot assessment performed by nursing staff during each dialysis session means that early identification of foot complications equates to early podiatric intervention – a simple process that translates into improvements in quality of life, reductions in risk of amputations, reductions in waiting time and reduction in did-not-attends.

Lawrence Kingi, Podiatrist





### Perseverance in the pursuit of excellence in patient care

*While others run fast, you can just shuffle with perseverance.*

*While others impress, you can simply press on.*

*While others stop for the dark, you can run through the dark.*

*The race is won by those who keep running through the dark.*

It was a challenge for us – knowing nothing about how to lead a project; our journey started from knowing nothing through to being able to implement our project successfully in our Renal Service. Although there were demanding times, such as when we had to manage project tasks on top of already heavy workloads, we witnessed how our project has made a difference in our patients and the lives of their whaanau.

The knowledge and skills that we learnt from doing Feet for Life will be utilised in our everyday practice to continue making the difference in our patients' lives, and the experience has opened other opportunities for us in our nursing careers. We have proudly presented the Feet for Life project both locally and internationally, something that we had not initially thought possible.

This will not be the end of our journey; it will only be the beginning of more challenges to come in the future. We will continue to strive for the best outcomes for the people we serve and look after in our care.

Rowena Scofield and Fakaola Otuafi, Renal Charge Nurses



*Leadership is the capacity to translate vision into reality.*

Rowena Scofield & Fakaola Otuafi

Renal Charge Nurses

## THE COLLABORATIVE TEAM

The Feet for Life collaborative consisted of a multidisciplinary team comprising nurses, podiatrist, renal physician, renal technician, patient and family/whānau advocates, service management and project management support. The working group met weekly, working on operationalising the project aims under the guidance of the expert advisory group, who met monthly. All stakeholders were updated on progress through monthly expert group meetings and organisational reporting.

Staff of the Rito Unit were involved in all phases of testing. Feedback and regular updates on project requirements and progress were communicated to staff by the charge nurse and nurse champions during staff and clinical handover meetings. Patient and family/whānau advocates Shannon and Gina Wetere were involved in most expert advisory meetings, where their input was valued to help with redesigning the process. Similarly, the feedback and comments from all patients and family/whānau seen within Rito Unit also contributed to the project.

Clinical Lead	Viliani Tutone (Renal Physician)
Service Manager	Catherine Tracy
Expert Group	Shannon and Gina Wetere (Patient and family/whānau advocates) Roger Grech (Podiatrist) Ajith Dissanayake (Endocrinologist) Anthony Ng (Podiatrist) Feedback and comments from all patients and family/whānau seen within Rito Unit
Working Group	Rowena Scofield (Charge Nurse Manager) Fakaola Otuafi (Charge Nurse Manager) Jubeda Shah (Charge Nurse Manager) Frances Reid (Staff Nurse) Babu Ramalingam (Haemodialysis Clinical Coach) Lawrence Kingi (Podiatrist) Amie Hwang (Charge Nurse Manager)
Improvement Advisor	Prem Kumar
DSS Analysts	Penny Wilkings, Eric Cueva
Project Manager	Jacqueline Schmidt-Busby

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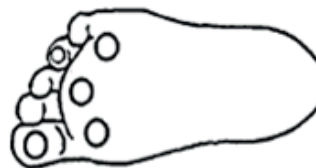
# APPENDIX A: FOOT ASSESSMENT FORM

PATIENT STICKER


FOOT ASSESSMENT - Renal Service

ASSESSMENT	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:	DATE:
	Right	Left	Right	Left	Right	Left	Right
<b>VASCULAR</b>							
Pulses Present (0) Absent (10)							
Comments							
<b>SKIN</b>							
Warm (0) Cold (5) Hot (5)							
Dark colour preulcerative callus (20)							
Previous ulcer history (5)							
Comments							
<b>NEUROPATHY (monofilament)</b>							
Sensation Intact Yes (0) No (10)							
<b>NAILS</b>							
Nail thickened/deformed (5)							
Infected ingrown toenail (10)							
Comments							
<b>AMPUTATIONS</b>							
Amputation (5)							
Foot deformity (5)							
<b>FOOTWEAR</b>							
Appropriate (0) Inappropriate (5)							
Prosthesis (5) Orthotics (5)							
Causing trauma (10)							
<b>ULCER DETAILS</b>							
Open Ulcer (100)							
<b>Calculate and enter the Total Score</b>							
Staff signature							

Left Foot



Low Risk 0-25  
Med Risk 25-40  
High Risk 40-80



Right Foot

Monofilament test minimum every 3 months.

