

## DIABETIC FOOT CARE PROGRAMME

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### BACKGROUND

- The National Kidney Foundation (NKF) takes care of more than 3000 haemodialysis (HD) patients in its network of 33 dialysis centres (DC) islandwide. There are an average of 50 new patients admitted to its Chronic HD Programme each month. Of these, more than 70% are diabetic (DM).
- DM foot complications are common in patients undergoing chronic HD. The lower limb amputation (LLA) rate among DM patients with ESRD is 10 times as great as that among the diabetic patients at large. With close monitoring and targeted foot care and screening of high-risk patients, the incidence of developing foot ulcers and lower limb amputations can be reduced.
- All new DM patients ideally should have their foot assessments done within the first week of joining NKF. However, a retrospective study done in 2015 showed that only 59% had this assessment carried out.
- We therefore set out to explore the implementation of a Diabetic Foot Care Pathway to reduce LLA.

### OBJECTIVE

- The baseline lower limb annual amputation rates among NKF HD patients was 3.8% for the financial year July 2012 to June 2013. We aimed to reduce annual amputation rates caused by diabetic complications by 10%.

### PROBLEM ANALYSIS

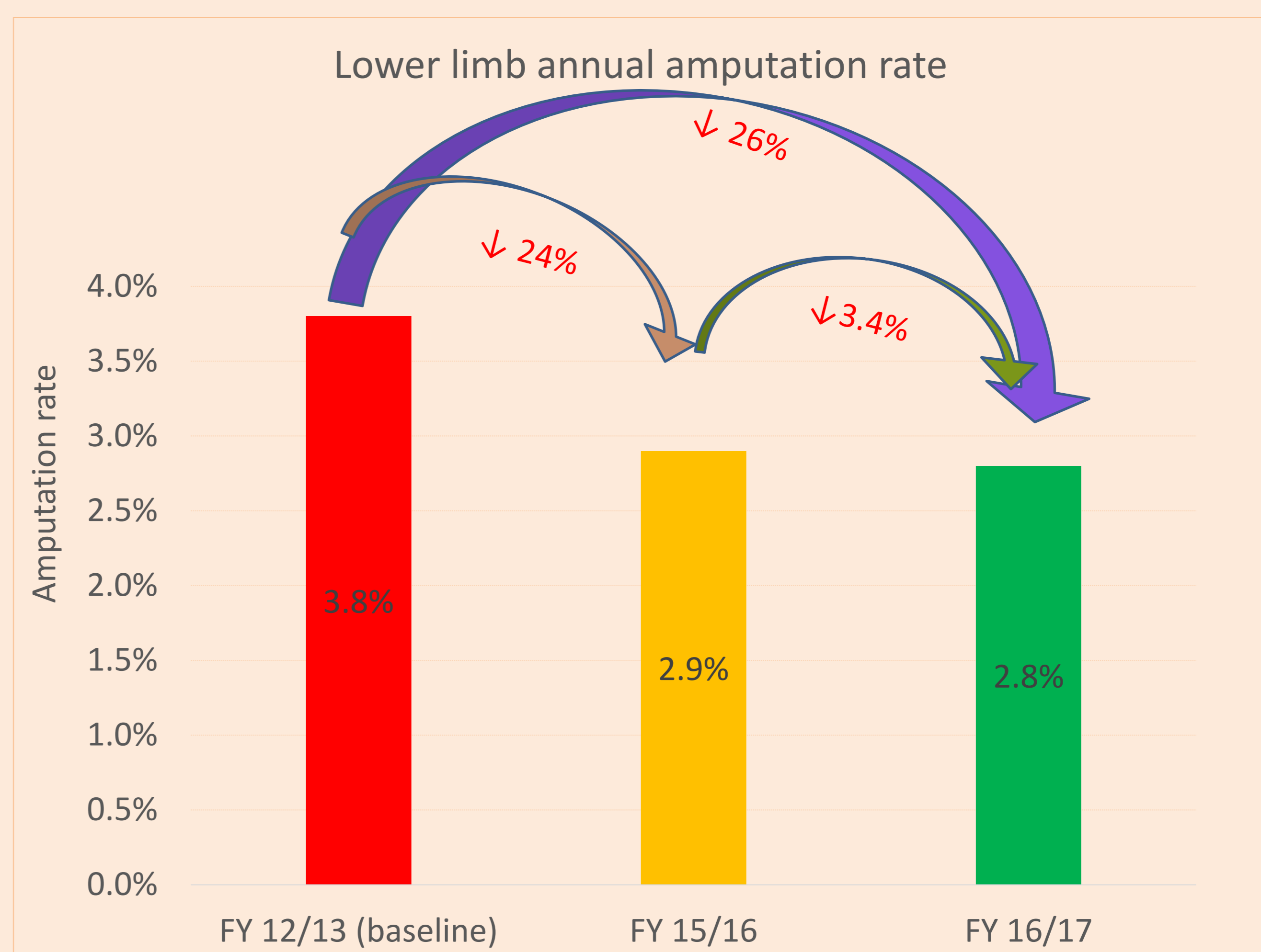
- Varying practices for DM foot assessment.
- Lack of documentation to track DM foot care progress.
- Knowledge deficiency on diabetic foot care management.

### IMPLEMENTATION

- We adopted the NICE guideline (2004) for foot assessment. The Department of Clinical Affairs (CLA) worked closely with the Diabetic Taskforce Group in Nursing Department to finalise the Diabetic Foot Care Pathway. The concepts of plan included:
  - Integrated model involving various professionals
  - Coordination and collaboration
  - Patient education
  - Regular review
  - Agreed management pathway and plan
  - Evaluation and fine-tune of the programme
- The Diabetic Taskforce Group implemented the Diabetic Foot Care Pathway. A Diabetic Link Nurse was identified in each DC to champion Diabetic Foot Care Pathway and for easy communication.
- Vigorous training to Diabetic Link Nurses across all DCs on foot screening, complication management and use of MS Access data collection tools.
- The DM Foot Care Pathway was implemented across all NKF DCs in June 2015. Monitoring, evaluation and audits were put in place to ensure compliance, timely assessment and documentation.

### RESULTS

- Compliance for foot assessment for all new diabetic patients within 7 days improved to 100% by 3 months after implementation.
- Annual lower limb amputation rates (reported at end of each financial year) showed significant improvement.
  - Jul 2015 - Jun 2016 2.9% (24% reduction)
  - Jul 2016 - Jun 2017 2.8% (3.4% reduction)
- At end of Jun 2017, 2 years after implementation of DM foot care programme, we managed to achieve annual lower limb amputation rate reduction by 26% in total. Refer to *figure 1* below.



### FOLLOW-UP

- Ongoing refresher training for foot assessment and accurate data entry
  - regular monitoring and audits were done to ensure continual efforts are maintained.
- Collaboration with the Restructured Hospitals to provide podiatrist services started in January 2017.
  - 3 podiatrist clinic sessions per month with 1 at a designated clinic in the North and 2 on-site sessions where podiatrists visit various DCs
  - Additional designated podiatrist clinic to be located at the new centre in Jurong, with the target operational date in April 2018
  - Explore the recruitment of an in-house Podiatrist to mitigate the current constraint of limited sessions provided by the hospitals
- We hope that early assessment and prompt intervention may further reduce amputations.

### ACKNOWLEDGEMENT

Special thanks to DM task force led by Ms Chua Chor Guek and DM link nurses for their contribution.