

Supplementary Table 1: Round 1 questions identified after exclusion, consolidation and editing

Diabetes-related foot health and disease category	Question
Offloading	<p>What are the most effective treatment approaches to help people with diabetes adhere to using their recommended offloading devices?</p> <p>What are the main reasons that clinicians do not provide recommended evidence-based offloading interventions to people with or at risk of diabetes-related foot ulcers?</p> <p>What are the most effective treatment options for offloading the foot in people at risk of diabetes-related foot ulceration?</p> <p>What are patient experiences of offloading?</p> <p>What is the relationship between foot muscle volume and strength with diabetes-related foot disease?</p>
Peripheral Arterial Disease	<p>What are the most accurate methods to assess circulation to the feet in diabetes?</p> <p>What are the most effective approaches to preventing circulatory disease involving the foot in diabetes?</p> <p>What are the most effective treatments for circulatory disease involving the foot in diabetes?</p> <p>How common is circulatory disease involving the foot in diabetes?</p> <p>What are the best approaches to incorporate research findings into clinical practice in the area of circulation to the foot in diabetes?</p> <p>What is the incidence of monophasic doppler waveforms in people with diabetes accessing primary health care?</p>
Peripheral Neuropathy	<p>What are the most effective treatment options for pain associated with diabetes-related peripheral neuropathy?</p> <p>What are the most effective strategies to prevent diabetes-related peripheral neuropathy?</p> <p>What is the most effective way to detect diabetes-related peripheral neuropathy?</p> <p>What pharmacological therapies are effective for the prevention of diabetes-related peripheral neuropathy?</p> <p>Can established peripheral neuropathy be reversed, and if so how?</p> <p>What is the pathogenesis of diabetes related peripheral neuropathy?</p> <p>What are the most effective treatment options for diabetes-related peripheral neuropathy?</p> <p>Can cannabis oil be effective in reducing pain associated with diabetes-related peripheral neuropathy?</p> <p>What is the effectiveness of glyceryl trinitrate and/or film dressings in reducing symptoms of peripheral neuropathic pain in people with diabetes related foot disease?</p> <p>Do motion control orthoses reduce proprioception in people with diabetes-related foot disease?</p>

Infection	<p>What are the treatment protocols for treating infection in diabetes related foot disease?</p> <p>What are the key predictors of antibiotic failure in non destructive osteomyelitis identified on MRI?</p> <p>What topical antimicrobials/antiseptics yield the greatest outcomes for infection control and healing with or without standard antibiotic use?</p> <p>What topical antimicrobials are effective for treatment of chronic wounds?</p> <p>What are the long term outcomes (wound recurrence, osteomyelitis recurrence) of osteomyelitis in people with diabetes, when treated conservatively/medically rather than surgically?</p> <p>What are the best type/s of antibiotics for osteomyelitis?</p> <p>What is the best duration for antibiotics in the management of osteomyelitis?</p> <p>Are rates of diabetes-related foot infections improving in Australia?</p> <p>What is the optimal diagnostic algorithm for osteomyelitis including residual infection after surgery?</p> <p>What is the best way to manage osteomyelitis in people with diabetes?</p> <p>What type of infection in feet can lead to limb loss in people with diabetes?</p> <p>When is the best time to commence antibiotic treatment for infection in people with diabetes-related foot disease?</p> <p>What antibiotics should be used for infection in people with diabetes-related foot disease?</p> <p>What are the readmission rates as a result of infection after amputation?</p> <p>Is there a role for proximal debrided bone and tissue samples in guiding antimicrobial therapy decisions and re-debridement?</p> <p>What are the new methods of delivering antimicrobial therapies?</p>
Wound Healing Interventions	<p>What is the role of leukocyte and platelet-rich fibrin in chronic wound healing?</p> <p>What is the most effective and cost effective wound dressing for diabetes related foot wounds?</p> <p>How often should diabetes related foot wounds be debrided?</p> <p>What wound management is easier for people who have a diabetes related wound?</p>

