



# Implementing diabetic foot quality standards in primary care in Mumbai

INDIA

## SUMMARY

India is home to 69 million people with type-2 diabetes. A serious complication of the disease is foot ulcers, which significantly increase a patient’s risk of amputation and death as well as financial burden.

Every year 100,000 amputations are carried out in India due to diabetes-related conditions, 80% of which have the potential to be avoided if regular foot examinations are carried out to identify risk factors.


iDSI supported India’s Ministry of Health & Family Welfare to develop an evidence-based guideline for foot care in diabetes patients. Quality Standards (QS) were derived from this guideline within primary care in Mumbai, resulting in the identification of patients at risk of neuropathy and peripheral arterial disease who may have otherwise gone undetected.

Foot disease affects nearly **4 million** diabetes patients in India

## RECOMMENDATIONS

- Foot examinations should be offered to everyone with diabetes as part of the standard treatment pathway
- Multidisciplinary diabetic foot care centres should be established in hospitals, providing foot protection services such as callus debridement and nail care; and surgeries such as wound debridement and amputations
- National evidence-based guidance should be implemented at State-level as one of the ways India can tackle complications of its diabetes

 **842 diabetes patients had their feet checked in just six months**  
as part of a pilot Quality Standards project potentially avoiding future amputation

 **80% of amputations** carried out in India (80,000 out of 100,000) each year could be avoided with regular foot examinations



## RATIONALE FOR THE PROJECT

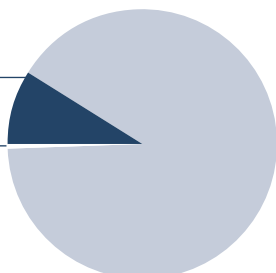
Uncontrolled blood sugar levels can damage organs and tissues, including the nerves and blood vessels in the feet, making them susceptible to injuries that fail to heal and turn gangrenous. When this occurs, amputation is the only option.

Foot disease affects nearly 4 million diabetes patients in India (6% of the total number of diabetics). Of the 100,000 leg amputations carried out every year, many are preventable as they occur following an infected neuropathic foot. After a major amputation, 50% will have another limb amputated within two years; and people with a history of diabetic foot ulcers are 40% more likely to die within 10 years than people with diabetes alone.

Establishing multidisciplinary foot protection services, that use national evidence-based guidance, would likely result in fewer hospital referrals and significant savings for patients and service providers.

After a major amputation, **50%** of patients will have another limb amputated within **2** years

Neuropathy was found in **9%** of the patients and peripheral arterial disease was found in **0.5%**



- Number of adults living with diabetes in India has increased more than five-fold since 1980
- 100,000 leg amputations carried out each year in India due to diabetes-related conditions
- Diabetic foot ulcers contribute to 80% of all non-traumatic amputations in India
- After a major amputation, 50% of diabetes patients in India will have another limb amputated within two years
- 5.7 years of an average patient's income in India would be required to pay for complete diabetic foot ulcer therapy

Source: Ghosh P, Valia R. Burden of DFUs in India: Evidence Landscape from Published Literature. *Value Health*, 2017; 20: 9 A485.

## ABOUT THE PROJECT

Starting in 2013, iDSI worked with India's Ministry of Health & Family Welfare to design and develop QS that could be used to improve diabetic foot care in India. The diabetic foot QS were piloted at a primary health centre attached to the Bhabha Atomic Research Centre (BARC) in 2017.

The team looked at current practice for diabetic feet: physicians, general surgeons and podiatrists all manage patients with diabetic feet, however their responsibilities or management protocols are not clearly defined and foot assessment is not part of routine practice. The team also identified gaps in training and data collection.

Between April-October 2017 93% of diabetes patients (842 people) who attended one of the primary health centres of the BARC had their feet examined once by physicians that had received additional training from UK-based diabetologists on how best to check diabetic feet.

The BARC diabetes team were also guided on: evidence-based efficient ways to run the diabetic foot care clinic as an elective service; data input and patient consent. Neuropathy, which can occur in diabetes patients following prolonged exposure to high blood sugar that can damage delicate nerve fibres, was found in 9% of the patients that had their feet checked at the pilot site. Peripheral arterial disease, which occurs when a build-up of fatty deposits in the arteries restricts blood supply to leg muscles, was found in 0.5%.

## CONCLUSIONS

National guidance for curative as well as preventative methods for diabetic feet need to be implemented at State-level in India.

Early clinical assessment of diabetic feet is crucial to prevent people with diabetes getting foot ulcers which can lead to amputations that carry huge personal and economic cost.

Local data should be reviewed and cost-impact analysis research carried out regularly to measure India's quality of care for diabetic foot disease.

Source: Mishra et al. (2017) Diabetic foot. *BMJ*, 359:j5064