Charcot neuropathic Osteoarthropathy	<p>What are the best ways to treat active Charcot neuropathic osteoarthropathy?</p> <p>Which clinical parameters predict better outcomes of reconstructive foot surgery in people with Charcot neuropathic osteoarthropathy?</p> <p>Is amputation or orthotic devices more effective in treating Charcot neuropathic osteoarthropathy in terms of quality of life and cost benefit?</p> <p>How can Charcot's neuroarthropathy be diagnosed earlier to prevent deformity?</p> <p>Why does Charcot neuropathic osteoarthropathy predominantly affect people with diabetes?</p> <p>What are the potentially modifiable risk factors for Charcot neuropathic osteoarthropathy?</p> <p>What causes Charcot neuropathic osteoarthropathy in people with diabetes?</p> <p>What are the most recent evidence-based guidelines around treating Charcot neuropathic osteoarthropathy, and are they effective?</p> <p>How long should Charcot neuropathic osteoarthropathy be treated?</p> <p>Is there a way to prevent Charcot neuropathic osteoarthropathy in a person with diabetes?</p> <p>In a person with diabetes, how can the level of misdiagnosis for Charcot neuropathic osteoarthropathy and delayed referral be reduced within the community?</p> <p>What factors can halt progressive joint deformity in Charcot neuropathic osteoarthropathy?</p> <p>Is there a role for pharmacological therapies in acute Charcot neuropathic osteoarthropathy, and is there a role for combining pharmacological and surgical approaches?</p>
Amputation	<p>How can the number of diabetes related lower limb amputations required by people living in regional and remote areas be reduced?</p> <p>How can a definitive decision regarding the requirement for amputation be made earlier?</p> <p>Does amputation or conservative treatment lead to better quality of life for diabetes-related foot disease?</p> <p>What is best practice care after a transmetatarsal amputation?</p> <p>Do some species of bacterial infections more commonly result in requirement for amputation in diabetes-related foot disease?</p> <p>How often does a transmetatarsal amputation ultimately end up in below knee amputation?</p> <p>How can phantom pain after amputation be prevented?</p> <p>How can ulcer development after amputation be prevented?</p> <p>How long should antibiotics be continued after toe amputations?</p> <p>What is the percentage of people with type 1 diabetes who require amputation of toes or feet during their lifetime?</p>

Psychosocial or
behavioural

What impact does diabetes-related foot disease have on the quality of life for someone living in a rural or remote area of Australia?

What factors affect the wellbeing of clinicians providing diabetes-related foot health and disease care?

What is the influence of social determinants of health and other co morbidities on diabetes-related foot disease development, outcome and severity?

What is the role of a peer support group for people with type 1 diabetes and foot disease including those with ulceration or amputation?

What is the role of a clinical psychologist in mental health support of a person with diabetes-related foot disease as part of multidisciplinary care?

How can people with diabetes be encouraged to adhere to prescribed therapy to prevent and manage diabetes-related foot complications?

What is the impact of socioeconomic and psychosocial factors on the prevalence and incidence of diabetes-related foot ulceration and amputation?

What are the social and psychological implications for people with diabetes-related foot ulcers?

What is the best way to help people who have diabetes-related foot disease adhere to wearing appropriate footwear?

Why do some people with diabetes not look after their feet?

How do socio-economic factors impact access to offloading the diabetic foot outside of an appropriately funded high risk foot clinic?

Does providing a patient with an individualised foot first-aid box (and action plan) trigger active self care and improve foot health outcomes?

Why do people with diabetes who have access to care plans neglect to have regular foot assessments?

Does a personalised at-risk foot assessment help a person with diabetes to adhere to their foot care plan?

What lifestyle changes can a person with diabetes make to reduce the risk of developing diabetes-related foot disease?

What affect does diabetes-related foot disease have on the life of people?

How can we get a better understanding of factors that affect compliance in care for people who have diabetes-related foot disease?

What are the most effective evidence-based preventative actions people with diabetes can do to reduce their risk of developing diabetes-related foot disease?

What behavioural management strategies in people with diabetes who have foot disease are most effective in supporting compliance with treatment plans?

What is the role of psychological interventions to help people with diabetes to build their motivation, confidence and self-efficacy to proactively engage in their foot monitoring and foot care?

How can a person with diabetes form a routine for good foot health?

What are the psychological and social needs of people who have diabetes-related foot disease?

How can engagement in management plans such as offloading strategies be improved in a person who has diabetes-related foot disease?

What is the greatest concern of people who have diabetes-related foot disease?

What is the impact of regular, ongoing support from a diabetes-trained psychologist on healing of diabetes-related foot ulcers?

What is the impact on family members and carers of people who have diabetes-related foot disease?

Epidemiology	<p>How frequently do people with type 2 diabetes and elevated blood glucose under the age of 50 develop foot ulcers and does this age group regularly get foot checks?</p> <p>What percentage of people with diabetes aged 70 years and older are at risk of lower limb amputation in different states in Australia?</p> <p>Is there a difference in the rate of diabetes-related foot disease in men and women in Australia and if so why?</p> <p>What is the prevalence of diabetes-related foot disease in people with type 1 diabetes and blood glucose levels of >8% for one year?</p> <p>What percentage of people with diabetes develop foot disease, and how long do people have diabetes before they develop symptoms of foot disease?</p> <p>What percentage of people with poorly controlled diabetes do not develop foot disease?</p> <p>What is the prevalence of diabetes-related foot complications across Australia?</p> <p>What are the amputation rates in different local government areas in Australia?</p>
Education	<p>Are people with diabetes aware of how peripheral neuropathy affects their feet and how to check for it?</p> <p>What are the most effective educational programs to improve self-care practices to prevent foot disease in people with diabetes?</p> <p>What information do people want to know about their foot health when they are first diagnosed with diabetes-related foot disease?</p> <p>What information do podiatrists (and other health professionals) currently provide to people with diabetes-related foot disease about their prognosis?</p> <p>What is the most effective patient education method to increase adherence to prescribed offloading?</p> <p>What are the most effective education methods to improve knowledge about how foot complications develop in people with diabetes?</p> <p>Can the current evidence base be used to create written patient education dressing plans for people with foot ulcers to better manage their own dressings?</p> <p>What are the main reasons that people with diabetes do not receive foot health education?</p> <p>What percentage of people with different risk levels for developing diabetes-related foot disease access additional foot health education in addition to their regular podiatry appointments?</p> <p>What are the most effective education methods to help people with diabetes self-diagnose foot complications?</p> <p>Do people with diabetes understand what could happen to their feet if they don't control their diabetes?</p> <p>Does intensive, on-going foot-care education from early on after the diagnosis of diabetes impact positively on long-term foot health outcomes?</p> <p>What is the impact of a dedicated podiatrist performing foot care education sessions to people admitted to hospital with diabetes-related foot ulcers?</p> <p>What types of education on foot complications are currently provided to people with different risk levels for developing diabetes-related foot disease?</p> <p>What are the most effective education methods to prevent ulcer recurrence in people with a history of diabetes-related foot ulcers?</p> <p>Where do newly diagnosed persons with diabetes mostly access their foot health education (e.g health professionals, Diabetes Australia, social media, others)?</p> <p>Is the use of social media an appropriate method in which to provide foot health education for persons with diabetes?</p>

Health Services

What percentage of High Risk Foot Services are providing foot plantar pressure assessments to their patients?

What are the main barriers faced by rural and remote clinicians to providing diabetes-related foot disease services?

How can communication be improved between High Risk Foot Services and Podiatrists?

What are the main barriers to people with diabetes receiving foot care from a podiatrist?

What are the most efficient and effective service models to prevent diabetes-related foot disease in the community?

What are the most efficient and effective models to provide custom-made footwear to people who need them to prevent diabetes-related foot disease?

What is the best method to establish an interdisciplinary high risk foot clinic in regional areas?

Do people with or without diabetes-related foot ulcers value telehealth as a modality to manage their foot health?

Is there a disparity in the availability, quality and costs of care for people with diabetes-related foot ulcerations living in rural and regional areas compared with those in metropolitan areas of Australia?

How can foot ulcer prevention and treatment in remote primary care settings be enhanced to reduce the need to travel long distances for multidisciplinary care?

Do different state funding systems for footwear and orthotics lead to different access and outcomes for people at risk of developing diabetes-related foot ulcers?

Is diabetes-related foot disease treatment adequately funded in Australia?

Are diabetes-related foot units all funded in the same way?

How can diabetes-related foot services ensure that those people with the highest diabetes-related foot care needs are being provided with that care?

How can accessibility to vascular surgical teams be improved in rural and remote settings?

What are the main reasons why rural and remote areas have difficulty in retaining good foot health professionals including podiatrists?

To what extent are podiatrists and general practitioners capable in managing diabetes-related foot ulcers in rural and remote areas of Australia?

How can state and federal governments be engaged to better fund the community care of people with, or at risk of, diabetes-related foot disease?

Does improving access to Diabetes Educators for people with diabetes prevent foot disease?

Do people with diabetes attending private services have better foot-health outcomes than those attending public health services?

What impact does limited access to podiatrists and other health professionals in rural and remote areas have on people with, or at risk of, diabetes-related foot disease?

What level of access is available in public hospitals for surgical offloading procedures for people with, or at risk of, diabetes-related foot disease when indicated?

What are the main reasons that diabetes-related foot concerns are sometimes ignored by GPs?

What factors prevent people with diabetes visiting podiatrists or other foot specialists?

How good are General Practitioners at accurately diagnosing and referring diabetes-related foot problems?

What are the best ways for people with ongoing diabetes-related foot problems and concerns to seek the advice they need?

What are the best multi-disciplinary foot team approaches to improve access and quality of care for people with diabetes-related foot

disease in Australia and especially in regional and remote areas?

Would a register of podiatrists who are competent in managing diabetes-related foot disease improve outcomes for people with, or at risk, of diabetes-related foot disease?

What has been the level of access, and any barriers to access, to Podiatrists by High Risk Foot Clinics since the introduction of the National Association of Diabetes Centres Interdisciplinary Diabetes High Risk Foot Services (HRFS) Standards were launched 2 years ago?

How can telemedicine methods be most effectively delivered to people with diabetes-related foot complications?

Do inpatient podiatry services improve the outcomes of people in hospital with diabetes-related foot disease?

What is the level of availability and affordability of extra width and depth footwear in Australia?

What is the impact of early intervention by community health podiatry on reducing the rate of ulcerations, amputations and improving quality of life in people with diabetes?

What is the impact of having a podiatrist available in Emergency Departments to manage people presenting with diabetes-related foot disease?

What are the main barriers to people with diabetes-related foot disease from accessing ongoing care from High Risk Foot Services?

What are the optimal time periods between podiatry appointments for people with diabetes?

Mortality	What is the life expectancy of a person following an initial diabetes-related amputation? What is the life expectancy of a person following an initial diagnosis of a diabetes-related foot ulcer?
Economics	What are the health and cost benefits of providing government funded, multidisciplinary high risk foot services for optimal management of people with diabetes-related foot disease compared with usual care? Is there a cost benefit of implementing a program to prevent diabetes-related foot ulcers in high risk populations compared to the cost of treating diabetes-related foot ulcers?
Technology	Are there new technologies with proven efficacy to prevent diabetes-related foot ulcers and amputation? What modern technologies can be utilised to improve foot education for people with diabetes and prevent diabetes-related foot ulceration? What smart technology can be integrated into the care of people with diabetes-related foot ulcers that will help improve healing time? What are the roles, feasibility, health and cost benefits of foot monitoring technologies in Australia for people with diabetes with, or at risk of, diabetes-related foot disease?
Assessment/diagnosis	Should temperature of feet be taken as part of a basic diabetes assessment? What are the barriers to performing the recommended foot assessments in people with diabetes? What are the best tests to predict developing diabetes-related foot ulcers in people with diabetes? What are some of the early signs a person with diabetes must be aware of that they are developing diabetes-related foot problems? How often should people with diabetes have their feet assessed by a health professional? Is it normal for people with diabetes to have hard, cracked skin on their heels? What are the symptoms of diabetes-related foot complications? Are there predictive tools that can be used to identify people with, or at risk of, diabetes-related foot disease who don't respond to treatments? How often does biopsy help in the management of diabetes-related foot ulcers? How can plantar shear stress be reliably measured?

Management	<p>How can more randomised controlled trials be undertaken to evaluate the effectiveness of interventions to manage diabetes-related foot ulceration?</p> <p>Does surgery, directed to specific location and ulcer phenotypes improve healing rates in patients with diabetes-related foot ulcers?</p> <p>Can informal carers play an active role in the management of diabetes-related foot ulcers?</p> <p>What is the best patient-centred management plan for people living with both diabetes-related foot ulceration and Charcot Neuroarthropathy?</p> <p>What is the best way to manage deteriorating diabetes-related foot ulceration?</p> <p>What are the typical treatment alternatives for diabetes-related foot complications?</p> <p>Is there more prevalence of arthritic joints in the feet among people with diabetes compared to those without diabetes?</p> <p>What are reliable physiological characteristics of a person with diabetes to assess for appropriateness for surgery for diabetes-related foot complications and to minimise risk of complications?</p> <p>What is the best way for a person with diabetes to cope with peripheral neuropathy to prevent possible amputation?</p> <p>What are the best methods to treat diabetes-related neuropathic ulcers?</p>
Prevention	<p>How can young people with type 2 diabetes prevent the onset of complications due to diabetes such as neuropathy and retinopathy?</p> <p>What is the best way to prevent foot re-ulceration in people with diabetes?</p> <p>What is the relationship between skin temperature and the formation of diabetes-related foot ulceration?</p> <p>How can the progress of diabetes-related foot disease be slowed?</p> <p>How can diabetes-related foot disease be prevented?</p> <p>How often should a person with diabetes see a podiatrist?</p> <p>What management is required for people with newly diagnosed diabetes to prevent diabetes-related foot complications?</p> <p>What are the preferred strategies to ensure good foot health and reduce diabetes-related foot disease?</p> <p>Does regular screening of foot health prevent diabetes-related foot disease?</p> <p>Should SGLT2 inhibitors medications be used in patients with active diabetes related foot ulceration?</p> <p>Why are there more resources allocated to treatment of diabetes-related foot disease than to community awareness?</p> <p>Does podiatry treatment reduce the risk of developing diabetes-related foot disease for people with diabetes?</p>
Blood Glucose Control	<p>Does achieving blood glucose levels at target reduce the risk of developing diabetes-related foot disease?</p> <p>Does achieving blood glucose levels at target reduce the risk of recurrence of diabetes-related foot ulceration?</p> <p>Does achieving blood glucose levels at target improve diabetes-related foot infection outcomes?</p> <p>Does achieving blood glucose levels at target improve healing of a diabetes-related foot ulcer?</p>

Exercise	<p>What is the relationship between blood glucose control and diabetes-related foot disease?</p> <p>Does the use of continuous glucose monitoring to achieve blood glucose levels at target reduce the risk of diabetes-related foot disease?</p> <p>Is maintaining regular exercise more challenging for people with diabetes and peripheral neuropathy compared to a healthy population?</p> <p>Is exercise beneficial in reducing the risk of diabetes-related foot complication?</p> <p>Is exercise beneficial in the treatment of diabetes-related foot complications such as ulceration?</p> <p>Is exercise beneficial in improving symptoms of painful peripheral neuropathy</p> <p>Is exercise safe for people with diabetes-related foot complications?</p> <p>Can loss of ankle proprioception be reversed with exercise?</p>
Aboriginal and Torres Strait Islander health	<p>For Aboriginal and Torres Strait Islander people, what are the barriers to seeking help early for acute diabetes-related foot complications?</p> <p>For Aboriginal and Torres Strait Islander people, what is the relationship between depression and diabetes-related foot disease?</p> <p>How can we improve outcomes of diabetes-related foot complications for Aboriginal and Torres Strait Islander people, particularly those living in remote communities?</p> <p>What is the level of diabetes-related foot disease of Aboriginal people compared to Torres Strait Islander people?</p> <p>How can foot health outcomes be improved for Aboriginal and Torres Strait Islander people with diabetes?</p> <p>How can access to high risk foot services for Aboriginal and Torres Strait Islander people in rural and remote locations be improved?</p> <p>How can we effectively provide culturally responsive foot care education for Aboriginal and Torres Strait Islander people with diabetes or at risk of diabetes?</p>
Nutrition	<p>How do current dietary guidelines impact on blood glucose control and development of diabetes-related foot disease?</p> <p>If remission of type 2 diabetes is achieved with a carbohydrate restricted diet, does remission of diabetes related foot disease also occur?</p> <p>What is the effectiveness of diet supplementation with micronutrients such as vitamins, protein, minerals and amino acids in improving healing rates in people with diabetes-related foot disease or ulcers?</p> <p>Is a poor diet a risk factor for diabetes-related foot disease?</p> <p>Does being overweight and/or obese increase the risk of diabetes related foot disease?</p> <p>What is the most appropriate diet for people with diabetes-related foot complications to improve health-related outcomes?</p> <p>Does dietary optimisation improve diabetes related foot health?</p> <p>Does structured education by a dietitian improve healing of diabetes-related foot ulcers?</p> <p>What is the effectiveness of diet supplementation with micronutrients such as vitamins and fish oil in improving progression of peripheral neuropathy?</p> <p>What nutrients are people with a diabetes-related foot ulcer most likely to be deficient in?</p> <p>What nutrients are required for healing of diabetes-related foot ulceration?</p> <p>Do people with Charcot osteo-neuroarthropathy require the same nutrients for healing than those with a diabetes-related foot ulceration?</p>

Translational Research	What factors influence adherence to recommended treatment options for diabetes related foot disease? How can diabetes-related foot health and disease clinical guidelines be implemented into daily clinical practice? Do standardised clinical pathways improve the consistency of care for people with diabetes-related foot disease? How can health professionals and health services translate evidence-based care into practice in a sustainable and cost effective way?
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